Early home visitation in families at risk for child maltreatment

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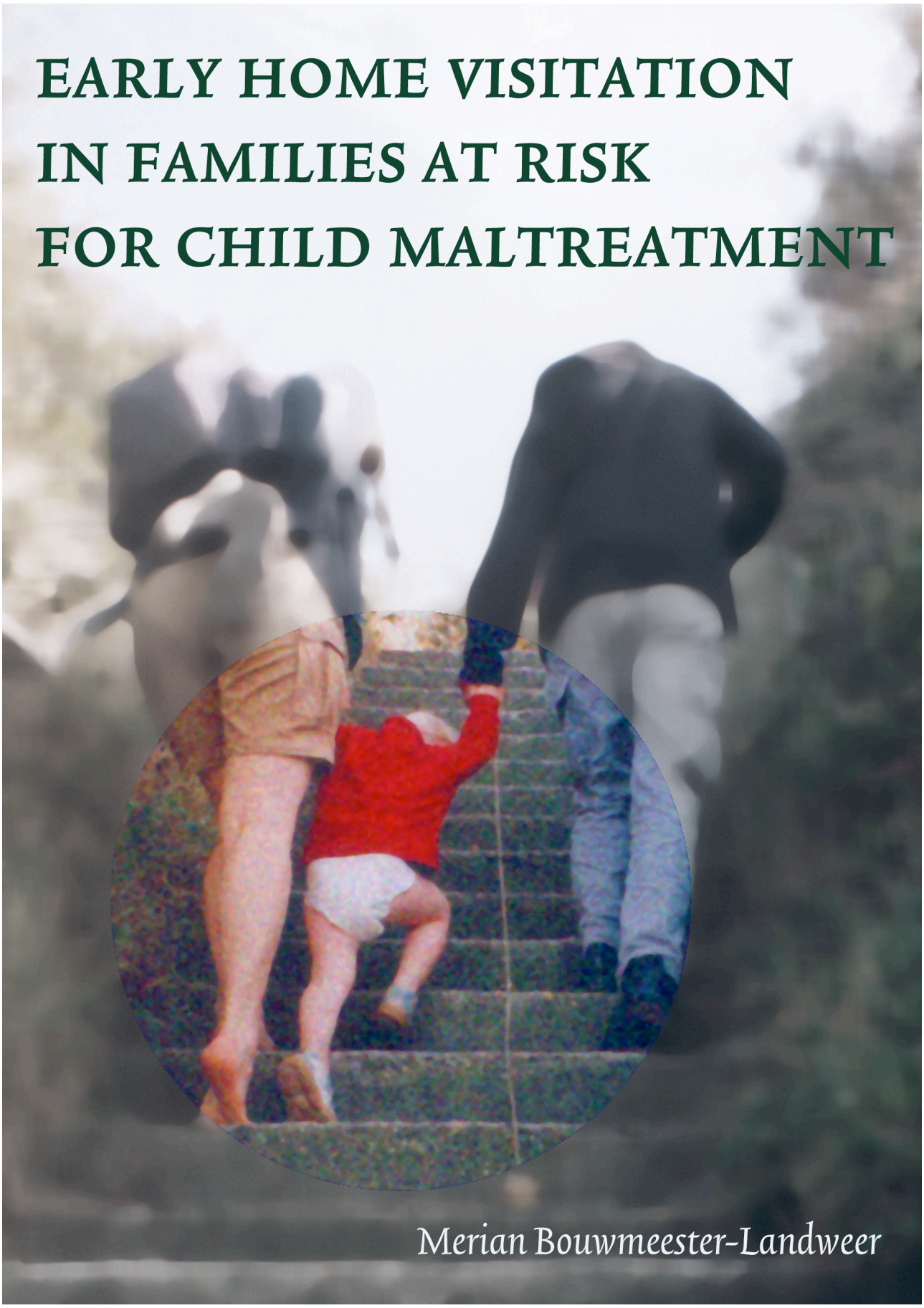

Merian Bouwmeester-Landweer

EARLY HOME VISITATION IN FAMILIES AT RISK FOR CHILD MALTREATMENT

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and to Noor, with appreciation

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TABLE OF CONTENTS

1

General introduction

1 Introduction

During the four years it took to conduct this study at least 160 children died as a consequence of child maltreatment ([23]). Thousands more children survive the consequences of maltreatment every year; estimates say at least 80.000 in the Netherlands alone ([31]) but precise data are still unknown. It seems inconceivable that parents would maltreat their own child. For a long time the general conviction was that there must be something seriously wrong with such parents.

When we look at the first well-documented period where child maltreatment was an issue, around the beginning of the twentieth century, maltreating parents were considered "ignorant, depraved ([16, p20]), incompetent, insensitive and possibly untrained" ([16, p35]). Child maltreatment took place in poor, uneducated, deviant families. The maintenance of disbelief that a sane person could commit such an act becomes particularly clear in the early medical publications preceding the famous article on the battered child syndrome ([20]). Astley (1953) for example, studied a number of cases where children were presented with bone-fractures and subdural hematoma and concluded that in all cases parents were "normal, sensible individuals" ([1, p583]). He refused to believe that the trauma he saw could be inflicted by these parents and thus invented a new 'syndrome'. Essentially the publication of Kempe, Silverman, Steele, Droegemueller and Silver (1962) generated only a partial shift in the perception of maltreating parents: from their social status to their personality, as Kempe et all concluded, "some defect in character structure is probably present" ([20, p112]). From this point on a large number of theories has been developed ([2; 3; 7; 8; 10; 13; 19; 27–29]), trying to explain why certain parents maltreat their children while others, living under similar conditions, do not. As a result we can now predict to some extent, but never with infallible certainty, which parents might maltreat their children.

Over the past decades an understanding of the nature of child maltreatment has grown, at least amongst certain groups of scientists and (mental) health workers. To society at large, including policy-makers and politicians, child maltreatment remains an issue to be feared. After all, it is a frightening idea that, when walking any odd street with around a hundred houses, behind at least three of those front doors some form of violence or neglect takes place. Yet it is imperative that we get

past this fear and acknowledge the problem. Because "denying the problem serves to punish the victims of family violence doubly by forcing them to hide their problems and to blame themselves" ([16, p2]). When acknowledging the problem of child maltreatment the pivotal question remains: what can be done to put a stop to it? Our increased understanding of the nature of this problem should help us answer this question.

Over the years we have learned that child maltreatment has many severe consequences. Children's physical, neurological, emotional, cognitive and social development can be altered through maltreatment, causing serious impact in their physical and mental health throughout their lifetime ([12]). Although this impact can be lessened through several forms of treatment, part of the consequences will affect maltreated children for life. Early intervention in maltreating families may seem a plausible way to stop the process of maltreatment. However, research has demonstrated that such interventions are not very successful. In their review of ten years of evaluative research Cohn and Daro (1987) concluded: "treatment programs have been relatively ineffective in initially halting abusive and neglectful behavior or in reducing the future likelihood of maltreatment" ([11, p440]). It seems that only one option remains: primary prevention of maltreatment, by intervening in families before child maltreatment has taken place. To this day the possibility of primary prevention is surrounded by many reservations. These reservations are mostly related to the effectiveness of programs in actually preventing maltreatment and to the target population for such programs. Regarding effectiveness findings are not unanimous. Some types of programs, mainly home visitation, appear to hold promise ([17; 25]) and are found to produce significant reduction of (the risk for) maltreatment and neglect, although these effects are modest ([14]). Regarding the target population the debate is focused on universal or indicated preventive measures which both hold their advantages and disadvantages ([18]). Universal prevention is extremely expensive whereas indicated prevention requires sufficient knowledge on risk factors preceding maltreatment. Although some say we do have this knowledge ([24]), others, such as the Dutch government, are not convinced, given a report issued in 1990 stating "there is insufficient support, the recommendations show, for the assumption of the existence of demonstrable categories at risk" ([see 4, p63]).

In 1989 the United Nations unanimously accepted the Convention for the Rights of the Child. This convention emphasizes amongst other things that the State has a

responsibility to protect all children from any form of maltreatment and to provide parents with the appropriate assistance in the performance of their child rearing responsibilities for the upbringing and development of their child. Over the years almost all countries in the world signed this convention. The Netherlands did so in 1995 ([31]). Nevertheless it appears that to this day Dutch common policy is not to interfere until danger to the child's development is eminent ([30]). It needs no argument that this policy does not honor the intentions of the Convention, worse still; this could be considered a serious case of neglect of both children ánd parents. The fact that child maltreatment constitutes a threat to the moral, social and economical order of society has always been an important argument in politics. The fact that a maltreated child is a child whose rights are violated and whose childhood is denied should be an equally important argument ([5]). In other countries acceptance of the Convention has lead to changes in legislation and policy ([30]) and governments are recommended to enforce the implementation of preventive programs such as home visiting ([22]). There is no reason this should be any different for the Netherlands.

From the above we conclude that the seriousness of the consequences of child maltreatment implies the moral obligation to make every effort to end this problem, while the Convention for the Rights of the Child implies the legal obligation to do the same. Our efforts should include primary preventive interventions as they are found to have the most potential for success. Although primary prevention programs are "one of the most scrutinized human-service strategies" ([15, p24]), which suggests that the optimal benefits have not yet been accomplished ([15]), we should not cease our attempts to reach such optimal benefits. This study therefore aims to gather evidence for the effectiveness of preventive efforts in the Netherlands in order to further our country's ability to obey its legal and moral obligations.

2 THIS STUDY

This study is about the development, implementation and evaluation of a primary preventive program that is to be embedded within the settings of local Well Baby Clinics, known in the Netherlands as the OKZ (*Ouder- en KindZorg*). As such the program has been given the name *project OKé*, an abbreviation of *Ouder- en Kindzorg extra*, which is translated as Parent- and Childcare extra.

The purpose of this study is to determine the effectiveness of prevention of child maltreatment by means of home visitation in families at risk. These families were selected based on a number of risk factors, which have been established through theory and research. The process of recruiting families for this program was carefully monitored and characteristics of non-respondents were investigated. The program of home visitation was provided by specially trained nurses from local Well Baby Clinics and started within six weeks after the birth of a child. The program consisted of a total of six home visits, provided in a tapered fashion, with the final visit at eighteen months after birth.

Aside from the primary objective in this intervention study, the prevention of child maltreatment in participating families, several intermediate objectives have been established. These are: (a) the improvement of parental understanding and handling of feelings of ambivalence, (b) the enlargement of parental knowledge of child development and behavior, (c) the improvement of parental skills and knowledge on child rearing, nurture and care, (d) the confirmation of parental competence and self-confidence in child rearing and (e) the improvement of parental skills and attitudes regarding the interaction with the child. Further intermediate objectives are (f) the improvement of stress-coping abilities in parents, (g) the establishment of functional connections to professional support and (h) the improvement and enlargement of social support systems.

The program was evaluated twofold. First of all a process evaluation was conducted to ensure correct implementation. For this evaluation questionnaires were developed for participating parents and nurses. These questionnaires provided information on the implementation of program protocol, on the attainment of objectives according to the visiting nurses and on the satisfaction of participating

parents. Secondly the effects of the intervention program were evaluated in a randomized controlled setting. For this purpose three measurements were taken both in the intervention group and in a control group that was selected based on the same criteria. These measurements were taken at baseline (within six weeks after the birth of a child and before the intervention started), and at the child's ages of one and two years. In this way effects during and after the intervention were established. The measurements consisted of four instruments: a short version of the Child Abuse Potential Inventory ([26]), the Adult Adolescent Parenting Inventory ([6]), the Short Psychological and Pedagogical Problems Inventory ([21]) and the Social Support Scale ([9]). Aside from measurements administered to the participating parents information was obtained from the family's general practitioner and the local Well Baby Clinic physician as well as from the *Advies en Meldpunt Kindermishandeling*, the Dutch maltreatment reporting center.

3 Outline of this thesis

As the object of this study is the prevention of child maltreatment, it is important to first establish what is to be understood of these two terms. It is with the definitions of these terms and the consideration of several limitations for our study that we start in *chapter 2*. This chapter is continued with a historical overview, as it is important to understand how the problem of child maltreatment was perceived over time and how this perception evolved into an impetus on prevention. Chapter 2 closes with a summary of different theories on child maltreatment that were developed throughout the previous century and an explanation of the preferred paradigm for this study.

In *chapter 3* we continue upon our paradigm for a further exploration. This exploration is meant to provide insight in the factors influencing and surrounding families at risk of maltreatment, with two purposes. The first purpose is the preparation of a solid foundation for the instrument that is to be used for the selection of families at risk. The second purpose is to gain insight in the processes that should be changed through the preventive program implemented by this study. The second part of this chapter presents a review of empirical research on risk factors for child maltreatment, thereby providing information on the precise relationship between individual risk factors and maltreatment. The chapter is closed with a conclusion on the risk factors to be used in the selection of families at risk.

Considerations on the design of the intervention program constitute the contents of *chapter 4*. The first subject of this chapter is the design of the program itself. As such a rationale is provided for the choices in population and recruitment of this population, for the onset, duration, frequency, implementation and staffing of the program and finally for the objectives and content of the program. The second subject of this chapter is concerned with the ways in which the program should be evaluated. Conclusions on the evaluation of our program are based on an exploration of the choices in evaluation, the instruments for evaluation as they are available and the possibilities and limitations these instruments create when combined with the objectives of this study.

The following chapters present the results of this study. In *chapter 5* the process of selecting families at risk is described. This process was continued over a period of thirteen months during which almost 9,000 families were approached. Furthermore the results of the selection are presented in this chapter. A total of 17% of all families were found to be at risk for maltreatment. As a substantial proportion of families failed to respond to the selection questionnaire, in *chapter 6* the characteristics of these non-respondents are investigated. Several methods were deployed for this purpose: aside from the construction of a name algorithm and the investigation of neighborhood characteristics of all families a random sample of Well Baby Clinic files on non-respondent families was evaluated.

Based on the understanding that the effects of an intervention can be influenced by both the individualization of services provided as well as the heterogeneity of participating families, in *chapter 7* an extensive process-evaluation is presented. Three aspects of the program are evaluated: the implementation of the program protocol, the realization of the program objectives as perceived by the visiting nurses and the parental satisfaction about the program. For each of these aspects differences in nurses and participating parents are explored. Several parental characteristics as well as the amount of time spent per family turn out to be influential and therefore warrant further investigation in the effect-evaluation. This evaluation is presented in *chapter 8*. Of the 1263 families, which were found to be at risk of maltreatment, 500 participated in this study. The results of all measurements administered to the participating parents as well as information provided by external sources are discussed. The study is concluded with a general discussion in *chapter 9*. In this discussion, based on the findings of this study, implementation into daily practice is recommended.

4 References

1. Astley, R. (1953). Multiple metaphyseal fractures in small children. Metaphyseal fragility of bone. *Brit J Radiol, 26,* 577-583.
2. Azar, S. T., Povilaitis, T. Y., Lauretti, A. F., & Pouquette, C. L. (1998). The current status of etiological theories in intrafamilial child maltreatment. In J.R.Lutzker (Ed.), *Handbook of child abuse research and treatment* (pp. 3-30). New York: Plenum Press.
3. Baartman, H. E. M. (1996). *Opvoeden kan zeer doen, over oorzaken van kindermishandeling [Childrearing can be painful, about the causes of child maltreatment].* Utrecht: SWP.
4. Baartman, H. E. M. (1999). Dangerous children and children in danger; some empirical and ethical aspects of primary prevention of juvenile delinquency and child abuse. *International Journal of Child & Family Welfare, 4,* 62-76.
5. Baartman, H. E. M. (2000). Kindermishandeling is een politieke kwestie [Child maltreatment is a political issue]. *Nederlands tijdschrift voor Jeugdzorg, 4,* 31-39.
6. Bavolek, S. J. & Keene, R. G. (2001). *Adult-Adolescent Parenting Inventory; administration and development handbook.* Family Development Resources, Inc.
7. Belsky, J. (1980). Child maltreatment: an ecological integration. *Am.Psychol., 35,* 320-335.
8. Belsky, J. & Vondra, J. (1989). Lessons from child abuse: the determinants of parenting. In D.Cicchetti & V. Carlson (Eds.), *Child Maltreatment, theory and research on the causes and consequences of child abuse and neglect* Cambridge: Cambridge University Press.
9. Boom, D. C. v. d. (1988). *Neonatal irritability and the development of attachment : observation and intervention.* Universiteit Leiden.
10. Bugental, D. B., Mantyla, S. M., & Lewis, J. (1989). Parental attributions as moderators of affective communication to children at risk for physical abuse. In D.Cicchetti & V. Carlson (Eds.), *Child Maltreatment, theory and research on the causes and consequences of child abuse and neglect* Cambridge: Cambridge University Press.
11. Cohn, A. H. & Daro, D. (1987). Is treatment too late: what ten years of evaluative research tell us. *Child Abuse Negl., 11,* 433-442.
12. Dallam, S. J. (2001). The hidden effects of childhood maltreatment on adult health. In K.Franey, R. Geffner, & R. Falconer (Eds.), *The costs of Child Maltreatment: Who Pays? We All Do* San Diego: Family Violence & Sexual Assault Institute.
13. Garbarino, J. (1980). An ecological approach to child maltreatment. In L.H.Pelton (Ed.), *The social context of child abuse and neglect* New York: Human Sciences Press.
14. Geeraert, L. (2004). *Vroegtijdige preventie van kindermishandeling [Early prevention of child maltreatment].* Katholieke Universiteit Leuven.
15. Gomby, D. S. (1999). Home Visiting: Recent Program Evaluations - Analysis and Recommendations. *The Future of Children, 9,* 4-26.
16. Gordon, L. (1988). *Heroes of their own lives; the politics and history of family violence.* New York: Viking Penguin Inc.
17. Guterman, N. B. (1997). Early prevention of physical child abuse and neglect: existing evidence and future directions. *Child Maltreat., 2,* 12-34.

18. Guterman, N. B. (1999). Enrollment strategies in early home visitation to prevent physical child abuse and neglect and the "universal versus targeted" debate: a meta-analysis of population-based and screening-based programs. *Child Abuse Negl., 23,* 863-890.
19. Hillson, J. M. C. & Kuiper, N. A. (1994). A stress and coping model of child maltreatment. *Clinical Psychology Review, 14,* 261-285.
20. Kempe, C. H., Silverman, F. N., Steele, B. F., Droegemueller, W., & Silver, H. K. (1962). The Battered-child Syndrome. *JAMA, 181,* 105-112.
21. Kousemaker, N. P. J. (1996). *Zoeken, vinden, zorgen delen: de ontwikkeling van een praktijkparadigma voor onderkenning en pedagogische preventie van psychosociale problematiek in de Jeugdgezondheidszorg. [Searching, finding, sharing care: the development of a practise paradigm for the discernment and pedagogical prevention of psychosocial problems in Youth Healthcare].* Universiteit van Amsterdam.
22. Krugman, R. D. (1993). Universal Home Visiting: A recommendation from the U.S. Advisory Board on Child Abuse and Neglect. *Future.Child, 3,* 184-191.
23. Kuyvenhoven, M. M., Hekkink, C. F., & Voorn, T. B. (1998). [Deaths due to abuse for the age group 0-18 years; an estimate of 40 cases in 1996 based on a survey of family practitioners and pediatricians]. *Ned.Tijdschr.Geneeskd., 142,* 2515-2518.
24. Leventhal, J. M. (1996). Twenty years later: we do know how to prevent child abuse and neglect. *Child Abuse Negl., 20,* 647-653.
25. MacMillan, H. L., MacMillan, J. H., Offord, D. R., Griffith, L., & MacMillan, A. (1994). Primary Prevention of child Physical Abuse and Neglect: a critical review. Part I. *J Child Psychol Psychiatry, 35,* 835-856.
26. Milner, J. S. & Ayoub, C. (1980). Evaluation of "at risk" parents using the Child Abuse Potential Inventory. *J.Clin.Psychol., 36,* 945-948.
27. Newberger, C. M. (1980). The cognitive structure of parenthood; the development of a decriptive measure. In R.L.Selman & R. Yando (Eds.), *Clinical-developmental psychology. New directions of child development: clinical developmental research, No. 7* San Francisco: Jossey-Bass.
28. Pelton, L. H. (1980). *The social context of child abuse and neglect.* New York: Human Sciences Press.
29. Steele, B. F. & Pollock, C. (1968). A psychiatric study of parents who abuse infants and small children. In R.E.Helfer & C. H. Kempe (Eds.), *The battered child* Chicago: University of Chicago Press.
30. Veldkamp, A. W. M. (2001). *Over grenzen! Internationaal vergelijkende verkenning van de rol van de overheid bij de opvoeding en bescherming van kinderen [Crossing boundaries! An internationally comparative exploration of the role of the government in the rearing and protection of children].* Den Haag: Afdeling Informatie, Voorlichting en Publiciteit. Directie Preventie, Jeugd en Sanctiebeleid; Ministerie van Justitie.
31. Willems, J. C. M. (1999). *Wie zal de opvoeders opvoeden; kindermishandeling en het recht van het kind op persoonswording [Who will educate the parents; child maltreatment and the right of the child to become a person].* Den Haag: T.M.C. Asser Press.

2

An introduction to child maltreatment and prevention

1 Introduction

Although child maltreatment has been a problem of all times the conceptualization of this problem has started just little over a century ago. Since that time the perception of this problem has undergone many changes. The developments of possibilities for prevention of this problem are of even more recent date. This chapter is meant as an exploration of these developments.

To provide an adequate starting point to this exploration, paragraph two addresses the definitions of the central notions in this chapter, child maltreatment and prevention, and defines some limitations to this study. The third and fourth paragraphs provide a historic overview of the perception of child maltreatment. Essentially history can be divided into two periods of attention to child maltreatment. During the first period, the central notion was that of neglect, interpreted as disorderliness and leading towards delinquency. The predominant approach to maltreated children was a repressive one: the child in danger was essentially a threat to society, a dangerous child, and had to be reformed. The second period constitutes a virtual rediscovery of the problem of child maltreatment. During this period the focus on the problem at hand shifts from the external family functioning towards the internal family functioning: child maltreatment is understood as family violence. Through theory-formation and research, knowledge on the causes and consequences of child maltreatment expands and influences the treatment of maltreated children and their parents.

In paragraph five the developments towards actual prevention are briefly discussed. The implementation of prevention programs progresses in different pace in different countries. This has much to do with the legislative interpretations of the Convention for the Rights of the Child. Especially in the Netherlands it appears that the State considers the rights of parents to be more important than the rights of children. This paragraph addresses these issues and contemplates the possibilities for and the benefits of prevention in the Netherlands. The sixth and closing paragraph of this chapter is concerned with the theories or paradigms behind prevention. Aside from exploring the historical developments and legitimizing prevention the main purpose of this chapter is to identify the theoretical principals for prevention in general and specifically the principal of choice for this study.

2 Definitions and limitations

The study described in this thesis is concerned with the *prevention* of *child maltreatment;* therefore it is important to first establish how these terms should be understood, since many different definitions have been developed over time. Therefore this paragraph will start with an examination of different definitions for both child maltreatment and prevention. After doing so there is a need to set some limitations for this study. This will be done at the end of this paragraph.

2.1 Defining child maltreatment

There are many definitions for child maltreatment, each with their own views. The World Health Organization (WHO) defined child maltreatment as follows:

> *"All forms of physical and/or emotional ill-treatment, sexual abuse, neglect or negligent treatment or commercial or other exploitation resulting in actual or potential harm to the child's health, survival, development or dignity in the context of a relationship of responsibility, trust, or power"* [48, p59].

In the Netherlands the following definition is commonly used:

> *Child maltreatment entails every form of threatening or violent interaction of physical, psychological or sexual nature, actively or passively imposed upon a minor in a dependant or tied relationship by a parent or other adult, whereby serious damage of physical or psychological nature is or might be inflicted upon the child [Translation M.B-L]* [70].

When comparing these two definitions it is most noticeable how the WHO-definition elaborates on the many different aspects of both maltreatment and consequences. In the Dutch definition all aspects of maltreatment are described by their nature and the type of interaction being active or passive. Then there are some concepts used in one definition that are not used in the other. The WHO-definition mentions the concept of *potential* aside from actual harm, a term that has been used in previous versions of the Dutch definition but was removed in the current version except for the notion 'might be'. Another difference lies in the way the relationship between caretaker and child is defined in the WHO-definition, where the words *trust* and *power* are used.

What is lacking in both definitions is the boundary between *harmful treatment* or *damaging interaction* and *treatment* or *interaction* that is not *harmful* or *damaging* to the child. For how and by what norms and standards are we to decide when *harm* or *damage* is done? Along these lines Garbarino (1989) pointed out that no definition for child maltreatment is free of ambiguities. "Social meanings of events flow from analysis of the intentions of actors, the consequences of acts, the value of judgments of observers and the source of the standard for that judgment" ([36, p219]). Parke and Collmer (1975), who presented a definition for physical maltreatment only, concluded that the norms and standards for deciding what is to be considered *harmful* or *damaging* have their source in the community:

> *Non-accidental physical injury (or injuries) that are the results of acts (or omissions) on the part of parents or guardians that violate the community standards concerning the treatment of children.* ([60, p153])

This definition may help somewhat in determining what standards should be used to determine the boundaries of *harm* or *damage*. However, there are still huge differences to be found in communities with regards to their standards of the treatment of children, as communities are defined by cultural as well as sub-cultural aspects (i.e. different kinds of communities can exist within one type of culture). In communities where a high level of violence is common, the criteria for defining *harm* or *damage* will probably be very different from low-violence communities. The definition as presented by Garbarino and Gilliam (1980) may help to cover this problem:

> *Acts of omission or commission by a parent or guardian that are judged by a mixture of community values and professional expertise to be inappropriate and damaging.* ([37, p7])

The child as subject of these *acts* is left out of the equation, and all emphasis is placed on the perspective, the judgment of both professionals and community. What is noticeable as well is the choice of the word *inappropriate* as a label for the wrong kind of acts. In light of this definition the professional opinion about what is *harmful* or *damaging* may compensate for the common opinion where a violent community is concerned. Still, even among professionals there is no unambiguous definition of the boundaries between *harmful* and *harmless*. Their view on these

boundaries may well be as much culturally defined as the norms of any community, since professionals too are part of a community.

Gelles (1982) dismissed all definitions when he said: "there is no one, uniform, accepted (or acceptable) definition of child abuse" ([38, p2]). Gelles conducted a study to determine the possibilities for defining and classifying cases of child abuse. In a mailed survey, among 565 professionals from different areas of expertise (physicians, counselors, child and family caseworkers and police officers), 13 items describing children in different conditions were presented. Subjects were asked to indicate whether they viewed a particular condition as child maltreatment. Not one of all 13 conditions was considered to be maltreatment by 100% of all professionals. Substantial consensus was reached on the conditions of 'willful malnutrition', 'sexual molestation' and 'willfully inflicted trauma'. The largest variation in consensus was found in the case of 'a child being injured when struck too hard by the parents'. Gelles explained this variation as follows: "punishing a child through physical force is often considered acceptable and this may mitigate against an injury resulting from this being viewed as abuse" ([38, p8]). This confirms the earlier assumption that the opinions of professionals are as much culturally defined as the norms of a community. It also indicates that the determination of what is *appropriate* is possibly even harder to achieve than the determination of what is damaging.

There are numerous other definitions that could be cited and discussed but ultimately that is not the purpose of this chapter. When attempting to combine the information from all different definitions we can conclude that child maltreatment concerns *acts of omission or commission* of a *physical, emotional, sexual or exploitative nature*. These acts are imposed upon a child in the context of *a relationship of dependency and trust,* by a parent or other adult having *responsibility or power* over this child. The acts or interactions result in *potential or actual harm* to the child's survival, health, development or self-esteem. Standards for defining the actual or potential harm are determined by *professionals and communities* and therefore *culturally* defined.

2.2 Defining prevention

The term prevention, originating in Latin as '*praevenire', which* can be translated as 'anticipating', literally means 'to keep from happening or existing'. The notion of *what* is to be kept from happening or existing has caused much confusion about the term prevention. Originally this term has been used mainly in application to prevention of disease. For this purpose prevention has been classified into three types of prevention: primary, secondary and tertiary. Mrazek and Haggerty (1994) described these types as they were phrased by the Commission on Chronic Illness in 1957:

> *"Primary prevention seeks to decrease the number of new cases of a disorder or illness (incidence). Secondary prevention seeks to lower the rate of established cases of the disorder or illness in the population (prevalence). Tertiary prevention seeks to decrease the amount of disability associated with an existing disorder or illness"* ([57, p20]).

As intelligible as this description may seem, especially the first two types of prevention have been defined in different ways by different authors. One of the important sources for the definition of prevention is Caplan (1964). His description of primary and secondary prevention aimed at mental health is:

> *"Primary prevention [...] involves lowering the rate of new cases of mental disorder in a population [...] by counteracting harmful circumstances before they have had a chance to produce illness"* ([26, p26]).
> *"Secondary prevention [...] reduce[s] the disability rate due to a disorder by lowering the prevalence of the disorder in the community. A reduction in prevalence can occur in [lowering] the rate of old cases [...] by shortening the duration of existing cases through early diagnosis and effective treatment"* ([26, p89]).

Helfer (1982) devised another definition of primary and secondary prevention, which is followed by several authors ([for example 21]) in the specific field of research on child maltreatment:

> *"Primary prevention: any maneuver that occurs to or around an individual (primarily infants), the stated purpose of which is to prevent child abuse and neglect from ever occurring to that individual.*

> *Secondary prevention: any program or maneuver that is implemented to or for an individual or group of individuals, who have been identified as coming from a very high risk environment, which has as its intent the prevention of the abuse and/or neglect from occurring to that individual's offspring"* ([42, p252]).

In the Netherlands a commonly found definition is that of *Zorg Onderzoek Nederland (ZonMw).* This definition is similar to that of Caplan but considers interventions in groups at risk to be secondary prevention.

With all these definitions (except the one from Helfer) we need to maintain awareness of the substitution we make to apply these definitions to the purpose of this study, prevention of child maltreatment. This means we need to consistently replace words such as illness and (mental) disorder with maltreatment. If we fail to do so this may result in confusion between types of prevention as secondary prevention of child maltreatment could in fact result in primary prevention of mental disorder within the definition of Caplan. In this study the aim is to prevent the occurrence of child maltreatment in families at risk for this occurrence. By decreasing the number of cases of maltreatment before the occurrence of any established cases Caplan's definition of primary prevention applies. However, according to Helfer, by selecting families based on risk factors for child maltreatment the notion of secondary prevention is more applicable.

A fully different classification of prevention has been introduced by Gordon (1983). In his system prevention is divided into the three categories of universal, selective and indicative prevention ([40]). Mrazek and Haggerty described these three categories as follows:

> *"A universal preventive measure is [...] desirable for everybody in the eligible population [... or for] members of specific groups such as children or the elderly. A selective preventive measure is desirable only when the individual is a member of a subgroup of the population whose risk of becoming ill is above average. The subgroups may be distinguished by [...] evident characteristics, but individuals within the subgroups upon personal examination are perfectly well. An indicated preventive measure applies to persons who [...] are found to manifest a risk factor, condition or abnormality that identifies them, individually, as being at high risk for the future development of a disease"* ([57, p21]).

All categories can be considered primary prevention as defined by Caplan. Thereby the classification of Gordon provides us with subtypes for primary prevention. In this study primary prevention is applied as an indicated preventive measure. When considering the literature available the choice of a definition for primary prevention appears up to the individual author. In this study the definition of Caplan will be used.

2.3 Setting limitations

Now that definitions on both child maltreatment and prevention have been explored, it is time to determine some limitations for this study. Child maltreatment is a heterogeneous phenomenon, as became clear in the definitions introduced earlier. Commonly five forms of maltreatment are described, concerning the first three types of interaction as mentioned in paragraph 2.1: physical, emotional and sexual. The nature of the interaction (passive or active) creates the five types, being physical maltreatment, physical neglect, emotional maltreatment, emotional neglect and finally sexual abuse. Technically this description allows for a sixth type, being sexual neglect, which in fact we do not consider to be child maltreatment. In reality more than one form of maltreatment is found simultaneously in many cases. For instance physical and emotional maltreatment as well as emotional neglect have been found to co-occur with sexual abuse ([31]). Therefore differentiating between specific types may prove useful when attempting to systematically identify and explain maltreatment, however when it comes to treatment or prevention too much differentiation will be more hindrance than help. In case of prevention an exploration of similarities and differences between forms of maltreatment may be more useful. For the purpose of prevention this exploration should focus on two central notions: child maltreatment as a parenting problem and the risk factors to identify this problem.

As was determined in paragraph 2.1, the nature of the relationship between child and adult is defined by an inequality in dependence, responsibility, trust or power. This means the adult can be many different persons. He or she can be a parent, guardian or family-member older than the child, but also any teacher or professional caretaker. Therefore child maltreatment can take place both in- and outside the family. Van der Kolk, Crozier and Hopper (2001) found that 81% of all people maltreating children are parents ([74]). Thus the majority of child maltreatment takes place within the family. This supports the notion that

maltreatment is mainly a parenting problem. However, this notion does not apply completely to all forms of maltreatment as can be seen in a parenting continuum described by Baartman (*1996*): "Physical maltreatment and neglect can be placed on a continuum ranging from sensitive, respectful parenting to rejecting and careless parenting [the same could be said for emotional maltreatment and neglect]. It is much more difficult to place sexual abuse on such a continuum" ([7, p32]). Although sexual abuse can be perpetrated by a parent and can be considered an exponent of a digressed parenting situation just as the other types of maltreatment, the parent committing the abuse does not take on a parenting role. Sexual abuse should be considered foremost a psychosexual disorder, committed mainly by men.

The differentiation between sexual abuse and other forms of child maltreatment becomes particularly clear in the design of prevention programs. Programs regarding maltreatment and neglect are often aimed at parents, helping them to improve their skills and knowledge ([53]). Programs regarding sexual abuse are aimed mostly at the education of children as possible future victims ([54]) and not at the perpetrators, even less so in selective or indicative prevention programs. This is explained by the fact that the targeted population for prevention is determined amongst other things by the risk factors for child maltreatment.

Risk factors for physical and emotional maltreatment or neglect have been studied extensively. Many parent-, child- and context-related factors have been found to be related to child maltreatment outcomes ([See for instance 15; 16; 17; 22; 69]). Even though there is a difference between violence and neglect towards children these types of maltreatment are difficult to separate, both in practice and when it comes to risk factors. It seems that many of the risk factors for both types display large overlap. Knowledge of risk factors for child sexual abuse is still less definite. Although some studies point out certain risk factors, other research does not support the predictive value of these factors ([See for instance 13; 33]). Designing a prevention program for sexual abuse targeted at parents is therefore difficult.

In this study child maltreatment is understood as a parenting problem. This problem is the main target for the indicated prevention program that is designed. Thus, on the grounds described above, child sexual abuse is excluded as a subject in this study. By targeting parenting problems, prevention is aimed at families, in

particular families with young children, where most child maltreatment occurs ([29; 71; 74]). For prevention to be of true primary nature it should start with or even before the birth of a child in the family.

With a clarification of definitions and limitations for this study it is now time to locate the notion of prevention of child maltreatment in history. In the next paragraph it will become clear that it took quite a long time before prevention became the main focus of efforts. As Confucius said: *"study the past if you would define the future"* the next issue of this chapter is to explore our recent history.

3 THE FIRST DISCOVERY OF CHILD MALTREATMENT: DANGEROUS CHILDREN

The recognition of the different forms of child maltreatment as described in the previous paragraph has evolved remarkably during history. As Parton (1985) indicated, it is important to take into consideration that not only concerns and norms have changed regarding this issue, but also that the labels attached to it have evolved over time ([61]). Dating the beginning of public and professional attention for the maltreatment of children has been the subject of some discussion. In some publications history is claimed to begin in the 1960s ([as described by 52; 56]). Others, such as Parton, Gordon (1988) and Van Montfoort (1994) pinpointed the beginning of history around the 1870s, when the notion of *cruelty to children* arose ([39; 61]).

During the seventeenth and eighteenth century societal structures changed due to the rise of capitalism demanding a more complex division of labor. Peasant societies where families were a unit of production in an economic system diminished with migration towards growing urban areas that soon became overcrowded with families relying on wage labor in factories ([56]). Migration caused change in the family: women became more dependent of their husbands for sustenance and less able to rely on kinfolk; in other words, the old system of social cohesion and control was diminishing ([39; 56]). Ideally, "fathers were to have single-handed responsibility for economic support of their families [...] women and children were not to contribute to the family economy, at least not monetarily. Children instead were to spend full time in learning – cognitive lessons from professional teachers, psychological and moral lessons from the fulltime attention of a mother" ([39, p57]). In reality though, women and children often had to contribute to the family economy as jobs were scarce in the overpopulated urban areas, and if unemployment struck a family for too long a time they had to resort to begging, parents and children alike.

3.1 The response to 'the social issue'

In the nineteenth century the level of poverty in these urban areas became an increasing point of concern as it became more visible. "In big cities people of different classes lived and worked in proximity and the poor, particularly children, lived much of their lives on the streets" ([39, p29]). All this 'deviant' behavior was

perceived as threatening to social order and therefore became a 'social problem'. The threat of poverty was not only based on the dangers of theft, vandalism, prostitution and violence, but also in a difference in classes. The nineteenth-century reformers were mostly white, upper-class men and women. Gordon, studying United States case-records from those times, concluded there was substantial bias towards clients. The early reformers were mostly influenced "by class, ethnic and cultural anxieties. They were reacting above all against urbanism and the new immigration, which jointly created an urban underclass threatening to their whole vision of a good society" ([39, p28]). In England Parton signaled the same prejudice: "[during the 1860s] it was assumed after 25 years of economic growth and an apparently substantial rise in working-class living standards, that chronic poverty and wide-spread deprivation had disappeared. [...] As a consequence any deprivation that did exist resulted from moral failure" ([61, p31]). Van Montfoort gave a similar description of the Dutch situation: "the interference of community and state with the poor and paupered was based on a mixture of social emotion, religious commands and fear or well-understood self-interest, as poverty and pauperism constituted a continuous threat to the rich and well-established" ([56, p77]).

The general concern about what Van Montfoort called 'the social issue' caused the development of numerous philanthropic societies and charity-organizations, as well as a demand for new legislation. Amidst the rise of these organizations as first signs of modern social work, the United States were first to establish an institute called the Society for the Prevention of Cruelty to Children (SPCC) in 1874. Direct influence for the establishment of the very first SPCC (the NYSPCC) was the media coverage of the Mary Ellen Wilson case, a severely maltreated young girl in New York. While more SPCC's were established all over the United States, in 1883 the American example was followed in Great Britain where the first SPCC was founded in Liverpool ([61]). Germany followed suit in 1898 when they established *Der Verein zum Schutze der Kinder vor Ausnutzung und Misshandlung* in Berlin, and in Belgium several associations were established around the turn of the century. Even though the Dutch leaders of the child protection movement had many international contacts, a Dutch version of the SPCC was not established ([56; 65]).

All SPCC's and similar institutions made every effort to protect children from the worst disorderliness. To increase the possibilities to do so, SPCC-workers insisted

upon new legislation, which was realized in several countries. For example 'the Prevention of Cruelty to and Protection of Children Act' was passed in England in 1889. Parton described the act as creating "an offence if anyone over 16 who had custody, control or charge of a boy under 14 or a girl under 16 willfully ill-treated, neglected or abandoned the child in a manner likely to cause unnecessary suffering or injury to health" ([61, p35]). Gordon described several accomplishments of legislation against particular behavior as deemed cruel to children by the SPCC's in the United States; such as acts against 'baby farming', against the public exhibition of (deformed) children, against peddling by minors and against truancy ([39]). In the Netherlands new laws were adopted as well at the turn of the century. These laws became known as the children's laws (*kinderwetten*). The civil youth law regulated the legal authority over children and enabled the possibility of termination of parental authority by the state in case of failing parenthood. The criminal youth law regulated the measures to be taken in case of delinquent children and the administrative youth law indicated the organizational and financial structure for both the civil and criminal youth law ([66]). Other countries such as Norway, Sweden, Denmark and France developed similar legislation, sometimes influenced by public opinion, to protect "l'enfant martyr" ([45, p108]), around the same time ([73]).

The new legislations empowered the reformers to do their jobs, which was according to Gordon literally going "out onto the streets seeking abuses to correct. They looked for children begging, children outside when they should have been in school or inside, children improperly dressed or excessively dirty, children peddling" ([39, p37]). Cases of child maltreatment and disorderliness were first sought out by 'agents' (as they were called) themselves, by patrolling the streets and scanning the newspapers for items suggesting mistreatment of children. Soon however, cases were reported by non-staff; neighbors reporting their neighbors, notables reporting their servants. Gordon pointed to the irony of the fact that clients corrupted the name of the SPCC, calling it 'the Cruelty', a term often used by feuding neighbors: "don't cross me or I'll report you to the Cruelty" ([39, p28]). Nevertheless, people came to charity organizations such as the SPCC's for all kinds of help. Parton summarized the interventions in families in England: "families were expected to take full responsibility for their members and if this was not possible the state would intervene in a harsh, controlling way – in effect 'rescuing' the child and punishing the parents" ([61, p36]).

3.2 Child maltreatment as a threat to society

The rise of the SPCC's and other institutions such as the house-of-refuge movement as described by Pfohl, (1980 ([63])) could be summarized as humanitarian reform. As children constituted the future of society and families constituted the core of society it makes sense that the humanitarian reform was aimed at families and their upbringing of their children. Van Montfoort distinguished between three different notions of reform. The first notion largely concerned itself with the negligence in child rearing. This negligence was considered to cause immoral and delinquent behavior in children and thus had to be halted. The Dutch term *verwaarlozing* and moreover the German term *verwahrlosung* applies well to this notion as it implies not only negligent rearing-practices but refers as well to a state of disorderliness, deterioration, even wickedness. The second notion considered children to be the victims of 'cruelty'; therefore they had to be protected since this cruelty was in defiance of law and morality. The third notion was the pedagogical '*Reformbewegung'*, which was mostly concerned with physical discipline and punishment, which was considered to be too harsh, and thus a demand was made for a milder kind of child rearing. ([6; 56]). The first notion of reform was dominant in most countries. As Parton concluded: "while there was an increasing concern for humanitarian reform and 'child-saving' the primary impetus was not to save children from abusive or cruel parents but to protect society from future delinquents" ([61, p28]).

Van Montfoort explained the link between neglect and delinquency. He claimed that with the development of modern sciences new insights were presented, such as the notion that child rearing constitutes an important foundation for the future behavior of people. "Delinquency was the consequence of bad child rearing: the neglected child became the future criminal" ([56, p81-82]). Thus "a distinction between 'delinquency' and 'dependency' was considered irrelevant for 'child saving'" ([63, p325]). For years it was assumed that there was no substantial difference between neglected and delinquent children, and thus 'acting in the child's best interest' meant correcting these minors and teaching them discipline as well as protecting them from violence, neglect and abuse. In fact, over time, acting in the child's best interest meant mostly "keeping minors in check and guarding their ethical and moral development" ([56, p111]).

As a consequence of the fact that child neglect was considered equal to delinquency, other forms of child maltreatment received little attention. This did not mean other forms of maltreatment were not known; physical maltreatment, just as sexual abuse, alcohol abuse, abandonment, immorality and criminal behavior were all considered symptoms of the same problem: neglect. In much the same way the term 'emotional maltreatment' is scarce in literature from this period. However, what is nowadays considered emotional maltreatment was definitely a focal point of attention, be it in terms of moral decay ([27; 56]).

3.3 Child protection

As child maltreatment was mainly understood as a threat to society in these days, child protection meant in fact protection of the state. Children were to be removed from their homes and placed in correctional institutions as described by Pfohl: "neglect statutes providing for the removal of the young from bad home lives were originally enacted to prevent children from mingling freely with society's dregs in alms houses or on the streets". These statutes were now used to put children in a "controlled environment, where they shared a 'proper growing up' with other vagrant, abandoned and neglected youths as well as with delinquents who had violated criminal statutes" ([63, p325]). Pfohl added that this method of child protection was in fact nothing else than imprisonment without due process.

With neglected children being perceived as societies future criminals there was little attention for the child as a victim. As Parton put it: "the problem of children as victims conceptualized in any independent form has only appeared very fleetingly on the political agenda. Its initial appearance [...] was dependent upon the emergence of the idea of childhood as being a separate category, with children having needs different to little adults. [...] The response to the problem at that time however was influenced by the poor law philosophy, with heavy overtones of rescue, control and parental irresponsibility" ([61, p46]). According to Gordon the picture of these irresponsible parents shifted somewhat over time. During the late nineteenth century the 'culprit' was mainly "a drunken immigrant father" while after the turn of the century the "incompetent, insensitive, and possibly untrained mother in need of professional guidance" became the main focus ([39, p61]). Although reform workers adopted the rhetoric of 'prevention' in these times (child neglect was considered 'a preventable social disease'), the approach of parents and children was

still relying on prosecution; "prevention meant protecting children from harm by disciplining parents" ([39, p73]).

As becomes clear in this paragraph, the approach of the problem of child maltreatment during the nineteenth and early twentieth century was a repressive one. This approach can be explained by the dominant perceptions of what child rearing entailed: the family constituted a cell in the organism of society and the main goal of child rearing was to deliver well-adapted citizens to the orderly society. Regarding child neglect three elements were fused in this perception according to Baartman (1992): an environment damaging for the child, a character disorder in the child being the lacking social adaptation and the danger of this lack of social adaptation to society expressed as delinquency. The main course of action in order to stop and correct the damaged and corrupted moral development of children was outplacement ([5]).

During the largest part of the period described in this paragraph (roughly between 1870 and 1960) there was little attention for the preservation of the nuclear family; as far as the influence of the parent-child bond was recognized in maltreating families it was considered a threat to the child. It was not until the end of this period, influenced by the increasing breakup of families, the experiences of evacuation during the Wars and the increasing knowledge on family-functioning that the concept of family preservation started to gain grounds on the concept of outplacement and the control model was more and more replaced by a model of compassion ([61]). These new approaches were improved in the decades after World War II as will be addressed in the next paragraph.

4 THE REDISCOVERY OF CHILD MALTREATMENT: CHILDREN IN DANGER

Influenced by the two World Wars and the intermediary depression years, but also by developments in the fields of child welfare and public policy there was a gradual shift in the perception of child maltreatment. Van Montfoort described how the SPCC's became rather marginalized and for instance the Berlin *Schutzverein* in Germany was adjourned by the Nazi-regime ([56]). Gordon saw the same in the United States where she describes the 1940s and 1950s as "the low point in public awareness of family-violence problems and in the status of child-protection work within the social-work profession" ([39, p23]). Starting in the 1940s the medical specialists 'rediscovered' child maltreatment, aided by the development of new medical equipment. Radiologists Caffey (1946), Astley (1953) and Woolley & Evans (1955) were the first to consider the possibility of external violence as the cause of inexplicable bone-fractures.

Caffey, after describing several cases, concluded: "fractures of the long bones are a common complication of infantile subdural hematoma. The fractures appear to be of traumatic origin but the traumatic episodes and the causal mechanism remain obscure" ([25, p173]). Astley discussed in length all possible differential diagnoses and ascertained, just as Caffey, the absence of a history of adequate trauma accounting for his findings. He maintained however that in all cases parents were "normal, sensible individuals" ([3, p583]) and therefore concluded that the cause had to be a new syndrome to which he suggested the label of "Metaphyseal Fragility of Bone". Woolley and Evans however, studied files of patients seen over an eight-year period and stated: "there is little evidence, clinical or roentgenographic, supporting belief in unusual fragility of bone" ([79, p542]). They concluded "it is difficult to avoid the over-all conclusion that skeletal lesions having the appearance of fractures – regardless of history for injury or the presence or absence of intracranial bleeding – are due to undesirable vectors of force" ([79, p543]). They took their explanation one step further in stating that the children reviewed "...came invariably from unstable households with a high incidence of neurotic or frankly psychotic behavior on the part of at least one adult..." ([79, p543]).

It was the United States that took the lead in a new development when, based on the studies of a.o. Caffey, Astley and Woolley & Evans, Dr. C. Henry Kempe was asked to study the cases of maltreatment encountered in hospitals. Results of this study were first presented at a meeting of the American Academy of Pediatrics in 1961 and consequentially published as *the Battered Child Syndrome*, the article that is claimed to be the beginning of the modern response to child abuse and neglect in numerous publications ([for example 30; 61]). Kempe, Silverman, Steele, Droegemueller and Silver (1962) described the battered child syndrome as "a clinical condition in young children who have received serious physical abuse, generally from a parent or foster parent" ([46, p105]). With this definition there is no doubt as to the cause of the injuries described in children.

4.1 The problem of domestic violence

It is evident that the beginning of the new era in the perception of child maltreatment took a much more medical approach, thereby emphasizing physical maltreatment. As Parton (1985) stated: "the way it was conceptualized focused attention on a disease model of physical abuse from parents, thus emphasizing the injuries to the child and deflecting attention from wider social, cultural and economic factors that might impinge" ([61, p52]). Another consequence of the medical approach was the explanation of child maltreatment in terms of parental psychopathology ([55]).

The emphasis on physical maltreatment changed however in the decades after the publication of the Battered-child Syndrome, for instance with the establishment of the International Society for Prevention of Child Abuse and Neglect (ISPCAN) in 1977. Their targets are "to prevent cruelty to children in every nation – whether cruelty occurs in the form of abuse, neglect, or exploitation – and thus to enable the children of the world to develop physically, mentally and socially in a healthy and normal manner" (See each issue of Child Abuse & Neglect, the international journal). Thus the other forms of child maltreatment re-enter the scope. The last type of maltreatment to emerge on the agenda was child sexual abuse. The breakthrough of sexual abuse as a social problem did not emerge from the movement against child maltreatment per se ([56]). Gordon identified the influence of other movements as well: "the context of the rediscovery and redefinition of family violence in the last decades was the civil-rights, anti-war, student and

women's movements, all of them challenging family norms in different ways. Combined, these movements raised critical questions about the sanctity of family privacy, the privileged position of the male head of the family and the importance of family togetherness at all costs" ([39, p25]).

The rather medical approach of the problem of child maltreatment in this period of 'rediscovery' does not exclude other branches of science. In fact, this medical approach literally visualized the problem of child maltreatment as a problem of violence. This means an important shift in the predominant paradigm towards the problem at hand: from anti-sociality in the first 'era of attention' to domestic violence in the new era of attention. In other words: where child maltreatment was previously interpreted in terms of the external functioning of families, the new interpretation of child maltreatment as family violence focuses on the internal functioning of families.

Through research and the development of new theories such as the attachment theory ([see 20]) and the 'General System Theory' (seen by Baartman as a precursor to the ecological approach of Bronfenbrenner and Belsky ([7])), the internal structure and functioning of families became more visible. Families were understood as a network of relations between people that depend upon each other for both their autonomy and their need for togetherness ([4]). This helped to understand child maltreatment and violence in the family as an exponent of a relational problem. Another effect of theoretical progress (with the introduction of notions such as violence as a response to structural or situational stress as well as the influence of violence in society) is that it becomes clear that child maltreatment is not confined to the lower classes but can occur in any societal level ([5; 21]).

4.2 Child maltreatment as a threat to becoming a person

Change can be seen not only in the field of theoretical explanations of child maltreatment; the conception of child rearing itself changed as well. No longer did child rearing simply imply the delivery of well-adapted citizens to society. Rearing principles such as compliance, submissiveness and obedience, which implied that a child had to be taught his place, respect for authority and ordinance to power and tradition, were cast aside. Instead notions such as autonomy, authenticity and self-respect became important ([5; 6]). Child rearing became the fundament to becoming a

person, or, in Dutch, *persoonswording*. This term was introduced by De Ruyter in 1995 ([68]) and elaborated on by Willems (1999). He explained this term as follows: "Becoming a person is striving for and working towards optimum rationality, morality and authenticity, a general human aspiration – individually shaped by individual choices, the individual self-determination or self-definition towards the true, the right and the beautiful" ([76, p107]).

If, with the old rearing principles, force may have been acceptable as a method to teach children respect, ordinance and obedience, within the new rearing principles there is no more room for harsh discipline. Generally speaking all forms of child maltreatment become a threat to becoming a person, an attack on the rationality, morality and authenticity of the child.

4.3 Dilemma's in child protection

Over the course of time the approach to the issue of child protection has evolved in a way that is adequately described by Krugman (1999) using a wave-metaphor. He signalizes a *'social welfare paradigm'* between the late nineteenth century and the inter-war period, where the impetus was on preventing cruelty to children by intervening and removing children from their homes. A second wave was initialized by Kempe's publication and introduced the *'medical paradigm'*. In the United States this second wave again primarily implied the rescue of children by removing them from their homes. By the 1980s this approach was caught up by the facts when children placed in foster care presented themselves with numerous problems. In reaction the impetus became to keep families intact by providing treatment from a systems-oriented and family-centered approach ([49]). In other countries the value of family preservation was discovered earlier, giving this second wave different amplification in different countries.

Krugman's wave-metaphor addresses an important dilemma in the field of child maltreatment: that of compassion versus control. This dilemma was addressed in 1977 by Rosenfeld and Newberger. The compassion model is described as deriving "from the need for insight and the formation of a helpful professional-parent relationship to understand and to improve the functioning of abusing families". The control model "refers to the aggressive use of intervention to limit and, if

necessary, to punish deviant behavior. It assumes that an individual must take full responsibility for his actions and the State will hold him accountable" ([67, p2087]).

The model of control is primarily adopted by the judicial system where child maltreatment is considered a crime and the response to parental shortcomings is punitive. After the rediscovery of child maltreatment in the 1960s these models were adopted in different ways by different countries. With the acceptance of the statutory reporting laws the United States seemed to give prevalence to the notion of control ([50]). The model of compassion, of understanding child maltreatment as a symptom of family problems, seems favored in the Netherlands where a strong plea was made for social, psychological and pedagogical assistance and guidance to families instead of judicial punitive action ([47]). Moreover, in the Netherlands there was considerable sepsis about the interference of the civil court in the protection of children ([56]). In more recent years these choices have been re-evaluated. Influenced by the increasing attention towards sexual abuse in the 1980s and the understanding of this type of child maltreatment as a crime more than anything else, a demand was made for a more punitive course of action ([56; 65]). Thus the amplification of the wave described by Krugman differs not only in different countries but also regarding different types of maltreatment.

Regardless of the advantages and disadvantages of either approach, the dilemma of compassion versus control overlooks the root of the problem since it deals with tertiary prevention: the treatment of maltreated children and their (family) context. As many interventions have been, these treatment systems have been evaluated over the past years. The results of these evaluations are disappointing. Tertiary prevention proves to be neither very effective nor very efficient and recurrence rates of maltreatment incidents are high, both during and after treatment ([28; 44; 65]). Cohn and Daro (1987) concluded their study very definitively in stating: "If research findings are to be of any use in setting policies, the results of a decade of evaluative research on treatment programs suggest that putting all resources into intervention after the fact does not make sense" ([28, p440]). These kinds of statements give rise to the notion that perhaps we should not tarry with providing support to families in need until the damage is done. Instead of attempting to restore the optimal conditions for the child's process of becoming a person, efforts should be directed at maintaining these conditions.

Oddly enough there are many objections against primary prevention as it is claimed that the evidence on the effectiveness of both the selection of families for prevention and the actual methods of prevention is inconclusive. The connotation 'odd' is used since similar objections could be raised against tertiary prevention. Yet the treatment of 'damaged' individuals seems fully accepted in our society, regardless of the outcome (or lack thereof), while society appears to remain very skeptical when it comes to primary prevention. Leventhal (1996) stated: "we do know how to prevent abuse and neglect [... the question is] whether we, as a society, can afford the resources to provide the necessary preventive services to families" ([51, p647]). The fact that we 'do know how to prevent abuse and neglect' may be a bit of an overstatement but the fact of the matter is, that even though fine-tuning of theory remains necessary on many aspects, we do have a general idea about how to prevent child maltreatment. This issue is the subject for the next paragraph and will be revisited in chapter four.

5 THE NEED FOR PREVENTION

In the previous paragraph we have seen how the developments in research have led to an increased understanding of the problem of child maltreatment. Several authors have reflected upon this progression. The wave metaphor of Krugman has been briefly addressed above. Where Krugman pointed to the developments in the treatment of maltreated children Helfer was steering towards prevention when, in 1976, he drew an analogy with a serious disease model in which he identified seven steps. Step 1, the recognition of "the most serious form of a given disease" occurred in the early 1960s with Kempe's publication on the Battered Child Syndrome. Over the following fifteen years step 2, the development of nonspecific and supportive treatment programs was followed by step 3, concurrent research into the causes of the problem, which led to step 4, the initiation of more specific treatment programs. At the time of publication of his analogy Helfer saw the first signs of step 5: the expansion of the concepts of the problem to related areas. He eagerly awaited the last two steps: the research on early identification and prevention followed by the initiation of screening and prevention programs ([41]).

More recently Daro and Donnely (2002) tried to describe the development of prevention by dividing recent history into three periods ([30]). They described the period between 1962 (when Kempe et al published "the Battered Child Syndrome") and 1980 as the period of *the prevention concept*. As it was believed that effective prevention hinged on substantially increasing public awareness and acceptance of the problem, several public and private entities made great efforts to accomplish this. The success of these efforts is demonstrated in a dramatic increase of reports of suspected child abuse towards the end of this first period. There was considerable optimism about the possibilities for early prevention services, although not unanimous: criticism regarding the predominantly single factor theories on the etiology of child maltreatment led to the eventual adoption of more complex, ecological frameworks as will be addressed in paragraph six. The next ten years (1980-1990) were considered the *prevention continuum*. With new theoretical models prevention efforts became largely multi-focused. The scope for these services also widened when more types of maltreatment were incorporated. In short, dozens of programs were launched all over the United States, unhinged by a flourishing economy. Studies on the effectiveness of these programs pointed out

that some had indeed managed to reduce maltreatment rates; however others had missed the mark. Overall these programs lacked clear empirical guidance, which was improved during the 1990s (the third and current period called *the prevention system*) with the return to the scientific and empirical roots, which were so important during the period of *prevention concept*. Clinical trials and sophisticated quasi-experimental designs are providing increased confidence in the efficacy of early intervention services; however, "full promise of prevention has yet to be realized" ([30, p737]).

At a scientific level it appears that we have acquired a substantial volume of knowledge and tools for the prevention of child maltreatment although the effectiveness of intervention is still ambiguous ([See for instance 32; 53]). At a policy level however there seems to be much hesitation regarding the issue of prevention. The state seems to struggle with its responsibilities, a struggle which is by no means new. In describing the situation in the sixteenth and seventeenth century Parton said: "if the State was to maintain notions of individual freedom, contract and responsibility, it could not become all-encompassing and hence a threat to those same recently established freedoms. The dominant solution was to allow the State to intervene into childrearing only when families were considered to have failed" ([61, p26]). In reviewing the current situation this solution seems hardly outdated.

5.1 The rights of parents and children

The policy of prevention touches on the delicate subject of the rights of parents and children. Especially the rights of children did not receive much attention in the past, according to Price Cohen (1992): "Until the latter part of this century the image of the child as a person, separate from the family, with rights of his or her own, was totally missing from the writings of philosophers and/or social scientists" ([64, p59]). Starting in 1979, the international year of the child, these rights have been elaborately recorded in a ten-year process, resulting in the United Nations Convention for the Rights of the Child (henceforward referred to as 'the Convention'), which was unanimously accepted by the United Nations on November twentieth 1989 ([76]). During the next seven or so years almost every country in the world subscribed to this Convention, which implied substantial consequences for legislation. Three of the articles established in this Convention are cited here because of their special significance to the subject.

Article 3 establishes the importance of the best interest of the child as primary consideration in all actions concerning children:

> *Article 3*
> *1. In all actions concerning children, whether undertaken by public or private social welfare institutions, courts of law, administrative authorities or legislative bodies, the best interests of the child shall be a primary consideration.*
> *2. States Parties undertake to ensure the child such protection and care as is necessary for his or her well being, taking into account the rights and duties of his or her parents, legal guardians, or other individuals legally responsible for him or her, and, to this end, shall take all appropriate legislative and administrative measures.*
> *3. States Parties shall ensure that the institutions, services and facilities responsible for the care or protection of children shall conform with the standards established by competent authorities, particularly in the areas of safety, health, in the number and suitability of their staff, as well as competent supervision* ([1]).

Article 18 recognizes the fact that the primary responsibility for the upbringing and development of the child lies with the parents of that child, implying the parental duty to act in the child's best interest. It also emphasizes the parental right to appropriate assistance in performing their duties:

> *Article 18*
> *1. States Parties shall use their best efforts to ensure recognition of the principle that both parents have common responsibilities for the upbringing and development of the child. Parents or, as the case may be, legal guardians, have the primary responsibility for the upbringing and development of the child. The best interests of the child will be their basic concern.*
> *2. For the purpose of guaranteeing and promoting the rights set forth in the present Convention, States Parties shall render appropriate assistance to parents and legal guardians in the performance of their child rearing responsibilities and shall ensure the development of institutions, facilities and services for the care of children.*
> *3. States Parties shall take all appropriate measures to ensure that children of working parents have the right to benefit from child-care services and facilities for which they are eligible* ([1]).

Article 19 expresses the duties of the State to protect the child from any form of maltreatment and insists on the application of curative and preventive measures for the fulfillment of this duty:

> *Article 19*
> *1. States Parties shall take all appropriate legislative, administrative, social and educational measures to protect the child from all forms of physical or mental violence, injury or abuse, neglect or negligent treatment, maltreatment or exploitation, including sexual abuse, while in the care of parent(s), legal guardian(s) or any other person who has the care of the child.*
> *2. Such protective measures should, as appropriate, include effective procedures for the establishment of social programs to provide necessary support for the child and for those who have the care of the child, as well as for other forms of prevention and for identification, reporting, referral, investigation, treatment and follow-up of instances of child maltreatment described heretofore, and, as appropriate, for judicial involvement* ([1]).

Many articles in the Convention can be applied to the notion of becoming a person. The one that perhaps best reflects this notion is number 27 with the recognition of the child's right to "a standard of living adequate for the child's physical, mental, spiritual, moral and social development". Overall the Convention does establish the child's right to becoming a person. These rights are first and foremost the responsibility of the child's parents. However, the state is obligated to ensure that parents are able to fulfill these responsibilities. Willems called the connection between these three parties the trias pedagogica, "a constitutional social-pedagogical triangulation between parents, children and the state" ([76, p877]).

5.2 Trias Pedagogica

Although parent, child and state are intertwined in this trias pedagogica, the responsibilities of parent and state are not equally balanced. As Willems put it: "One of the most heavy responsibilities, the responsibility for the rearing of children, is in western society almost exclusively placed in the hands of parents" ([76, p274]). Helped by the Convention for the Rights of the Child this balance should become more equalized. In some of the subscribing countries this is indeed very much the case, however others seem to fail incorporating the rights of the child into national legislation as is the conclusion of Veldkamp after an analysis of six subscribing countries including the Netherlands ([75]). It appears that, even though

the Convention is subscribed to, the central notion in the Netherlands remains that the primary responsibility for the child's development is a private matter of parents and not directly a joint responsibility of society; a phenomenon referred to by Willems as "the cultural phenomenon of parental libertinism, also referred to as the privacy-culture" ([76, p528]).

Of course the notion of parental primary responsibility to the child's development is one of the central premises of the Convention. However, this notion does not relieve the state of its responsibilities. Non-interference until danger to the child's development is eminent, as is common policy in the Netherlands, violates another central premise of the Convention: the state's responsibility to provide adequate and sufficient support for parents. In other subscribing countries a legal right to support as well as a legal obligation to offer support is established. The conviction that the family is the most ideal environment for the child to grow up in, and the recognition that, once this environment becomes too dangerous for the child to remain at home, the state can only provide less desirable alternatives, constitutes the main argument for the provision of support in an early stage. In general the central conviction in some other countries (as opposed to the Netherlands) is that the efforts of both childcare and child protection should primarily be targeted at averting the risks for the development and well being of the child. This should first and foremost be accomplished by enforcing the parenting and protective abilities of parents, not by taking over parenting responsibility ([75]).

The less than desirable level of responsibility taken on by the Dutch state is justified as 'respecting parental responsibility and the sanctity of the family'. Leaving parents to do as they see fit until the damage is done beyond repair seems however hardly respectful, neither to parents nor to the child. As Willems states: "Respect for parenthood (taking the secondary child rearing responsibility seriously) and respectful parenthood (taking the primary child rearing responsibility seriously) are communicating vessels, that together lead to more respect for children" ([76, p875]). Thus the conclusion should be that true respect for parenthood implies not only enabling parental support but also actively offering this support, and in the presence of risks for the well being and development of the child possibly even enforce this support. Only then will the trias pedagogica be truly balanced and the rights of the child adequately served.

5.3 Parental support as prevention of child maltreatment

In the previous paragraph it is argued that legally the Dutch state should provide parental support, especially to families at risk. There seem to be three last reservations regarding this issue: how can the enforcement of support (i.e. interference in the family) be justified prior to actual damage done to the child's development; how certain can we be in identifying families at risk and what kind of support is effective.

Regarding the first issue Baartman (1998) argued as follows: "when someone – in this case a child – has a right, there is a duty to (help) honor this right, a duty that primarily lies with parents. When there are reasons on empirical grounds to assume that the honoring of this right is endangered, because of the reasonable possibility that parents cannot sufficiently follow their duty, then the following of this duty should be otherwise ensured. [...] When the duty to ensure a right implies that not only action is employed regarding restoration of the right (i.e. treatment) but also regarding prevention of violation of this right, than the provision of preventive support to parents is a duty that the state, in subscribing to the Convention of the Rights of the Child, has accepted" ([9, p376]). On legal and logical grounds preventive support can thus be enforced. This being said, the fact remains that the reason to offer this support is the presence of a risk for damage, not of actual damage.

This leads to the second issue: how certain is this risk for damage? Several figures about this issue have been presented: first of all, 67-100% of maltreating families has been known as a family at risk at the time of the first birth in the family. Secondly, the chances of actual maltreatment in families at risk are up to 30 times higher than in low-risk families. Both figures are supportive to the notion at hand. However, child maltreatment does not occur in all families at risk: this percentage varies between 6 and 53% depending on what study is reviewed ([10]). Still, should we be able to predict with utmost certainty what would happen without preventive intervention? Can we predict the outcome of non-intervention in any other case regarding family-problems? According to Baartman (1997) we appear to often hide behind the argument of empirical uncertainty to avoid taking initiatives that essentially place the rights of children above the rights of parents ([8]). Furthermore, it is not the risk for future child maltreatment but the presence of an alarming

current family-situation that justifies a preventive intervention. This recognition applies to the first issue addressed above as well: the main argument to provide parents with a preventive intervention is not the debilitating notion that they might end up maltreating their children but the positive approach that their current situation has room for improvement which will benefit their child.

This leaves us with the final issue at hand: what kind of support is effective? This question has been the subject of an increasing amount of studies in several countries worldwide. In the Netherlands however no evidence-based attempt has been made to answer this question. The study at hand constitutes such an attempt. Foreign research indicates the success of home-based interventions targeting both parental attitudes as well as the direct family-context. The next chapter will continue on the notion of risk factors as predictors for future child maltreatment whereas preventive interventions and their design will be addressed in chapter four. As a bridge to chapter three the final paragraph of this chapter will establish a theoretical principle for the aim of preventive interventions.

6 PARADIGMS FOR PREVENTION

Adequate prevention requires a principle on which to operate. Targeted preventive intervention can only be developed by adopting a paradigm to understand and explain the causes of child maltreatment. Over the course of history, aided by the progressing research on the issue of child maltreatment different explanatory models have been developed. This closing paragraph will briefly discuss these models. In conclusion a paradigm for this study will be investigated.

A first model for child maltreatment regards *the psychiatric explanation*, introduced by Steele and Pollock (1968) as well as Galdston (1965) ([34; 72]). Here the roots for maltreatment are sought in parental characteristics. Different studies pointed out personality disorders, mental illnesses, a negative self-image or depression in maltreating parents. Other studies pointed to the parents' childhood experiences: parenting styles are learned and simply repeated, indicating the concept of intergenerational transmission: parents being themselves maltreated as children. Still other studies targeted a lack of inhibition in maltreating parents: aggression, frustration and other impulsive behaviors are more easily expressed by maltreating parents. The notion of emotional immaturity is found as well in many of the early studies ([See 43; 78]).

A second model describes *the contextual explanation,* discussed by Garbarino (1980) and Pelton (1980) and others ([35; 62]), wherein both parent and child are seen as victims of circumstance. Contributing to this explanation, studies pointed out that maltreating parents live in social-economical deprivation; they are often unemployed and socially isolated. In families, living in poverty, factors such as deteriorated or overcrowded housing, insufficient money and a pervasive pattern of social stress are associated with maltreatment. Other studies found characteristics of the social context, such as low levels of neighborly exchange, residential instability and transience, and poor relations with institutions (e.g. schools) to be related to child maltreatment. Still other studies claimed the subcultural climate, supporting a differential orientation to violence as reflected in values, beliefs and norms regarding the appropriate conditions for violence and child-discipline, is related to child maltreatment ([See 14; 35; 78]).

A third model can be called *the interactional explanation,* introduced by Bugental, Mantyla and Lewis (1989) ([24]). Here, studies placed emphasis on the influence children themselves have on the process of child rearing. Aspects within the child, such as prematurity, handicaps, illnesses and temperament are associated with maltreatment in several studies. Also, regarding the parent-child interaction, disruptions in attachment and sensitivity are found in maltreating families. Other studies concluded that maltreatment does not result from the child characteristics as such, but from the perception of the child by the parent: maltreating parents perceive their children as more difficult than non-maltreating parents. Finally there are studies finding a lack of developmental knowledge in maltreating parents, leading to inappropriate expectations of the child ([See 43; 59]).

None of these explanatory models in itself sufficiently explain the problem of child maltreatment. The psychiatric explanation, emphasizing the disordered parent, was born from the disbelief and perplexity felt by researchers in the 1960s after the publication of the Battered-child Syndrome. Wolfe (1991) saw the emphasis on the psychopathology of the abusing parent as a logical consequence of the fact that attention to the problem of child maltreatment was mainly cranked up by the medical profession ([78]). Traditionally, the psychiatric model, as a medical model, used to emphasize factors of disease and under-estimates the social circumstances in which maltreatment is embedded. In the late 1960s, helped by large-scale survey studies, knowledge of the etiology of child abuse was expanded, leading to the contextual explanation. New theories on family functioning and the understanding of child maltreatment as an intra-familial problem led to approaches emphasizing the interaction between parent and child. Up to this point explanatory models assumed that child maltreatment was caused by one factor or cluster of factors (such as parental personality) and the relationship between cause and consequence was linear and unidirectional. The interactional explanation may be the first to acknowledge a bidirectional linearity within a more comprehensive cluster of factors (i.e. both the family system and, through interaction, the parental personality) but it lacks the multi-causality we have since come to know.

With the rise of the conception that maltreatment is multi-causal, that is, no single factor can explain its occurrence, several multifactor models were introduced. Herrenkohl (1990) mentioned several models such as an ecological model, which

has been elaborated on by Garbarino emphasizing situational factors. He also addressed a model described by Gelles, in which "a network of influences, such as stress, social isolation, parents' child rearing experience amongst other factors are hypothesized to contribute to maltreatment" ([43, p91]). Ammerman and Hersen (1990) described Wolfe's transitional model, in which families pass three stages towards the development of violent domestic conflict: reduced tolerance of stress combined with disinhibition of aggression, poor management of acute crises as well as provocation and finally habitual patterns of arousal and aggression with family members ([2]).

The most well known multifactor model is that of Belsky (1980). He attempted to integrate previous explanatory models into one ecological synthesis using the ecological framework developed by Bronfenbrenner. He described this model as follows: "While abusing parents enter the microsystem of the family with developmental histories that may predispose them to treat children in an abusive or neglectful manner (ontogenetic development), stress-promoting forces both within the immediate family (the microsystem) and beyond it (the exosystem) increase the likelihood that parent-child conflict will occur. The fact that a parent's response to such conflict and stress takes the form of child maltreatment is seen to be a consequence both of the parent's own experience as a child (ontogenic development) and of the values and child rearing practices that characterize the society or subculture in which the individual, family, and community are embedded (the macrosystem)" ([11, p33]). In this model parenting becomes the central notion, influenced by the personality of both parent and child as well as the context in which they find themselves, specifically the marital relation, social network and occupational experiences of the parent.

6.1 A paradigm for this study

When comparing the earlier multifactor models to that of Belsky it seems that he is the first to acknowledge not only the complexity of the interaction of all factors in play but their reciprocity as well. This constitutes a breach with the linear thinking and opens the door to circular causality ([7]). Previous models, although acknowledging bidirectional influences between different factors, essentially maintained an accumulative approach to risk factors resulting in a rectilinear pathway from cause to consequence. Commonly the model of Belsky is accepted as

the best integration of previous explanatory models into one multifactor model. In our study what is most important about Belsky's model is the fact that the qualities of the parent are placed in the center. As Baartman (1996) put it: "child rearing is not just the result of a complex interaction of factors implemented upon the parent. The parent is an important actor in this process. Child rearing is shaped based on the way the parent perceives his relationship with his child as well as individual traits operating as a filter through which other factors have to pass in order to influence the child rearing process" ([7, p42]). Although the parent takes center stage in Belsky's model the question remains what causes a parent to maltreat his child. In order to complete an adequate paradigm for this study this question needs to be answered.

As an answer to this question Baartman introduced the notion of 'parental awareness' as developed by Newberger (1980). Newberger defined parental awareness as "an organized knowledge system with which the parent makes sense out of the child's responses and behavior and formulates policies to guide parental action" ([58, p47]). This system touches on ideas, knowledge, emotions and sensitivities ([7]). Newberger differentiated two dimensions in this system, a perspective-taking dimension, implying a parental understanding of the mental activity founding the child's actions, and a moral dimension implying "the obligation to promote the well-being of the child and the intention to do so" ([7, p70]). This moral dimension requires the notion of parental action, which is, according to Newberger, "to a great extent a process of negotiating conflicting claims" ([58, p48]).

Baartman explored Newberger's two dimensions more in-depth. To the first dimension, that of perspective-taking, the notions of expectations, perception and sensitivity towards the child play an important role. The expectations parents have of their children need to be realistic (which requires knowledge of the child's developmental capabilities), appropriate (which is linked to the role that is attributed to the child in the parent's life) and attuned (which refers to an understanding of the child's potential in life). The perception of the child is related to three aspects of meaning a parent attributes to parenting: being needed as a caretaker, being loved as a parent and being witness to the child's development. Finally the notion of sensitivity implies sensing, understanding and acknowledging the needs, emotions and experiences of the child. This sensitivity is

influenced by what is described as the sensitivity towards the child that the parent once was, i.e. towards ones' own history as well as towards one's actual feelings. Central to the second (moral) dimension is, as Newberger expressed, the notion of 'conflicting claims'. In psychodynamic literature this notion should be understood as "the dilemma of individuation and togetherness" ([7, p77]), in other words, the conflict is between the need for independence and the need for commitment. This conflict takes place within the parent, within the child and within the interaction between parent and child. Baartman essentially chose a different wording for this dilemma when he speaks of the conflict between the parent's provision of his or her own 'good life' and the parent's availability for the 'good life' of the child ([7]).

Two concepts introduced by Brunnquell, Crichton and Egeland (1981) are closely related to parental awareness. These concepts are 'psychological complexity' and 'level of personal integration'. Psychological complexity is explained as "the extent to which the mother has the psychological maturity and sophistication necessary for adequate parent-child relations" ([23, p688]). This concept can be understood as a summary of the notions of expectations, perception and sensitivity as described by Baartman and thus applies to Newberger's first dimension of parental awareness. The level of personal integration relates to "the integration of the mother's experiences and personality organization"; it is composed of affective and intellectual elements contributing to the "overall conception of the mother's recognition of her own psychological needs and processes, her ability to perceive those needs and processes in others and her ability to integrate the two sets of needs and processes" ([23, p689]). This concept is closely related to specifically Baartman's notion of sensitivity as explained earlier, but it also provides an additional understanding to the concept of conflicting claims.

Through the above explorations we can see how parental awareness hinges on two dimensions, that of perspective-taking and that of 'moral-driven' action. Various studies have demonstrated how maltreating parents can often be found to have deviant expectations of their children, to perceive their child as rejecting and unappreciative and to be less able to be sensitive to their child ([7]). The ability to allow the psychological needs and processes of one's child to prevail over one's own psychological needs and processes has much to do with the parent's ontogenic system according to Baartman. "In light of the personal developmental history, the desire to serve the interest of the child also offers the possibility to settle the score with one's past. This possibility

implicates a high dependence on the child, as the child's appreciation is an important indication that scores have been settled. [...] This dependence has implications for parental action: parenting becomes a heavy duty, the child is seen as difficult and the parent becomes over-sensitive to failures" ([7, p83 & 84]). Here we see clearly how the concept of parental awareness can well be integrated with the different systems in Belsky's model. Further support for the relationship between the dimension of conflicting claims as described by Baartman and Newberger and the ontogenic system as described by Belsky can be found in theories such as that of Boszormenyi-Nagy ([18; 19]) and Winnicot ([77]). There are more close ties between both paradigms, for instance the fact that parental action towards the child is driven by the parental norms on the use of physical violence ([7]), which are highly dictated by the macrosystem in which a family resides ([12]). So, the influences of the different systems of the ecological model remain important. However, based on several studies Baartman concluded that the problem lays not so much in the amount of contextual stress as in the vulnerability of the parent towards this contextual stress. It is the combination between this vulnerability and a weak parental awareness that creates the ultimate risk for child maltreatment ([7]).

Based on this paradigm the quintessential parole for preventive intervention becomes clear. As Brunnquell et al put it: "a complex variable such as the one tapped by the Personal Integration factor cannot be changed by providing information, skills training or therapy aimed at specific behavioral patterns [...]. Such change can only occur through integration of the experiences of child rearing and relations with others [...], which implies dealing with the specifics of the mother's reactions, feelings and perceptions of the day-to-day tasks she faces with the child. Asking about the mother's notion regarding the baby's motivation provides an excellent means for highlighting the mother's own needs and how they affect her understanding and perception of her infant and their relationship" ([23, p690]). Although most studies on the subject of child maltreatment provide information on mothers only, we propose that paternal mechanisms hold the same complexity and require as much support as do maternal mechanisms. Therefore it is the aim of this study to support parents, both mothers and fathers, in their parenting role as well as in their immediate context. In the next two chapters the possibilities for the selection of families at risk as well as for the practical design of a preventive intervention will be explored in order to reach a legitimate, convincing decision on the implementation of an indicated preventive program as the core of this study.

7 References

1. Convention on the Rights of the Child, adopted and opened for signature, ratification and accession by General Assembly resolution 44/25 of 20 November 1989, entry into force 2 September 1990. (20-11-1989). Ref Type: Bill/Resolution
2. Ammerman, R. T. & Hersen, M. (1990). *Children at risk, an evaluation of factors contributing to child abuse and neglect.* New York: Plenum Press.
3. Astley, R. (1953). Multiple metaphyseal fractures in small children. Metaphyseal fragility of bone. *Brit J Radiol, 26,* 577-583.
4. Baartman, H. E. M. (1987). De paradox van geweld in het gezin [The paradox of violence in the family]. *Ned.Tijdschrift v.Opvoeding, Vorming en Onderwijs, 3,* 142-155.
5. Baartman, H. E. M. (1992). Geweld in het gezin [Violence in the family]. In H.E.M.Baartman & A. J. van Montfoort (Eds.), *Kindermishandeling, resultaten van multidisciplinair onderzoek [Child maltreatment, results of multidisciplinary research]* (pp. 15-39). Utrecht: Data Medica.
6. Baartman, H. E. M. (1993). *Opvoeden met alle geweld: hardnekkige gewoontes en hardhandige opvoeders [Child rearing full force: stubborn habits and hard-handed parents].* Utrecht: SWP.
7. Baartman, H. E. M. (1996). *Opvoeden kan zeer doen, over oorzaken van kindermishandeling [Childrearing can be painful, about the causes of child maltreatment].* Utrecht: SWP.
8. Baartman, H. E. M. (1997). Over legitimering en noodzaak van primaire preventie [On the legitimacy and necessity of primary prevention]. *Ned.Tijdschrift v.Opvoeding, Vorming en Onderwijs, 13,* 300-307.
9. Baartman, H. E. M. (1998). Jeugdcriminaliteit, kindermishandeling en preventie [Juvenal delinquency, child maltreatment and prevention]. *Comenius, 18,* 368-385.
10. Baartman, H. E. M. (1999). Wie niet vraagt wordt overgeslagen; ethische en empirische aspecten van het bieden van ongevraagde opvoedingshulp aan jonge risicogezinnen [Passed if not asked; ethical and empircal aspects of the offering of unasked parenting aid to young families at risk]. In K.Kooijman (Ed.), *Preventie van kindermishandeling door vroegtijdige hulp aan risicogezinnen [Prevention of child maltreatment through early help in families at risk]* Utrecht: NIZW.
11. Belsky, J. (1980). Child maltreatment: an ecological integration. *Am.Psychol., 35,* 320-335.
12. Belsky, J. & Vondra, J. (1989). Lessons from child abuse: the determinants of parenting. In D.Cicchetti & V. Carlson (Eds.), *Child Maltreatment, theory and research on the causes and consequences of child abuse and neglect* Cambridge: Cambridge University Press.
13. Bergner, R. M., Delgado, L. K., & Graybill, D. (1994). Finkelhor's Risk Factor Checklist: a cross-validation study. *Child Abuse Negl., 18,* 331-340.
14. Bersani, C. A. & Chen, H. T. (1988). Sociological perspectives in family violence. In V.B.van Hasselt (Ed.), *Handbook of family violence* New York: Plenum Press.
15. Black, D. A., Heyman, R. E., & Slep, A. M. (2001). Risk factors for child physical abuse. *Aggression and Violent Behaviour, 6,* 121-188.

16. Black, D. A., Heyman, R. E., & Slep, A. M. (2001). Risk factors for child sexual abuse. *Aggression and Violent Behaviour, 6,* 203-229.
17. Black, D. A., Heyman, R. E., & Slep, A. M. S. (2001). Risk factors for child psychological abuse. *Aggression and Violent Behaviour, 6,* 189-201.
18. Boszormenyi-Nagy, I. & Krasner, B. R. (1986). *Between give and take; a clinical guide to contextual therapy.* New York: Brunner/Mazal.
19. Boszormenyi-Nagy, I. & Spark, G. M. (1984). *Invisible loyalties.* New York: Brunner/Mazal.
20. Bowlby, J. (1980). *Attachment and loss.* New York: Basic Books.
21. Browne, K. D. (1988). The nature of child abuse and neglect: an overview. In K.Browne, C. Davies, & P. Stratton (Eds.), *Early prediciton and prevention of child abuse* (pp. 15-30). Chichester: John Wiley & Sons.
22. Browne, K. D. & Saqi, S. (1988). Approaches to screening for child abuse and neglect. In K.D.Browne, C. Davies, & P. Stratton (Eds.), *Early prediction and prevention of child abuse* (pp. 57-85). Chichester: John Wiley & Sons.
23. Brunnquell, D., Crichton, L., & Egeland, B. (1981). Maternal personality and attitude in disturbances of child rearing. *Am J Orthopsychiatry, 51,* 680-691.
24. Bugental, D. B., Mantyla, S. M., & Lewis, J. (1989). Parental attributions as moderators of affective communication to children at risk for physical abuse. In D.Cicchetti & V. Carlson (Eds.), *Child Maltreatment, theory and research on the causes and consequences of child abuse and neglect* Cambridge: Cambridge University Press.
25. Caffey, J. (1946). Multiple fractures in the long bones of infants suffering from chronic subdural hematoma. *American Journal of Roentgenology, 56,* 163-173.
26. Caplan, G. (1964). *Principles of preventive psychiatry.* New York: Basic Books.
27. Clemens Schröner, B. L. F., Rijksen, P., & Stolp, A. G. (1976). *Gezinsvoogdij; hulp of fictie? [Family custody; help or fiction?].* Deventer: Kluwer.
28. Cohn, A. H. & Daro, D. (1987). Is treatment too late: what ten years of evaluative research tell us. *Child Abuse Negl., 11,* 433-442.
29. Creighton, S. J. (1988). The incidence of child abuse and neglect. In K.Browne, C. Davies, & P. Stratton (Eds.), *Early prediciton and prevention of child abuse* (pp. 31-41). Chichester: John Wiley & Sons.
30. Daro, D. & Donnelly, A. C. (2002). Charting the waves of prevention: two steps forward, one step back. *Child Abuse Negl., 26,* 731-742.
31. Draijer, N. (1997). Is seksueel misbruik van kinderen altijd erg? Over de noodzaak van differentiatie [Is sexual maltreatment of children always serious? On the necessity of differentiation]. In H.E.M.Baartman, J. E. Doek, N. Draijer, W. Koops, & D. de Ruyter (Eds.), *Gezinnen onder druk; over veranderende ouder-kind relaties [Families under pressure; on changing parent-child relationships]* (pp. 63-79). Kampen: Kok Agora.
32. Duggan, A., McFarlane, E., Fuddy, L., Burrell, L., Higman, S. M., Windham, A. et al. (2004). Randomized trial of a statewide home visiting program: impact in preventing child abuse and neglect. *Child Abuse Negl., 28,* 597-622.

33. Fleming, J., Mullen, P., & Bammer, G. (1997). A study of potential risk factors for sexual abuse in childhood. *Child Abuse Negl., 21,* 49-58.
34. Galdston, R. (1965). Observations on children who have been physically abused and their parents. *Am.J.Psychiatry, 122,* 440-443.
35. Garbarino, J. (1980). An ecological approach to child maltreatment. In L.H.Pelton (Ed.), *The social context of child abuse and neglect* New York: Human Sciences Press.
36. Garbarino, J. (1989). The incidence and prevalence of child maltreatment. In L.Ohlin & M. Tonry (Eds.), *Family violence Crime and Justice; a review of research* (pp. 219-261). Chicago: The University of Chicago Press.
37. Garbarino, J. & Gilliam, G. (1980). *Understanding abusive families*. Lanham: Lexington Books.
38. Gelles, R. J. (1982). Problems in defining and labeling child abuse. In R.H.Starr (Ed.), *Child abuse prediction; policy implications* Cambridge: Ballinger publishing company.
39. Gordon, L. (1988). *Heroes of their own lives; the politics and history of family violence*. New York: Viking Penguin Inc.
40. Gordon, R. S., Jr. (1983). An operational classification of disease prevention. *Public Health Rep., 98,* 107-109.
41. Helfer, R. E. (1976). Early identification and prevention of unusual child-rearing practices. *Pediatr.Ann., 5,* 91-105.
42. Helfer, R. E. (1982). A review of the literature on the prevention of child abuse and neglect. *Child Abuse Negl., 6,* 251-261.
43. Herrenkohl, R. C. (1990). Research directions related to child abuse and neglect. In R.T.Ammerman & M. Hersen (Eds.), *Children at risk, an evaluation of factors contributing to child abuse and neglect* New York: Plenum Press.
44. Herrenkohl, R. C., Herrenkohl, E. C., Egolf, B., & Seech, M. (1979). The repetition of child abuse: How frequently does it occur? *Child Abuse Negl., 3,* 67-72.
45. Jacobsohn, R. (1912). *Der gesetzliche Schutz des Kindes gegen körperliche Misshandlung. Strafrechtliche Abhandlungen [The legal protection of the child against physical maltreatment. Criminal issues].* University of Heidelberg; Schlettersche Buchhandlung (Franck & Weigert); Breslau.
46. Kempe, C. H., Silverman, F. N., Steele, B. F., Droegemueller, W., & Silver, H. K. (1962). The Battered-child Syndrome. *JAMA, 181,* 105-112.
47. Kist, B. (1964). Kindermishandeling [Child maltreatment]. *Tijdschrift voor Maatschappijvraagstukken en Welzijnswerk, 18,* 3-5.
48. Krug, E. G., Dahlberg, L. L., Mercy, J. A., Zwi, A. B., & Lozano, R. (2002). *World report on violence and health*. Geneva: World Health Organisation.
49. Krugman, R. (1999). National call to action: Working toward the elimination of child maltreatment. The politics. *Child Abuse Negl., 23,* 963-967.
50. Lawrence-Karski, R. (1997). United States; California's reporting system. In N.Gilbert (Ed.), *Combatting Child Abuse; International perspectives and trends* (pp. 9-37). Oxford: Oxford University Press.

51. Leventhal, J. M. (1996). Twenty years later: we do know how to prevent child abuse and neglect. *Child Abuse Negl., 20,* 647-653.
52. Lynch, M. A. (1985). Child abuse before Kempe: an historical literature review. *Child Abuse Negl., 9,* 7-15.
53. MacMillan, H. L., MacMillan, J. H., Offord, D. R., Griffith, L., & MacMillan, A. (1994). Primary Prevention of child Physical Abuse and Neglect: a critical review. Part I. *J Child Psychol Psychiatry, 35,* 835-856.
54. MacMillan, H. L., MacMillan, J. H., Offord, D. R., Griffith, L., & MacMillan, A. (1994). Primary prevention of child Sexual Abuse: a critical review. Part II. *J Child Psychol Psychiatry, 35,* 857-876.
55. McGillivray, A. (1992). Reconstructing child abuse: Western definition and non-western experience. In M.Freeman & P. Veerman (Eds.), *The ideologies of children's rights* Dordrecht: etc.
56. Montfoort, A. J. v. (1994). *Het topje van de ijsberg; kinderbescherming en de bestrijding van kindermishandeling in sociaal-juridisch perspectief. [The tip of the iceberg; child protection and the defrayal of child maltreatment in social-juridical perspective].* Utrecht: SWP.
57. Mrazek, P. J. & Haggerty, R. J. (1994). New Directions in Definitions. In P.J.Mrazek & R. J. Haggerty (Eds.), *Reducing Risks for Mental Disorders: Frontiers for Preventive Intervention Research* (pp. 19-29). Washington, DC: National Academy Press.
58. Newberger, C. M. (1980). The cognitive structure of parenthood; the development of a descriptive measure. In R.L.Selman & R. Yando (Eds.), *Clinical-developmental psychology. New directions of child development: clinical developmental research, No. 7* San Francisco: Jossey-Bass.
59. Parke, R. D. (1982). A research-based approach to the prediction of child abuse. In R.H.Starr (Ed.), *Child abuse prediction; policy implications* Cambridge: Ballinger publishing company.
60. Parke, R. D. & Collmer, C. W. (1975). Child abuse; an interdisciplinary analysis. In N.Hetherington (Ed.), *Review of child development research, vol. 5* Chicago: The University of Chicago Press.
61. Parton, N. (1985). *The Politics of Child Abuse.* London: MacMillan Publishers Ltd.
62. Pelton, L. H. (1980). *The social context of child abuse and neglect.* New York: Human Sciences Press.
63. Pfohl, S. J. (1980). The 'Discovery' of Child Abuse. In J.V.Cook & R. T. Bowles (Eds.), *Child Abuse; Commission and Omission* (pp. 323-339). Ontario: Butterworth and Company Ltd.
64. Price Cohen, C. (1992). The relevance of theories of natural law and legal positivism. In M.Freeman & P. Veerman (Eds.), *The ideologies of children's rights* Dordrecht: etc.
65. Roelofs, M. A. S. (1996). *Kindermishandeling en hulpverlening; de aanpak van lichamelijke kindermishandeling door het Bureau Vertrouwensarts [child maltreatment and assistance; the approach of physical child maltreatment by the Bureau of Confidentiality Doctors].* Amsterdam: VU Boekhandel/Uitgeverij BV.

66. Rooy, P. d. (1982). Kinderbescherming in Nederland [Child protection in the Netherlands]. In B.Kruithof, J. Noordman, & P. d. Rooy (Eds.), *Geschiedenis van opvoeding en onderwijs: inleiding, bronnen, onderzoek* (pp. 105-126). Nijmegen: SUN.
67. Rosenfeld, A. A. & Newberger, E. H. (1977). Compassion vs control. Conceptual and practical pitfalls in the broadened definition of child abuse. *JAMA, 237,* 2086-2088.
68. Ruyter, D. J. d. (1995). Het recht om persoon te worden: een criterium voor het opleggen van pedagogische hulp [The right to become a person: a criterion for the enforcement of pedagogical aid]. In D.J.d.Ruyter & P. A. d. Ruyter (Eds.), *Opvoedingshulp geboden; Pedagogische criteria voor het opleggen van hulp, theoretisch en praktisch bezien [Offering child rearing aid; pedagogical criteria for the enforcement of aid, theoretical and practical issues]* Utrecht: SWP.
69. Schumacher, J. A., Smith Slep, A. M., & Heyman, R. E. (2001). Risk factors for child neglect. *Aggression and Violent Behaviour, 6,* 231-254.
70. Staatsblad (2002). Wet Advies- en Meldpunten Kindermishandeling [Law on Child Maltreatment Reporting Agencies]. *Staatsblad, 515, artikel 34a lid 3.*
71. Starr, R. H., Dubowitz, H., & Bush, B. A. (1990). The epidemiology of child maltreatment. In R.T.Ammerman & M. Hersen (Eds.), *Children at risk; an evaluation of factors contributing to child abuse and neglect* (pp. 23-53). New York: Plenum Press.
72. Steele, B. F. & Pollock, C. (1968). A psychiatric study of parents who abuse infants and small children. In R.E.Helfer & C. H. Kempe (Eds.), *The battered child* Chicago: University of Chicago Press.
73. Toorenburg, P. A. v. (1918). *Kinderrecht en kinderzorg in de laatste honderd jaren [Children's right and childcare over the last one hundred years].* Leiden: Sijthof's.
74. Van der Kolk, B. A., Crozier, J., & Hopper, J. (2001). Child Abuse in America: prevalence, costs, consequences and intervention. In K.Franey, R. Geffner, & R. Falconer (Eds.), *The costs of Child Maltreatment: Who Pays? We All Do* San Diego: Family Violence & Sexual Assault Institute.
75. Veldkamp, A. W. M. (2001). *Over grenzen! Internationaal vergelijkende verkenning van de rol van de overheid bij de opvoeding en bescherming van kinderen [Crossing boundaries! An internationally comparative exploration of the role of the government in the rearing and protection of children].* Den Haag: Afdeling Informatie, Voorlichting en Publiciteit. Directie Preventie, Jeugd en Sanctiebeleid; Ministerie van Justitie.
76. Willems, J. C. M. (1999). *Wie zal de opvoeders opvoeden; kindermishandeling en het recht van het kind op persoonswording [Who will educate the parents; child maltreatment and the right of the child to become a person].* Den Haag: T.M.C. Asser Press.
77. Winnicott, D. W. (1958). *Collected papers.* London: Havistock.
78. Wolfe, D. A. (1991). *Preventing physical and emotional abuse of children.* New York: The Guilford Press.
79. Woolley, P. V. & Evans, W. A. (1955). Significance of skeletal lesions in infants resembling those of traumatic origin. *JAMA, 158,* 539-543.

3

Risk factors for child maltreatment

1 Introduction

The previous chapter was concluded with an overview of paradigms explaining child maltreatment. The theories chosen for this study are those of Belsky and Baartman explaining the ecology of child maltreatment and the notion of parental awareness. In this chapter we will further explore these theoretical concepts. The primary objective of this exploration is to provide insight in the factors influencing and surrounding families at risk for maltreatment, which will eventually help us to decide on the risk factors for child maltreatment to be used in this study.

In paragraph two of this chapter the foundation is laid for the design of this study. After all, the paradigms of choice provide us with an insight in the causes and mechanisms of child maltreatment, and it is with this insight that we begin to understand what should be done in a preventive intervention and to whom this intervention should be offered. As the first issue (what should be done) will be continued upon in the next chapter, the second issue (who should it be offered to) is the principal concern of this chapter.

Therefore in the third paragraph risk factors for child maltreatment are explored from another angle: not that of theory but that of empirical research. This is done through the presentation of a thorough review of risk factors. In literature these risk factors are presented in different ways. As the results of our search will prove, not all publications address the reliability of risk factors, some just present lists. As a conclusion to this chapter a choice is made for the risk factors to be used in this study.

2 FROM PARADIGM TO PRACTICE

As was addressed in the previous chapter, a targeted preventive intervention can only be developed by adopting a paradigm to understand and explain the causes and processes of child maltreatment. In this paragraph the paradigm chosen in the previous chapter will be reconsidered in order to determine which factors play a role in which domain of the paradigm. In addressing these different ecological domains a family acts in, as proposed by Belsky, and the notion of parental awareness as proposed by Newberger and Baartman, we continue to look at child maltreatment as a parenting problem and thus focus on physical maltreatment and neglect. The arguments for this delimitation have been provided in the previous chapter. Determining the way risk factors for child maltreatment fit into our paradigm is important, first of all when it comes to the selection of families for the targeted preventive intervention that is to be designed (as will be addressed in paragraph 3). Secondly it is important when the design of the intervention itself is concerned, as will be addressed in the next chapter. In this current paragraph the different domains of Belsky's etiological approach will first be revisited. Secondly, the domain of parental awareness will be explored more in-depth.

2.1 The ecological perspective

In one of his early publications Belsky presented a critical review of three theoretical models of child maltreatment, which he called the psychiatric model, the sociological model and the 'effect of the child on caregiver' model ([12]). These models are considered the so-called 'first generation' models; presenting a "single antecedent factor in the instigation and maintenance of abuse or neglect" ([60, p642]). Creating his ecological perspective, Belsky integrated these first generation models into one, thereby acknowledging multiple causality in child maltreatment. Upon closer examination, the ontogenic system reflects upon the psychiatric model (parental factors), the microsystem represents the 'effect-of-child-on-caregiver' model (child and interactional factors) and the exosystem reflects upon the sociological model (contextual factors).

Hillson and Kuiper (1994) considered Belsky's ecological perspective to be a 'second generation' model. It was thereby put in line with transactional models (considering potentiating and compensatory factors) and transitional models

(considering causative and protective factors on a continuum of parenting) ([60]). According to aforementioned authors the breadth of these second generation models results in a lack of explanatory depth. This should be resolved by contemporary or third generation models, which address the processes through which causative factors interact to produce child maltreatment. Hillson and Kuiper considered Milner's social information processing model ([74; 76]) to be one of such 'third generation' models, as well as the stress and coping model of child maltreatment they themselves presented. Belsky acknowledged the important influence of stressors, as is demonstrated in several statements such as "maltreatment seems to arise when stressors outweigh supports and risks are greater than protective factors" ([13, p427]). The 'stress and coping model' is useful in exploring the mechanisms of stress in the ecological perspective on causes of child maltreatment. Therefore, apart from examining each domain of this perspective, the mechanisms of stress will be addressed as well.

2.1.1 The ontogenic system

Central to the ontogenic system is the personality and developmental history of the parent. Personality traits typical for maltreating parents such as weak impulse control, depression, anxiety and low self-esteem have been described in early publications. As knowledge on the phenomenon of child maltreatment grew, the typical characterization of the maltreating parent as suffering from psychological disorders and deficits has been under debate. Some studies found these personality traits to be present in maltreating parents where other studies did not ([13]). Either way, parental depression (as covering term) is found to influence the parent-child interaction in a way that is similar to the interaction patterns found in maltreating parents ([46; 106]). Parental personality has in part been shaped by the developmental history of the parent as Vondra (1990) points out. "Depression, negative affectivity, poor ego-control and ego-resiliency, low self-esteem and a host of other impairments in ego functioning may well have their roots in the early family environment" ([103, p 155]).

The developmental history of parents and specifically the phenomenon of intergenerational transmission has been the focal point of many studies. Retrospective research on the subject shows rates between 7% and 56% intergenerational transmission ([8]). A commonly cited estimate, based on a review of

studies, is that of 30% by Kaufman and Zigler ([63]). The wide variation in findings could be caused by differences in design or definition. Four other reasons for this variation are based in the parental developmental history. First, many studies rely on retrospective reports, and "painful experiences in childhood are often excluded (unconsciously) from memory" ([13, p415]). Second, the effects of the experienced maltreatment in childhood, such as loyalty towards the own parents, learned (aggressive) behavior and philosophies of (harsh) discipline, may cause a parent to fail to consider their childhood experiences as maltreatment ([15; 59; 101]). Third, parents may withhold information about their childhood experiences for reasons of shame or guilt ([101]). Finally; in cases where no transmission is found this may still occur at a later age of the child or in other children, including those not yet born ([13]). These reasons appear to suggest that intergenerational transmission is inevitable. It should however be noted that the majority of maltreated children do not become maltreating parents ([63]). Setting aside the search for the exact rate in which intergenerational transmission occurs, it is important to explore the conditions that promote or prevent this transmission as well as the effects upon parental personality and parenting behavior.

Baartman discussed several theories to clarify the process of intergenerational transmission([8–10]). One of these theories is the object-relation theory by Winnicott (1958) ([107]), which addresses the images, a child develops about his or her parents as well as about itself. Every child has to balance the 'good parent' and the 'bad parent' as well as the 'good me' and the 'bad me'. Winnicott suggests that maltreated children, in order to survive, maximize the image of the 'good parent' and are thereby forced to balance this image with a prominently 'bad me'. As this exclusion of any ambivalence may serve survival during childhood it might be maintained during adulthood. Thus the once maltreated child tries desperately to be a 'good parent' and where this effort fails it is caused by a 'bad child' ([9]). The inability to accept the possibility of temporal disappointments both regarding the 'good parent' as well as the 'good child' may be based on a lack of self esteem that is generated by the fundamental rejection which maltreatment implies. "All of us tend to view ourselves as we imagine 'significant others' view us, and if our parents as the most significant of 'others' rejected us as children, we are likely to define ourselves as unworthy of love, and therefore as unworthy and inadequate human beings" ([87, p192]).

This lack of self-esteem may be one of the most important factors in intergenerational transmission affecting parental personality, as it influences both parenting (as described above) as well as the process of transmission. Discontinuity in intergenerational transmission appears to be caused by factors such as spousal support, a strong social support network and experiences of success ([13; 89]). These accomplishments may be largely influenced by the degree of self-esteem in a person. Rutter concludes his study on continuities and discontinuities as follows: "it may be that the girls acquired a sense of their own worth and of their ability to control their destinies as a result of their pleasure, success and accomplishments in a few specific areas of their lives. [...] Our evidence suggests that the experience of some form of success or accomplishment may be important, not because it dilutes the impact of unpleasant happenings, but because it serves to enhance confidence and competence to deal with the hazards and challenges of everyday life" ([89, p344]).

2.1.2 The microsystem

The microsystem is defined as the immediate (nuclear) family and thus largely concerns the interaction patterns taking place between parents and children. As far as these interactions are initiated by the parent(s) they will be described in paragraph 2.2. As for the child's contribution to these interaction patterns, several factors are commonly determined. An important factor concerns the child's health. Premature or dysmature children display different developmental and behavioral profiles than do full-terms and thus require different parenting treatment ([13; 14; 96]). Two mechanisms leading towards maltreatment are proposed regarding pre- and dysmature children. First, erosion of attachment, as a consequence of frequent parent-infant separations, caused by for instance postnatal hospitalization. This mechanism is mostly found in retrospective design approaches and therefore not very reliable. The other mechanism is concerned with an increased amount of stress in the child rearing of pre- and dysmature children ([3]). In several studies premature children are found to be more lethargic and less responsive than full-terms, stimuli are likely to stress them and in such distressed situations they are harder to comfort. Also they are often physically unattractive and emit high-pitched, arrhythmic and disturbing cries ([13; 14; 49]). Excessive crying (as perceived by parents) is found to increase the risks of maltreating acts such as smothering, slapping or shaking a child ([85]). Frodi (1981) pointed out that it remains unclear whether certain child characteristics precede or are caused by maltreatment ([49]). The

same mechanisms described above for premature children are proposed for handicapped children or children with perinatal health problems ([3; 13]).

Another important factor in the parent-child dyad is the child's temperament. Several studies have found a relationship between difficult temperament in children and parenting problems ([see 14]). However, "it is important to keep in mind that the older the child, the more likely it is that the very care parents have provided in the past influences what comes to be labeled as child temperament" ([14, p171]). In an experiment studying parent-child interaction, Crittenden (1985) found that, when mother's behavior became more sensitive, infant behavior subsequently improved. These findings provide compelling evidence for the relative primacy of maternal behaviors over infant temperament ([35]). As it turns out the parental perception of the child's temperament may be more important than the actual child's temperament in the parent-child interaction, which will be discussed in paragraph 2.2. In reviewing the results of studies on child behavior Belsky concluded that "parents play a larger role in the etiologic equation than do children" ([13, p420]), a conclusion that is supported by the findings of Egeland and Brunnquell ([41]).

Although the support system of parents is commonly situated in the domain of the exosystem it could be argued that the marital relationship is also part of the microsystem. For "the addition of the father to the more commonly studied mother-child dyad does more than create an additional parent-child relationship; it creates a family system comprised of husband-wife as well as mother-child and father-child relationships" ([14, p174]). Indeed research proved a relationship between the quality of the marital relationship and both parenting behavior and child functioning ([14]). As described by Vondra (1990), several studies found a relationship between poor marital quality or even absence of a marital relationship and the presence of child maltreatment ([103]). Accordingly, violence between partners and violence between parent and child are found to often co-occur ([101]). Vondra claims that "troubled, emotionally abusive relationships in childhood (perhaps observed as well as experienced) jeopardize the quality of later adult relationships, particularly the critical marital relationship" ([103, p157]). We thus find evidence that intergenerational transmission can also be found in the marital relationship parents engage in.

2.1.3 The exosystem

Belsky described the exosystem as the sum of contextual sources of stress and support ([14]). These sources may be found in the support (or lack thereof) received from friends, family and professionals, but also in the quality of the neighborhood community a family resides in. Garbarino (1980) described high-risk American neighborhoods as "areas with [...] low levels of neighborly exchange, residential instability and transience, [...] deteriorating housing, poor relations with institutions such as schools and a pervasive pattern of social stress" ([51, p240]). Other characteristics of American high-risk neighborhoods include a substantial amount of female headed (single-parent) households, a high rate of unemployment, poverty, overcrowded housing, community violence and high crime rates ([52]). This description demonstrates the lack of (professional) support and the level of stress caused by the mere residence in a high-risk community. The problems in these kinds of communities only increase because "socially impoverished and violence-prone families tend to be clustered together, in part it seems by choice and in part because of deliberate efforts by real estate developers and city planners to concentrate them" ([51, p253]).

Social isolation is however not simply caused by the neighborhood a family lives in. Belsky (1993) discussed a number of studies discerning this picture. Maltreating parents do not use community resources that are available, nor do they get involved in community or church-related activities, a finding that is possibly related to the high levels of transience found in maltreating parents. They also tend not to discuss their problems with others ([13]). Another interesting finding supporting the role of parents in their social isolation comes from Polansky, Gaudin, Ammons and Davis (1985). They found that although neglectful parents described their neighborhood as relatively unfriendly and their neighbors as unhelpful, their (non-maltreating) neighbors painted a decidedly different picture of the neighborhood and its inhabitants ([84]). Belsky's conclusion was that "isolation and lack of social support is, at least in part, something that maltreating parents actively, even if inadvertently, contribute to, rather than something that simply happens to them" ([13, p422]). This parental contribution can be explained by the developmental history of parents: "childhood experiences translate into differences in social skills and relationship 'working models' that contribute to [...] the quality of and satisfaction with social network support" ([103, p156]).

In addressing the quality of a social network the difference between social support and social isolation should be considered. These terms are often treated as interchangeable in studies on the subject, which may be unjust. While social isolation implies the absence of a social network, the presence of a social network does not automatically imply social support ([11]). Relationships may be present, but conflicted or asymmetric, thereby adding to the burden in a family ([103]). A possible cause for conflicted relationships is found in inadequate parents being "easily frustrated and annoyed and quick to respond to their frustration in a hostile and aggressive fashion" ([40, p203]). Regarding the asymmetrical reciprocity in relationships, Seagull (1987) described the finding of dysfunctional mothers who, by their own report, provided significantly more emotional support to others than they received ([91]). Finally, some relationships are preferably not maintained: "considering the very negative rearing of the majority of abusive parents, staying away from their own parents could be indicative of good judgment" ([91, p49]).

A final aspect of the exosystem being a source of stress or support is parental employment. Several studies pointed out the negative impact of unemployment or underemployment as well as work absorption, work stress and dissatisfaction, upon parenting behavior ([14]). In considering the body of literature presented on this subject by both Belsky and Vondra (1989) and Baumrind (1994) an important conclusion should be that employment is related to confidence and a certain power in parents, particularly fathers. According to findings described, mothers lose respect for their husbands when they are unemployed ([42]), which seems to be related to the decline in paternal authority through unemployment as found in another study ([66]). Particularly in low income families, maternal employment is found to create strain in the father-son relationship ([54]), supposedly due to the fact that in such families mother's entry into the work force is regarded as an indication of the inadequacy of father as provider ([22]). The results of this loss of confidence and power are demonstrated by other findings, describing how income loss increased the arbitrariness and punitiveness of the father's behavior ([43; 44]). Although these findings are dated, the majority of them have been replicated in contemporary families by Conger and his colleagues ([see 70, p262]).

Other more contemporary findings stipulate the relationship between parenting behavior and employment characteristics. For instance poor parents were found to

be more likely to use physical discipline and less likely to monitor their children than were nonpoor parents ([21]). From other findings Zaslow and Emig (1997) concluded: "parents in jobs that are repetitive and unstimulating and offer little opportunity for self-direction emphasize obedience as a child rearing value. By contrast, when jobs involve greater variety, stimulation and self-direction, parents more often tend to reason when disciplining their children" ([108, p113]). Aside from different parenting behaviors related to (un)employment, the income loss experienced due to unemployment generates stress in a family, which is found to cause depression and demoralization in parents, in turn resulting in marital conflict and harsh, inconsistent and hostile parenting ([30]).

There appear to be gender-related differences in the effects of unemployment though, both related to parenting behavior and to parental wellbeing. When compared to single non-parents, mother's mental health is less affected by job loss than father's mental health ([6]). The correlations between unemployment and child maltreatment were found to be larger for fathers than they are for mothers ([53]). On the other hand, maternal unemployment was found to be a bigger stress factor than maternal employment in low-income families ([73]). Sidebotham, Heron and Golding (2002) found both paternal and maternal unemployment to be a significant risk factor for child maltreatment. About paternal unemployment they suggested "this may represent a combination of the adverse economic effects of unemployment as well as the stress and impact on the self-esteem of fathers, and the increased contacts that fathers have with their children if they are not at work" ([95, p1253]). Regarding the different findings on the relationship between maternal unemployment and both child maltreatment and mental health they suggested "a cultural shift towards maternal employment being the norm could in itself affect the way such employment or the lack of it is perceived. This in turn may affect the way unemployed mothers perceive themselves and their relationship to their children" ([95, ibidem]). It may very well be that this cultural shift takes different paces in different (sub)cultures and social classes, which could be the explanation for the mixed findings described above.

2.1.4 Stress

In the previous sections we have discussed the ecological model for child maltreatment. Clearly each system in this model contains factors that can cause

stress in a family. The model of Hillson and Kuiper (1994) that was introduced at the beginning of this paragraph, attempts to explain the path to maltreatment in the presence of these stressors. Two important concepts in this explanation are the appraisal of stress and the strategies deployed in coping with stress. The first step in appraisal of stress is the evaluation of a given situation: does this situation pose a threat to the personal well being, and if so, can it be averted or controlled. This leads to the second step in appraisal: examination of the resources and coping options available to deal with the stressor, and evaluation of the expected outcomes of activating particular options ([60]).

Hillson and Kuiper described two types of coping strategies, emotion-focused and problem-focused coping. Emotion-focused coping tends to be deployed after the appraisal of a situation as inevitable, and serves as regulation of the emotional components of the stress response. Coping strategies within this type involve avoidance, minimization, distancing, selective attention, positive comparisons and cognitive reappraisal to change the meaning attached to a situation, but also self-blame and self-punishment. Problem-focused coping on the other hand is directed toward managing or altering the conditions that have caused distress. Strategies within this type can either be targeted at the environment, changing external pressures, barriers, resources and procedures, or they can be inward directed, learning new behaviors, developing new skills and shifting aspiration levels ([60]).

A relationship is found between certain coping strategies and maltreatment and neglect of children. Behavioral disengagement for instance can be taken to a point of giving up completely, thus withdrawing from basic behaviors such as feeding, clothing, sheltering and supervising children. The same can be said for mental disengagement, immersion in activities that serve to distract from the current stressor to a point where children can become neglected. Maltreating caregivers are thought to use the strategy of focusing on and venting of negative emotions, which may be targeted at the child: "striking a child may be a maladaptive coping response to a situation in which the caregiver perceives himself or herself to be threatened, his or her resources limited, and in a moment of escalating anger, the child is physically attacked in an attempt to restore the caregiver's identity" ([60, p277]).

The stress and coping model of child maltreatment presented above provides a useful insight in the mechanisms leading to maltreatment in stressful situations. Although this model acknowledges the domains proposed by Belsky, neither in itself nor combined with the ecological model does this model present a sufficient explanation for the question why some parents maltreat their children while other parents do not. We now have two models to work with, one describing the input, the processing and the output of stressors, the other describing the different domains in which these stressors can be found. Still, we cannot answer the question why certain parents process various stressors in a way that should be considered child maltreatment. This problem is visualized in a schematic representation of the etiology of child maltreatment as presented by Belsky and Vondra (1989, ([14, p157])), in which all stressors discussed above are placed around the notion of 'parenting' which eventually generates the outcome: child development. In the previous chapter we cited Baartman who pointed out that the parent is an important actor in this model as parenting is more than just a complex interaction of external factors. Van der Pas also felt something is missing in Belsky's model when she stated "this makes 'parenting' a sitting duck for any stressful situational factor, and contradicts the fact that many parents function well despite dire circumstances" ([83, p79]). To answer our question, why certain parents process various stressors in a way that should be considered child maltreatment, we need to move on to the second part of our paradigm: the concept of parental awareness.

2.2 Parental awareness

Aside from the sources of stress to be found in the surroundings of a family, child maltreatment is particularly related to the way in which parents interpret their child's behavior and perceive their relationship to their child. Parental awareness is the term chosen to cover this process. This term was originally introduced by Newberger (1980). As was described in the previous chapter, Newberger saw two dimensions to the system of parental awareness. A perspective-taking dimension, comprising expectations, perception and sensitivity; and a moral dimension, implying parental action - a "process of negotiating conflicting claims" ([80, p48]). The elements of these dimensions will be discussed in the following section.

2.2.1 Expectations

The expectations parents have of their children can be divided into three separate dimensions. The first dimension concerns the capabilities a child is expected to present. This dimension is closely related to the knowledge a parent possesses of the different developmental stages and tasks, which a child fulfills. If this knowledge is insufficient, parents are at risk of over- or underestimating their child because their expectations are not realistic. The second dimension is related to the expectations parents have of the role a child will play in their life. Especially when a child is conceived to improve a parent's life or for instance the marital relationship of parents, in short to fill inappropriate expectations, the child is at risk of being overburdened. This overburdening can be considered a form of parentification ([9; 10]). A striking example of this type of expectations is a mother's remark noted by Kempe (1968): "I've waited all these years for my baby and when she was born she never did anything for me. When she cried, it meant she didn't love me; so I hit her" ([58, p21]). The third dimension relates to expectations parents have of the person a child will become. These expectations need to be attuned to the child's own wishes and capacities, if not a child risks to be over-demanded. Baartman concluded: "the more a child is supposed to compensate for feelings of failure in parents, the larger the chances that these expectations are not attuned to the inherent qualities of the child and thus the larger the chances of over-demanding a child" ([10, p54]).

Several studies have been conducted to research the possible differences in parental expectations. Unfortunately, expectations have not been differentiated as they are above. In his review of literature Milner (1993) found that maltreating parents have inappropriate and inaccurate expectations related to their child's behavior. These expectations are either unrealistically high or too low compared to non-maltreating parents. Lower expectations are specifically related to child development. In other studies maltreating parents are found to have high expectations of child compliance following discipline for minor transgressions. According to Milner, in this case unrealistic expectations "may result in the high-risk parent perceiving a discipline failure when the child repeats the minor transgression, which may result in the child being viewed as oppositional and defiant" ([74, p284]). In this example it becomes clear how expectations and perception are closely related to each other and to the parental sense of competence as a parent.

2.2.2 Perception

The perception of a child can also be divided into three dimensions. A first dimension relates to the dependency of the child in relation to the parent and the need for care. The perception of the care for a child as a burden and of the child itself as burdensome seems to be related to the parental feeling of incompetence ([10]). The second dimension is related to the pleasure a parent can experience in perceiving his or her child as a developing person. Baartman found supporting evidence for this dimension in research addressing the reasons for wanting to have children. One of the main motives found in this research is the delight a parent expects to experience from a child, while being a child and growing up. The third dimension concerns affection, both the affection a parent feels towards a child and the affection a child displays towards the parent. All three dimensions can generate either positive or negative experiences. Positive experiences of being significant to another person who is also significant to you. Negative experiences of feeling over-demanded and under-appreciated, and of a child as a disappointment, diverting from what it was expected to be. In itself these negative experiences are normal, especially when significant relationships are involved. The problem arises, according to Baartman, when these experiences become chronically negative, or when parents are unable to handle the feelings of ambivalence that are inherent to the parent-child relationship ([9; 10]).

For the first dimension of perception, that of tending to and caring for the child, a large body of evidence is found in literature. Maltreating parents are found to be less attentive to and less aware of their children's behavior, they do not perceive infant cues and are less responsive to temporal changes in their child's behavior ([74]). In the often cited study of Frodi and Lamb (1980) it is described how maltreating parents were more reactive to both a crying and a smiling infant, which lead to the conclusion that the abusive parent perceives the child as an aversive stimulus regardless of the child's behavior ([50]). Other studies are confirming this finding when they conclude that high-risk mothers distinguish less than low risk mothers between positive and negative child behaviors in a high stress situation ([74]). This supports the notion that maltreating parents perceive their child as mostly burdensome. While these findings can be presented as support for the concept of distorted perceptions of the child, they are an indication of a lack of sensitivity towards a child as well.

2.2.3 Sensitivity

Baartman defined sensitivity as "sensing and acknowledging as well as taking into account the needs, emotions and experiences of the child" ([10, p61]). 'Taking into account' means providing adequate responses to the needs of a child, responses that serve the well-being of the child, sometimes referred to with the term 'sensitive responsivity'. The notion of sensitivity is commonly used in attachment-literature. As a differentiating characteristic of maltreating parents it has received less attention. In the latter case the concept of empathy has been emphasized, a concept related to and partly overlapping with the concept of sensitivity. Feshbach (1989) considered empathy to hold both affective and cognitive elements ([47]). She differentiates between three components: "the cognitive ability to discriminate affective cues in others, the more mature cognitive skills entailed in assuming the perspective and role of another person and emotional responsiveness - that is, the affective ability to experience emotions" ([47, p352]). The first two components are related to sensitivity. However, sensitivity also implies an element of action, aimed at the improvement of the child's well-being. This action then may well be driven by Feshbach's third component.

Research on the subject of attributions parents make about their children seems to be supportive of the assumption that maltreating parents lack sensitivity or at least empathy. Milner (1993) described how maltreating parents are found to make internal and stable attributions for negative child behavior and external and unstable attributions for positive child behavior. Furthermore, maltreating parents appeared to be more likely to attribute hostile intent to the child's behavior and they viewed child behavior as more intentionally annoying ([74]). Baartman introduced findings by Kropp and Haynes (1987), which concluded that maltreating mothers performed significantly worse at differentiating diverse emotions in infants ([10]).

2.2.4 Conflicting claims

The last mechanism within the concept of parental awareness to be discussed is that of conflicting claims. At the root of this mechanism lies the assignment to honor the needs and interests of both parent and child. As in any significant relationship, in the parent-child relationship personal interests of the child and the parent will not always agree with each other. In a balanced relationship the

prevailing interest of both parties will be switched on a regular basis. The parent-child relationship becomes troubled when parents are unable to maintain this balance. This (in)ability is described by Brunnquell et al (1981) as the 'Level of Personality Integration'. This concept is considered "an amalgam of affective and intellectual elements, each of which contribute to the overall conception of the mother's recognition of her own psychological needs and processes, her ability to perceive those needs and processes in others, and her ability to integrate the two sets of needs and processes" ([26, p689]). However, the parent-child relationship differs from other relationships through its inequality: principally the child's interest prevails over that of the parent. If parents fail to act upon this inequality it may be because their perspective of the child is clouded. As a result expectations of a child become unrealistic, over-burdening and over-demanding; the child is perceived as demanding, unappreciative and a general burden both through its need for care and its 'childish' nature; and sensitivity fails. When we look for causes of the obscured parental perspective of the child we return to the first sections of this paragraph: preoccupation with stressors in the various systems of Belsky's ecological perspective.

Baartman (1996) linked the concept of personality integration to the ontogenic system when he concluded that parents lacking personality integration can not acknowledge the experiences and emotions of the child because this requires acknowledging one's own experiences and emotions which may be disturbing ([10]). Even more so in case of the presence of various stressors. We now return to the object-relation theory by Winnicott, which has been introduced in the section about the ontogenic system. If a parent has survived experiences of maltreatment as a child, he or she has often done so by excluding all ambivalence and predominantly perceiving oneself as 'bad' and deserving of ill-treatment. Thus the parent lives with a self-image of worthlessness. Within such an image the parent is unworthy of receiving whatever anyone, including a child, has to offer. Still, although unable to receive attention for their personal needs and interests, these parents feel a need for 'retribution'. Retribution for the fact that, as a child, they never received attention for their personal needs and interests. The inability to receive what is longed for, combined with the unambivalent 'good' versus 'bad' notion, may be at the root of the mechanism of conflicting claims. Because if trying to be a 'good parent' fails (and every parent fails from time to time), it may be

necessary, in order to avoid any ambivalence, to maintain the 'good parent' by creating a 'bad child'. A child unworthy of attention for its personal needs and interests.

2.3 Conclusion

In this paragraph we have explored the issues that can be encountered in families when approaching them from the paradigm chosen within this study. We have demonstrated in this examination not only the multicausal complexity of the phenomenon of child maltreatment but also the fact that much of the factors presented within each domain are intertwined.

In the introduction to this paragraph two reasons for our exploration have been given. The first reason was to gain insight in the factors that could help select families at risk, eligible for our preventive intervention, and to understand the importance of these factors in relation to each other. The second reason was to gain perspective on factors to be addressed in our intervention. Regarding this second reason we can now see how the factors in the ontogenic system cannot be removed. The consequences of these factors however can be improved, for instance through psychotherapy. The same can be said for factors in the microsystem. Regarding the exosystem, parents could be stimulated through our intervention to engage in more social relationships and they could be supported to transform and repair difficult existing relationships. An important objective of our intervention could also be the improvement of coping-skills when it comes to stressors resulting from the different ecological systems. The most work to be done in our intervention however lies in the domain of parental awareness. Helping parents to interpret their child's behavior in healthy ways could be accomplished in several ways. Not only by improving parental knowledge of child development but also by affirming parental competence and by pointing out different possible interpretations of the child's behavior. And last but not least, assisting parents in acknowledging and handling their parental feelings of ambivalence, and getting insight in the way these feelings influence their behavior.

Returning to the first reason for this paragraph, we now know which factors to expect in each domain we explored. In the ontogenic system we can expect parental impairments in ego functioning and childhood experiences of maltreatment. In

the microsystem we should look for child-related factors, particularly concerning the child's health, and for indications of a troubled marital relationship. In the exosystem important factors are the community a family lives in, the quality of their social network as they perceive it and engage in it and finally stressors related to unemployment and loss of income, resulting in loss of status and self-esteem. Although more difficult to operationalize, we could also expect problematic coping strategies as well as parental child-related unrealistic expectations, negative perceptions and a lack of sensitivity. What we don't know is how well these factors predict the possibility that parents will eventually digress towards maltreatment. This is the main question in the next paragraph.

3 Risk factors and child maltreatment

In the previous chapter several definitions of prevention have been reviewed and a choice was made for a definition to be used in this study: that of primary prevention specifically applied as an indicated preventive measure. To quote Howze and Kotch, "prevention of anything requires not only knowing what it is one wants to prevent, but also having some means of predicting the circumstances under which that which one wants to prevent is likely to occur" ([62, p405]). Therefore, the main topic of this paragraph is the prediction of the occurrence of child maltreatment and thus identification of the risk factors that produce maltreatment. We will first consider the meaning of the term risk factor and then continue reviewing the findings published on risk factors.

3.1 Risk factors

When addressing risk factors it is important to first consider the meaning of this term. Baartman, following Hosman ([61]), distinguished between risk indicators and risk factors. Risk indicators are variables that are proven to hold a connection to the presence of a problem. This connection is however simply a correlation. Risk factors on the other hand constitute a proven explanation for the increase of a problem ([11]). Along the same lines Black, Heyman and Slep (2001) distinguished between risk factors, such as demographic variables, and causal factors ([17]). Each factor found can be considered a risk factor (although not each risk factor can be considered a causal factor). Sidebotham pointed out that, as risk factors "may also act as risks for a range of adverse outcomes and not just for child maltreatment" ([92, p41]) they are not specific. Also, as "the majority of families in whom such factors are identified will not go on to maltreat their children", risk factors are not sensitive ([92 ib.]). Many studies used the term risk factor regardless of the above considerations, thereby creating a virtually unsolvable problem when conducting a review. In this study we feel that differentiation in the use of terms for risk factors would cause unnecessary complication. This study is not about the specific quality of the relationship between certain risk factors or indicators and the occurrence of child maltreatment, it is about the effects of an intervention in families with an increased risk for child maltreatment. We have chosen to use a broader base for this notion of increased risk than only those risk factors that constitute a proven explanation for the increase of the possibility of child maltreatment. In other words, we feel that a risk factor

should be a factor that at least covaries with the occurrence of child maltreatment. The reason for this choice lies in the complexity of the construct of maltreatment: although we have gained much knowledge on the relationship between various factors and maltreatment we lack the definite insights regarding the influences of mutual interaction between these factors upon the origin of maltreatment. Therefore the covering term risk factor will be maintained throughout this study.

In the following sections a review of risk factors for child maltreatment will be presented. For this purpose several electronic databases have been searched for publications on the subject. This search generated different types of publications. Before addressing the results of the search the differences found will be discussed.

3.1.1 Search method

The search for studies of risk factors for child maltreatment has been conducted as follows. A first search was conducted for publications in English that were published between 1966 and 2002 (*Pubmed*), 1967-2002 (*Psychinfo*) and 1982-2002 (*Eric*). For all databases the full range of publications entered was searched. Since databases were started at different points in time there are different timeframes for each database searched. In this search a first step was to search for publications about child maltreatment by using a combination of the descriptors "child abuse", "child maltreatment", "child neglect", "emotional abuse" and "batter*" (whereby the asterisk functions as a 'wildcard' for several conjugations). The second step was to search for combinations of the descriptors "risk", "protective", "factor", "indicator", "precursor", "antecedent", "prodrome" and "predict*". In each step the descriptors were combined using the 'OR' connector, whereupon the results of both steps were combined using the 'AND' connector.

A second search was conducted in *Medline* for the years 1980-2004 using the MESH headings "child abuse", "child abuse, sexual", "neglect", "infant", "child", "adolescent", "battered child syndrome" and "domestic violence"; as well as the text words "neglect", "emotional abuse" and "child maltreatment" for the first step. For the second step the MESH headings "prognosis" and "risk factors" were used as well as the text words "risk factors". The results of both steps were combined as in the first search.

To limit the results to relevant publications several exclusion descriptors were defined, related to HIV, literacy, re-victimization, custody and adoption. Also the results were restricted to publications in English, about human subjects and qualified as a Randomized Controlled Trial, a Review, a Meta-Analysis or a Clinical Trial. The two searches combined resulted in 2748 publications. An assessment of relevance was subsequently made, first based on publication title and secondly on publication abstract. Assessment of relevance in abstracts was necessary because many publications were addressing risk factors for 'problems after the fact' (i.e. the risk of psychopathology in maltreated children), which often did not become clear based on the title alone. This resulted in a total of 72 publications that were considered relevant to be studied for this chapter.

Although not in a consistent manner an addition was made to the database search presented above. This addition is known as a snowball method: references of the publications found through the search were checked for other relevant publications, which were subsequently included in the description of the results of this review.

3.1.2 Types of publications found

The publications found through the above described search can be distinguished from each other in a number of ways. First of all, the majority of studies provided an overview of multiple risk factors, either addressing a range of domains ([for example 23]), or several factors within one domain, for instance the child-related factors (microsystem) ([for example 94]). Secondly, risk factors are discussed in several ways. Some studies provided a review of previous studies supporting particular risk factors as adequate predictors of child maltreatment; either by simply referring to significant results ([for example 25]), or by addressing actual effect-sizes of particular factors ([for example 45]). Other studies examined the predictiveness of risk factors by researching a population ([for example 57]).

The populations chosen for these studies also differ, regarding their origin as well as their size and gender composition. Some studies used census tracts, others chose samples based on data from Child Protection Agencies or samples were approached through for instance community services. Group sizes differed from as few as seven subjects (mostly in clinical samples and laboratory experiments) to several

thousand subjects (mostly in census tract research) ([see for example 17]). The way in which populations are studied varied in two ways. Either studies were prospective in nature (50% of all studies providing effect sizes) or they were retrospective (32% of all studies). Some reviews addressed both prospective and retrospective studies (18%). The majority of studies chose samples of mothers only. In those studies where samples of both mothers and fathers were studied parents are not equally represented; again, mothers constitute the majority of the sample.

A final difference between publications lies in the type of maltreatment discussed. Some studies addressed one specific type of maltreatment (of studies providing effect sizes 20% addressed physical maltreatment, 3% addressed emotional maltreatment, 7% addressed neglect and 7% addressed sexual abuse only), other studies addressed all types of maltreatment (27%) or a combination of physical maltreatment and neglect (13%). There is yet another category addressing the *risk for maltreatment* (23%), which is assessed by means of the Child Abuse Potential Inventory (CAPI).

The differences in these publications made it extremely complex to handle and organize the data acquired from the search. It was decided to organize all risk factors in several tables, one for each domain as addressed in paragraph 2. Because the notion of parental awareness can essentially be understood as part of the ontogenic system it is presented as a table in this domain. It should be noted that all types of maltreatment are represented in these tables. An important reason for this choice is the interrelatedness of types. Psychological maltreatment is often viewed as a precursor for physical maltreatment, however, the aftermath of physical maltreatment (for example externalizing problems) could create a precursor for child psychological maltreatment ([19]). Also, there is evidence that neglect is related to the same features that have been associated with physical maltreatment ([90]). Finally there is some evidence for a link between physical maltreatment and sexual abuse ([20]). Therefore we chose not to distinguish between types of maltreatment in the search for risk factors for child maltreatment, even though generally this study does not concern itself with sexual abuse.

3.2 Review

An attempt was made to display all risk factors mentioned, regardless of the presentation of actual figures for the relationship to child maltreatment. In doing so, each type of publication was assigned their own column in the table. Effect sizes in the column 'relation and ref.' are displayed as either correlation coefficients (r) or Odds Ratios (OR). The correlation coefficient is a scale-free measure to assess the degree to which two variables are related. According to Cohen (1977), in behavioral sciences correlation coefficients (r) of 0.10 should be interpreted as a small effect size, those of 0.30 as a medium effect size and those of 0.50 or higher as a large effect size ([29]). Unfortunately, Cohen has not provided a range to these estimates. An Odds Ratio represents the size of the chance of a certain outcome (in this case maltreatment) given a certain condition (a particular risk factor) compared to the chance of this outcome without the given condition. For example, one study found that the risk of a parent physically maltreating his or her child is 2.27 times larger when this parent has been maltreated as a child than it would be, had this parent not been maltreated as a child. All Odds Ratios presented in these tables are found to be significant and represent the chance of a certain type of maltreatment as opposed to no maltreatment. Non-significant findings about risk factors are only presented in this table in case of contradiction with significant findings in other studies.

Table 1. *Risk factors in the ontogenic system related to parental developmental history.*

Risk factor	Relation and ref.	Type*	Other ref.
Childhood experience of maltreatment	OR 1.05-37.8 [45];	PM	[25; 37; 75; 77; 79; 98]
	OR 2.27 [102];	PM risk	
	OR 1.60 [57];	PM	
	r .35 [17]		
Childhood experience of severe maltreatment	OR 2.55 [57]	risk	
Childhood experience of sexual abuse	OR 2.00 [57];	risk	[38]
	OR 10.2 [18];	SA	
	OR 3.08 [93]	PM/N	
Childhood experience of violent sexual abuse	OR 4.00 [57]	risk	
Paternal discipline or physical punishment	r .17 [17];	PM	[25]
	Ns [17]	PM	
Maternal discipline or physical punishment	r .30 [17];	PM	[25]
	Ns [17]	PM	
Being yelled at daily as a child	OR 3.78 [19]	EM	
Childhood relationship to parents (affectionless, less caring, absent)	r .40 [90];	N	[7; 25; 81]
	r .31 [19];	EM	
	r .19 [19];	EM	
	r .24 [19];	EM	
	OR 1.61 [93];	PM/N	
	Ns [17]	PM	
Witness to parental violence	r .20 [17]	PM	[25]
History of child guidance or psychiatry	OR 3.65 [93]	PM/N	

*PM: *physical maltreatment*; N: *neglect*; EM: *emotional maltreatment*; *SA: sexual abuse, risk: based on CAPI.*

Table 1 shows a strong support for the experience of different types of maltreatment during childhood of either one or both parents, with Odds Ratios varying from 1.05 to 37.8 and a moderate effect through the correlation coefficients. A number of other publications support this finding. Aside from maltreatment other childhood circumstances are related to future maltreatment, in particular the perception of the relationship to one's own parents as absent and affectionless (moderate effects and some supporting evidence). Being removed from home as a child, the experience of parental verbal aggression and of parental spousal violence may also play a moderate role in the ontogenic system.

Table 2a. *Risk factors in the ontogenic system related to parental personality.*

Risk factor	Relation and ref.	Type*	Other ref.
Young maternal age	Ns [72];	PM	[34; 37; 75; 100]
	OR 3.52 [23];	PM	
	OR 2.22 [23];	N	
	OR 2.26 [23];	SA	
	OR 2.37 [23]	all	
Maternal age < 20	OR 3.17 [93]	PM/N	
Paternal age < 20	OR 6.33 [93]	PM/N	[81]
Parental young age	r .12 [17];	PM	[25; 79]
	Ns [17];	PM	
	r .17 [90]	N	
Parental older age	r .21 [90]	N	
Parental education level	Ns [18];	SA	[34]
	r .21 [90];	N	
	OR 0.59 [82];	all	
	Ns [90];	N	
	Ns [17]	PM	
Parental education < 13 years	OR .58 [68]	all	[79]
Paternal low education	OR 3.58 [93]	PM/N	
Maternal education	OR 2.61 [93];	PM/N	
	OR 2.59 [23];	PM	
	OR 5.12 [23];	N	
	OR 3.09 [23]	all	
Maternal intelligence	Ns [18]	SA	[7; 77]
Parental substance abuse	r .21 [17];	PM	[7; 25; 34; 75; 79]
	r .31 [90]	N	
Parental use of any alcohol	OR 1.83 [68]	all	
Parental drug abuse	r .19 [17];	PM	
	Ns [17]	PM	
Parental alcohol abuse	r .57 [17];	PM	
	Ns [17]	PM	
Serious maternal illness	OR 2.06 [23];	PM	
	OR 2.18 [23];	N	
	OR 2.06 [23]	all	
Maternal poor physical health	OR 1.5 [48]	SA	[7; 34; 81]
Maternal poor mental health	OR 35.5 [48]	SA	[1]
Maternal depressive disorders	r .16 [90]	N	[75]
Paternal depressive disorders	OR 3.60 [93]	PM/N	[75]
Postnatal Depression (Edinburgh Postnatal Depression Scale)	OR 3.59 [28]	risk	
Depressive symptoms	r .73 [17];	PM	[7; 25; 34; 79]
	r .27 [17];	PM	
	r .22 [17]	PM	
Maternal psychiatric illness excluding depression	OR 2.34 [93]	PM/N	

* PM: *physical maltreatment*; N: *neglect*; EM: *emotional maltreatment*; *SA: sexual abuse, risk: based on CAPI.*

Table 2b. *Risk factors in the ontogenic system related to parental personality - continued.*

Risk factor	Relation and ref.	Type*	Other ref.
Maternal psychiatric symptoms	r .56 [18]	SA	[77]
Paternal psychiatric symptoms	r .29 [18]	SA	[75]
Paternal psychopathology	OR 2.28 [23]	N	
Maternal obsessive compulsive disorder	r .24 [90]	N	
Maternal neurotic symptoms	r .24 [19]	EM	[25]
Parental antisocial disorder	OR 7.5 [104]	all	[34; 75]
Maternal sociopathy	OR 4.91 [23];	PM	
	OR 4.38 [23];	N	
	OR 6.27 [23];	SA	
	OR 4.91 [23]	all	
Paternal sociopathy	OR 2.28 [23]	N	
Maternal alienation	OR 2.73 [23];	N	
	OR 1.97 [23]	all	
Parental tendency to become upset and angry	r .49 [90];	N	[25; 34; 38]
	r .67 [17];	PM	
	OR 2.81 [23];	N	
	OR 1.88 [23]	all	
Anger expression (State-Trait Anger Expression Inventory)	r .69 [86]	risk	
Maternal verbal aggression and hostility	r .91 [90];	N	[7; 75]
	r .37 [19];	EM	
	r .73 [17];	PM	
	OR 2.26 [23]	N	
Maternal physical aggression	r .56 [17]	PM	
Parental fear of external threat and control	r .54 [90];	N	
	r .84 [17]	PM	
Maternal external locus of control	OR 2.16 [23];	PM	[75]
	OR 1.79 [23];	N	
	OR 1.64 [23]	all	
Maternal negative perception of own coping	r .47 [17]	PM	[34]
Low maternal self esteem	r .24 [17];	PM	[34; 75]
	r .20 [19];	EM	
	r .34 [90];	N	
	OR 2.71 [23];	N	
	OR 2.28 [23]	all	
Low self esteem as provider of social support	r .54 [90];	N	
	r .54 [17]	PM	
Maternal social anxiety	r .14 [19]	EM	[34; 75]
Maternal social activities	r -.25 [19]	EM	
Maternal impulsiveness	r .65 [90]	N	
Maternal dissatisfaction	OR 2.44 [23];	PM	
	OR 5.01 [23];	N	
	OR 3.15 [23]	all	
Paternal identification with traditional sex roles	r .18 [18]	SA	

* *PM: physical maltreatment; N: neglect; EM: emotional maltreatment; SA: sexual abuse, risk: based on CAPI.*

Table 2c. *Risk factors in the ontogenic system related to parental personality - continued.*

Risk factor	Relation and ref.	Type*	Other ref.
Paternal emotional needs	r .33 ([18])	SA	
Paternal sexual needs	r .26 ([18])	SA	
(Belief in) physical punishment	r .28 ([17]);	PM	([25; 34; 75; 81])
	r .56 ([19]);	EM	
	r .33 ([19]);	EM	
	r .67 ([17]);	PM	
	r .25 ([17]);	PM	
	OR 3.22	SA	

* *PM: physical maltreatment; N: neglect; EM: emotional maltreatment; SA: sexual abuse, risk: based on CAPI.*

In table 2 a large number of paternal and maternal risk factors in the domain of the ontogenic system are assembled. A first factor, parental age, yields some discussion, as some studies found no significant relationship to maltreatment while other studies found an increase of the risk for maltreatment by over three-fold in mothers and over six-fold in fathers. Connelly and Straus (1992) found that these inconsistent findings may be related to the time at which parental age was determined. Their study demonstrated that mother's age at the time of birth of the index child is significantly related to maltreatment while mother's age at the time of the maltreatment incident is not ([31]). Another reason for the inconsistent findings is proposed by both Connelly and Straus as well as Buchholz and Korn-Bursztyn (1993) to be a confluence of factors such as immaturity, lack of education and low income ([31]), as well as vulnerability to emotional stresses and lack of support ([27]). The same ambiguous results are found regarding the risk factor of parental lower education. Again some studies found no significant relationship to maltreatment where others found Odds Ratios up to 5.12 for mothers and 3.58 for fathers. This may very well be related to the same reasons proposed above: lower education may be related to a smaller income, larger difficulties in finding a job and less support. Furthermore problems with definition may cause inconsistent findings, both related to education and related to substance abuse. Because substance abuse or substance dependency is another risk factor yielding mixed results. Minor to moderate relationships are found in some studies whereas other studies found no significant relationships.

A lot of mental health related risk factors are found throughout the literature, ranging from depressive symptoms to depressive disorder and postnatal depression but also a variety of other psychiatric disorders. Relationships found

range from minor to strong. Amongst a number of personality traits the tendency towards anger and aggression is found in various studies, continuously holding a strong relationship to maltreatment. A last risk factor found in parents is the belief in physical punishment, holding a moderate to strong relationship to maltreatment.

Table 3a. *Risk factors in the ontogenic system related to parental awareness.*

Risk factor	Relation and ref.	Type*	Other ref.
External attributions to child positive behavior	r .35 [36];	risk	
	r .61 [17]	PM	
Internal attributions to child negative behavior	r .44 [36];	risk	[75]
	r .66 [17]	PM	
Stable attributions to child negative behavior	r -.53 [17]	PM	[75]
Unstable attributions to child positive behavior	r .35 [17]	PM	
Self-blame for failed parent-child interaction	r -.61 [17]	PM	
Credit to child for successful parent-child interaction	r -.54 [17]	PM	
Poor parent-child relationship	OR 2.60 [18]	SA	
Poor mother-daughter relationship	OR 11.61 [18]	SA	
Parent-child symbiosis	r .42 [90]	N	
Maternal self-reported parenting competence	r .60 [17]	PM	
Paternal self-reported parenting competence	r .29 [18]	SA	
Maternal parenting satisfaction	r -.41 [18]	SA	[81]
Paternal parenting satisfaction	r -.21 [18]	SA	
Low maternal involvement	OR 2.68 [23];	PM	
	OR 2.25 [23]	all	
Low paternal involvement	OR 3.18 [23];	PM	
	OR 3.54 [23];	N	
	OR 3.14 [23]	all	
Low paternal warmth	OR 3.24 [23];	PM	
	OR 2.13 [23];	N	
	OR 2.57 [23]	all	
Unrealistic expectations of children	r .45 [17];	PM	[34; 75; 77; 79]
	r .59 [17]	PM	
Underestimation of development	r .52 [17]	PM	
Overestimation of development	r .45 [17]	PM	
Maternal verbal reasoning	r .15 [19]	EM	
Positive verbal behavior	r -.70 [17]	PM	[75; 81]
Positive non-verbal behavior	r -.78 [17]	PM	[75]
Initiations of interaction	r -.87 [17]	PM	
Use of tactile stimulation	r -.64 [17]	PM	
Frequency of yelling at children	OR 4.41 [17]	PM	[81]
Annoyance at child's cry stimuli	r .36 [17]	PM	[75]
Social interaction with child	r -.83 [17]	PM	[25; 75]

*PM: physical maltreatment; N: neglect; EM: emotional maltreatment; SA: sexual abuse, risk: based on CAPI.

Table 3b. *Risk factors in the ontogenic system related to parental awareness - continued.*

Risk factor	Relation and ref.	Type*	Other ref.
Feelings of irritation after disciplining children	r .49 ([17])	PM	
Feelings of irritation after child's social transgressions	r .69 ([17])	PM	
Feelings of irritation after child's moral transgressions	r .33 ([17])	PM	
Maternal negative commands	r .34 ([17])	PM	([25])
Mother-child positive behavior	Ns ([17])	PM	
Child positive behavior towards mother	r -.56 ([17]);	PM	
	Ns ([17])	PM	
Child negative behavior towards mother	r .76 ([17]);	PM	
	r -.41 ([17])	PM	
Child play behavior towards mother	r -.80 ([17])	PM	

*PM: *physical maltreatment*; N: *neglect*; EM: *emotional maltreatment*; *SA: sexual abuse, risk: based on CAPI.*

In table 3 risk factors related to parental awareness are presented. These factors are hard to summarize. Moderate to strong relationships to maltreatment are found for various attributions to, expectations and over- and under-estimation of the child. Parenting competence, satisfaction and warmth are also moderately to strongly related to maltreatment. Finally a number of interaction-related factors are found to have a varying relationship to maltreatment.

Table 4a. *Risk factors in the domain of the microsystem related to the family.*

Risk factor	Relation and ref.	Type*	Other ref.
Low SES	r .16 [90];	N	[79]
	Ns [17]	PM	
Family income	OR 3.37 [18];	SA	[16]
	OR 5.11 [23];	N	
	OR 3.02 [23]	all	
Welfare or income support	OR 1.45 [68];	all	
	OR 3.74 [23];	PM	
	OR 11.01 [23];	N	
	OR 5.14 [23]	all	
Parental unemployment	OR 0.66 [82];	all	[7; 25]
	r .82 [53];	all	
	OR 2.33 [95];	PM/N	
	OR 2.82 [95]	PM/N	
Financial worries	OR 6.52 [28]	risk	[7; 25; 34; 81; 98]
Car ownership	OR 2.33 [95]	PM/N	[7]
Father in local authority care	OR 5.97 [93]	PM/N	[25]
Ethnic minority	r .14 [17];	PM	
	r .17 [17];	PM	
	OR 4.35 [23];	N	
	OR 2.63 [23]	all	
Non-white race	r .17 [90]	N	
White race	r .24 [90]	N	
Family size	OR 2.74 [82];	all	[34; 81]
	OR 1.8/2.5 [109];	N/ PM	
	r .13 [90];	N	
	r .14 [17];	PM	
	Ns [17];	PM	
	r .57 [90];	N	
	Ns [18];	SA	
	OR 3.21 [23];	N	
	OR 1.83 [23]	all	
Unplanned childbearing	OR 1.7 [109];	PM	[81; 98]
	OR 2.92 [94];	PM/N	
	r .32 [90];	N	
	r .22 [17];	PM	
	OR 3.10 [23]	SA	
Family stability (Family Dynamics Measure)	OR 3.01 [82]	all	
Family individuation (FDM)	OR 1.88 [82]	all	
Habit of leaving a child home unsupervised	OR 3.4 [18]	SA	
Stressful life events (Life Events Inventory)	r .44 [17];	PM	[1; 34; 75]
	r .42 [17];	PM	
	OR 4.43 [23]	SA	

*PM: *physical maltreatment*; N: *neglect*; EM: *emotional maltreatment*; *SA: sexual abuse, risk: based on CAPI.*

Table 4b. *Risk factors in the domain of the microsystem related to the family - continued.*

Risk factor	Relation and ref.	Type*	Other ref.
Level of family stress	r .81 [17];	PM	[69; 99]
	r .87 [90];	N	
	r .67 [86];	risk	
	r .77 [17];	PM	
	Ns [17]	PM	
Daily stress	r .73 [90];	N	[34]
	r .49 [17]	PM	
Single parent family	OR 2.26 [23];	PM	[25; 75; 79]
	OR 2.57 [23];	N	
	OR 2.09 [23]	all	
Single natural parent family	OR 2.2 [18];	SA	[25; 75]
	OR 3.1 [18];	SA	
	OR 3.32 [18]	SA	
Parental death	OR 2.62 [23]	SA	
Second marriage	r .31 [18]	SA	
Mother not married	r .19 [90]	N	
Mother married	r .20 [90]	N	
Marital adjustment in mothers	r .26 [17];	PM	
	Ns [18]	SA	
Unsatisfactory marriage	OR 1.98 [23];	PM	[1; 81]
	OR 7.19 [18];	SA	
	OR 2.66 [23];	N	
	OR 1.70 [23]	all	
Marital discord or disagreement	OR 3.26 [102];	EM	[7; 34; 75; 79; 81; 98]
	r .20 [17];	PM	
	OR 2.44 [23]	N	
Spousal inadequate conflict strategies	r .56 [65]	risk	
Spousal physical aggression	OR 1.69 [102];	PM	[25; 34; 75; 88]
	r .29 [19];	EM	
	r .25 [17];	PM	
	OR 6.51 [18]	SA	
Spousal physical aggression from ex-partner	r .28 [17]	PM	
Spousal verbal aggression	r .29 [19]	EM	[75]

**PM: physical maltreatment; N: neglect; EM: emotional maltreatment; SA: sexual abuse, risk: based on CAPI.*

In table 4 a number of family-related risk factors in the domain of the microsystem are presented. Although Socio-Economic Status (SES) in itself may not hold a very powerful relationship to maltreatment, aspects of SES do. Particularly low family income or income from welfare as well as financial worries and unemployment are strongly related to maltreatment, with Odds Ratio's as high as 11. Ethnic minorities may be at a higher risk for maltreatment; however which particular ethnicities should be considered is insufficiently defined. The relationship between family size and maltreatment is not unanimously defined. One study found an OR of 2.5

for physical maltreatment while another study found no significant relationship. Different definitions of what should be considered a large family size may be the cause of these ambiguous results. Some investigators suggest that not so much family size but spacing between children may be the main issue in this risk factor ([24]). Related to family size is the matter of unplanned childbearing. Not only can an unplanned child increase the risk for child maltreatment up to three-fold, but also each additional unplanned child increases this risk with a factor of 1.7 ([109]).

Another important risk factor in the family is the level of stress perceived by family-members. Not only stressful life events increase the risk of child maltreatment but also daily stressors hold a fairly strong relationship to maltreatment (r up to .73). A last risk factor that is mentioned in a large number of publications concerns the parental relationship. Not only does single parenthood increase the risk of maltreatment, so does an unstable parental relationship. Spousal discord, verbal and physical aggression all hold moderate relationships to maltreatment and significantly increase the risk; over three-fold for emotional maltreatment and more than six fold for sexual abuse.

Table 5a. *Risk factors in the domain of the microsystem related to the child.*

Risk factor	Relation and ref.	Type*	Other ref.
Perinatal history (birth weight, gestational age)	Ns [17];	PM	[4; 7; 25; 34; 79; 81]
	Ns [72];	PM	
	OR 2.08 [94];	PM/N	
	Ns [72]	PM	
Pregnancy or birth complications	OR 2.45 [23]	PM	[7; 79; 81]
Poor health	OR 1.91 [94]	PM/N	[34; 79; 81]
Child developmental problems	OR 1.99 [94]	PM/N	
Child early separated from mother	OR 4.08 [23];	PM	[25]
	OR 3.61 [23];	N	
	OR 2.80 [23]	all	
Age	Ns [90];	N	[34; 98]
	Ns [17]	PM	
Age ▸12	OR 2.7 [18]	SA	
Sex	Ns [90];	N	
	Ns [18]	SA	
Sex (female)	OR 3.0 [18]	SA	[34]
	OR 2.44 [23]	SA	
Intelligence	r -0.33 [18]	SA	
Low child verbal IQ_	OR 2.70 [23]	N	
Handicapped	OR 11.79 [23]	SA	[4; 25; 34]
Anxious/withdrawn in early childhood	OR 2.02 [23]	N	
Difficult temperament	OR 2.02 [23]	all	
Behavior problems	r .37 [18];	SA	
(number of problems)	r .73 [90];	N	
(Intensity of problems)	r .62 [90]	N	
Parental report of conduct disorder	r .69 [90];	N	
	r .75 [17]	PM	
Parental rating of internalizing problems	r .60 [17]	PM	[75]
Parental rating of externalizing problems	r .74 [17]	PM	[75]
Parental report of (socialized) aggression	r .54 [90];	N	
	r .63 [17];	PM	
	r .67 [90]	N	
Parental report of attention problems	r .64 [17];	PM	
	r .69 [90]	N	
Positive behavior	r -.82 [90]	N	
Reporting to have no-one to confide in	OR 2.2 [48]	SA	
Prior physical victimization	r .25 [18];	SA	
	OR 11.5 [48]	SA	
Prior sexual victimization	OR 11.7 [18]	SA	
Prior neglect	OR 2.1 [18]	SA	

**PM: physical maltreatment; N: neglect; EM: emotional maltreatment; SA: sexual abuse, risk: based on CAPI.*

In the domain of the microsystem risk factors related to the child are also studied as is displayed in table 5. Health-related risk factors concerning the perinatal history

and complications thereof as well as handicaps or developmental problems are mentioned in several studies; however, the strength of the relationship to maltreatment varies or remains absent. Age and sex seem to be related only to sexual abuse. A number of personality and behavior-related risk factors are found as well. The question remains however, to what extent these factors precede maltreatment and to what extent they are a consequence of maltreatment. Furthermore it should be noted that most of these factors are measured through parental report and thus reflect the perception of a parent. This is consistent with the finding that teachers do not report behavior problems in maltreated children, only sociability problems ([see 90]).

Table 6. *Risk factors in the domain of the exosystem.*

Risk factor	Relation and ref.	Type*	Other ref.
Social isolation and loneliness	r .34 ([90]);	N	([7; 25; 34; 75; 79;
	r .73 ([17]);	PM	98])
	OR 3.09 ([95]);	PM/N	
	OR 1.6 ([48])	SA	
Maternal social support	r -.47 ([17])	PM	([81])
Tangible social support (Interpersonal Support	OR 4.5 ([57]);	risk	([33])
Evaluation List)	r -.61 ([17]);	PM	
	r -.69 ([90]);	N	
	OR 17.5 ([57])	risk	
Social appraisal (ISEL)	r -.50 ([17]);	PM	
	r -.78 ([90])	N	
Social belonging (ISEL)	r -.77 ([17]);	PM	([81])
	r -.80 ([90])	N	
Support from family	r -.42 ([17])	PM	
Support from mother	r -.32 ([17])	PM	([32])
Availability of confidantes	Ns ([90])	N	([33])
Size of peer network	r .30 ([17])	PM	([25; 33; 34])
Child rearing support from peers	r -.26 ([17])	PM	([33])
Size of professional network	Ns ([17])	PM	([34])
Child rearing support from professionals	r -.29 ([17])	PM	
Low religious attendance	OR 2.22 ([23]);	PM	([81])
	OR 1.62 ([23])	all	
Dangerous communities	OR 1.5 ([18])	SA	
Stress related to community	r .18 ([90])	N	
High mobility (›3 house moves within 5 years)	OR 2.81 ([95])	PM/N	([7; 77; 79])
Council housing	OR 7.65 ([95])	PM/N	
Overcrowded housing	OR 2.16 ([95])	PM/N	([7; 81])

*PM: physical maltreatment; N: neglect; EM: emotional maltreatment; SA: sexual abuse, risk: based on CAPI.

Finally table 6 presents risk factors for maltreatment as found in the exosystem. Most factors found are in some way or other related to the social support system. Social isolation is mentioned in several studies, holding a moderate to strong relationship to maltreatment. Several types of social support from friends, family and professionals are also found to have a strong relationship to maltreatment when absent. Then there are some factors related to dangerous communities and poor housing quality that hold a relationship to maltreatment.

3.3 Conclusion: towards a useful instrument

In tables one through six we have presented a large number of risk factors and, if provided, statistics on their relationship to maltreatment. To sum up the results of our review, in the ontogenic system we found the experience of different types of maltreatment, a negative perception of the relationship to one's parents, and the experience of parental spousal violence as factors related to parental childhood development. Furthermore we found age, education, substance dependence, mental health related issues, aggression and belief in physical punishment as (personality) characteristics of parents. Regarding the notion of parental awareness we found further support for the theory presented in paragraph 2. In the microsystem family-related factors were unemployment and financial worries, family size and unplanned childbearing, stressful events and spousal discord or single parenthood. Child related factors in the microsystem are mostly health-related. Finally in the exosystem we found a number of factors related to (the lack of) various forms of social support.

With this review we have explored the ingredients for an instrument that can be used to select families at risk for maltreatment. The devising of such an instrument has been attempted by others as well. In 1984 Altemeier, O'Connor, Vietze, Sandler and Sherrod designed a 'Prenatal Prediction Checklist' using 20 questions, which singled out 19.5% families at risk in a population of 1400 low-income families. These families were subsequently followed until children were four years of age, to determine the feasibility of the checklist developed. Altemeier et al concluded their checklist had rendered 35% false negatives (the incorrect assumption of low risk status) and 78% false positives (the incorrect assumption of at risk status) after four years. Since these percentages increased over time they concluded that the validity of the checklist lessened after the child's age of two ([2]). After Altemeier et al, others developed checklists as well ([1; 5; 25; 39; 55; 78; 79]). All checklists had between nine and twenty-one questions addressing several risk factors.

Some checklists used single questions per risk factor, others used multiple questions. Except for two checklists (numbers 1 and 8) a combination of demographic and psycho-social risk factors was used. Table 7 displays the risk factors and the number of questions per factor (indicated by one or more asterisks) as used in the various checklists.

Table 7. *Risk factors in instruments for selection and number of questions per factor.*

	1[78]	2[39]	3[79]	4[2]	5[5]	6[25]	7[1]	8[55]
Number of questions:	10	9	20	20	20	13	21	20
Unstable housing		*		*	*		*	
Unemployed/ financial stress			*	*	**	*	*	
Child health problems			***	*		*	*	
Single parent			**	*	*	*		
Parental age			*		*	*	*	
Parental Intelligence/ education		*	*		*			
Family size/ child spacing				*		*		
Child preterm/low birth weight			*			*		
Insufficient prenatal care		*	*					
Stepparent or cohabitee						*		
Previous removal of child				**				
Inadequate vaccinations							*	
Childhood history of maltreatment/violence	*	*	*	*	*	*	*	
Parental mental illness/ emotional problems	*	**	*		*	*	*	****
Inappropriate expectations	*	*	*			*	*	*
Child unwanted/ unplanned	*	*		***	*		*	
Current maltreatment/violence	*	*			**	*	**	
Social isolation	*		*		*		*	*****
Parent-child bonding problems			*			**	***	
Parenting difficulties			*	**				
Problematic bonds in family of origin				**			*	*
Stress/adverse life experience	*						**	**
Alcohol/drug abuse			*		*	*		
Child perceived as difficult	*						*	
Harsh punishment	*			*				
Child state of hygiene			*				*	
Violent temper	*							
Parental physical health problems							*	
Negative pregnancy/ delivery								*
Interaction mother/nurse								*****
Interaction mother/child								*
Atypical accidents with child			*					

Different checklists found different percentages of families at risk, ranging from 4% ([list number 7; 1]) to 39.1% ([list number 5; 5]). Not all studies present data on the validity of their checklist. Murphy, Orkow and Nicola, using the Kempe Family Stress Checklist (KFSC, number 1 in table 7), found a sensitivity of 80% and a specificity of 89.4% ([78]). Korfmacher, reviewing several studies using the KFSC, reports sensitivities found to be up to 97%, and a correct classification rate of 93% ([67]). Agathonos and Browne (checklist 7 in table 7) found a sensitivity of 86.8% and a specificity of 96.3% with an overall correct classification rate of 92.3% ([1]). Finally Browne and Saqi (checklist 6 in table 7) found a sensitivity of 82%, a specificity of 88% and a correct classification of 86% ([25]).

These data on the validity of the checklists presented in table 7 lead to the following considerations concerning the reliability of checklists for risk factors, which have been brought up by a number of authors ([see 2; 25; 56; 64; 71]). As an example, Browne and Saqi developed a checklist generating 12.3% families at risk in a population of 14,238 in Surrey, England. Assuming an actual maltreatment rate of 0.4% they concluded that "the checklist detection rate of 82% compared to 12% false alarms suggests that for every 10,000 births screened it would be necessary to distinguish between 33 true risk cases and 1,195 false alarms. [...] A more difficult problem would be to distinguish the 7 missed cases of potential child abuse from the 8,765 correctly identified non-abusers" ([25, p70]). Now, whatever the actual maltreatment rate, it would always be produced through reports of maltreatment, which are still, even in countries with mandatory maltreatment reporting, just the tip of the iceberg. Moreover, these maltreatment reports often represent "only abuse with physical injuries, and only that which was discovered by individuals who felt the maltreatment was serious enough to report" ([2, p398]). This being said, a number of false positives and false negatives will always remain. From an ethical (health-care) point of view the false negatives are the problem. After all, not providing a family in need with preventive support is much worse than providing a family that is not in need with this support. From a scientific point of view the false positives are the problem because they dilute the effects of the program provided. Either way, the fact that any checklist developed will generate a certain percentage of false positives and false negatives should not stop us from trying to design a checklist in the first place.

After these methodological considerations we return to the contents of said checklist. Based on our review of risk factors and considering the choices that were made by our predecessors, what factors should be addressed in a checklist? A first content-related issue is that of socio-demographic versus psycho-social risk factors. About socio-demographic risk factors Smith Slep and O'Leary (2001) concluded: "these [socio-demographic] variables, in and of themselves, are not typically considered to be direct causes of abuse. Instead, they add to risk for abuse through their relations with other potentially causal factors" ([97, p97]). Furthermore, Kotelchuck (1982) states: "although many popular articles about the etiology of child abuse and neglect point to demographic factors, demographic factors do not distinguish these families, if they are compared to a group carefully matched on race and social class" ([71, p77]). Perhaps we should therefore refrain from too many (socio-) demographic risk factors .

Following the arrangement of factors we have used previously we discuss our choices in the domain of the ontogenic system first of all. In this domain experiences of different types of childhood maltreatment as well as parental spousal aggression should be addressed. In these experiences we include sexual maltreatment as (in table 1) it becomes clear that there are relationships between childhood experiences of sexual abuse and eventual intergenerational transmission of not only sexual abuse but physical maltreatment and neglect as well. Possibly the type of childhood relationship to parents should be integrated into these questions as it can be related to particularly emotional maltreatment and neglect. As will become clear in chapter 5 we have chosen 'the sense of security' with one's parent to represent this concept. With regards to other characteristics of the parents, parental young age is included as a risk factor in spite of mixed findings because young age is related to other factors such as lower education and smaller income ([31]) and because young age magnifies the influences of a number of other risk factors ([27]). Furthermore, substance abuse, a tendency towards aggression and the belief in physical punishment as an acceptable child rearing method should be addressed as well as the presence of mental-health related problems. The latter are found to be very diverse in our review, ranging from depressive symptoms to anti-social disorders. To capture this wide range of problems we feel a less distinctive, more covering term is appropriate and therefore summarize these risk factors with the term 'dysphoria'. Finally regarding the notion of parental awareness we conclude

that many of the risk factors found through our review are related to either the way parents perceive their child or the way they perceive themselves as parents, or both. Therefore we feel that parental awareness is best addressed through the perception of the child by the parents as well as their confidence in their own parenting competence.

In the microsystem findings can essentially be divided into three groups of risk factors: a number of demographic factors related to finances and family size, the presence and quality of the parental relationship and child-related factors. Based on previous considerations we feel the demographic factors are of smaller importance than those related to the parental relationship. Single parenthood or spousal violent interaction should therefore be addressed. As was discussed in paragraph two of this chapter many other stresses in the family can result in marital conflict. Addressing this risk factor could thus reveal an indication of underlying problems. Regarding the child-related risk factors in the microsystem, we concluded earlier that many factors found may in fact not be causes but rather consequences of maltreatment. We therefore limit our choice to the perinatal history of the child.

Finally, in the exosystem we found that most risk factors are related to the lack of social support from different sources. There are some risk factors related to the quality of housing and the community. However, we consider the quality of housing to be more related to demographic characteristics of families. As for the quality of the community we consider communities in the Netherlands to be much more homogeneous than they are in for instance the United States, where much of the research discussed here originates. Overall, we consider these risk factors to be of a more socio-demographic/socio-economic nature and we agree that "socioeconomic issues may be less related to child abuse than family structure and support (or lack of support)" ([105]). Therefore we place the most emphasis on social support. However, we do feel that different aspects of support, for instance from family, friends and the neighborhood, should be highlighted. The checklist that has been developed based on these choices will be presented in chapter 5. In that same chapter we will discuss the way it was deployed in practice as well as the results it generated.

In this chapter we have outlined our paradigm on a more operational level: we have explored the ecological systems proposed by Belsky, integrating the notion of parental awareness into this ecology, in order to identify the way different risk factors interact around the family creating a path towards maltreatment. In the third paragraph of this chapter we presented a review of risk factors identified through various studies to hold some relationship to child maltreatment. Combined, the exploration and the review support each other, enabling us to assemble a checklist for the selection of families at risk for child maltreatment that is embedded both in theory and in empirical research. This checklist constitutes one of the two cornerstones of our study. The other cornerstone is the design of our preventive intervention. In the next chapter this design will be presented.

4 References

1. Agathonos-Georgopoulou, H. & Browne, K. D. (1997). The prediction of child maltreatment in Greek families. *Child Abuse Negl., 21,* 721-735.
2. Altemeier, W. A., O'Connor, S., Vietze, P., Sandler, H., & Sherrod, K. (1984). Prediction of child abuse: a prospective study of feasibility. *Child Abuse Negl., 8,* 393-400.
3. Ammerman, R. T. (1990). Predisposing child factors. In R.T.Ammerman & M. Hersen (Eds.), *Children at risk, an evaluation of factors contributing to child abuse and neglect* (pp. 199-221). New York: Plenum Press.
4. Ammerman, R. T. (1991). The role of the child in physical abuse: a reappraisal. *Violence Vict., 6,* 87-101.
5. Armstrong, K. L., Fraser, J. A., Dadds, M. R., & Morris, J. (1999). A randomized, controlled trial of nurse home visiting to vulnerable families with newborns. *J.Paediatr.Child Health, 35,* 237-244.
6. Artazcoz, L., Benach, J., Borrell, C., & Cortes, I. (2004). Unemployment and mental health: understanding the interactions among gender, family roles, and social class. *Am.J.Public Health, 94,* 82-88.
7. Ayoub, C. & Jacewitz, M. M. (1982). Families at risk of poor parenting: a model for service delivery, assessment, and intervention. *Child Abuse Negl., 6,* 351-358.
8. Baartman, H. E. M. (1991). Kafka's brief aan zijn vader; over het opgroeien als verworpen kind [Kafka's letter to his father; on growing up as a rejected child]. In W.Bereger, J. Kerssemakers, R. van Uden, & J. Wellen (Eds.), *Geweld in relaties, overwegingen en ervaringen [Violence in relationships, considerations and experiences]* Baarn: Ambo.
9. Baartman, H. E. M. (1996). Als mishandelde kinderen ouder worden [When maltreated children grow up]. *Tijdschrift voor Orthopedagogiek, 35,* 392-406.
10. Baartman, H. E. M. (1996). *Opvoeden kan zeer doen, over oorzaken van kindermishandeling [Childrearing can be painful, about the causes of child maltreatment].* Utrecht: SWP.
11. Baartman, H. E. M. (1997). Risicogezinnen en predictie en preventie van kindermishandeling [Families at risk and the prediction and prevention of child maltreatment]. *Tijdschrift voor Orthopedagogiek, 36,* 243-255.
12. Belsky, J. (1978). Three theoretical models of child abuse: a critical review. *Child Abuse Negl., 2,* 37-49.
13. Belsky, J. (1993). Etiology of child maltreatment: a developmental-ecological analysis. *Psychol.Bull., 114,* 413-434.
14. Belsky, J. & Vondra, J. (1989). Lessons from child abuse: the determinants of parenting. In D.Cicchetti & V. Carlson (Eds.), *Child Maltreatment, theory and research on the causes and consequences of child abuse and neglect* Cambridge: Cambridge University Press.
15. Berger, A. M., Knutson, J. F., Mehm, J. G., & Perkins, K. A. (1988). The self-report of punitive childhood experiences of young adults and adolescents. *Child Abuse Negl., 12,* 251-262.

16. Bergner, R. M., Delgado, L. K., & Graybill, D. (1994). Finkelhor's Risk Factor Checklist: a cross-validation study. *Child Abuse Negl., 18,* 331-340.
17. Black, D. A., Heyman, R. E., & Slep, A. M. (2001). Risk factors for child physical abuse. *Aggression and Violent Behaviour, 6,* 121-188.
18. Black, D. A., Heyman, R. E., & Slep, A. M. (2001). Risk factors for child sexual abuse. *Aggression and Violent Behaviour, 6,* 203-229.
19. Black, D. A., Heyman, R. E., & Slep, A. M. S. (2001). Risk factors for child psychological abuse. *Aggression and Violent Behaviour, 6,* 189-201.
20. Boney-McCoy, S. & Finkelhor, D. (1995). Prior victimization: A risk factor for child sexual abuse and for PTSD-related symptomatology among sexually abused youth. *Child Abuse Negl., 19,* 1401-1421.
21. Bradley, R. H., Corwyn, R. F., McAdoo, H. P., & Coll, C. G. (2001). The home environments of children in the United States part I: variations by age, ethnicity, and poverty status. *Child Dev., 72,* 1844-1867.
22. Bronfenbrenner, U. & Crouter, A. C. (1983). Work and family through time and space. In C.Hayes & S. Kamerman (Eds.), *Families that work: Children in a changing world* Washington, DC: National Academy of Sciences.
23. Brown, J., Cohen, P., Johnson, J. G., & Salzinger, S. (1998). A longitudinal analysis of risk factors for child maltreatment: findings of a 17-year prospective study of officially recorded and self-reported child abuse and neglect. *Child Abuse Negl., 22,* 1065-1078.
24. Browne, K. D., Davies, C., & Stratton, P. (1988). *Early prediction and prevention of child abuse*. Chichester: John Wiley & Sons.
25. Browne, K. D. & Saqi, S. (1988). Approaches to screening for child abuse and neglect. In K.D.Browne, C. Davies, & P. Stratton (Eds.), *Early prediction and prevention of child abuse* (pp. 57-85). Chichester: John Wiley & Sons.
26. Brunnquell, D., Crichton, L., & Egeland, B. (1981). Maternal personality and attitude in disturbances of child rearing. *Am J Orthopsychiatry, 51,* 680-691.
27. Buchholz, E. S. & Korn-Bursztyn, C. (1993). Children of adolescent mothers: are they at risk for abuse? *Adolescence, 28,* 361-382.
28. Cadzow, S. P., Armstrong, K. L., & Fraser, J. A. (1999). Stressed parents with infants: reassessing physical abuse risk factors. *Child Abuse Negl., 23,* 845-853.
29. Cohen, J. (1977). *Statistical Power Analysis for the Behavioral Sciences*. Hillsdale New Jersey: Lawrence Erlbaum Associates.
30. Conger, R. D., Conger, K. J., Elder, G. H. J., Lorenz, F. O., Simons, R. L., & Whitbeck, L. B. (1992). A family process model of economic hardship and adjustment of early adolescent boys. *Child Development, 63,* 526-541.
31. Connelly, C. D. & Straus, M. A. (1992). Mother's age and risk for physical abuse. *Child Abuse Negl., 16,* 709-718.
32. Coohey, C. (1995). Neglectful mothers, their mothers, and partners: the significance of mutual aid. *Child Abuse Negl., 19,* 885-895.

33. Coohey, C. (1996). Child maltreatment: testing the social isolation hypothesis. *Child Abuse Negl., 20,* 241-254.
34. Cowen, P. S. (1992). Abuse protection: child. In J.C.M.McCloskey & G. M. Bulechek (Eds.), *Nursing Interventions; effective nursing treatment* Philadelphia: Saunders.
35. Crittenden, P. M. (1985). Maltreated infants: Vulnerability and resilience. *Journal of Child Psychology and Psychiatry, 26,* 85-96.
36. Dadds, M. R., Mullins, M. J., McAllister, R. A., & Atkinson, E. (2003). Attributions, affect, and behavior in abuse-risk mothers: a laboratory study. *Child Abuse Negl., 27,* 21-45.
37. de Paul, J. & Domenech, L. (2000). Childhood history of abuse and child abuse potential in adolescent mothers: a longitudinal study. *Child Abuse Negl., 24,* 701-713.
38. DiLillo, D., Tremblay, G. C., & Peterson, L. (2000). Linking childhood sexual abuse and abusive parenting: the mediating role of maternal anger. *Child Abuse Negl., 24,* 767-779.
39. Egan, T. G., Monaghan, S. M., Muir, R. C., Gilmore, R. J., Clarkson, J. E., & Crooks, T. J. (1990). Prenatal screening of pregnant mothers for parenting difficulties: final results from the Queen Mary Child Care Unit. *Soc.Sci.Med., 30,* 289-295.
40. Egeland, B., Breitenbucher, M., & Rosenberg, D. (1980). Prospective study of the significance of life stress in the etiology of child abuse. *Journal of Consulting and Clinical Psychology, 48,* 195-205.
41. Egeland, B. & Brunnquell, D. (1979). An at-risk approach to the study of child abuse: some preliminary findings. *J.Am.Acad.Child Psychiatry, 18,* 219-235.
42. Elder, G. H. J. (1974). *Children of the Great Depression*. Chicago: University of Chicago Press.
43. Elder, G. H. J., Liker, J. K., & Cross, C. E. (1984). Parent-child behavior in the Great Depression: Life course and intergenerational influences. In P.B.Baltes & O. G. Brim (Eds.), *Lifespan development and behavior* New York: Academic Press.
44. Elder, G. H. J., Nguyen, T. V., & Caspi, A. (1985). Linking family hardship to children's lives. *Child Development, 56,* 361-375.
45. Ertem, I. O., Leventhal, J. M., & Dobbs, S. (2000). Intergenerational continuity of child physical abuse: how good is the evidence? *Lancet, 356,* 814-819.
46. Factor, D. C. & Wolfe, D. A. (1990). Parental psychopathology and high-risk children. In R.T.Ammerman & M. Hersen (Eds.), *Children at risk, an evaluation of factors contributing to child abuse and neglect* (pp. 171-198). New York: Plenum Press.
47. Feshbach, N. D. (1989). The construct of empathy and the phenomenon of physical maltreatment of children. In D.Cicchetti & V. Carlson (Eds.), *Child Maltreatment, theory and research on the causes and consequences of child abuse and neglect* Cambridge: Cambridge University Press.
48. Fleming, J., Mullen, P., & Bammer, G. (1997). A study of potential risk factors for sexual abuse in childhood. *Child Abuse Negl., 21,* 49-58.
49. Frodi, A. M. (1981). Contribution of infant characteristics to child abuse. *American Journal of Mental Deficiency, 85,* 341-349.
50. Frodi, A. M. & Lamb, M. E. (1980). Child abusers' responses to infant smiles and cries. *Child Dev., 51,* 238-241.

51. Garbarino, J. (1980). An ecological approach to child maltreatment. In L.H.Pelton (Ed.), *The social context of child abuse and neglect* New York: Human Sciences Press.
52. Garbarino, J., Kostelny, K., & Grady, J. (1993). Children in Dangerous Environments: Child Maltreatment in the Context of Community Violence. In D.Cicchetti & S. L. Toth (Eds.), *Child Abuse, Child Development and Social Policy* (pp. 167-187). Norwood New Jersey: Ablex Publishing Corporation.
53. Gillham, B., Tanner, G., Cheyne, B., Freeman, I., Rooney, M., & Lambie, A. (1998). Unemployment rates, single parent density, and indices of child poverty: their relationship to different categories of child abuse and neglect. *Child Abuse Negl., 22,* 79-90.
54. Gold, D. & Andres, D. (1978). Developmental comparisons between 10-year-old children with employed and nonemplyed mothers. *Child Development, 49,* 75-84.
55. Grietens, H., Geeraert, L., & Hellinckx, W. (2004). A scale for home visiting nurses to identify risks of physical abuse and neglect among mothers with newborn infants. *Child Abuse Negl., 28,* 321-337.
56. Guterman, N. B. (1999). Enrollment strategies in early home visitation to prevent physical child abuse and neglect and the "universal versus targeted" debate: a meta-analysis of population-based and screening-based programs. *Child Abuse Negl., 23,* 863-890.
57. Hall, L. A., Sachs, B., & Rayens, M. K. (1998). Mothers' potential for child abuse: the roles of childhood abuse and social resources. *Nurs.Res., 47,* 87-95.
58. Helfer, R. E. & Kempe, C. H. (1968). Introduction. In R.E.Helfer & C. H. Kempe (Eds.), *The battered child* Chicago: University of Chicago Press.
59. Herzberger, S. D. & Tennen, H. (1985). The effect of self-relevance on judgments of moderate and severe disciplinary encounters. *Journal of Marriage and the Family, 47,* 311-318.
60. Hillson, J. M. C. & Kuiper, N. A. (1994). A stress and coping model of child maltreatment. *Clinical Psychology Review, 14,* 261-285.
61. Hosman, C. M. H. (1983). *Psychosociale problematiek en hulpzoeken. Een sociaal-epidemiologische studie ten behoeve van de preventieve geestelijke volksgezondheid [Psychosocial problems and help-seeking. A sociological-epidemiological study for the preventive mental health].* Lisse: Swets en Zeitlinger.
62. Howze, D. C. & Kotch, J. B. (1984). Disentangling life events, stress and social support: implications for the primary prevention of child abuse and neglect. *Child Abuse Negl., 8,* 401-409.
63. Kaufman, J. & Zigler, E. (1987). Do abused children become abusive parents? *Am.J.Orthopsychiatry, 57,* 186-192.
64. Kaufman, J. & Zigler, E. (1992). The prevention of child maltreatment: programming, research and policy. In D.J.Willis, E. W. Holden, & M. Rosenberg (Eds.), *Prevention of child maltreatment: developmental and ecological perspectives* (pp. 269-295). New York: Wiley.

65. Keuning, M., Schulze, H. J., Stams, G. J., Groenewegen, I., & Schuengel, C. (2002). Marital conflict strategies predict child abuse potential in Dutch families from low socioeconomic backgrounds. *Zeitschrift für Familienforschung, 14,* 153-166.
66. Komarovsky, M. (1940). *The unemployed man and his family*. New York: Dryden Press.
67. Korfmacher, J. (2000). The Kempe Family Stress Inventory: a review. *Child Abuse Negl., 24,* 129-140.
68. Kotch, J. B., Browne, D. C., Dufort, V., & Winsor, J. (1999). Predicting child maltreatment in the first 4 years of life from characteristics assessed in the neonatal period. *Child Abuse Negl., 23,* 305-319.
69. Kotch, J. B., Browne, D. C., Ringwalt, C. L., Dufort, V., Ruina, E., Stewart, P. W. et al. (1997). Stress, social support, and substantiated maltreatment in the second and third years of life. *Child Abuse Negl., 21,* 1025-1037.
70. Kotchick, B. A. & Forehand, R. (2002). Putting Parenting in Perspective: A Discussion of the Contextual Factors that Shape Parenting Practices. *Journal of Child and Family Studies, 11,* 255-269.
71. Kotelchuck, M. (1982). Child abuse and neglect, prediction and misclassification. In R.H.Starr (Ed.), *Child abuse prediction, policy implications* Cambridge: Ballinger Publishing Company.
72. Leventhal, J. M., Egerter, S. A., & Murphy, J. M. (1984). Reassessment of the relationship of perinatal risk factors and child abuse. *Am.J.Dis.Child, 138,* 1034-1039.
73. McLoyd, V. C., Jayaratne, T. E., Ceballo, R., & Borquez, J. (1994). Unemployment and work interruption among African American single mothers: effects on parenting and adolescent socioemotional functioning. *Child Dev., 65,* 562-589.
74. Milner, J. S. (1993). Social information processing and physical child abuse. *Clinical Psychology Review, 13,* 275-294.
75. Milner, J. S. (1998). Individual and family characteristics associated with intrafamilial child physical and sexual abuse. In P.K.Trickett & C. J. Schellenbach (Eds.), *Violence Against Children in de Family and the Community* (pp. 141-161). Washington, DC: American Psychological Association.
76. Milner, J. S. (2003). Social information processing in high-risk and physically abusive parents. *Child Abuse Negl., 27,* 7-20.
77. Monaghan, S. M., Gilmore, R. J., Muir, R. C., Clarkson, J. E., Crooks, T. J., & Egan, T. G. (1986). Prenatal screening for risk of major parenting problems: further results from the Queen Mary Maternity Hospital Child Care Unit. *Child Abuse Negl., 10,* 369-375.
78. Murphy, S., Orkow, B., & Nicola, R. M. (1985). Prenatal prediction of child abuse and neglect: a prospective study. *Child Abuse Negl., 9,* 225-235.
79. Murry, S. K., Baker, A. W., & Lewin, L. (2000). Screening families with young children for child maltreatment potential. *Pediatr.Nurs., 26,* 47-54, 65.
80. Newberger, C. M. (1980). The cognitive structure of parenthood; the development of a descriptive measure. In R.L.Selman & R. Yando (Eds.), *Clinical-developmental psychology*.

New directions of child development: clinical developmental research, No. 7 San Francisco: Jossey-Bass.

81. Oates, R. K., Davis, A. A., Ryan, M. G., & Stewart, L. F. (1979). Risk factors associated with child abuse. *Child Abuse Negl., 3,* 547-553.
82. Paavilainen, E., Astedt-Kurki, P., Paunonen-Ilmonen, M., & Laippala, P. (2001). Risk factors of child maltreatment within the family: towards a knowledgeable base of family nursing. *Int.J.Nurs.Stud., 38,* 297-303.
83. Pas, A. J. M. v. d. (2003*). A Serious Case of Neglect: the Parental Experience of Child Rearing; Outline for a Psychological Theory of Parenting*. Delft: Eburon.
84. Polansky, N. A., Gaudin, J. M., Ammons, P. W., & Davis, K. B. (1985). The psychological ecology of the neglectful mother. *Child Abuse Negl., 9,* 265-275.
85. Reijneveld, S., van der Wal, M. F., Brugman, E., Hira Sing, R. A., & Verloove-Vanhorick, S. P. (2004). Infant crying and abuse. *Lancet, 364,* 1340-1342.
86. Rodriguez, C. M. & Green, A. J. (1997). Parenting stress and anger expression as predictors of child abuse potential. *Child Abuse Negl., 21,* 367-377.
87. Rohner, R. & Rohner, E. (1980). Antecedents and consequences of parental rejection: A theroy of emotional abuse. *Child Abuse Negl., 4,* 189-198.
88. Rumm, P. D., Cummings, P., Krauss, M. R., Bell, M. A., & Rivara, F. P. (2000). Identified spouse abuse as a risk factor for child abuse. *Child Abuse Negl., 24,* 1375-1381.
89. Rutter, M. (1989). Intergenerational continuities and discontinuities in serious parenting difficulties. In D.Cicchetti & V. Carlson (Eds.), *Child Maltreatment, theory and research on the causes and consequences of child abuse and neglect* Cambridge: Cambridge University Press.
90. Schumacher, J. A., Smith Slep, A. M., & Heyman, R. E. (2001). Risk factors for child neglect. *Aggression and Violent Behaviour, 6,* 231-254.
91. Seagull, E. A. W. (1987). Social Support and Child Maltreatment: a review of the evidence. *Child Abuse Negl., 11,* 41-52.
92. Sidebotham, P. (2003). Red Skies, Risk Factors and Early Indicators. *Child Abuse Review, 12,* 41-45.
93. Sidebotham, P. & Golding, J. (2001). Child maltreatment in the "children of the nineties" a longitudinal study of parental risk factors. *Child Abuse Negl., 25,* 1177-1200.
94. Sidebotham, P. & Heron, J. (2003). Child maltreatment in the "children of the nineties:" the role of the child. *Child Abuse Negl., 27,* 337-352.
95. Sidebotham, P., Heron, J., & Golding, J. (2002). Child maltreatment in the "Children of the Nineties:" deprivation, class, and social networks in a UK sample. *Child Abuse Negl., 26,* 1243-1259.
96. Sigmond-de Bruin, E. M. (2001*). Follow-up in very preterm and very low birthweight children at ten years of age*. Universiteit Leiden.
97. Slep, A. M. & O'Leary, S. G. (2001). Examining partner and child abuse: are we ready for a more integrated approach to family violence? *Clin.Child Fam.Psychol.Rev., 4,* 87-107.

98. Solomon, T. (1980). History and Demography of Child Abuse. In J.V.Cook & R. T. Bowles (Eds.), *Child Abuse; Commission and Omission* (pp. 63-68). Ontario: Butterworth and Company.
99. Stevens-Simon, C., Nelligan, D., & Kelly, L. (2001). Adolescents at risk for mistreating their children. Part I: Prenatal identification. *Child Abuse Negl., 25,* 737-751.
100. Stier, D. M., Leventhal, J. M., Berg, A. T., Johnson, L., & Mezger, J. (1993). Are children born to young mothers at increased risk of maltreatment? *Pediatrics, 91,* 642-648.
101. Straus, M. A., Gelles, R. J., & Steinmetz, S. K. (1980). *Behind closed doors, violence in the American family*. New York: Anchor Books.
102. Tajima, E. A. (2000). The relative importance of wife abuse as a risk factor for violence against children. *Child Abuse Negl., 24,* 1383-1398.
103. Vondra, J. I. (1990). Sociological and ecological factors. In R.T.Ammerman & M. Hersen (Eds.), *Children at risk, an evaluation of factors contributing to child abuse and neglect* (pp. 149-170). New York: Plenum Press.
104. Walsh, C., MacMillan, H., & Jamieson, E. (2002). The relationship between parental psychiatric disorder and child physical and sexual abuse: findings from the Ontario Health Supplement. *Child Abuse Negl., 26,* 11-22.
105. Weissman, A. M., Jogerst, G. J., & Dawson, J. D. (2003). Community characteristics associated with child abuse in Iowa. *Child Abuse Negl., 27,* 1145-1159.
106. Windham, A. M., Rosenberg, L., Fuddy, L., McFarlane, E., Sia, C., & Duggan, A. K. (2004). Risk of mother-reported child abuse in the first 3 years of life. *Child Abuse Negl., 28,* 645-667.
107. Winnicott, D. W. (1958). *Collected papers*. London: Havistock.
108. Zaslow, M. J. & Emig, C. A. (1997). When Low-Income Mothers go to Work: Implications for Children. *Future Child, 7,* 110-115.
109. Zuravin, S. J. (1991). Unplanned childbearing and family size: their relationship to child neglect and abuse. *Fam.Plann.Perspect., 23,* 155-161.

4

PREVENTION OF CHILD MALTREATMENT: PROGRAM DESIGN

1 Introduction

In the previous chapter we have explored the paradigms of this study, thereby establishing not only the factors that identify families at increased risk of maltreatment but at the same time the factors that should be targeted in a preventive intervention. In this chapter we continue upon the design of this intervention, not only with regards to the content but especially regarding the more practical issues in design: when should this intervention take place, for how long, and who should conduct the intervention? Another important issue to be addressed regarding program design is the evaluation of the success of the intervention. How can we measure the effects we attempt to generate?

Over the last decades many programs for the prevention of child maltreatment have been designed. Guided by several meta-analyses different aspects of program designs are explored in paragraph two. We look into the possible choices regarding population and recruitment, onset, duration and frequency of a program, possibilities regarding implementation and staffing and finally objectives and content of a preventive program. Based on these possibilities we reach a conclusion on the design for this study.

The third paragraph of this chapter addresses the possibilities for an evaluation of this Randomized Controlled intervention Trial. There are several types of evaluation common in prevention studies and many different instruments are available. Within the setting of this study there are limitations and possibilities that will be considered before choosing an adequate set of instruments to measure the effects of the intervention applied in this study.

2 Designing the program

Over the past few decades an increasing number of preventive programs has been designed. There is much to be learned from previous experiences. Therefore in this paragraph we will explore designs of other studies to help us reach a decision on the design for our own program. There are a number of different types of interventions regarding the prevention of child maltreatment, the most common of which is home visitation. Several program reviews concluded that home visitation seemed to be the most promising type of program ([e.g. 23; 32]). Therefore it has been decided that the program at hand should consist of home based services. This choice holds two important advantages. First of all, it helps to reach families that might otherwise not be reached because of distrust in formal (mental) healthcare, as well as families with a lack of engagement or even simply a lack of transportation. Secondly, home based services offer a more accurate and complete insight in family functioning and the role of various risk factors thereupon. This allows not only for tailor-made services to a family but also for demonstrations, which may not be possible in an out-of-home setting ([15]).

The choice for home visitation narrows down our analysis of preceding designs. Within this type of program there are however a number of other choices to be made. These are related first of all to the population eligible for the home visits. Since the program is to be of a primary preventive nature it is obvious that parents of young children should be involved, but what other criteria should be used? Another issue regarding the population is of a more practical nature: how should these parents be recruited? A second important choice is related to the onset and duration: when should a program start, how long should a program be continued and how frequent should there be contact with a family? Furthermore, who could best execute the program? And finally, regarding the content of the program, what are the objectives of the intervention and in what way should these objectives be pursued? All these choices will be addressed in the next section of this paragraph.

2.1 Choices in program design

To answer the above questions four reviews were used. These reviews have all selected particular prevention programs based on a number of criteria. MacMillan, MacMillan, Offord, Griffith and MacMillan (1994) selected primary preventive

prospective controlled trials aimed at the prevention of physical maltreatment and neglect only and found 11 studies ([32]). Guterman (1997) selected primary preventive studies using comparison or control groups and explicit outcome measures of maltreatment or neglect or closely related proxy measures and found 17 studies ([19]). MacLeod and Nelson (2000) reviewed both proactive and reactive primary preventive programs for children up to 12 years of age. They selected only programs aimed at the prevention of child maltreatment or neglect, with a controlled design. They found a total of 56 studies, 34 of which were proactive. Some of the provided data in this review are used, despite the fact that findings include reactive programs that, to our standards, are considered secondary prevention ([31]). Finally Geeraert (2004) selected studies that aimed at the primary prevention of child maltreatment or neglect in families at risk with young children and that were evaluated in some way. She found 46 studies reporting about 28 programs ([15]). There are some studies that can be found in two or more of the reviews used here. MacMillan et al have 5 studies in common with Guterman and 6 studies in common with Geeraert; they presented 3 studies that are not discussed in the other reviews. Guterman in turn discussed 7 studies that are not presented in the other reviews. Geeraert presented 35 unique studies. The review by MacLeod and Nelson has 14 out of 34 studies in common with one or more of the other authors.

2.1.1 Population and recruitment

As Geeraert focused on studies in which families at risk were selected the characteristics of the populations in the studies reviewed are somewhat the same. For the selection of a population most studies used a specially devised checklist or, in nine studies, an existing instrument such as the Kempe Family Stress Inventory ([37]) or the Child Abuse Potential Inventory ([34]). In those studies that devised a checklist of their own a variety of risk factors are deployed which can be placed within the domains of Belsky and Baartman as has been done in the previous chapter. The ontogenic system of parents is used as a source most often (in 24 studies reviewed by Geeraert), followed by the exosystem (in 22 studies). Risk factors from the microsystem are used in 19 studies. Three studies use only demographic risk factors in their selection of a population ([15]). MacMillan et al did not address the specific nature of the populations studied in a structured fashion. In discussing different findings they mentioned two studies being based on demographic factors only (i.e. young, single primiparas with low SES and of certain

race or living in certain neighborhoods) and five studies selecting families 'at-risk'. The risk notion is not defined ([32]). MacLeod and Nelson did not mention the origin of the populations in the studies they reviewed ([31]). In the studies presented by Guterman families were often selected based on risk factors that were identified through checklists, interviews or observations. In 9 of the 17 studies presented there is no information on the composition of a population ([19]). There are a few studies using additional inclusion criteria for their population. Geeraert mentioned some of these criteria such as a pregnancy without complications, good health of the child or sufficient knowledge of the English language (in an English-speaking country) ([15]). The best known additional inclusion criterion is probably that of primipara families, although few studies have used this criterion - amongst all reviews used in this study only four studies were found. One of these studies is the well-known study by Olds and others. Olds and Henderson (1989) argue that mothers of first children are more open to help and that they will be able to transfer their skills to subsequent pregnancies, thereby enhancing long-term effects as well as cost-efficiency of the study ([40]).

Guterman has not provided information about the way populations have been recruited in the studies he reviewed, neither have MacLeod and Nelson. Geeraert described the cooperation with one or more hospitals or other services. Recruitment took place through personnel at the hospitals or institutions or through specifically trained staff of the program itself ([15]). In the review of MacMillan et al two studies recruited families in a prenatal clinic and three studies got referrals from maternity units or maternity wards. The other studies used other sources of recruitment such as a general hospital, obstetricians, health and human service agencies, the child protection agency or 'multiple professionals' ([32]). Except for the review of Geeraert all reviews provided information on the size of the recruited populations. Samples in the review by Guterman range from 40 families up to 400 families whereas the studies MacMillan et al reviewed recruited between 32 and 511 families. MacLeod and Nelson provided numbers regarding an average sample of 205 families, with a range of 18-1536 ([19; 31; 32]).

2.1.2 Onset, duration and frequency

In the onset of programs there obviously are two choices: either prenatally or postnatally. In the studies reviewed by Guterman onset is mostly prenatally (10 of

17 studies) ([19]). MacMillan et al did not include information about the onset of programs in their review. Geeraert found 5 programs to start prenatally and 13 programs to start postnatally with a maximum of 1.5 months after the birth of a child. Another 8 programs had a flexible postnatal onset up to six months after the birth of a child ([15]). MacLeod and Nelson did not report on the onset of the programs they studied. They did however report on the duration, which was mainly short (a maximum of six months in 22 programs and a maximum of 12 months in another 11 programs). The longest program studied lasted over five years ([31]). The duration of the programs studied in the other three reviews varies largely. Geeraert found a variation between one month and five years. She pointed out that some studies specified whether this was the actual or the planned duration, though most studies did not ([15]). The variation in the studies reviewed by MacMillan et al is somewhat smaller, ranging between one month and 27 months ([32]) whereas the range in studies reviewed by Guterman is between six months and 3 years ([19]). MacLeod and Nelson provided an over-all mean of the number of visits during the programs they studied: 54 with a range of 3-536 ([31]). Unlike the others, Geeraert also provided information on the duration of each contact to family, ranging from 40 to 75 minutes ([15]).

Finally regarding the frequency of contact with parents MacMillan et al report frequencies ranging from bi-weekly to every two months ([32]). In studies reviewed by Guterman frequencies vary from bi-weekly to once a month. A number of studies reviewed by Guterman had a changing frequency, for instance starting weekly and gradually lessening to visits every six weeks over time. In case of a prenatal start of such a program the frequency peaks right after the birth of the child ([19]). Geeraert found frequencies of once to twelve times a month. As with the duration of the programs reviewed, she found a difference between actual and planned frequencies of family contacts in several studies. By combining the duration and the frequency of the programs studied, Geeraert also found large differences regarding the intensity; for instance in the comparison of two programs both lasting two years, where one program provided a total of 9 visits while the other program provided a total of 42 visits ([15]).

2.1.3 Implementation and staffing

As we mentioned at the beginning of this paragraph, many of the studies reviewed concern a program of home visitation. However, a number of programs combined these visits with other types of intervention. Some of the programs combined home visits with medical (child) care, social work involvement or specific parenting training programs ([32]). Other programs provided consultation at hospitals or other healthcare institutions, so-called parenting support groups or contact by phone. The latter was sometimes used to replace home visits when the situation in a family ameliorated ([15]).

Staffing essentially consisted of professionals, paraprofessionals, or volunteers with or without training. Most programs employed professionals, nurses, social workers or so-called early childhood specialists, who were backed up by a multi-disciplinary team consisting of psychologists and pediatricians. Then there were a number of programs employing paraprofessionals, referred to as family workers, parenting consultants, 'visiting moms' etc. There often were specific criteria for the selection of these home visitors and all of them got specific training prior to starting the intervention, although duration of this training varied largely from two sessions to multiple weeks. A small number of programs employed volunteers without any training. These volunteers were however always backed up by a multidisciplinary team ([15]). Two studies employed student nurses or students ([19;32]).

2.1.4 Objectives and content

Geeraert distinguished between five types of objectives. A first objective is the improvement of parenting (in 26 programs), which is done by increasing parental knowledge of child development and parenting skills and by stimulating parent-child interaction. A second objective is the enlargement of family support (in 20 programs), this is done by enforcing or increasing the informal social network and by stimulating parents to start and maintain contact with professional services. A third objective concerns the stimulation of family functioning (in 13 programs), by paying specific attention to household duties, living conditions, education, employment and birth-control. Furthermore some programs pay specific attention to family conflict, violence and substance abuse. The fourth objective is the improvement of parental personal functioning (in 15 programs) through provision of emotional support, enforcing of feelings of self-confidence and

teaching problem-solving and stress-coping skills. The fifth objective is the improvement of health and development of the child (in 13 programs) by providing advice about healthy nutrition during pregnancy and the recognition of signals of pregnancy complications ([15]). Guterman, MacLeod and Nelson as well as MacMillan et al have not given specific information on the objectives and contents of the programs they reviewed.

2.2 Conclusion: a design for prevention

In the previous section we have explored the possibilities for several design aspects of a primary preventive program. For each of these aspects we will now come to a decision regarding the design of this study.

2.2.1 Population

One of the primary concerns in intervention studies regards the decision for a population. Should the intervention be provided to all members of a population or should certain members be selected? In other words: should the preventive intervention be applied *universally* or *on indication*? These types of primary prevention (universal, indicated) have first been introduced by Gordon ([18]), as was addressed in chapter two. There are three considerations in the decision for either universal or indicated prevention. These are of empirical, ethical and practical nature. The empirical issue addresses the long-term sustainability of early home visitation programs. As some studies point out, universal or slightly demographically targeted (selective) prevention results in larger effect sizes that are maintained over a longer period of time ([19; 20]). Indicated prevention studies seem to produce less success. Guterman (1999) concluded this may be in part due to the fact that psychosocial screening results in a population that, due to their at-risk-status, is less amenable to change and highly service resistant. Furthermore, psychosocial screening may select families with problems that are too complex and specific for a consecutive prevention program; these families may require more tailor-made services than have currently been provided ([20]). With these conclusions perhaps we should refrain from comparing the results of population-based and screening-based studies, as it would be similar to comparing apples and oranges. Because screening-based studies do find positive effects as well ([19; 20]), the door to indicated primary prevention remains open.

The second issue under consideration is the ethical issue, which deals with the risk of stigmatizing participants and as such constitutes a strong plea for universal prevention. Indicated prevention may lead to the labeling of families selected as 'at-risk' or 'potentially abusive'. These stigmata may not only encourage families' own self-consciousness but also facilitate public blaming ([20]). The U.S. Advisory Board on Child Abuse and Neglect is given a voice in several publications on this matter. In reviewing their own recommendation it is interesting to note first of all that this board based their considerations upon other data than those discussed by Guterman as they claimed to be "aware that most of the programs showing reductions in abuse and neglect targeted high-risk populations" ([30, p187]). The board felt that "unless home visiting was perceived by the public as 'mainstream, necessary and for everyone', it would fail" ([30 ib.]). This was said to be based on the finding that many federally funded programs were terminated after budget reductions. This seems to be a strange argument, especially because universal services are more expensive than indicated services. Barth et al (1986) quoted Bloom (1981) regarding the argument of 'unjust labeling': "it is simpler not to do something that is ethically controversial than to do it, but the weight of the moral dilemma should be considered equally great for either decision" ([2, p101]). In other words, both choices hold ethical dilemmas. Finally, we have discussed this dilemma previously in chapter two (paragraph 5.3). A preventive intervention is warranted in these families not only because of the risk for future events but more so because of the presence of difficult circumstances in present time. Therefore services should be labeled "as family support initiatives rather than child abuse prevention efforts" ([13, p407]), and as such they should be presented to participants as well as the general public.

The third and last issue to consider is the practical issue, that of cost efficiency; perhaps the most often cited argument for indicated prevention. After all, by maintaining the notion of universal prevention, adjusting to available funding could result in services so minimal they would simply be insufficient to adequately support those families at greatest risk ([13]). In stead, we should make sure that scarce resources are deployed "optimally cost effective by serving only those most in need" ([20, p865]). It may be that universal prevention generates more impressive success rates than does indicated prevention, and it may be that universal prevention is easier to sell to 'the public', still, it can not be bought ([38]). So, while it may be interesting for

the sake of science to determine the effects of universal prevention, ultimately science should serve society and should therefore develop concepts that can be implemented. Based on these considerations we choose to select families at risk for child maltreatment. For this purpose in the previous chapter we have investigated risk factors and established which of these factors should be put to use in a selection questionnaire.

With regards to additional criteria for the selection of families, although we consider the arguments by Olds and Henderson valid, we do assume that mothers with more than one child will benefit from home visitation as well. Still, as the average number of children in the study area is 1.9 ([42]) we assume there will be a substantial proportion of primipara families in our sample. Due to practical reasons two additional criteria for selection will be used, which are related to language and relocation. If families are unable to respond to our questionnaires due to insufficient comprehension of the Dutch language they cannot be included, since we cannot compromise the reliability of our instruments by translation or verbal administration. Also, if families have planned to relocate outside the study area within eighteen months after the birth of their child they need to be excluded, the reason being that travel costs for home visitors will be too high in case these families will be randomized in the intervention group.

2.2.2 Recruitment

As presented in the previous section, there are several methods for the recruitment of a population. Cooperation with local hospitals or other health-related centers seems to be the most common method. In the Netherlands the most appropriate institution for cooperation might be the *Ouder en Kindzorg* (OKZ, translated as Parent and Childcare); an institution that can be compared to Well Baby Clinics in other countries with the exception that the OKZ is meant for children up to age four and their parents or caretakers. The OKZ has been established in the Netherlands first in 1901 with the primary purpose of combating the high infant mortality rates. For this purpose individual care (nutritional and hygiene advice, vaccinations and growth-monitoring) and 'mother-courses' were provided ([44]). Over the course of the last century the objectives and consequential tasks of the OKZ broadened. Aside from monitoring of physical health and prevention of disorders and illnesses, mental health and psycho-social development of children, as well as the

prevention of impeding circumstances and disorders in this area, have been increasingly emphasized ([27]). These changes were in part caused by the fact that parents increasingly presented the OKZ with parenting-related questions and problems ([28]). Currently there are around 1500 OKZ-bureaus in the Netherlands, together reaching between 90 and 100% of the population of families with children aged 0-4 years ([22; 45]). Summarizing, the Dutch OKZ-system has a very high reach among parents with newborn children and an increasing need to address the prevention of psychosocial problems in children. This institution seems very well fit for the embedding of a primary preventive intervention. Since the nurses, working in the OKZ, establish contact with parents within two weeks after the birth of a child they are obvious candidates to recruit families for our program.

2.2.3 Onset, duration and frequency

Based on the findings presented in the previous section there seems to be no clear-cut preference for the onset of a preventive program. In some studies the onset is prenatal; in many studies an immediate postnatal onset is chosen. With regards to the outcome in terms of effect there seems to be no favorable choice either; both prenatal and postnatal programs have sorted positive effects ([19]). There are, however, some practical benefits of a prenatal onset, which mainly revolve around the establishment of a strong bond between parent and home visitor. The pregnancy period, being less hectic than the direct postnatal period, may cause parents to be more open to the intervention offer and furthermore it allows for attention to be paid to the parental personality, experiences and expectation. Also, especially in primiparas, a prenatal start will ensure that the development of patterns of negative experiences is avoided ([1]). On the other hand, primiparas will not be able to imagine to the full extent what parenting will entail until after the birth of their child. For parenting advice, the provision of examples and practice, the prenatal period is less suitable. With all these considerations the choice for either a pre- or postnatal onset becomes a somewhat arbitrary one, which is in our case guided by the implementation of our study: within the setting described above, that of the OKZ, a postnatal onset for our program is evident.

As for the duration and frequency or 'dosage' of a program, the outcomes in terms of effect are mixed as well. It seems that long-term interventions (with a duration of approximately two years) as a majority generate positive effects. Furthermore, a

visiting frequency of at least once a month appears to increase positive effects of long-term studies ([13; 19]). On the other hand, some short-term interventions (with durations of three weeks, six months and a maximum of two year respectively) did also prove to be effective ([see 19]). However, these are short-term interventions that were directly evaluated, whereas short-term interventions evaluated through more extended follow-up did demonstrate less effectiveness ([19]). MacLeod and Nelson found that effect sizes in intervention studies increased as the length of the intervention increased. They concluded that the smallest effect sizes were found in programs lasting less than six months. A similar trend was found for programs providing fewer than twelve visits, however, "in light of the small sample sizes these results should be interpreted with caution" ([31, p1143]). Contradictory to these findings, Chaffin, Bonner and Hill (2001) found no relationship between program intensity or duration and outcomes ([12]). In this light the findings of Geeraert should be remembered: not all programs accomplish their planned frequency or number of visits ([15]), in some studies implementation of the planned frequency succeeds in only half of the families visited or even in a mere 6% ([25; 26]). This discrepancy might influence findings when studying the relationship between outcome and dosage of a program.

Aside from these empirical considerations on the dosage of a program there are other, more practical arguments to be considered. As was discussed earlier, cost-effectiveness is an important consideration. The more frequent the visits, the higher the cost of a program. Also we should ask ourselves what the feasibility would be of for instance a weekly intervention. Unless a home visitor would assist in the household in a very practical manner parental hospitality might rapidly decline with such a high frequency. Then there is the matter of dependency. A weekly visit might send the message that parents are perceived as being unable to cope without constant monitoring and as such may make parents dependent of assistance. Finally, high frequency visits might appear to resemble a surveillance program more than a preventive program.

Based on all these considerations of different nature in this study we choose to extend our program over a period of eighteen months, making it one of the more long-term interventions compared to other programs. During these eighteen months six home visits will be provided, not in a constant frequency but rather in a

tapered manner. The home visits should start postnatally and as soon as possible. Bearing in mind the necessary time for the logistics of selecting a family the first home visit should take place around six weeks after birth. Because we consider it important for the home visitor to address a number of issues and build a trusted relationship with parents we think home visits should be allowed some time and therefore establish a duration of 75 minutes for each visit, the maximum amount of time found by Geeraert ([15]).

2.2.4 Implementation and staffing

As we have stated at the beginning of this paragraph, home based services appear to hold particular promise in the prevention of child maltreatment. Through the previous section it became clear that a number of programs deploy other services aside from home visitation, for instance parenting education. Within the Dutch setting there is no need for the development of special parenting courses to be a part of our program as these courses are generally provided by the OKZ in some way or other ([44]). Within the program referrals to such courses can easily be made.

A final more practical issue concerns the choice of staffing within a program. Some programs employ the services of paraprofessionals. Often these service providers are selected based on their background: they come from the same community and share many of the same values and experiences as do the families they are visiting. The reason for this choice is that a common background will help overcome class and cultural barriers between provider and client. A counter-argument could be that parents are hesitant to reveal personal matters to a home visitor from their own neighborhood for fear of a loss of privacy. Also, especially in prevention programs targeted at families at risk there will be a high demand for various services and advice, which may be difficult to provide for paraprofessionals as they lack the necessary skills ([see 13]). As we have already chosen a setting for our program it makes sense to apply the necessary staffing from within this setting and thus employ nurses from the OKZ. Off course the argument provided against paraprofessionals to some extent applies to nurses as well: although they do have the necessary education to address a number of health- and development-related issues in families, they are not equipped for psychotherapeutic treatments or family therapy. However, this is not the purpose of our intervention. Rather, by providing the

home visiting nurses with substantial training, they should be able to know when to refer parents to more extensive treatment.

2.2.5 Objectives and content

With this final consideration regarding the design of our preventive program we return to the core: what should take place during the home visits. Essentially this question has been answered in the previous chapter. First of all the objective of our program should be to chart the ecological systems introduced by Belsky ([5; 6]). Although parental factors in the ontogenic system cannot be changed by the intervention parents can be made aware of the role these factors play in their daily functioning and they can be motivated to seek help in modifying the effects of these factors. The same applies to factors in the microsystem. Overall, parents could be helped by teaching them effective skills for coping with the stresses that could stem from these systems. Another important objective of our program lies in the assessment of the support parents receive from their so-called exosystem. In case of insufficient support parents can be stimulated to engage in new social relationships or to restore existing troubled relationships. The most important objective of our program however, lies with the parental awareness ([1; 39]). Nurses should address parental expectations, perceptions and sensitivity, both towards the parents' children and towards their own needs and interests. In the next paragraph we will elaborate upon the objectives of this study. In chapter seven we will return to the objectives of our program. The precise content of the program will be described together with an extensive process-evaluation.

3 Evaluating the program

Scientifically speaking, there would be no point in designing and implementing a preventive program without evaluating it in some way. After all, it is necessary to establish whether a program is beneficial and most of all effective in accomplishing the objectives that were determined. In this paragraph we will consider first of all the possible types of evaluation and secondly we will establish the objectives for this study. Based on these objectives combined with the possibilities for evaluation we will be able to determine how and by means of which instruments the evaluation of our study should best be taking place.

3.1 Types of evaluation

In the evaluation of a program there are essentially two types of evaluation to be distinguished: process evaluation and product evaluation. Process evaluation is considered to be the evaluation of the functioning of a program. Questions to be answered might be "'which activities are deployed within the program', 'what type of clients participate in the program', 'which clients leave the program before completion' and 'which segments of the program require improvement'" ([21, p377]). Several types of process evaluation have been established, one of them being evaluation of implementation, to establish whether or not a program has been implemented as planned. Another type of process evaluation is the so-called formative evaluation, through which strengths and weaknesses of the program are identified. This is commonly done by asking clients and staff of the program about the quality of aspects of the program ([21]).

Product evaluation addresses the results of a program by establishing meaningful change in clients. Product evaluation can be related to certain norms or standards that are supposed to be reached, or it can be aimed at the establishment of the presence of change, either in a prospective or retrospective design. In a prospective design at least two measurements are taken: one before the start of the program and one after completion of the program. In a retrospective design there are only post-program measurements taken. The most commonly known and used type of product evaluation is effect evaluation, which is deployed to establish not only the presence of change but also the presence of a causal relationship between the program and the observed change ([21]). As such this type of evaluation requires the

use of a control group. Usually, control groups are constructed in one of three ways: post hoc, at the beginning of a program through a matching process or through randomized assignment (true experiment). Typically, random assignment is viewed as the best approach ([17; 43]).

To determine the success of a program obviously product evaluation and especially effect-evaluation is important. Unless it can be established that a program results in positive change in clients ánd that this change can be ascribed foremost to the program under evaluation, the success of a program remains uncertain. For this purpose the ideal choice is that of a Randomized Controlled Trial with a baseline and post-intervention measurement. However, process evaluation is important to establish the level of implementation of a program, because this, in turn, may influence the effects of the program ([41]). If, for instance, certain aspects of the program were not implemented or were implemented to a lesser extent, or if they were implemented in a different manner than planned, this may influence the outcome. It is therefore important to deploy both types of evaluation in order to be able to fully understand the impact of a program. In this study we recognize this importance. An extensive process evaluation of our intervention will therefore be presented in chapter seven. In this paragraph we will continue on effect-evaluation. For proper effect-evaluation it should first be established which effects are desired and which effects can be expected based on the design of the program at hand. Therefore we will first address the objectives of this study.

3.2 Objectives of this study

In chapter two we have established an understanding of child maltreatment as a parenting problem. Through this understanding it becomes clear that child maltreatment is the ultimate excess of parenting problems, which should be seen on a continuum, "ranging from sensitive, respectful parenting to rejecting and careless parenting" ([1, p32]). It should be evident that the ultimate goal of this study is the prevention of child maltreatment - in particular the prevention of physical and emotional maltreatment and neglect. However, the purpose of a primary preventive intervention would not be rightfully served if its goal were to prevent only the ultimate excess, i.e. maltreatment. Therefore another goal of this study should be the prevention or reduction of parenting problems. This implies the prevention of psychosocial and behavioral problems in children.

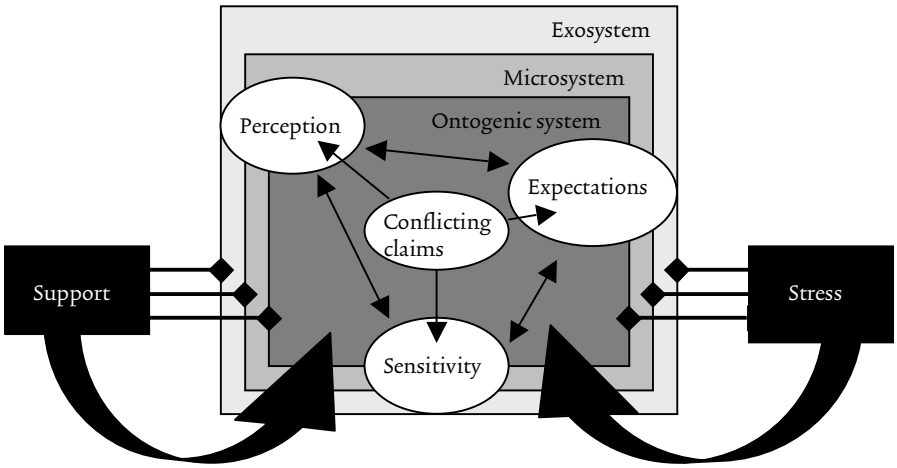
In chapter three we have explored the paradigm chosen for this study. This exploration has served not only as the basis for the selection of families eligible for our study but it has also provided the roadmap for the realization of the objectives of this study. If the prevention of parenting problems and their most serious form, maltreatment, is the ultimate goal, this should be achieved by intervening both in aspects of parenting as described under the notion of parental awareness and in the ecological system in which parenting takes place. We have established several intermediate objectives for this purpose.

In the model presented in figure 1 it becomes clear that the notion of conflicting claims is central to parental awareness. After all, if parents are insufficiently aware of the presence of feelings of ambivalence, if they are unable to acknowledge and handle the influence of these feelings, this has repercussions for their ability to be sensitive towards their child, for their ability to have realistic perceptions of their child and for their ability to perceive their child in a positive way. An important intermediate objective should therefore be *improvement of parental understanding and handling of feelings of ambivalence*. This will indirectly influence the expectations parents have of their children, especially expectations of the role a child will play in a parents' life. To further improve parental expectations, especially those of the child's' capabilities, another intermediate objective is *enlargement of parental knowledge of child development and behavior*. Improvement of parental feelings of ambivalence can also influence parental perception. Positive perception of the child, especially related to the child's' dependency and need for care, can be further helped by *improvement of parental skills and knowledge on child rearing, nurture and care,* and also by *confirmation of parental competence and self-confidence in child rearing*. Finally, a better handling of ambivalent feelings will also influence parental sensitivity towards the child. Sensitivity can be increased by *improvement of parental skills and attitudes regarding the interaction with the child.*

The different systems in the ecological model also play a role in the model presented in figure 1. In our first intermediate objective, the ontogenic system, particularly the parental developmental history, is targeted. Regarding the notions of perception, expectations and sensitivity, both the parental personality (ontogenic system) and the child's' characteristics (microsystem) play a role. Opinions,

attitudes and culture from the exosystem also influence these notions. Most importantly however, all systems can produce either stress or support, which in turn can influence the processes of parental awareness and the improvement within these processes. Therefore, *improvement of stress-coping abilities in parents* is another intermediate objective. However, the nature of certain problems causing stress can be so severe that more professional help is needed. This means that referrals to mental healthcare are important: *establishment of functional connections to professional support* should thus be another intermediate objective. As we have seen many of the factors in the ecological system can be improved but not removed. Possibilities for change are mainly found in factors related to interaction, both within the microsystem itself and in the interactions between microsystem and exosystem. After all, positive and supportive interactions can serve as a buffer for other problems. Therefore, the final intermediate objective should be *improvement and enlargement of social support systems.*

Figure 1. *Integration and interaction of the ecological system and the notion of parental awareness.*



3.3 Instruments for evaluation

Child maltreatment is a very complex construct as we have established in the previous chapter. Many stressors in different domains play their role, the impact of

which is determined by the coping abilities parents possess. A further important contributor to the construct of maltreatment is parenting behavior. As a consequence of the complexity of this construct there are numerous parameters that can be considered for evaluation. Aside from a choice of outcome parameters there are other considerations as well, for instance the manner of implementation of measurements and the costs of a certain choice in terms of time and money. In the next section we will address several possibilities and limitations for our study given the design of our program.

3.3.1 Possibilities and limitations

It has been decided to design this program as a Randomized Controlled Trial with a baseline and post-intervention measurements. The program is intended to serve families at risk of child maltreatment within six weeks after the birth of their child. A number of objectives have been determined related to the occurrence of child maltreatment, parenting skills, knowledge, attitudes and competence, stress-coping and social and professional support. This summary of our design highlights a number of issues to be considered before a choice can be made regarding the instruments for our evaluation.

When considering the objectives of this study a large number of parameters can be chosen for evaluation. The most important parameter is the occurrence of maltreatment. However, accurately measuring this occurrence is difficult for a variety of reasons. One of these reasons is the fact that maltreatment is a relatively rare event in the population. Based on the estimates of Willems (1999), 23 in each 1000 children are maltreated each year ([46]). Therefore large numbers of participants are necessary to demonstrate significant changes. Furthermore, occurrences of maltreatment are probably underreported ([16]). This is even more likely in the Netherlands were there are no laws on mandatory reporting of cases of maltreatment. A possible solution to this problem is the use of proxy-parameters, such as the child's' general health and health care visits, hospitalizations and emergency department visits ([17]).

Regarding the other objectives in our study there is a large body of instruments available, either directly related to aspects of parenting as a parameter or to the desired result of improved parenting: child development ([17]). Although the wide

variety of instruments available creates possibilities, there are certain limitations related to the population that is to be evaluated. For instance the parameter of child development is targeted mostly by instruments designated for children age two or up. This rules out the use of such instruments in case of a baseline measurement taken before the child's' age of two years. Another limitation is found in the administration of an instrument. Generally speaking there are four possible options: self administered questionnaires, (structured) interviews, observation and information from other parties. The disadvantage of self administered questionnaires lies in the possibility of biases related to self-report ([17]). However, other ways of administration also present disadvantages. The results of interviews can be influenced by personal characteristics of the interviewer and so-called interviewer bias. The same applies to observational methods, which also appear to present difficulties in the individual classification ([36]). Information from other parties may be the method least sensitive to bias, provided that informants are blind to the 'treatment condition' of program participants.

Aside from these more methodological limitations there are some practical considerations that are largely related to program costs. It needs no discussion that both interviews and observational methods are time-consuming and therefore expensive, especially in larger groups of participants. The use of self-administered questionnaires and (written) information from other parties may be more desirable. Still, even with this choice the amount of time needed to fill in a questionnaire should be taken into consideration, especially when multiple measurements are deployed in an evaluation. After all, if participants are asked to provide too much information, they may fail to respond. As such the number of instruments used in measurements as well as the size of each instrument becomes important.

3.3.2 Child Abuse Potential Inventory

The Child Abuse Potential Inventory (CAPI) was first developed in 1976 with the general purpose to develop an instrument that could be employed by protective service workers to screen for physical child maltreatment ([33]). For this purpose child maltreatment has been defined as "evidence that the parent or caretaker has engaged in the creation, development, and/or active promotion of behaviors, events and/or situations under their control which resulted in the intentional

(nonaccidental) physical injury of a child" ([33, p90]). On a practical level the CAPI was supposed to be brief, easy to read, easy to administer and easy to understand and score. On a theoretical level it was supposed to be an item pool that represented the existing empirical and theoretical literature ([33]).

At the time the CAPI was first constructed there was no single explanatory theory providing a sufficient model for describing and predicting child maltreatment. Maltreatment was "assumed to involve a myriad of psychological and interpersonal variables which influence the occurrence of maltreating behavior" ([33, p19]) - as such the CAPI was based on psychiatric and interactional models. The CAPI was developed based on a survey of over 700 publications and subsequently modified based on feedback from professionals in the field as well as research staff members. Although the CAPI is designated for the detection of physical maltreatment it has been successfully employed in intervention and treatment programs with a pre-test - post-test and follow-up design as a means of program evaluation ([33]).

The CAPI contains a total of 10 scales and 160 items. For the response to these items a forced-choice format was chosen to avoid noncommittal responses. The primary clinical scale is the 77-item physical maltreatment scale. This scale is subsequently divided into six factor scales, three factors describing psychological difficulties ('*distress', 'rigidity'* and *'unhappiness'*) and an additional three describing interactional problems experienced by the respondent ('*problems with child and self', 'problems with family'* and *'problems from others'*). The factor *distress* represents feelings of frustration, loneliness, fear, confusion, worthlessness and anger. The factor *rigidity* represents the respondents' attitudes towards the appearance and behavior of children, the belief that children need strict rules and the notion that a home should be spotless and neat. The *unhappiness* factor addresses a general unhappiness with life and a specific unhappiness in relationships. In the factor *problems with child and self* items are clustered suggesting a perception of limited ability and competency in one's child and a limited physical ability in oneself. *Problems with family* addresses conflicts, fights and problems getting along with family members, and finally *problems from others* addresses difficulties in social relationships, providing an indication that relationships are seen as the source of personal unhappiness and pain. Aside from

the primary scale and its subsequent factor scales there are three validity scales: the *lie scale*, the *random response scale* and the *inconsistency scale* ([33]).
There is a substantial body of literature linking the CAPI outcomes to a number of other problems or risk factors such as a childhood history of maltreatment, social isolation, family conflict, life stress, knowledge of child development, perceptions of children's behavior, substance abuse, disciplinary strategies and coping skills. These findings support the construct validity of the CAPI ([34]). The internal consistency of the CAPI is found to range between .74 and .98. Test - re-test reliability is found to range between .90 (one week interval) and .86 (six months interval). Finally, although modest relationships between some demographic factors and maltreatment scores are evident, demographics do not appear to produce major moderator variable problems ([34]).

Currently a short version of the CAPI is under construction. This version contains a total of 70 items, which means the primary construct of maltreatment has been reduced by 7 items. The reduction is caused by the removal of the factor scale *problems with child and self* as well as one item from the *unhappiness* factor scale (the statement 'I have a good sex life'). The *lie scale* and the *random response scale* have also been removed. Research on this short version is still incomplete, however, preliminary data demonstrate a high correlation to the initial instrument as well as a high internal consistency ([35]).

3.3.3 Adult Adolescent Parenting Inventory

Initially, the Adult Adolescent Parenting Inventory (AAPI) has been developed in 1979 with the primary purpose to assess adolescent attitudes towards parenting and child rearing practices ([4]). Adolescents are however not the only population the AAPI is suitable for; it can be applied to assess the parenting and child rearing attitudes of (prospective) adult parents as well. Furthermore the AAPI can be applied to assess changes in parenting and child rearing practices after treatment. Through the review of publications and programs as well as the consultation of expert professionals the constructs of the AAPI are based on what is known about parenting and child rearing practices of abusive and neglecting parents. In 1999 the AAPI has been revised and a fifth construct has been added to the previous four ([3]). The current instrument is officially named the AAPI-2 but will be referred to throughout this study as the AAPI.

There are five constructs in the AAPI. These constructs are named: 'Inappropriate parental expectations (A)', 'Parental lack of an empathic awareness of children's needs (B)', 'Strong belief in the use and value of corporal punishment (C)', 'Parent-child role reversal (D)' and 'Oppressing children's power and independence (E)'. Construct A is based on the findings that maltreating parents tend to inaccurately perceive the skills and abilities of their children. This inaccurate perception is related to a lack of knowledge. Construct B is understood as the ability of being aware of another person's (in this case the child's) needs, feelings and state of being. Empathy is related to the ability to create a stimulating environment for the child. A lack of empathy suggests the perception of a child's needs and wants as overwhelming and conflicting with the parent's own needs. Construct C is related to an authoritarian style of parenting in which authority is something that should be recognized by children. Often the use of physical punishment is justified by culture, religion or the family history. Construct D addresses the phenomenon of role reversal or parentification, in which children are expected to be sensitive to and responsible for much of the happiness of their parents. Finally construct E is about obedience and compliance, enforced from the assumption that children who are allowed to challenge parental authority or to explore their environment will become disrespectful [3].

The AAPI comes in a pre-test - post-test construction. Both forms include 40 items. Responses are provided in a Likert-type scale. Scores on both forms can be transformed to so-called stenscores ('standard ten-scores'), which have been extensively normed in large populations (N=1,427). The internal reliability of all constructs lies between .87 and .96. The discriminatory ability of the AAPI with adults is found to be significant [3]. Overall, the AAPI is said to have "adequate levels of content validity, construct validity, internal reliability and stability over time" [4, p1078].

3.3.4 Short Psychological and Pedagogical Problems Inventory

This instrument was first developed in 1990 in the Netherlands as a diagnostic tool especially for Youth Health Care. It was called the *Kort Instrument voor Pedagogische en Psychologische Probleem Inventarisatie (KIPPPI).* The instrument has been tested, evaluated and adjusted several times [27; 28]. Originally the instrument was meant for children age five but over the years it was adapted for younger ages. Currently there is a version for babies, for 1-2 year-olds, 1-4 year-olds

and 5-year-olds ([27-29]). Depending on the version the KIPPPI presents a different number of items; the version for babies uses 73 items, the one for 1-2 year-olds uses 95 items and the one for 1-4 year-olds uses 89 items. The majority of items are to be answered through what can be considered a doubled forced-choice format: four options disallowing neutral response. Within the setting of youth health care the instrument consists of several tools. Aside from the questionnaire for parents there is a questionnaire for teachers or caretakers in daycare centers, depending on the age of the child, and a questionnaire for either the Well Baby Clinic Physician or the School Physician ([27; 28]).

The purpose of the KIPPPI is the identification of psychosocial problems which are understood as "emotional problems which are damaging or potentially damaging to the child's cognitive or social functioning and to the child's physical health; or problematic social behavior causing actual or potential emotional problems or damage to the child; or a combination of emotional and social problems causing frequent problems for the child or its surroundings" ([28, p89]). To serve the identification of psychosocial problems fourteen domains are to be addressed. These domains are: eating, sleeping, toilet trainedness, motor skills, activity, autonomy, mental development, language/speech, play, social relationships and interactions, mood, personality, behavior and fear. Aside from these domains the pedagogic situation is charted by means of a list of stressful life events, identifying the burdens and strengths in the family. In the questionnaire for parents the response to each item is an indication of the frequency ranging from always to never. Stressful life events are addressed in such a manner that not only presence of a stressor is indicated but also the amount to which this stressor causes concern in a family ([28]).

Each domain holds a certain relationship to the possibility of psychosocial problems. In the domain of *eating*, attention is paid to the way a child eats, the focus a child puts on food and candy, and the interaction between parent and child during mealtimes. The domain of *sleeping* addresses problems of the child around falling asleep, around sleeping through the night and around possible nightmares. *Motor skills* are concerned with fine and gross motor skills as well as clumsiness. The domain of *activity* is explored through items such as liveliness, impulsivity, tardiness or listlessness and concentration. *Autonomy* is related to the

initiative and independence a child displays. *Mental development* is registered through the perception of the parent comparing his or her child to other children of the same age. In the domain of *language/speech* pronunciation, expression and vocabulary are addressed. The domain of *play* addresses the frequency of child play as well as the manner of playing with others: solitary, parallel or together. The display of fantasy play is also addressed. *Social relationships and interactions* contains items about teasing and being teased, fighting, shyness, willingness to join in playing with others and the amount of friends. In the domain *mood* the child's tendency to get upset, irritated, sad or nervous is identified. *Personality* is addressed through traits such as jealousness, demandingness, nervousness, and clownesque or trusting behaviors. In the domain of *behavior* items such as aggression, disobedience, stubbornness and dejection are addressed. Finally in the domain of *fear* specific situations that could cause fear, such as new situations, failure or the separation from a parent, are addressed. ([27; 28]).

Regarding the validity of the KIPPPI, research has demonstrated that the prevalence of psychosocial problems found through the KIPPPI is coherent with other findings; milder and beginning problems are identified especially well. Reliability of the questionnaire lies between .76 and .83, which is considered satisfactional ([28]).

3.3.5 Social support

A brief Social Support questionnaire has been developed, based on several other questionnaires addressing social support ([10]). This questionnaire was devised for a study regarding the development of neonates. The purpose of this questionnaire was to assess the affective and material assistance from three sources - spouse, extended family, neighbors and friends and from professionals as experienced by mothers. The questionnaire has been tested in a pilot study before use ([9]).

The social support questionnaire consists of 15 items. There are four items addressing spousal support, two items addressing support from professionals and nine items addressing support from family, friends and neighbors. The types of support addressed are practical support (with household duties and child rearing) and psychological support (being able to talk about child rearing problems and personal issues). Each item addresses not only the presence of a type of support but also the satisfaction about this type of support on a Likert-type scale ([9]).

3.3.6 Other sources of information

Aside from the information available from parents there are three other sources that can be consulted for information about both the family functioning and the child's health. These are the family's general practitioner, the physician at the Well Baby Clinic (WBC) and the confidentiality doctors at the maltreatment reporting agency.

There are three main issues on which a family's general practitioner (GP) can be consulted as part of the evaluation of this study. The first issue is related to the number of consults a family seeks. This could be consults with their GP, both face-to-face and by telephone, but also consults from a 'physicians post' (an after-hours service of multiple general practitioners working in shifts) or emergency department visits. The frequent changing of GP, so-called medical shopping, the failure to follow up on appointments, the tendency to come ask for help at strange hours or to go straight to the emergency department with minor problems, and an abnormally high level of medical consumption can all be signs of maltreatment ([7]). The second issue is related to certain problems that may be diagnosed by the GP. Although problems such as dehydration, diaper-dermatitis, intoxication, burns, brain damage and other injuries could have several causes, they could also be an indication of a form of maltreatment ([8]). Finally the GP could be asked about any concerns regarding the family or the child that warrant additional care, either of medical or psychological nature.

The WBC-physician has an average of five consults of 15 minutes each with the child and his or her parents during the first year after birth of the child ([11]). After the first year the number of consults lessens. These consults are meant for physical screening and vaccination but also for the provision of advice. Furthermore an assessment is made of the child's general development regarding motor skills and communication. The WBC-physician is well aware of his or her role in identifying the onset of maltreatment ([11; 44]). For the purpose of this study the WBC-physician could be asked to report on the number of appointments kept by participating parents. Keeping such appointments is off course beneficial to the child's health but moreover, parental failure to follow up on appointments could be a sign of maltreatment ([7]). Furthermore the WBC-physician could be asked to indicate if the child's development is within normal range because a delay in development could

be an indication of child maltreatment ([7]). Finally, like the GP, the WBC-physician could be asked about any concerns about the family or the child.

Although to this day the Netherlands do not have a system of mandatory reporting of incidents of child maltreatment there is a maltreatment reporting agency known as the *Advies & Meldpunt Kindermishandeling (AMK)*. This agency has been first established in 1972 as the 'bureau of confidentiality doctors' and it has evolved ever since under the influence of changing laws ([14]). Helped by advertising campaigns the AMK is gaining name both amongst professionals and the general public. This is becoming clear by the increasing number of contacts made with the AMK (in 2003 an increase of 34% compared to 2000 was found). These contacts are meant either to consult a confidentiality doctor or social worker with certain concerns a person has about a child, or to report suspected child maltreatment. Of all children reported to the AMK 20% is two years of age or younger ([48]). Private persons contact the AMK most often (37.4%) followed by educational staff (15.1%) and somatic health care workers (14.3%) ([47]). In 2003 almost 8,000 incidents of maltreatment were reported and confidentiality doctors were consulted almost 20,600 times ([48]). This is still the proverbial tip of the iceberg when compared to the estimate of 80,000 by Willems ([46]) or to international incidence rates. Still, information from the AMK could prove useful in the evaluation of our study.

3.4 Conclusion

In this paragraph we have presented a number of considerations relevant for the determination of the way our study should be evaluated. We have discussed the different types of evaluation possible, we have lined out the (intermediate) objectives of this study and we have discussed the possibilities and limitations this study presents us with. A decision was made to employ two types of evaluation: a process evaluation to determine the implementation of our intervention program, and an effect evaluation in the most optimal design, that of a randomized controlled trial, in which measurements will be taken at baseline before six weeks of age of the child, and at one and two years of age of the child. For this effect evaluation, based on our considerations, we have selected four self-administered questionnaires to be filled out by participating parents. Aside from these questionnaires we have established what information is to be obtained from third parties: the family's general practitioner, the WBC-physician and the AMK.

Our first instrument of choice, the CAPI, can be considered a measurement of the risk of maltreatment in a family. As such it should provide information on the primary target of this study as an addition to the information obtained from the AMK. The constructs within the primary clinical maltreatment scale are coherent with a number of intermediate objectives in this study. For instance the construct of *distress* as described by Milner is to some extent related to the concept of conflicting claims. The CAPI has been previously used in the Netherlands ([see 24]) and as such there is a reliable translation available. As was discussed previously, the length of instruments used for this study is an important consideration. Therefore we choose to use the short version of the CAPI, thereby reducing the number of items in this questionnaire from 160 to 70 items, even though this version is still under evaluation.

The second instrument of choice, the AAPI, can be used to evaluate aspects of parental awareness. Parental expectations are addressed in constructs A (*inappropriate expectations)* and D (*role reversal)* and parental sensitivity could be interpreted from construct B (*empathy*). A number of intermediate objectives determined for this study may become visible through scores on the AAPI constructs. For instance enlargement of parental knowledge of child development and behavior could very well influence scores on construct A, whereas the improvement of parental skills and attitudes regarding the interaction with the child could become visible in construct E (*oppressing children's power and independence)*. With 40 items the size of the AAPI is acceptable. Unfortunately, the AAPI has not been previously used in Dutch-speaking countries. Therefore translation and linguistic validation of this instrument is required before it can be used.

The third instrument chosen, the KIPPPI, is beneficial both in the display of parental perception of the child and in the identification of stressors in the family. This second aspect of the KIPPPI is especially useful as it presents not only the presence of stressors but also the amount of distress a certain stressor causes. As such, a decrease in distress over certain stressors could be an indication of improved coping skills in participating families. The KIPPPI has proven useful in the field chosen for the implementation of our study: that of the OKZ. Although the instrument uses a rather large number of questions, the wording of these questions

is easy and parents are expected to be comfortable with the content, addressing their child's behavior. Our final instrument of choice, the social support questionnaire, can be used to investigate the improvement in several social support systems. The value of this instrument is considered to be it's easily understandable questions, it's small number of items and most of all the fact that not only the presence of support is addressed but also the satisfaction about this type of support.

With this chapter we have established the design for our study. Our aim is to provide a preventive intervention program to families at risk, not only because this risk could produce severe family problems (i.e. maltreatment) in the future, but most of all because this risk constitutes unfavorable circumstances in the present. In the next two chapters the results of the selection phase of this study will be presented. The program should be embedded within the *Ouder en Kindzorg (OKZ)*. Nurses from the OKZ can perform the selection and recruitment of families and, with additional training; they can also execute the program. This program is to start within six weeks after the birth of a child and continue until 18 months. During this period six home visits should be provided in a tapered fashion. The aim of these home visits is the improvement of parental awareness through knowledge, attitudes and skills as well as the encouragement of social and professional support. Results of the evaluation of the process of implementation of this program are presented in chapter seven. Finally the effects of the program need to be established by means of a number of questionnaires and information from third parties. Findings from the effect evaluation are presented in chapter eight.

4 References

1. Baartman, H. E. M. (1996). *Opvoeden kan zeer doen, over oorzaken van kindermishandeling [Childrearing can be painful, about the causes of child maltreatment].* Utrecht: SWP.
2. Barth, R. P., Ash, J. R., & Hacking, S. (1986). Identifying, screening and engaging high-risk clients in private non-profit child abuse prevention programs. *Child Abuse Negl.*, 10, 99-109.
3. Bavolek, S. J. & Keene, R. G. (2001). *Adult-Adolescent Parenting Inventory; administration and development handbook.* Family Development Resources, Inc.
4. Bavolek, S. J., Kline, D. F., McLaughlin, J. A., & Publicover, P. R. (1979). Primary prevention of child abuse and neglect: identification of high-risk adolescents. *Child Abuse Negl.,* 3, 1071-1080.
5. Belsky, J. (1993). Etiology of child maltreatment: a developmental-ecological analysis. *Psychol.Bull.*, 114, 413-434.
6. Belsky, J. & Vondra, J. (1989). Lessons from child abuse: the determinants of parenting. In D.Cicchetti & V. Carlson (Eds.), *Child Maltreatment, theory and research on the causes and consequences of child abuse and neglect* Cambridge: Cambridge University Press.
7. Bilo, R. A. C., Bosschaart, A. N., & Aarsen, R. S. R. (1998). Kindermishandeling, een plaatsbepaling [Child maltreatment, a stance]. In R.A.C.Bilo & A. P. Oranje (Eds.), *Het Ongelukshuidje; medische aspecten van kindermishandeling [The trouble-skin; medical aspects of child maltreatment]* (pp. 3-20). Zwolle: Ziekenhuis De Weezenlanden.
8. Bilo, R. A. C. & Oranje, A. P. (1998). *Het Ongelukshuidje; medische aspecten van kindermishandeling [The trouble-skin; medical aspects of child maltreatment].* Zwolle: Ziekenhuis De Weezenlanden.
9. Boom, D. C. v. d. (1988*). Neonatal irritability and the development of attachment : observation and intervention.* Universiteit Leiden.
10. Boom, D. C. v. d. (1-4-2004). *Social Support Questionnaire*. Ref Type: Personal Communication
11. Brouwers-de Jong, E. A., Burgmeijer, R. J. F., & Merkx, J. A. M. (2002). *Ouder- en Kindzorg: basisboek voor artsen [Parent- and Childcare: basic book for physicians].* Assen: Koninklijke van Gorcum.
12. Chaffin, M., Bonner, B. L., & Hill, R. F. (2001). Family preservation and family support programs: child maltreatment outcomes across client risk levels and program types. *Child Abuse Negl.,* 25, 1269-1289.
13. Daro, D. & McCurdy, K. (1994). Preventing child abuse and neglect: programmatic interventions. *Child Welfare*, 73, 405-430.
14. Doek, J. E. (2000). De Nederlandse aanpak van kindermishandeling [The Dutch approach to child maltreatment]. *Nederlands tijdschrift voor Jeugdzorg*, 4, 40-47.
15. Geeraert, L. (2004). *Vroegtijdige preventie van kindermishandeling [Early prevention of child maltreatment].* Katholieke Universiteit Leuven.

16. Gomby, D. S. (1999). Home Visiting: Recent Program Evaluations - Analysis and Recommendations. *The Future of Children, 9*, 4-26.
17. Gomby, D. S. (1999). Understanding Evaluations of Home Visitation Programs. *The Future of Children, 9*, 27-43.
18. Gordon, R. S., Jr. (1983). An operational classification of disease prevention. *Public Health Rep., 98*, 107-109.
19. Guterman, N. B. (1997). Early prevention of physical child abuse and neglect: existing evidence and future directions. *Child Maltreat., 2*, 12-34.
20. Guterman, N. B. (1999). Enrollment strategies in early home visitation to prevent physical child abuse and neglect and the "universal versus targeted" debate: a meta-analysis of population-based and screening-based programs. *Child Abuse Negl., 23*, 863-890.
21. Harinck, F. J. H. & Smit, M. (1999). Programma-evaluatie [Program evaluation]. In E.J.Knorth & M. Smit (Eds.), *Planmatig handelen in de jeugdhulpverlening [Systematic action in Youth Healthcare]* (pp. 373-390). Leuven/Apeldoorn: Garant.
22. Hermanns, J. M. A. (2000*). De preventie van kindermishandeling: kansen in de jeugdgezondheidszorg 0-4-jarigen [The prevention of child maltreatment: opportunities in Youth Healthcare 0-4 years]*. Utrecht: NIZW.
23. Kendrick, D., Elkan, R., Hewitt, M., Dewey, M., Blair, M., Robinson, J. et al. (2000). Does home visiting improve parenting and the quality of the home environment? A systematic review and meta analysis. *Arch.Dis.Child, 82*, 443-451.
24. Keuning, M., Schulze, H. J., Stams, G. J., Groenewegen, I., & Schuengel, C. (2002). Marital conflict strategies predict child abuse potential in Dutch families from low socioeconomic backgrounds. *Zeitschrift für Familienforschung, 14*, 153-166.
25. Korfmacher, J., Kitzman, H., & Olds, D. (1998). Intervention processes as predictors of outcomes in a preventive home-visitation program. *Journal of Community Psychology, 26*, 49-64.
26. Korfmacher, J., O'Brien, R., Hiatt, S., & Olds, D. (1999). Differences in program implementation between nurses and paraprofessionals providing home visits during pregnancy and infancy: a randomized trial. *Am.J.Public Health, 89*, 1847-1851.
27. Kousemaker, N. P. J. (1996). *Zoeken, vinden, zorgen delen: de ontwikkeling van een praktijkparadigma voor onderkenning en pedagogische preventie van psychosociale problematiek in de Jeugdgezondheidszorg. [Searching, finding, sharing care: the development of a practise paradigm for the discernment and pedagogical prevention of psychosocial problems in Youth Healthcare]*. Universiteit van Amsterdam.
28. Kousemaker, N. P. J. (1997). *Onderkenning van psychosociale problematiek bij jonge kinderen [Discernment of psychosocial problems in young children]*. Assen: van Gorcum.
29. Kousemaker, N. P. J. (2004). *Peuter KIPPPI 1-2 in de jeugdgezondheidszorg voor 0-4 jarigen [Toddler KIPPPI 1-2 in Youth Healthcare for ages 0-4 years]*. Leiden: KIPPPI Uitgeverij.
30. Krugman, R. D. (1993). Universal Home Visiting: A recommendation from the U.S. Advisory Board on Child Abuse and Neglect. *Future.Child, 3*, 184-191.

31. MacLeod, J. & Nelson, G. (2000). Programs for the promotion of family wellness and the prevention of child maltreatment: a meta-analytic review. *Child Abuse Negl.,* 24, 1127-1149.
32. MacMillan, H. L., MacMillan, J. H., Offord, D. R., Griffith, L., & MacMillan, A. (1994). Primary Prevention of child Physical Abuse and Neglect: a critical review. Part I. *J Child Psychol Psychiatry*, 35, 835-856.
33. Milner, J. S. (1990). *Child abuse potential inventory Manual (2nd edition).* Illinois: Webster: Psytec Corporation.
34. Milner, J. S. (1994). Assessing physical child abuse risk: the child abuse potential inventory. *Clinical Psychology Review,* 14, 547-583.
35. Milner, J. S. (25-3-2004). *Short CAPI.* Bouwmeester, M. Ref Type: Personal Communication
36. Milner, J. S. & Crouch, J. L. (1999). Child maltreatment evaluations. *International Journal of Child & Family Welfare*, 4, 6-23.
37. Murphy, S., Orkow, B., & Nicola, R. M. (1985). Prenatal prediction of child abuse and neglect: a prospective study. *Child Abuse Negl.,* 9, 225-235.
38. Murry, S. K., Baker, A. W., & Lewin, L. (2000). Screening families with young children for child maltreatment potential. *Pediatr.Nurs.,* 26, 47-54, 65.
39. Newberger, C. M. (1980). The cognitive structure of parenthood; the development of a descriptive measure. In R.L.Selman & R. Yando (Eds.), *Clinical-developmental psychology. New directions of child development: clinical developmental research*, No. 7 San Francisco: Jossey-Bass.
40. Olds, D. & Henderson, C. R., Jr. (1989). The prevention of maltreatment. In D.Cicchetti & V. Carlson (Eds.), *Child Maltreatment, theory and research on the causes and consequences of child abuse and neglect* (pp. 722-763). Cambridge: Cambridge University Press.
41. Olds, D. L. & Korfmacher, J. (1998). Maternal psychological characteristics as influences on home visitation contact. *Journal of Community Psychology*, 26, 23-36.
42. Provincie Zuid Holland, C. (2004). *Demografie provincie Zuid Holland [Demographic data of the province South Holland].* www.pzh.nl/images/126—130523.pdf [On-line].
43. Robson, C. (1993). *Real World Research.* Oxford: Blackwell Publishers Ltd.
44. Schuil, P. B., Bolscher, D. J. A., Brouwers-de Jong, E. A., Brugmans, M. L. D. J., Bruijns, S. D. A., van Lokven, E. M. et al. (2000). *Nederlands Leerboek Jeugdgezondheidszorg; Deel A, Organisatie [Dutch textbook Youth Healthcare, part A, organisation].* Assen: Van Gorcum.
45. Tilanus, C. P. G. (1997). *Jeugdbeleid [Youth Policy].* Utrecht: SWP.
46. Willems, J. C. M. (1999). *Wie zal de opvoeders opvoeden; kindermishandeling en het recht van het kind op persoonswording [Who will educate the parents; child maltreatment and the right of the child to become a person].* Den Haag: T.M.C. Asser Press.
47. Wolzak, A. (2002). *Adviezen en meldingen over kindermishandeling in 2001; registratiegegevens van de Advies en Meldpunten Kindermishandeling [Advices and reports on child maltreatment in 2001; registered data from the Child Maltreatment Reporting Agency AMK]* Utrecht: NIZW Jeugd/Expertisecentrum Kindermishandeling.

48. Wolzak, A. (2004). Adviezen en meldingen over kindermishandeling in 2003; registratiegegevens van de Advies en Meldpunten Kindermishandeling [Advices and reports on child maltreatment in 2003; registered data from the Child Maltreatment Reporting Agency AMK] Utrecht: NIZW Jeugd/Expertisecentrum Kindermishandeling.

5

Prevalence of risk factors for child maltreatment in the Netherlands

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1 Abstract

Various studies have informed us about the relationship between child maltreatment and risk factors. Less information is available on the prevalence of individual risk factors in the general population. Nurses in Dutch Well Baby Clinics (WBC) have a primary function in identifying families at risk. This study investigates the gender-specific prevalence of risk factors and the association between family risk factors and the nurses' identification of families at risk.

For this study, based on theoretical and empirical research of risk factors for child maltreatment, a brief questionnaire was developed for both nurses and parents. By means of this questionnaire a large cross-sectional study was conducted in part of the province South Holland, the Netherlands. During 13 months all 8899 parents of newborns and their WBC-nurses were approached. Parental response was 55%. The 83 nurses responded about 80% of the families approached. Childhood maltreatment or violence was reported by 16.4% of the mothers and 10.2% of the fathers. Current family violence was reported by 1.9% - 2.3% of parents. Social isolation was found in 8.1% - 7.6%. Nurses were concerned about 4.3% of all families, which is 16.6% of those reporting risk factors. Single parenthood and mothers' parenting ambivalence proved the best determinants for concern.

In general the prevalence of risk factors found through this study is higher for mothers than for fathers. Nurses identified a low percentage of the parents reporting risk factors, possibly due to the fact that nurses based their findings on specific domains of risk factors. Results of this study can help influence policy and cost-estimations of preventive programs regarding child maltreatment.

2 INTRODUCTION

Child maltreatment is a serious problem. The third National Incidence study in the United States estimated that 40 out of every 1000 children experience some form of maltreatment every year ([43]). Willems (1999) estimated that at least 80.000 children, 23 out of each 1000 children below 18 years of age, are maltreated each year in the Netherlands ([58]). Child maltreatment has many consequences. Approximately 40 children in the Netherlands die of the inflicted maltreatment each year ([35]). In surviving children serious physical, neurological, emotional, cognitive and social damage is caused ([15]). Long-term consequences include somatic problems, psychiatric problems, problems regarding employment and criminal behavior as well as intergenerational transmission ([23; 56]). As a result a higher appeal is made for medical and psychological care, as well as for judicial interventions. Thus child maltreatment has many consequences: on individual, societal and financial levels.

Ever since the presentation of the Battered Child Syndrome ([30]) efforts have been made to develop adequate programs for the prevention of child maltreatment. One of the focal points of discussion within this field has been the question of universal versus indicated prevention efforts. It has been argued that screening families based on risk factors is neither specific nor sensitive ([48]) and that the inevitable high rates of 'false alarms' ([2; 9; 27]) will cause harm due to mislabeling of parents as future child maltreaters ([37]). Practicality often prevails over science and ethics as to this day governments simply cannot afford the implementation of universal prevention ([16; 27; 39]). As a result most preventive efforts resort to screening families at risk. A number of studies have been conducted to determine which factors adequately predict the risk of child maltreatment. These studies have been prospective in nature ([e.g. 7; 32; 49]) as well as retrospective ([e.g. 3; 8]). Most of these studies have been conducted to determine the predictive value of a risk-factor or combination of risk factors. Some studies were conducted to assess the proportion of at-risk families ([e.g. 2; 20; 39]), resulting in findings ranging from for example 6.7% ([9]) to 39.1% ([4]). While some (long-term or retrospective) studies determined their "at-risk" label based on eventual maltreatment-related outcomes in the families studied ([e.g. 1; 26]), others failed to publish their reasoning regarding the composition of their "at-risk" label ([e.g. 4; 9]). Aside from the prevalence of families at risk found in the general

population, little is known about prevalences of families presenting particular risk factors in screening.

In the Netherlands a system of *consultatiebureaus,* generally known as the OKZ (Ouder- en KindZorg, translated as Parent- and Childcare) monitors and promotes the health and development of children between the ages of zero and four years. Consultatiebureaus are the first portal to Child Health Care in the Netherlands. They are similar to Well Baby Clinics (WBC's), with the exception that they continue to monitor the child until the age of four years, and will from here on be referred to as such. The nurses and doctors working at these WBC's regularly examine nearly all infants and young children in the Netherlands (95-98% of all infants aged 0-1 years). They have a primary function in screening for the first signs of child maltreatment. The importance of the role of (WBC-)nurses in the assessment of the risk for or actual presence of maltreatment has been stressed in some early publications ([e.g. 17; 29]). Although some research has been conducted on the association between Health Care Professionals' assessments and demographic family characteristics ([see 19; 28; 57]), little is known about any association to socio-demographic or psycho-social family characteristics.

This chapter presents the results of two ways of screening families: through parental questionnaires and through WBC-nurses' assessment. The three central questions answered in this chapter are: 1) what is the self-reported prevalence of risk factors among the general population, 2) what is the prevalence of families at risk, based on nurses' screening and 3) what is the association between the nurses' assessment and parental self-reported risk factors. The results of this study may be useful in several ways. Knowledge of the prevalence of certain risk factors can contribute to the design of screening studies and the design of prevention plans. Furthermore the relationship between the WBC-nurses' assessment and the risk factors reported by parents can demonstrate the basis for this assessment as well as its possibilities in screening.

3 Methods

This cross-sectional study is part of a large Dutch project named Project OKé (an abbreviation of *Ouder- en Kindzorg extra*, meaning Parent and Childcare extra). The aim of this project was to provide parents at increased risk of child maltreatment with a preventive intervention by means of home-visits during the first 18 months of life of their newborn baby. The project entailed a close co-operation with local WBC's. The WBC-routine provided a useful setting to apply two ways of screening families, first through parental self-report of risk factors and second by registering the subjective assessment of the family by the WBC-nurse. Although a number of instruments for the screening of families at risk for maltreatment has been developed internationally ([e.g. 20; 38; 45]), no adequate instrument for screening was available in the Netherlands. Therefore it was decided to develop a questionnaire.

3.1 Instrument

The development of the instrument for this study was based on a review of the available literature (see chapter 3), where several factors were identified as important determinants for maltreatment. Following the ecological model introduced by Belsky (1989) as well as the concept of parental awareness introduced by Newberger (1980) and elaborated on by Baartman (1996) ([5; 6; 40]) these factors have been categorized within three domains: 1) the parental developmental history and personality (*ontogenic system*), including factors related to parental awareness; 2) child and family characteristics (*microsystem*) and 3) characteristics of the social context (*exosystem*). Within each domain several items were identified which constituted the basis for the questions as formulated in the questionnaire.

In the *ontogenic system* the identified items are: the childhood experience of physical ([1; 21; 49]), emotional ([42; 53]) or sexual abuse, both intra- and extra-familial ([21; 41; 49]) and being witness of parental violence during childhood ([33]). Further items are strong belief in physical punishment ([7; 9]), ambivalent feelings about getting a child ([7; 21]) and ambivalent feelings about parental competence ([13; 42]). Other items are low parental age ([7; 49]), the experience of any psychiatric or psychological problems (i.e. depression, summarized by the term dysphoria) during the last three years ([32; 34; 49]), substance- or alcohol dependency ([32; 46; 49]) and impaired temper inhibition ([9; 13; 42])

are also classified into the ontogenic system. In the *microsystem* the identified items are the tendency to solve partner-conflicts with physical force ([7; 9; 13]), single parenthood ([7; 9; 42]), child prematurity and dysmaturity (small for gestational age) ([9; 50]). Finally the *exosystem* holds the items social isolation ([34; 46; 51]) and low spousal support expectancy ([13; 34]).

To improve response-rate, it was decided to create a short questionnaire that could be answered in relatively little time. Therefore most items were targeted with one question only, with the exception of social isolation. This item was covered by four questions, addressing the inability to ask for help if needed, the need for more people to rely on, insufficient acceptance from family-members and a sense of alienation from the neighborhood. These decisions as well as the choices in phrasing of the questions were accomplished through several expert-meetings with experts in theory (scientists) and practice (nurses). Two questionnaires were developed. The first questionnaire was a three-page self-administered instrument for parents in which mother and father answered 17 non-demographic questions individually. The second one-page questionnaire was designated for the WBC-nurse. She was asked to provide some demographics as well as her assessment of each particular family, expressed as 'concern'. This concern is the nurses' subjective estimation of need for support in a family. Both questionnaires as well as the introductory letter to parents were tested for comprehensiveness in a small pilot-study, involving 74 families of which 90.5% responded ([55]). Based on the results of this pilot the phrasing of several questions was ameliorated and the answering options were changed. For the full questionnaire, see appendix.

3.2 Population

The sample is situated in the semi-urban northern part of the province South Holland, containing approximately 4% of the Dutch population and providing for 3.9% of the annual births in the Netherlands. Table 1 shows some demographic data comparing the population in the sample-region to the general Dutch population.

As is shown in table 1, the differences for these demographic variables are very small. Although specific proportions are not available for our sample region, on a

national level we know that 0.7% of all mothers giving birth to their first child is 18 years of age or younger. Furthermore, from Dutch population research we know that 12% of the population indicates feeling socially isolated and 10% of all people between the ages of 15 and 65 report feeling upset, worried or depressed ([12]).

Table 1. *Comparison of demographic background for the sample-region and the Netherlands in percentages (Source: CBS, 2001)*

	Sample-region	Netherlands
Households with children	38.2	36.3
Single parent households	5.5	5.7
Women <20 giving birth	0.9	1.3
Newborns deceased in first year	0.2	0.5
Newborn is firstborn	45.4	46.2
Newborn is second child	36.9	36.3
Newborn is third or higher ranked child	17.7	17.5

Within the regional population, all parents of newborns were approached with the aforementioned questionnaire during a 13 months period. There were two exceptions for participation. First, parents who indicated the intention to move away from the region within 18 months after the birth of their child were excluded. Nationwide, each year 8.9% of all households move to another municipality. Within the region this percentage is 10%. This is the maximum percentage to be expected with regards to relocations, as many households relocate to a municipality nearby and therefore remain within the region. Second, parents who could not fill out the questionnaire without assistance due to linguistic incapability were excluded. Of the entire Dutch population 18% is of non-Dutch origin. Within the region this is 17.8%. This percentage provides a maximum estimate of the number of parents that will be excluded for this reason, since it can be assumed that part of these foreigners are fully capable of reading and writing the Dutch language.

3.3 Procedure

Throughout the region, 42 WBC's can be found, assembled within 3 organizations and employing a total of 83 nurses. With all 3 WBC-organizations a cooperation was set up. All nurses agreed to participate, both by filling in their part of the questionnaire and by explaining the project to parents when needed. All nurses in the project region were female and had received a training-program on child

maltreatment within two years prior to the start of the project. Due to the increased attention to the problem of child maltreatment this training-program was offered to Well Baby Clinics nationwide. Data on nurses' age-range were not collected. There are no reasons to assume nurses in the project region are not comparable to their colleagues throughout the Netherlands with regards to age, sex and level of education. Prior to the start of the project a specific training-program was provided to all nurses, in order to ensure a homogeneous presentation of the project. The training addressed ways to explain the project and the questionnaire to parents and targeted communication-skills in case of aversive parental reactions by means of role-play. During this training reasons for the nurses' 'concern' were stipulated, such as problematic family interactions, lack of hygiene or safety in the house, parental unsteadiness or parental distrust of (mental) health care institutions. Because more nurses would possibly be employed during the study this training was registered both by video-recordings and by a written instruction in order to enable new personnel to be trained as well, again to improve a homogeneous procedure.

Through the cooperation with all Well Baby Clinics data on families with newborns became available enabling the investigators to send out the questionnaire within approximately five days after birth of the newborn. All WBC's provide one standard home-visit to parents of newborns around the 14th day after birth. In theory, when sending out a questionnaire immediately upon receival of the necessary data on a newborn, parents would have two to six days to fill out their questionnaire. Thereby the visiting nurse would be able to answer all possible questions about the project or the questionnaire during the standard home visit, complete it and send it back. Nurses were encouraged to fill out their questionnaire in the presence of the family. In case of multiple children in the family the visiting nurse may have been acquainted with this family through prior visits. In these cases she was allowed to include knowledge from the family-history in her 'concern'. Parents who needed more time to fill out their questionnaire could take it to the WBC at their first visit, approximately one month after the birth of their child, or send it straight back to the project bureau (without interference of the nurse) by means of freeport.

To increase response-rate several actions were deployed. First, nurses were asked to indicate if parents were interested in filling out the questionnaire. If this was the case the administration was crosschecked in order to determine whether or not the questionnaire was sent out after the home visit. If necessary a new questionnaire was sent. Also the nurse was asked to indicate if the parents were willing to return the questionnaire themselves. This was registered and three weeks after receiving this information a reminder was sent to the parents. Second, if a family had responded but their visiting nurse had not, the name of this family was sent to the WBC as a reminder to fill out the nurses' questionnaire. With regard to the content of the questionnaire another method of increasing response-rate was conducted. Any nurses' response indicating a concern about the family was flagged in order to call the nurse in question. If no parent-response was received yet the nurse was asked to request the parents (again) to fill out their part of the questionnaire and send it in.

This study was approved by the Ethics Committee of the Leiden University Medical Center. In the letter accompanying the questionnaire it was explained that the program concerned parenting support specifically aimed at families facing various difficulties. It was emphasized that all response was appreciated, even from families who felt the program was not applicable to them. Furthermore it was stressed that participation was strictly voluntary.

3.4 Statistical analysis of data and definition of at-risk label

Apart from establishing the prevalence of risk factors and nurses' concern about the family as well as exploring the association between these data a notion of 'families at risk' was developed for the preventive purposes of the Project OKé-study. For the development of this notion the items as used in both questionnaires were divided into a group of primary criteria and a group of secondary criteria as displayed in table 2. This division was based on multiple meetings with an expert-panel. The decisions made by this panel were based on several reflections such as the predictive value of each criterion as empirically determined in various studies, the likelihood of maltreatment in the presence of each single criterion, and the chances for reliable responses on each question as it was phrased. As a result of the expert-meetings it was decided that a family would be considered 'at-risk' if either mother or father individually scored on at least one primary criterion or at least two

secondary criteria or any combination of primary and secondary criteria. The definition of 'at-risk' status has not been previously used. Validation of this definition will have to take place based on long-term results of the project. For the exact weight of each question see the appendix.

Table 2. *Primary and secondary criteria for screening of families at risk*

Primary criteria	Secondary criteria
Childhood experience of physical, serious emotional or sexual maltreatment	Moderate emotional maltreatment
Childhood witness to parental violence	Single parent
Experience of psychological problems (dysphoria) during the last three years	Addiction to drugs or alcohol
Major social isolation	Age of 18 years
Tendency to solve partner-conflicts with physical force	Low spousal support expectancy
Strong belief in physical punishment	Minor social isolation
Age below 18 years	Ambivalence about getting a child
Nurses' concern	Ambivalence about parental competence
	Pre- and/or dysmaturity of the child

Two criteria, emotional maltreatment and social isolation, are divided into a major and minor aspect, depending on the responses. Major emotional maltreatment was considered to be the complete absence of a sense of safety in the presence of parents, whereas minor emotional maltreatment was applied to the infrequent absence of a sense of safety. Social isolation was the only criterion for which more then one question was formulated as explained in paragraph 3.1. The four questions could be responded to on a four-point frequency scale ranging from always to never. Since the most positive answer got a score of 0 points and the most negative answer got a score of 3 points, these answers could amount up to 12 points. A total of six points was considered minor social isolation. A total of seven points or more was considered major social isolation. Upon the closure of the study the internal consistency of the four questions about social isolation was determined by means of the calculation of a Cronbach's Alpha, which turned out to be 0.60 for mothers and 0.56 for fathers. These Alphas are just over 0.5, which means that these four questions each measure a different aspect of social isolation.

Data gathered from this study were analyzed statistically in several ways. First of all frequencies of all variables were obtained, as well as frequencies of several non-

quantitative responses, such as reasons for non-response and comments on parts of the questionnaire. In all cases valid percentages are displayed in text and tables. Secondly a Principal Components Analysis was conducted in order to determine the presence of coherent clusters of items. The internal consistency of these items was subsequently checked by means of a Cronbach's Alpha calculation. Third, to explore the relationship between the nurses' assessment and parental risk factors, these items were correlated, compared by means of an independent sample T-test and finally a multivariate, binary logistic regression-analysis was conducted stepwise in order to determine which parental self-reported items increased the likelihood of the presence of a nurses' concern most.

4 Results

During the 13 month study a total number of 9458 newborns were reported to the project. After conclusion of the study a double-check was performed on all data from the study, which demonstrated that 5.8% of the addresses was not received in time to send out a questionnaire. Therefore 8899 families were approached. Figure 1 shows the population-sample and how it was processed during the study.

A total of 173 families (1.9%) were excluded, of which 26 families for reasons of relocation, 141 families for reasons of insufficient comprehension of the Dutch language and 6 families for both reasons. In 26 families the newborns were stillborn or died perinatally. Considering the non-response, during the entire study nurses indicated that 1232 families would return their questionnaire separately. 36.8% did so without further reminding. As was explained in paragraph 3.3 several methods were deployed to increase response. One of these methods was to ask nurses to indicate which families intended to return their questionnaire on their own, in order to enable the investigators to send these families a written reminder to return their questionnaire. This method was entered in the study 7 months after the start. As of this point, all families (617) not returning their questionnaire within 3 weeks after the nurses' visit got a reminder. As a result of this letter 31.4% of these families complied, thus increasing the response. Reasons for parental non-response as obtained from the nurses' questionnaire (in 2520 cases) or from contact with the WBC (in 1480 cases) are displayed in table 3.

Eventually 4899 out of 8899 parents responded (55.1%). Nurses responded about 7135 families (80.2%). No data on risk factors are available about a total of 1480 families (16.6%). Of the responding families, 8 parents decided to only fill out the general questions. Nine mothers and 187 fathers did not fill out their part of the questionnaire while their partners did. For 87 fathers parents not living together explained this. Nevertheless, of all single parent families (125) 38 fathers did fill out their part of the questionnaire.

Figure 1. *Recruitment and screening of families at risk of child maltreatment*

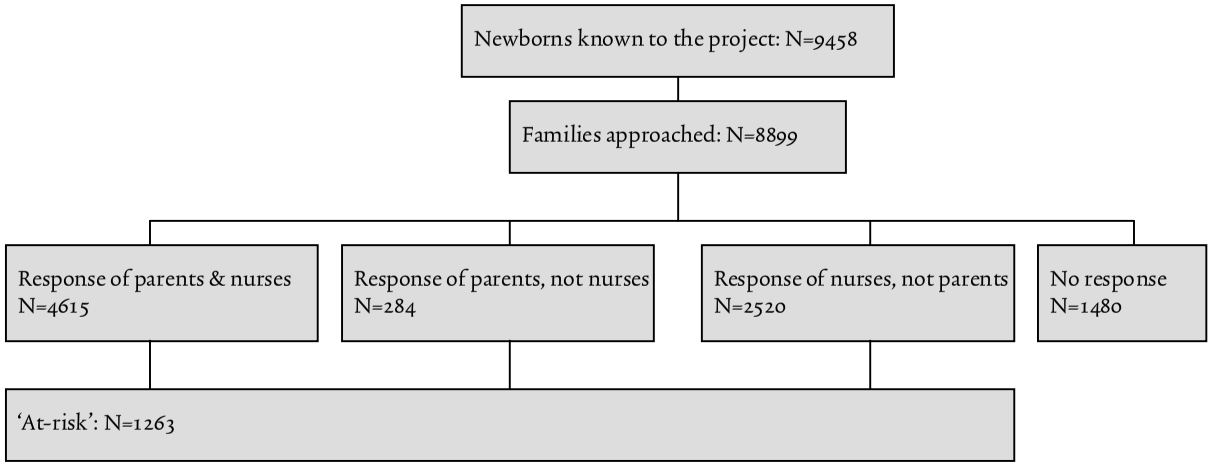

Table 3. *Reasons for parental non-response (N=4000)*

Reason	Percentage
No reason provided	65.9
Family refuses participation or questionnaire was returned blanc	18.7
Family has relocated or did not visit the WBC	8.9
Insufficient comprehension of Dutch language	5.9
Newborn deceased after questionnaire was sent	0.6

4.1 Prevalence of risk factors

First, simple descriptive analysis was performed on the data-set generated from the overall response. Tables 4 and 5 display the percentages found on each item in the questionnaire.

Table 4. *Prevalence of each item in the questionnaire in percentages*

Item		Child (N=7135)
Duration of pregnancy < 37 weeks		5.4
Birth weight < 2500 grams		4.3
Female gender		48.1
Nurses' concern		4.3
Item		Family (N=4899)
Parents not living together		1.3
Single parent		1.3
Item	Mother (N=4882)	Father (N=4704)
Age 17 years or below	0.06	0.0
Age 18 years	0.1	0.02
Insufficient support expected from spouse	2.8	0.5
Ambivalent about parental competence	0.6	0.5
Ambivalence during pregnancy	0.7	0.4
Moderate emotional maltreatment during childhood	3.8	3.4
Serious emotional maltreatment during childhood	0.8	0.6
Witness of parental violence during childhood	4.5	3.1
Physical maltreatment during childhood	3.0	2.3
Sexual abuse before the age of 16	4.3	0.8
Dysphoria	6.1	2.5
Impaired inhibition with regards to temper	0.1	0.3
Spousal violence	0.9	0.8
Addiction to alcohol/drugs	0.3	1.9
Belief in physical punishment	1.0	1.5
Major social isolation	1.5	1.3
Minor social isolation	6.6	6.3

Table 5. *Specific responses on social isolation questions in percentages.*

	Always		Often		Sometimes		Never	
	M*	F*	M	F	M	F	M	F
Alienated from neighborhood	3.3	3.6	11.6	12.7	36.0	33.9	49.1	49.8
Insufficiently accepted by family	0.6	0.6	2.9	3.3	15.1	15.3	80.3	79.4
Needing more people to rely on	1.3	1.7	3.3	2.4	29.0	26.0	66.4	69.9
Unable to ask for help if needed	2.6	3.0	21.0	19.9	37.3	31.1	39.1	45.9

* M = Mother, F = Father.

The overall percentages found for each item are low and in almost all cases larger for mothers than for fathers. Minor social isolation is found most in the sample (6.6% for mothers and 6.3% for fathers). Mothers tend to experience more dysphoria than fathers (6.1% versus 2.5%). The experience of parental violence during childhood ranks highest (4.5%) for mothers among all forms of maltreatment, for fathers emotional maltreatment during childhood ranks highest (3.4%).

A substantial proportion of parents scored on more than one item. The number of items for both parents and for the nurse, as well as the total number of items per family (a combination of parent-items and nurse-items) is displayed in table 6.

Table 6. *Number of risk factors reported by individual parents and by nurse including total number of items per family, in percentages of total N per column*

	Mother (N=4882)	Father (N=4704)	Nurse (N=7135)	Total in family (N=7419)
0 items	77.9	83.8	89.4	72.8
1 item	13.8	11.3	7.5	13.8
2 items	4.3	3.0	2.6	7.2
3 items	2.4	1.1	0.5	2.9
4 items	0.9	0.6	-	1.6
5 items	0.4	0.1	-	0.7
6 or more items	0.4	0.1	-	1.0
'At-risk' in the study	16.1	10.5	4.3	17.0

Since the nurse can only indicate birth weight, gestational age and concern, some of the nurses' cells are empty. The total number of items found in a family is not simply the sum of mother, father and nurse in a particular row of the table since for instance six or more items in a family can be the sum of three items in mothers' response, two in fathers' response and one item in the nurses' response. The proportion of families found to be at risk in this study (17%) holds little relation to the other numbers in this table since not all items are weighed the same in the selection process. Of the 1263 families determined to be at risk, in 38.7% this was based on mothers' scores, in 21.5% this was solely based on fathers' scores and in 39.8% this was based on both parents' scores.

In order to determine if any items correlate group-wise a Principal Components Analysis (PCA) with varimax rotation was conducted. Missing values were pair-wise excluded. Choosing the number of components in the PCA is commonly based on either the number of components presenting Eigenvalues over 1 or the number of clusters before the kink in the scree-plot. The first method generated 15 components explaining 61.5% of the total variance. The second method provided 9 clusters explaining 47.2% of the total variance. For the results of both methods see appendix. Although both methods resulted in considerable variable-reduction (61% and 76% respectively), the corresponding loss of information of 38.5% with 15 components and 52.8% with 9 components was unacceptable. Moreover, the components found through both methods were difficult to label, which was confirmed by performing Cronbach's Alpha analysis on separate clusters: though some clusters scored well above the threshold of 0.5 others were unacceptably low.

4.2 Nurses' assessment of at-risk level in families

Nurses expressed concern about 4.3% of all families that were visited (306 in 7135, the total nurses' response). In 76.5% of these cases the parental report demonstrates maternal risk factors only and in the remaining cases both parents have reported risk factors. Nurses do not express concern on families in which only fathers reported risk factors (271 in 837 i.e. 32.4%). Nurses expressed concern about 174 in 1046 families reporting risk factors (16.6%) In families who did not report risk factors nurses expressed concern about 0.1% (4 in 3778) and in non-respondent families 5.1% concern is expressed. In table 7 the relationship between the at-risk

indication as derived from the parental response and the nurses' concern is displayed.

Table 7. *Family-reported risk factors versus nurses' concern in absolute numbers*

	Family at risk	Family at low risk	No parental response	Total
Nurses' concern	174	4	128	306
No nurses' concern	837	3470	2271	6578
Not specified	35	95	121	251
No nurses' response	75	209	-	284
Total	1121	3778	2520	7419

*: *Since the nurses' concern in itself is considered a risk factor in this study, the nurses' concern in the columns 'family at low risk' and 'no parental response' should be added to the total number of families at risk to return to the number found in figure 1; with the exception of 12 families that were excluded.*

Apart from expressing their concern, nurses were also asked to motivate their concern. The analysis of their responses is displayed in table 8. The most common reasons for concern are multiple problems in the family (21.0%), parental unsteadiness (11.1%) and parental insecurity or lack of developmental knowledge (9.8%).

Table 8. *Reasons for concern as provided by nurses, in percentages (N=306)*

Multiple problems identified in the family	21.0
Psychological unsteadiness in either or both parents	11.1
Parental insecurity or lack of knowledge about child's development	9.8
The newborn is disabled or has a health-problem	9.8
Problematic family interactions or single parent	7.2
Parental maturity	4.3
Family already receives additional mental health care	3.9
Social isolation	3.9
History of developmental problems in previous child(ren)	3.6
Serious or chronic physical problems in either or both parents	3.3
Developmental history of either or both parents	2.6
The newborn is part of a twin	2.0
No reason provided	17.4

When correlating the nurses' concern with the items filled out by parents, almost all items correlate significantly with the nurses' concern, except for insufficient acceptance from family, ambivalence about pregnancy and spousal support on

fathers' side and impaired temper-inhibition on mothers' side. Also, when comparing the presence of parental risk factors in the group of families on which nurses expressed concern versus the group with no nurses' concern through an independent sample T-test, most items (except for age, spousal support, temper-inhibition and belief in physical punishment) appeared to be significantly more often present in the group *with* nurses' concern, at least for mothers. Six items were also significantly more often present for fathers, being social isolation, dysphoria, ambivalence about raising the child, childhood experience of emotional maltreatment and witnessing parental violence as a child.

In order to determine which parental risk factors influenced the nurses' concern most, a multivariate, binary logistic regression-analysis was performed stepwise, including a total of 10 risk factors, two of which did not generate a significant odds ratio. In table 9 odds ratios with a 95% confidence interval are displayed for those items significantly influencing the nurses' concern, when controlling for all other items.

Table 9. *Logistic regression equation to predict nurses' concern (N=3820)*

	Odds R	95% Conf. Int.	Sign.
Single parent family	7.33	2.50 - 21.42	0.000
Mother ambivalent about raising the child	6.15	1.29 - 29.25	0.023
Mother ambivalent during pregnancy	5.60	1.69 - 18.57	0.005
Psychological problems (dysphoria) mother	5.37	3.38 - 8.53	0.000
Low birth weight child	3.61	1.87 - 6.94	0.000
Psychological problems father	2.35	1.11 - 4.93	0.025
Mother unable to ask for help if needed	2.01	1.35 – 2.98	0.001
Father feels alienated from neighborhood	1.92	1.26 - 2.95	0.003

The best predictor is a single parent family (OR 7.3 and CI 2.5-21.4), followed by mothers' ambivalent feelings about raising the child (OR 6.2 and CI 1.3-29.3) and during the pregnancy (OR 5.6 and CI 1.7-18.6), and mothers' psychological problems (OR 5.4 and CI 3.4-8.5).

5 Discussion

In this study families with newborns were approached with a mailed questionnaire in order to determine the prevalence of risk factors for child maltreatment in the general population. The response to this questionnaire was 55.1% (parents), or 83.4% (parents or nurses), which is a high rate for mail surveys. The overall prevalence of risk factors among the general population is low, ranging from 0% low paternal age to 8.1% maternal social isolation. Nurses expressed concern about 4.3% of all families visited. The highest prevalence is found for parental social isolation, maternal dysphoria, pre- and dysmaturity of the child, maternal witness of parental violence during childhood, maternal sexual abuse during childhood and nurses' concern. 1.7% of all mothers, 0.8% of all fathers and 3.3% of all families present with four or more items, which labels them as 'high-risk families' (7). Based on the weight that was attributed to the items in the questionnaire for this study, 17.0% of all parents were considered to be at risk for future child maltreatment, which was most frequently due to mother's scores.

A number of issues are worthy of discussion regarding the questionnaire used for parents. These issues are related to the prevalence of risk factors found in this study. First of all this prevalence needs to be compared to other findings. Secondly the possible influence of the contents of the questionnaire on the prevalence found needs to be taken into consideration. The third issue to be addressed is the non-response in this study.

Several risk factors show a lower prevalence when compared to national data, such as maternal age and single parenthood. Regarding maternal age, around 0.7% of all Dutch women become a mother before the age of 18 (11). No regional percentage is known for this age but, just like the percentage for mothers aged 20 years it may be lower than the national percentage. The discrepancy between this figure and the 0.2% found in this study might be explained by the fact that a number of nurses reported young maternal age in their response when no parental response was received (0.3%). Nurses indicated about these mothers that they were unwilling to receive support from the project. Thus it can be assumed that a portion of young mothers can be found amongst non-respondent parents. Single parents constitute 5.5% of the regional population (11). In this study only 2.6% single parents are found.

Fifty-three percent of all marital separation involves children in the family, in 63% of these cases more than one child ([11]). It can however be assumed that separation will generally not occur around the birth of a child, which may explain the lower prevalence of single parents in this study compared to the known averages. Furthermore, as young mothers often live with their parents, and not their partner, part of the single parents in this study may also be found amongst non-respondents.

The overall prevalence of any form of childhood maltreatment (physical, emotional or sexual) was 11.9% in mothers and 7.1% in fathers. The percentage of physical maltreatment found in this study (3.0% in mothers, 2.3% in fathers) can be compared to other findings such as a 3.6% prevalence of severe physical maltreatment found in the United States of America ([54]) and a prevalence of 3.3% maltreated children according to the AAPC data of 1986 as discussed by Starr ([52]). Little is known about the incidence of emotional maltreatment. Glaser (2002) presented an estimate of 6%, somewhat comparable to the numbers found in this study (4.6% in mothers, 4% in fathers) ([24]). The incidence of sexual abuse ranges from 7-62% among women and 3-8% among men, depending on research methods, response rates, countries of origin and definitions ([18; 25; 41; 52]). These figures are all higher than the percentages found in this study (4.3 in mothers and 0.8 in fathers). Straus et al reported 3.8% of American men and 4.6% of American women admitting violent acts towards their spouse ([54]). These numbers should be related to the findings in this study regarding the spousal violence in the current family (0.9% in mothers and 0.8% in fathers) as well as parents witnessing parental violence as a child (4.5% in mothers and 3.1% in fathers). Particularly the prevalence of current spousal violence is clearly a lower prevalence compared to the findings of Straus et al. However, one of the many predictors of spousal violence is family stress ([47]), a factor that is likely to increase after family-expansion. Thus the timing of the questionnaire (within 14 days after birth of the newborn) might explain the lower prevalence of spousal violence found.

With regards to the comparison of all these numbers it needs to be taken into consideration that little information is available on the prevalence of violence and maltreatment in the Netherlands, which may in fact be lower than the prevalence found in studies in other countries. Another issue to be considered is the

possibility of socially desirable responses. Carlin, Kemper, Ward, Sowell, Gustafson and Stevens (1994) reported a substantial difference between objective and subjective definitions of physical maltreatment (28% versus 11%) ([10]). Straus et al discussed several reasons for under representation that apply to this study as well: subjects may fail to report their experiences because they consider them to be normal, and subjects may not report their experiences for reasons of shame or guilt ([54]). Both the findings of Carlin et al and the conclusions of Straus et al may also constitute a partial explanation for the gender-related differences in the reporting of risk factors as found in this study. For instance in relation to maltreatment-related risk factors there are indications that males are more reluctant to report on their experiences ([44]) and that the impact of experiences is more pervasive in females ([22]). Therefore the phrasing of the questionnaire, emphasizing the subjective experience of risk factors, may cause females to report on their experiences more often than males.

The contents of the questionnaire developed may also influence the prevalence found. Regarding the comprehensiveness of the questionnaire, 0.5% of all responding parents had remarks about parts of the questionnaire being unclear and 1.9% of all parents felt the need to make additional comments to specific items. With numbers this low it is fair to say a comprehensive questionnaire was developed. However, it is likely that the phrasing used in the questionnaire leads to a somewhat different representation of risk factors compared to other studies, which may partially explain the different prevalence found in this study. The items in the questionnaire used have no mutual overlap: any combination of clusters found through PCA did not explain a satisfying amount of variance between clusters, hence it should be concluded that each item addresses a different domain. However, the low prevalence found in for instance the domain of addiction might be caused by the fact that this domain is insufficiently targeted by one item only, which may be the case for other domains as well. Thus the condensed nature of the questionnaire may influence the prevalence found in this study.

The final issue to be addressed regarding the questionnaire used for parents is the non-response rate. The non-response caused by 8.9% of the parents in our sample due to relocation is consistent with the percentage of 8.9% found nationwide. The 5.9% families causing non-response due to linguistic incapability is considerably

lower than the percentage of foreigners in the Netherlands, even of non-western foreigners, which is 9.3%. A portion of these foreigners is probably capable of reading and writing the Dutch language. A further explanation may be found in the semi-urban region in which this study took place since concentrations of foreigners are mainly found in the larger cities in the Netherlands. Also, as no reason for non-response is known in 66% of non-respondents, an additional proportion of non-response may be due to linguistic incapability. In general, the non-response may be a cause of downward bias when comparing the prevalences found in this study to other research as it is conceivable that particularly families at risk declined participation. A separate study is dedicated to this topic and is presented in the next chapter.

Returning to the nurses' questionnaire, nurses considered 4.3% of all families to be at risk for future child maltreatment, this is 16.6% of all families reporting risk factors themselves. There are several discrepancies between parental self-reports and nurses' assessment that are worth discussing. Nurses expressed concern about 0.1% of parents who were not selected. This was however due to exclusion based on relocation or linguistic problems. The 5.1% nurses' concern expressed about non-respondent parents could indicate parental unwillingness to report on their situation to this study. This leaves the large number of parents reporting risk factors without the nurses' at-risk assessment (837 families). First of all it is remarkable that nurses never reported a concern about families in which only paternal risk factors are reported (accounting for one-third of this number of families). In part this may be due to fathers being absent at the home visit during which the assessment is being made. Furthermore, this coincides with the findings from the regression analysis, as six out of eight significantly contributing items were related to the present condition of mother and child. These findings suggest that nurses pay less attention to fathers, even if present. Second, these findings in the regression analysis also demonstrate that nurses apparently do not consider the parents' developmental history and barely touch on the subject of social isolation during their visit in spite of the training given to them prior to the start of this study. For the remaining portion of families reporting risk factors without the nurses' concern there may be several explanations. It may be that nurses weighed protective factors in their assessment, factors that are not identified through the questionnaire. Another explanation may be that "health professionals often tend to be frightened by their own concerns and regard them as stigmatizing rather than as an opportunity" ([17]).

Killén (1996) presents yet another point of view with the notion of 'over-identification', meaning that nurses are tempted to create a more favorable picture of parents based on hope and as such over-estimate their abilities and resources for further development ([31]). Regarding intrapersonal factors, Lagerberg (2001) found that the ability to identify families at risk is related to the amount of years a nurse has spent in her district, her personal interest in the subject as well as the amount of training she has had on the subject ([36]). Several influences as identified by Cox (1986) are applicable to the nurses' assessment as well, especially difficulty differentiating between 'at-risk' and 'normal', fear of lacking the necessary knowledge about risk factors and lack of disclosure in parents ([14]).

A final matter to be addressed is the definition of a family at risk. Only in longitudinal studies data can be collected for the empirical determination of the optimal composition of an 'at-risk' label. As no long-term information on family-related outcomes is available to the current study as of yet, this option was not available, giving the definition of families at risk a somewhat pragmatic nature. It could be argued that, based on information about the prevalence of risk factors, a more thorough scientific operationalization of the 'at-risk' label is preferable. However, most information on prevalence of risk factors is of non-Dutch origin, which renders the local applicability of such information to the 'at-risk' label questionable as well. In spite of the lack of a validated at-risk label it was our contention that the gender-specified prevalence of parental self-reported risk factors as well as the relationship between these factors and the nurses' assessment were relevant issues to report on.

6 Conclusion and implications

Two methods of screening were used in this study to determine the prevalence of risk factors for child maltreatment: a questionnaire for parents relying on self-report and the subjective assessment of risk by nurses. Combined results lead to the conclusion that many parents, 17.0%, make a difficult start in raising their children. Nurses are concerned about 16.6% of these families. In general the prevalence of risk factors found is comparable to the results of other studies. However, neither method is infallible. The parental questionnaire is subject to socially desirable responses, non-response and under representation due to shame or guilt as well as subjective definitions of experiences, as was discussed in the previous section. In their assessments nurses seem to overlook fathers in general and more specifically information on social isolation and childhood experiences of maltreatment. This may be due to a lack of experience or expertise as well as lack of disclosure by parents. The discrepancy between the nurse's assessment and parental self-report may be explained by the nurse's fear to stigmatize parents, by her tendency towards over-identification or by her ability to weigh protective factors in a family. Both methods require further research. For the parental questionnaire long-term family outcomes are needed to validate the instrument as well as to determine the optimal at-risk classification. For a better understanding of the nurses' assessment it would be interesting to determine the influence of geographical and professional variables such as neighborhood and level of education. In such research outcomes should also be controlled for the presence of a learning-curve during the screening-period.

This study has several implications. First of all, knowledge of the prevalence of risk factors for child maltreatment in the Netherlands can prove useful for the development of local and national screening programs, for the estimation of sample-size in a prevention program, for the establishment of the main targets in prevention and for the calculation of budgets for prevention. The findings on the nurses' concern and the relationship between this item and other risk factors are quite novel in this field of research and can prove to be useful for future training of nurses and physicians working with families with young children.

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8 References

1. Agathonos-Georgopoulou, H. & Browne, K. D. (1997). The prediction of child maltreatment in Greek families. *Child Abuse Negl., 21,* 721-735.
2. Altemeier, W. A., O'Connor, S., Vietze, P., Sandler, H., & Sherrod, K. (1984). Prediction of child abuse: a prospective study of feasibility. *Child Abuse Negl., 8,* 393-400.
3. Ammerman, R. T. & Hersen, M. (1990). *Children at risk, an evaluation of factors contributing to child abuse and neglect.* New York: Plenum Press.
4. Armstrong, K. L., Fraser, J. A., Dadds, M. R., & Morris, J. (1999). A randomized, controlled trial of nurse home visiting to vulnerable families with newborns. *J.Paediatr.Child Health, 35,* 237-244.
5. Baartman, H. E. M. (1996). *Opvoeden kan zeer doen, over oorzaken van kindermishandeling [Childrearing can be painful, about the causes of child maltreatment].* Utrecht: SWP.
6. Belsky, J. & Vondra, J. (1989). Lessons from child abuse: the determinants of parenting. In D.Cicchetti & V. Carlson (Eds.), *Child Maltreatment, theory and research on the causes and consequences of child abuse and neglect* Cambridge: Cambridge University Press.
7. Brown, J., Cohen, P., Johnson, J. G., & Salzinger, S. (1998). A longitudinal analysis of risk factors for child maltreatment: findings of a 17-year prospective study of officially recorded and self-reported child abuse and neglect. *Child Abuse Negl., 22,* 1065-1078.
8. Browne, K. D., Davies, C., & Stratton, P. (1988). *Early prediction and prevention of child abuse.* Chichester: John Wiley & Sons.
9. Browne, K. D. & Saqi, S. (1988). Approaches to screening for child abuse and neglect. In K.D.Browne, C. Davies, & P. Stratton (Eds.), *Early prediction and prevention of child abuse* (pp. 57-85). Chichester: John Wiley & Sons.
10. Carlin, A. S., Kemper, K., Ward, N. G., Sowell, H., Gustafson, B., & Stevens, N. (1994). The effect of differences in objective and subjective definitions of childhood physical abuse on estimates of its incidence and relationship to psychopathology. *Child Abuse Negl., 18,* 393-399.

11. CBS (2001). *Demographic data of the Netherlands: Statline 2001.* Retrieved april 6, 2004, from http://www.cbs.nl/nl/cijfers/statline/index.htm [On-line].
12. Centraal Bureau voor de Statistiek (2004). *De Nederlandse samenleving 2004, sociale trends [The Dutch Society 2004, social trends].* Den Haag: OBT bv.
13. Cowen, P. S. (1992). Abuse protection: child. In J.C.M.McCloskey & G. M. Bulechek (Eds.), *Nursing Interventions; effective nursing treatment* Philadelphia: Saunders.
14. Cox, J. L. (1986). *Postnatal depression, a guide for health professionals.* Edinburgh: Churchill-Livingstone.
15. Dallam, S. J. (2001). The hidden effects of childhood maltreatment on adult health. In K.Franey, R. Geffner, & R. Falconer (Eds.), *The costs of Child Maltreatment: Who Pays? We All Do* San Diego: Family Violence & Sexual Assault Institute.
16. Daro, D. & McCurdy, K. (1994). Preventing child abuse and neglect: programmatic interventions. *Child Welfare, 73,* 405-430.
17. Dean, J. G., MacQueen, I. A. G., Mitchell, R. G., & Kempe, C. H. (1978). Health visitor's role in prediction of early childhood injuries and failure to thrive. *Child Abuse Negl., 2,* 1-17.
18. Draijer, N. (1988). *Seksuele traumatisering in de jeugd: lange termijn gevolgen van seksueel misbruik van meisjes door verwanten [Sexual traumatizing during childhood: long-term consequences of sexual abuse of girls by relatives].* Den Haag: SUA.
19. Dukes, R. L. & Kean, R. B. (1989). An experimental study of gender and situation in the perception and reportage of child abuse. *Child Abuse Negl., 13,* 351-360.
20. Egan, T. G., Monaghan, S. M., Muir, R. C., Gilmore, R. J., Clarkson, J. E., & Crooks, T. J. (1990). Prenatal screening of pregnant mothers for parenting difficulties: final results from the Queen Mary Child Care Unit. *Soc.Sci.Med., 30,* 289-295.
21. Egeland, B. (1988). Breaking the cycle of abuse: implications for prediction and intervention. In K.D.Browne, C. Davies, & P. Stratton (Eds.), *Early prediction and prevention of child abuse* Chichester: John Wiley & Sons.
22. Feiring, C., Taska, L., & Lewis, M. (1999). Age and gender differences in children's and adolescents' adaptation to sexual abuse. *Child Abuse Negl., 23,* 115-128.
23. Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V. et al. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults. The Adverse Childhood Experiences (ACE) Study. *Am.J.Prev.Med., 14,* 245-258.
24. Glaser, D. (2002). Emotional abuse and neglect (psychological maltreatment): a conceptual framework. *Child Abuse Negl., 26,* 697-714.
25. Gorey, K. M. & Leslie, D. R. (1997). The prevalence of child sexual abuse: integrative review adjustment for potential response and measurement biases. *Child Abuse Negl., 21,* 391-398.
26. Grietens, H., Geeraert, L., & Hellinckx, W. (2004). A scale for home visiting nurses to identify risks of physical abuse and neglect among mothers with newborn infants. *Child Abuse Negl., 28,* 321-337.

27. Guterman, N. B. (1999). Enrollment strategies in early home visitation to prevent physical child abuse and neglect and the "universal versus targeted" debate: a meta-analysis of population-based and screening-based programs. *Child Abuse Negl., 23,* 863-890.
28. Hansen, D. J., Bumby, K. M., Landquist, L. M., Chandler, R. M., Le, P. T., & Futa, K. T. (1997). The influence of case and professional variables on the identification and reporting of child maltreatment: a study of licensed psychologists and certified masters social workers. *journal of Family Violence, 12,* 313-332.
29. Jolly, J. D. (1979). The paediatric nurse - key roles in diagnosis and parent support. *Child Abuse Negl., 3,* 803-807.
30. Kempe, C. H., Silverman, F. N., Steele, B. F., Droegemueller, W., & Silver, H. K. (1962). The Battered-child Syndrome. *JAMA, 181,* 105-112.
31. Killén, K. (1996). How far have we come in dealing with the emotional challenge of abuse and neglect? *Child Abuse Negl., 20,* 791-795.
32. Kotch, J. B., Browne, D. C., Dufort, V., & Winsor, J. (1999). Predicting child maltreatment in the first 4 years of life from characteristics assessed in the neonatal period. *Child Abuse Negl., 23,* 305-319.
33. Kotch, J. B., Browne, D. C., Ringwalt, C. L., Stewart, P. W., Ruina, E., Holt, K. et al. (1995). Risk of child abuse or neglect in a cohort of low-income children. *Child Abuse Negl., 19,* 1115-1130.
34. Kotelchuck, M. (1982). Child abuse and neglect, prediction and misclassification. In R.H.Starr (Ed.), *Child abuse prediction, policy implications* Cambridge: Ballinger Publishing Company.
35. Kuyvenhoven, M. M., Hekkink, C. F., & Voorn, T. B. (1998). [Deaths due to abuse for the age group 0-18 years; an estimate of 40 cases in 1996 based on a survey of family practitioners and pediatricians]. *Ned.Tijdschr.Geneeskd., 142,* 2515-2518.
36. Lagerberg, D. (2001). A descriptive survey of Swedish child health nurses' awareness of abuse and neglect. I. Characteristics of the nurses. *Child Abuse Negl., 25,* 1583-1601.
37. MacMillan, H. L. (2000). Preventive health care, 2000 update: prevention of child maltreatment. *Can.Med.Assoc.J., 163,* 1451-1458.
38. Milner, J. S. (1994). Assessing physical child abuse risk: the child abuse potential inventory. *Clinical Psychology Review, 14,* 547-583.
39. Murry, S. K., Baker, A. W., & Lewin, L. (2000). Screening families with young children for child maltreatment potential. *Pediatr.Nurs., 26,* 47-54, 65.
40. Newberger, C. M. (1980). The cognitive structure of parenthood; the development of a descriptive measure. In R.L.Selman & R. Yando (Eds.), *Clinical-developmental psychology. New directions of child development: clinical developmental research, No. 7* San Francisco: Jossey-Bass.
41. Oates, R. K., Tebbutt, J., Swanston, H., Lynch, D. L., & O'Toole, B. I. (1998). Prior childhood sexual abuse in mothers of sexually abused children. *Child Abuse Negl., 22,* 1113-1118.

42. Pringle, M. K. (1980). Towards the prediction of child abuse. In N.Frude (Ed.), *Psychological approaches to Child Abuse* London: Batsford Academic and Educational Ltd.
43. Putnam, F. W. (2001). Why is it so difficult for the epidemic of child abuse to be taken seriously? In K.Franey, R. Geffner, & R. Falconer (Eds.), *The costs of Child Maltreatment: Who Pays? We All Do* San Diego: Family Violence & Sexual Assault Institute.
44. Rosen, L. N. & Martin, L. (1996). Impact of childhood abuse history on psychological symptoms among male and female soldiers in the U.S. Army. *Child Abuse Negl., 20,* 1149-1160.
45. Schmitt, B. D. (1978). *The Child Protection Team Handbook*. New York: Garland.
46. Schumacher, J. A., Smith Slep, A. M., & Heyman, R. E. (2001). Risk factors for child neglect. *Aggression and Violent Behaviour, 6,* 231-254.
47. Shipman, K. L., Rossman, B. B. R., & West, J. C. (1999). Co-Occurrence of Spousal Violence and Child Abuse: Conceptual Implications. *Child Maltreatment, 4,* 93-103.
48. Sidebotham, P. (2003). Red Skies, Risk Factors and Early Indicators. *Child Abuse Review, 12,* 41-45.
49. Sidebotham, P. & Golding, J. (2001). Child maltreatment in the "children of the nineties" a longitudinal study of parental risk factors. *Child Abuse Negl., 25,* 1177-1200.
50. Sidebotham, P. & Heron, J. (2003). Child maltreatment in the "children of the nineties:" the role of the child. *Child Abuse Negl., 27,* 337-352.
51. Sidebotham, P., Heron, J., & Golding, J. (2002). Child maltreatment in the "Children of the Nineties:" deprivation, class, and social networks in a UK sample. *Child Abuse Negl., 26,* 1243-1259.
52. Starr, R. H., Dubowitz, H., & Bush, B. A. (1990). The epidemiology of child maltreatment. In R.T.Ammerman & M. Hersen (Eds.), *Children at risk, an evaluation of factors contributing to child abuse and neglect* New York: Plenum Press.
53. Straus, M. A. (1978). *The social causes of interpersonal violence: the example of family violence Odyssee House Non-violence.* In Toronto: Paper read at the APA.
54. Straus, M. A., Gelles, R. J., & Steinmetz, S. K. (1980). *Behind closed doors, violence in the american family*. New York: Anchor Books.
55. Tan, F. (2001). *Eindverslag Pilot-study project OKé [Final report Pilot Study project OKé].* Ref Type: Unpublished Work
56. Van der Kolk, B. A., Crozier, J., & Hopper, J. (2001). Child Abuse in America: prevalence, costs, consequences and intervention. In K.Franey, R. Geffner, & R. Falconer (Eds.), *The costs of Child Maltreatment: Who Pays? We All Do* San Diego: Family Violence & Sexual Assault Institute.
57. Warner, J. E. & Hansen, D. J. (1994). The identification and reporting of physical abuse by physicians: a review and implications for research. *Child Abuse Negl., 18,* 11-25.
58. Willems, J. C. M. (1999). *Wie zal de opvoeders opvoeden; kindermishandeling en het recht van het kind op persoonswording [Who will educate the parents; child maltreatment and the right of the child to become a person].* Den Haag: T.M.C. Asser Press.

Appendix 1. *Complete questionnaire*

General questions		
1	Are you and your partner living together?	Yes /No /No partner
2	What is your age?	17 or younger/ 18 /19 or olde
3	What is your partners' age?	17 or younger/ 18 /19 or olde
4	Do you have plans to move more then 50 kilometers from your current municipality in the nex 18 months?	Yes/No/Unknown
Questions for the nurse		
1	Does mother master the Dutch language sufficiently to fill out questionnaires?	Yes /No / No mother
2	Does father master the Dutch language sufficiently to fill out questionnaires?	Yes /No / No father
3	The duration of the pregnancy was:	(number) weeks
4	The birth weight of the child was:	(number) gram
5	Would you be inclined to provide this family with extra WBC-support in the near future?	No /Yes

Questions for mother/father		
1	I expect to be getting enough support from my partner in the care for my child(ren).	Always/Often/Somet./Never/ No partner
2	I dread raising this child.	Always/Often/Somet./Never
3	Over the past nine months I have been distressful about getting a child.	Always/Often/Somet./Never
4	As a child I generally felt safe in the presence of (one of) my parents/caretakers.	Always/Often/Somet./Never
5	I feel my parents/ caretakers were very violent towards one another when I was a child.	Yes/No/Not applicable
6	I feel I was spanked too much by my parents/ caretakers when I was a child.	Yes/No
7	Looking back on the past three years I've been dysphoric (for a while).	Yes/No
8	Whenever I am/was in a fight with my partner sometimes a smack is/was dealt.	Yes/No /No partner
9	I should actually use less alcohol/drugs.	Yes/No/Not applicable
10	In a good upbringing a child should get a regular spanking.	Yes/No
11	I've had an awkward sexual experience forced on me before the age of 16.	Yes/No
12	The experience from the previous question still troubles me.	Always/Often/Somet./Never/ N.a.
13	I feel well accepted within my family.	Always/Often/Somet./Never/N.a.
14	I can get such a temper that I'm likely to smash something.	Always/Often/Somet./Never
15	I feel alienated from my neighborhood.	Always/Often/Somet./Never
16	I wish I had more people in my vicinity to rely on for support.	Always/Often/Somet./Never
17	I find it easy to ask for help or advice when I need it..	Always/Often/Somet./Never

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Appendix 2. *Weighing of questionnaire*

General questions	
1	Yes=0 /No=0.5 /No partner=0.5
2	17 or younger=1/ 18=0.5 /19 or older=0
3	17 or younger=1/ 18=0.5 /19 or older=0
4	Yes=exclusion /No=0 /Unknown=0
Questions for mother/father*	
1	Always=0 /Often=0 /Sometimes=0.5 / Never=0.5 / No partner=see general question 1
2	Always=0.5 /Often=0.5 /Sometimes=0 / Never=0
3	Always=0.5 /Often=0.5 /Sometimes=0 / Never=0
4	Always=0 /Often=0 /Sometimes=0.5 / Never=1
5	Yes=1 /No=0 / Not applicable=0
6	Yes=1 /No=0
7	Yes=1 /No=0
8	Yes=1 /No=0 / No partner= see general question 1
9	Yes=0.5 /No=0 / Not applicable=0
10	Yes=1 /No=0
11	Yes=1 /No=0
12	Not weighed since answers aren't trustworthy
13	Always=0 /Often=0.1 /Sometimes=0.2 / Never=0.3 / Not applicable=0
14	Always=1 /Often=1 /Sometimes=0 / Never=0
15	Always=0.3 /Often=0.2 /Sometimes=0.1 / Never=0
16	Always=0.3 /Often=0.2 /Sometimes=0.1 / Never=0
17	Always=0 /Often=0.1 /Sometimes=0.2 / Never=0.3
Questions for the nurse	
1	Yes=0 /No=exclusion / No mother= see general question 1
2	Yes=0 /No=exclusion / No father= see general question 1
3	(‹37) weeks=0.5**
4	(‹2500) gram=0.5**
5	No=0 /Yes=1

A total score of 1 or higher leads to selection in this study.

**: the scores of mother and father are treated separately; they are never added to reach a number over one.*

***: these questions form a 'and/or' combination. If both score 0.5 the total score for these two questions remains 0.5.*

Appendix 3. *Clusters of items found through PCA based on Eigenvalues*

Witness to parental violence, emotional, physical or sexual maltreatment during childhood and lack of family-acceptance (mother)
Alienated from the neighborhood and unable to ask for help if needed (father and mother)
Witness to parental violence, emotional or physical maltreatment during childhood and lack of family-acceptance (father)
Spousal violence (father and mother)
Needing more people to rely on (father and mother)
Ambivalence about parental competence (father and mother)
Belief in physical punishment (father and mother)
Impaired temper-inhibition (father and mother)
Ambivalence during pregnancy (father and mother)
Insufficient spousal support (father and mother)
Birth weight and gestational age (child)
Dysphoria (mother) and nurses' concern
Age (father) and addiction to alcohol/drugs (father and mother)
Single parenthood, age (mother)
Dysphoria and sexual maltreatment during childhood (father)

Appendix 4. *Clusters of items found through PCA based on scree-plot*

Alienated from the neighborhood, needing more people to rely on and unable to ask for help if needed (father and mother)
Witness to parental violence, emotional, physical or sexual maltreatment during childhood and lack of family-acceptance (mother)
Witness to parental violence, emotional, physical or sexual maltreatment during childhood, dysphoria and lack of family-acceptance (father)
Ambivalence about parental competence (father and mother) and impaired temper-inhibition (mother)
Spousal violence (father and mother)
Addiction to alcohol/drugs, ambivalence during pregnancy, insufficient spousal support (father and mother) and impaired temper-inhibition (father)
Belief in physical punishment (father and mother)
Birth weight and gestational age (child)
Single parenthood, age of mother and father, dysphoria of mother and nurses' concern

6

Differences between respondents and non-respondents on a postal questionnaire addressing risk factors for child maltreatment

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1 Abstract

In screening studies related to child maltreatment non-response is a potential problem, particularly because risk factors for child maltreatment are in part similar to risk factors for non-respondents. This study evaluates differences between respondents and non-respondents on a postal questionnaire addressing risk factors for child maltreatment.

Different methods were deployed to obtain data for the comparison of respondents and non-respondents. 1) A name algorithm was constructed to estimate the rate of non-western immigrants. 2) Based on the family-addresses neighborhood characteristics for each family were determined and 3) socio-economic and socio-demographic variables were investigated based on a sample of medical files.

Using an independent sample T-test 15.1% of the non-respondents were found to be of non-western origin compared to 7.0% of the respondents ($p<0.01$). On all neighborhood variables significant differences were found in group comparison, with non-respondents living in disadvantaged neighborhoods more frequently ($p<0.01$). Small socio-economic and socio-demographic differences were found through sampled file-analysis, with non-respondents more often presenting lower socio-economic and socio-demographic levels.

Statistically significant differences were found between respondents and non-respondents concerning ethnicity and neighborhood and non-respondents were similar to families at risk for child maltreatment. A broader spectrum of screening methods should be deployed to reach non-respondents.

2 INTRODUCTION

Non-response is a serious problem in most studies based on data collected through postal questionnaires ([1; 16; 17; 25]). The response rate depends on characteristics of the target population, study design and sensitivity of the concerning subject. The results of a study can be influenced by its non-response in case of a selection-bias: if there are systematic differences between non-respondents and respondents the results are not representative for the entire population. It is therefore important to analyze the characteristics of any non-response group to determine the strength of the conclusions found in studies based on postal questionnaires.

Aside from the more obvious reasons for non-response such as lack of time, disinterest or, in the case of immigrants, linguistic problems, in a number of studies several characteristics have been found to distinguish non-respondents from respondents. Amongst these characteristics are unemployment and lower education ([1; 22]), single status ([3; 18]), young age ([2; 28]) and foreign origin ([4]). Furthermore, non-respondents are more often found to live in highly urbanized and densely populated areas and amongst lower social classes ([2; 26; 39]). The characteristics of families at risk for child maltreatment have been studied extensively as well ([see 5; 6; 7; 35]). Interestingly, some of these characteristics are single parenthood ([10; 11]), young parental age ([10; 36]), poverty, unemployment, and area deprivation ([13; 23; 37]).

As in a number of other European countries, the origin of Dutch immigrants is predominantly Mediterranean, northern African or (former) colonial. Mediterranean and Northern African immigrants came to the Netherlands during the 1960's and early 1970's as a result of recruitment of temporary workers for low-skilled jobs. And while most Mediterranean workers returned when economy in their homeland improved, northern African immigrants decided to stay and opt for family reunification ([29]). Currently the unemployment rates amongst immigrants from outside the European Union are much higher than those of natives ([29]). Also, immigrants are more often assigned to the worst housing projects in the least desirable districts ([14]). Based on this information many of the characteristics of non-respondents and families at risk for child maltreatment can

be found amongst non-western immigrants, including young age and single parenthood ([15]). Therefore special attention should be paid to non-western immigrants.

Several studies have been conducted to examine the characteristics of non-respondents. However, little is known about non-respondents in a screening study regarding risk factors for child maltreatment. This study aims to analyze differences concerning risk factors for child maltreatment between the non-response and response group in a large Dutch early home visitation program. In this program, known as Project OKé, families were selected by means of a questionnaire addressing risk factors for child maltreatment (see chapter 5). Amongst these risk factors were parental history of violence or maltreatment during childhood, parental characteristics such as depression or addiction and problems in the social context. For the aim of this study data on ethnicity, neighborhood and certain socio-demographics was available on the families addressed in the Project OKé study. Based on this information this study attempts to answer two questions: 1) whether non-respondents differ from respondents, and 2) whether the non-respondents can be considered at risk for child maltreatment.

3 Methods

In the Project OKé study, during a period of 13 months, all parents with newborns (N=8899) in a geographically circumscriptive area were approached with a postal questionnaire addressing risk factors for child maltreatment. Nurses from the local Well Baby Clinic (WBC), visiting the family two weeks after birth, were asked to fill out a questionnaire as well, regarding birth weight, gestational age and possible concerns about the family. The families who returned the questionnaires were selected based on their response and randomized into an intervention and control group. The intervention group was offered a home visitation program during 18 months. Of all parents, 55.0% returned the questionnaire (N=4899). The remaining 45% of these parents are the primary focus of this study.

There are several approaches to the analysis of non-response bias, for instance to use variables already known for both respondents and non-respondents, or to extrapolate characteristics of late respondents to non-respondents ([34]). Obviously the first approach is much preferred over the second one, provided the information is available and relevant. In this study the first approach was applicable because, regardless of the nature of the response, names and addresses were available about all families. Based on this information several relevant characteristics about the non-respondents were determined. First of all, the ethnicity of families was estimated based on the names of the children (first and last name) ([9]). Secondly, based on the family-address some information about the neighborhood these families resided in was obtained. A third method that was adopted was an analysis of socio-demographic information found in the files at the local Well Baby Clinics. File analysis took place through the assistance of WBC-nurses and was thereby made anonymous for all research. These three methods will be addressed in the following paragraphs. This study was approved by the Ethics Committee of the Leiden University Medical Center.

3.1 Ethnicity

In order to estimate the rate of non-western immigrants a name algorithm was constructed. In previous studies Razum and others (2000) developed an algorithm for Turkish names in Germany, based on municipal data from both Turkey itself and part of Germany, reaching a sensitivity of 85% ([32]). Bouwhuis and Moll (2003)

developed an algorithm for Turkish, Arabic and Surinamese names in the Netherlands, helped by assistants with the same ethnicity as those researched ([9]). The Bouwhuis algorithm resulted in a sensitivity of 81 (Turkish), 77 (Arabic) and 69% (Surinamese). Except for the Surinamese names in the Bouwhuis study the sensitivity found in both studies was high enough for the algorithms to be useful. In the current study an algorithm was developed by using several studies of first and family names in the Netherlands, as well as various websites of popular names in the Netherlands and other countries (i.e. Muslim countries, South America, North America, China, etc.) ([e.g.8; 21; 38]). A small portion of names (1.8%) could not be identified in any website or database; hence a subjective estimation was applied.

First and last names were evaluated separately and classified into 2 categories: natives (names of Dutch origin) or western immigrants (names of Western European and North American origin), and non-western immigrants (names originating in Africa, South America, Asia and the European Balkan). There was a remaining non-informative category (indiscriminating names, such as Sheila, which could be both of western or non-western origin). After separate evaluation of first and last names, both names were combined. When a first name was labeled 'non-western' and the matching last name was labeled 'native' the final label given to the child was 'non-western immigrant'. The same procedure was applied for non-informative names, starting from the assumption that if one parent is of 'non-western origin' this will reflect on the child's name. Figure 1 displays the realization of the algorithm.

To measure the validity of the algorithm, this method was compared with two test sets. The first test set consisted of 143 questionnaires, filled out by families in the Project OKé study and addressing amongst other things the parents' country of birth. Based on the results several adaptations were made in the dataset. For instance, the name 'Ali' is both a typical Islamic name and an ancient Dutch name. Based on the results of test set 1 it was decided to label this name 'non- western' in stead of native. To verify the impact of these adaptations a second test set was employed for comparison. This test set was the result of an analysis of WBC-files (n=430). In this analysis country of birth was registered for both parents. The outcome of both test sets is displayed in table 1.

Figure 1. *Realization of the name algorithm.*

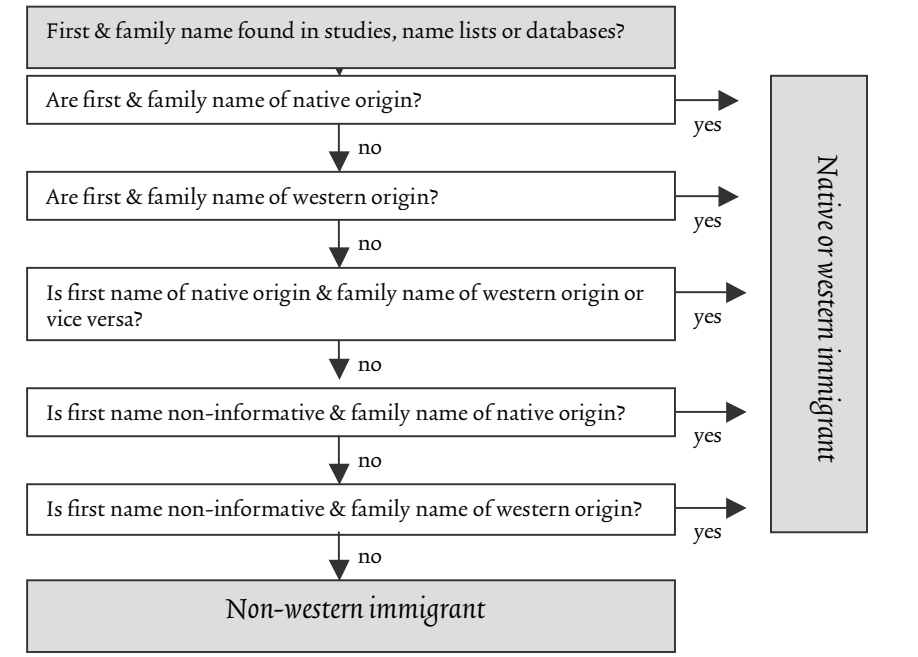

Table 1. *Validity of the name-algorithm in test set 1 (N=143) and test set 2 (N=430)*

			Actual					
			Set 1			Set 2		
			N.W.Imm.	Natives	Total	N.W.Imm.	Natives	Total
Classified	Set 1	N.W. Imm.*	10	4	14			
		Natives	8	121	129			
		Total	18	125	143			
	Set 2	N.W. Imm.				111	24	135
		Natives				22	273	295
		Total				133	297	430

*: *N.W.Imm. means Non-western Immigrants*

Through a chi-square test positive and negative predictive values were determined after applying each test set. The second test set demonstrated the adaptations to be an improvement for the positive predictive value (the chance of correctly identify a child to be of non-western origin), which increased from 71.4% in the first test, set to 82.2% in the second test set. The negative predictive value (the chance of correctly identifying a

child to be of native origin) decreased slightly from 93.8% to 92.5%. With these outcomes the algorithm was considered acceptable to determine the distribution of non-western immigrants amongst the response versus the non-response group by means of an unpaired sample T-test.

3.2 Neighborhoods

Based on the family-addresses it was possible to assess the kind of neighborhood a family resided in. Data from the Dutch National Institute for Statistics (CBS) provided information about population density (number of addresses per square kilometer), mean income (per income recipient), non-western immigrants (in percentages) and welfare recipients (percentage of people receiving welfare as main income) on neighborhood-level ([30]). This information was available for all neighborhoods except those containing less than 50 inhabitants. These CBS-variables adequately describe disadvantaged neighborhoods. In close cooperation with municipal authorities of six towns in the study-region, files linking individual addresses to the specific neighborhoods based on either street name or six-digit zip code were obtained. In other mainly smaller towns electronic databases on neighborhoods were not yet available, therefore the sample for analysis is only part of the entire sample studied.

By joining these files to the available family-addresses database a file containing 4348 families was generated. By means of an unpaired sample T-test respondents and non-respondents were compared. Since it was conceivable that the number of immigrants in a neighborhood could influence the correlation between the other CBS-variables as well as the response rate, a logistic regression analysis was conducted to check for this influence. To clearly distinguish between at-risk and low-risk groups a division in tertiles was made; the values on each CBS-variable were divided into high-risk (the most negative values) and low-risk (the average and more positive values). For the variable 'population density' the high-risk tertile consisted of neighborhoods housing 2700 or more inhabitants per square kilometer, the two low-risk tertiles were those neighborhoods housing less than 2700 inhabitants per square kilometer. Regarding 'mean income' the limiting value between the low-risk and high-risk group is a gross yearly income of €16.000. For the variable 'percentage of immigrants' the limiting value between groups is 11% non-western immigrants. Finally for 'welfare recipients' the limiting value is 15%.

Through logistic regression the odds ratio (OR) for each variable without any adjustments was first determined. Secondly, the odds ratios for the population density, the mean income and the percentage of welfare recipients were calculated, controlling for percentage of immigrants. This led to two columns displaying odds ratios in neighborhoods with high and low percentages of immigrants. Thirdly the odds ratios could be adjusted for the percentage of immigrants found in each neighborhood, resulting in new odds ratios as displayed in the far right column of table 5.

3.3 Other socio-demographics

Socio-demographic differences between respondents and non-respondents were investigated based on a sample of WBC-files. For this purpose a checklist was developed, addressing ethnicity, age, education level and type of employment of the parents, family composition, possible handicaps or pre- or dysmaturity of the child. For several items in this checklist a cut-off point had to be established: the score on education was considered worrisome when a person had a lower general secondary education or below; the score on employment was considered worrisome when a person was a lower employee or untrained manual laborer. The non-response group was compared to the response group on all these variables using a chi-square test.

For this file analysis a stratified random selection was taken from the original database containing all 8899 families addressed in the Project OKé study. Initially, six strata were chosen. First, non-response was divided into two groups, those where nurses responded to the selection questionnaire but parents did not, and those where no response was received. Second, responding parents were divided into 'low risk' and 'at-risk' families. Finally, 'at-risk' families were divided into families participating to the intervention program, families declining participation and families that could not be approached for several reasons (see chapter 8). For each stratum a sample of 65 families was randomly selected. Amongst low-risk families an additional 40 families were randomly selected to enlarge the second test set for the name algorithm. To improve comprehension of this study, these six groups were collapsed into two groups: 1) non-response (N=130), 2) response group (N=300), containing 105 in the low risk group and 195 in the 'at-risk' group. During the file-analysis at the WBC's 8 families in the non-response group and 8 families in the 'at-risk' group could not be traced due to relocation.

4 RESULTS

The distribution of non-western immigrants over the different response groups, as found through the name algorithm, is shown in table 2. The total N for this variable is lower than the total number of families in the study (8899), which is explained by the fact that in the Project OKé study families incapable of reading and writing the Dutch language, were excluded (N=147). The results of the group-comparison for the neighborhood variables are displayed in table 3.

Table 2. *Distribution of non-western immigrants based on the name-algorithm over low risk and at-risk families, non-respondents and respondents.*

	Non-respondents N=3748	Respondents		
		Low risk families N=3721	At-risk families N=1283	Total N=5004
Non-western immigrants	15.1%	5.0%	13.3%	7.0%
Natives/w. immigrants	84.9%	95.0%	86.7%	93.0%
Total	100%	100%	100%	100%

Table 3. *Distribution of neighborhood variables over low risk and at-risk families, non-respondents and respondents.*

	Non-respondents N=2154	Respondents		
		Low risk families N=1611	At-risk families N=583	Total N=2194
Population density	2447	2160	2475	2246
Non-western immigrants	12.0%	9.3%	12.4%	10.1%
Mean income	€16.932,-	€17.360,-	€16.869,-	€17.233,-
Welfare recipients	13.6%	11.9%	14.0%	12.5%

Table 2 displays a significantly ($p<0.01$) higher number of non-western immigrants in the at-risk group versus the low risk group, as well as in the non-respondent group versus the respondent group. Significant differences ($p<0.01$) are found as well with regards to the neighborhood variables in table 3, both between high-risk and low-risk families and between non-respondents and respondents. High-risk families and non-respondents live in less favorable neighborhoods than do low-risk families and respondents.

The neighborhood variable 'Immigrants' might cause confounding in the analysis of the effect of neighborhood on response. Therefore a logistic regression was conducted. It is demonstrated that after adjustment a slight effect-modification occurs, but the adjusted odds ratio is still significant (table 4).

Table 4. *Odds Ratio for response by neighborhood variables before and after adjusting for 'percentage immigrants'.*

	Raw OR (95 % CI)	OR		adjusted OR (95 % CI)
		high % imm.	low % imm.	
Pop. density (≥2700 vs. ‹2700)	0.73 (0.65-0.83)	0.87	0.82+	0.84 (0.73-0.97)
Mean income (‹16000 vs. ≥16000)	0.63 (0.56-0.72)	0.94	0.82+	0.87 (0.76-0.99)
Welfare recipients (≥15% vs. ‹15%)	0.62 (0.55-0.70)	0.57*	0.97	0.74 (0.62-0.88)
N.W. Immigrants (≥11% vs. ‹11%)	0.72 (0.63-0.81)			

+= p‹0.05; *= p‹ 0.01.

For the last part of the analysis the low risk and at-risk families as well as the non-respondents and respondents were compared on all variables obtained from the WBC-file analysis. The results of this comparison are shown in table 5. The high-risk families display a higher probability on almost all variables, with some significant Odds Ratios and some trends towards significance (p‹.1). Most of these variables are also more likely to be found amongst non-respondents, although Odds Ratios for most categories are not statistically significant.

Table 5. *Comparison of risk factors for child maltreatment between low risk (N=105) and at-risk (N=187) families as well as non-respondent (N=122) and respondent (N=292) families.*

	Non-respondent vs. respondent families		Low risk vs. at-risk families	
	OR	(95 % CI)	OR	(95 % CI)
Non-western immigrant mother	1.81†	(1.04-3.14)	2.41†	(1.06-5.46)
Non-western immigrant father	2.18†	(1.18-4.05)	4.88*	(1.43-16.69)
Age mother ‹ 19 years	2.19	(0.36-13.25)	0.64	(0.58-0.69)
Age father ‹ 19 years	0.41	(0.36-0.46)	0.64	(0.58-0.70)
Minimal education mother	0.35	(0.07-1.68)	0.77	(0.22-2.65)
Minimal education father	1.27	(0.28-5.69)	2.90	(0.54-15.53)
Low qualified employment mother	0.85	(0.49-1.48)	1.77‡	(0.90-3.46)
Low qualified employment father	1.23	(0.75-2.02)	2.58*	(1.35-4.94)
Single parent family composition	2.39‡	(0.77-7.44)	6.54†	(0.83-51.37)
Handicapped child	1.47	(0.51-4.28)	2.87	(0.62-13.38)
Prematurity (‹37 weeks)	1.63	(0.74-3.55)	2.38‡	(0.77-7.31)
Small for gestational age (‹2500 gram)	1.48	(0.65-3.39)	2.20	(0.71-6.82)

‡=p‹0.1; †= p‹0.05; *= p‹ 0.01.

5 Discussion and conclusion

The findings in this study, based on a postal questionnaire regarding risk factors for child maltreatment, show that families with a non-western ethnicity are found more frequently among non-respondents. Non-respondents also tend to be living more often in neighborhoods with a high population density, a high percentage of non-western immigrant inhabitants, a low income per inhabitant and a high percentage of welfare recipients; often referred to as disadvantaged neighborhoods. More young mothers, single parents and premature, dysmature or handicapped children are found amongst non-respondents in comparison to respondents. All characteristics found to be associated with families at risk for child maltreatment in this study are found in non-respondent families as well. Based on these findings we conclude that non-respondents are more similar to at-risk families than to low-risk families.

There were several advantages and disadvantages to this study. The name algorithm deployed in this study as a method to determine ethnicity generated a sensitivity of 83.5%, which is high compared to other studies ([9; 32]) especially considering the assembly of ethnicities. As the Bouwhuis algorithm shows, it is especially difficult to reach a high sensitivity regarding people from the Netherlands Antilles and Suriname. Sensitivity might have been increased by leaving the Surinamese ethnicity out of the assembly. In our algorithm non-discriminative names were classified as being native and names that could not be identified in databases were given a subjective estimation. In other words: no remaining group of names was maintained, which may also have influenced sensitivity. The use of six-digit zip codes or street names and numbers to combine with information from the National Institute of Statistics (CBS) can be considered a refinement compared to other studies ([12; 24; 27; 33]) using mainly four-digit zip codes or census tracts. Our neighborhood analysis was limited by the number of municipal administrations able to provide the necessary data as well as the lack of information on neighborhoods with less than 50 inhabitants from CBS. Thus conclusions about the neighborhood are based on a sample, but we consider this to be representative for the study-region. Finally, analyzing the wide range of socio-demographic data in the WBC-files was a unique opportunity to create an advantage over previous studies relying mostly on public registers providing only age, gender and income

data ([16; 33; 34]). The reliability of the findings from the file-analysis is limited by the fact that several variables displayed with large numbers of missing values. WBC-nurses appear to rarely address parental education for example as data was missing on 72% of mothers and 77% of fathers. With this limited reliability even non-significant Odds Ratios larger than 1 should be taken into consideration as a possible indication of selection bias.

As was discussed in the introduction, ethnic minorities in the Netherlands, especially those of non-western origin, deserve special attention since this group is expected to be overrepresented among non-respondents and is vulnerable to many of the risk factors associated with child maltreatment. This vulnerability lies in the fact that financial and housing disadvantages result in stress, which, combined with a lack of constructive social support, could prove a combustive combination. The risk for child maltreatment is further increased by the fact that in some non-western cultures spanking of children is more acceptable as a method of child rearing and child discipline ([31]). To avoid misunderstandings we emphasize the fact that the relationship between ethnicity and risk factors for child maltreatment is by no means definite. Part of the non-response in this group was undoubtedly caused by linguistic problems.

One of the unique features of this study compared to other studies is the fact that part of the data analyzed was available for the large majority of subjects investigated (in the case of names this was 100%). This study found that non-respondents do differ from respondents and that they are more comparable to families at risk for child maltreatment than to low-risk families. However, the exact proportion of families at risk amongst non-respondents remains unclear. There are indications that this proportion is in fact small as an inverse response rate - child maltreatment prevalence association was found in earlier studies addressing the prevalence of maltreatment ([19; 20]). A possible explanation for this finding may be that "adults who have experienced child abuse are more likely to respond to such surveys than their nonabused counterparts are" ([19, p395]). Although these findings are related to the prevalence of sexual abuse amongst the population and not to the prevalence of families at risk for maltreatment, it may be conceivable that this explanation in part applies to our study as well, particularly related to parental childhood experiences of maltreatment and family violence. Finally, as is applicable to ethnic minorities,

other factors could have caused non-response, such as linguistic problems, illiteracy, lack of time and lower education level causing problems in understanding the purpose of a study.

The characteristics of non-respondents have been the focal point of several previous studies. However the connection between these characteristics and risk factors for child maltreatment has rarely been made. The results of this study point out that non-respondents deserve ongoing attention especially in studies screening for families at risk for child maltreatment.

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7 References

1. Akker, v. d. M., Buntinx, F., Metsemakers, J. F., & Knottnerus, J. A. (1998). Morbidity in responders and non-responders in a register-based population survey. *Fam.Pract., 15,* 261-263.
2. Bakke, P., Gulsvik, A., Lilleng, P., Overa, O., Hanoa, R., & Eide, G. E. (1990). Postal survey on airborne occupational exposure and respiratory disorders in Norway: causes and consequences of non-response. *J.Epidemiol.Community Health, 44,* 316-320.
3. Benfante, R., Reed, D., MacLean, C., & Kagan, A. (1989). Response bias in the Honolulu Heart Program. *Am.J.Epidemiol., 130,* 1088-1100.
4. Bergstrand, R., Vedin, A., Wilhelmsson, C., & Wilhelmsen, L. (1983). Bias due to non-participation and heterogenous sub-groups in population surveys. *J.Chronic.Dis., 36,* 725-728.
5. Black, D. A., Heyman, R. E., & Slep, A. M. (2001). Risk factors for child physical abuse. *Aggression and Violent Behaviour, 6,* 121-188.
6. Black, D. A., Heyman, R. E., & Slep, A. M. (2001). Risk factors for child sexual abuse. *Aggression and Violent Behaviour, 6,* 203-229.
7. Black, D. A., Heyman, R. E., & Slep, A. M. S. (2001). Risk factors for child psychological abuse. *Aggression and Violent Behaviour, 6,* 189-201.
8. Bloothooft, G. (2000). *Origin of surnames in the Netherlands*. Retrieved April 4, 2003, from http://www.let.uu.nl/ Gerrit.Bloothooft/personal/publications/link2000-1.html [On-line].
9. Bouwhuis, C. B. & Moll, H. A. (2003). Determination of ethnicity in children in The Netherlands: two methods compared. *Eur.J.Epidemiol., 18,* 385-388.
10. Brown, J., Cohen, P., Johnson, J. G., & Salzinger, S. (1998). A longitudinal analysis of risk factors for child maltreatment: findings of a 17-year prospective study of officially recorded and self-reported child abuse and neglect. *Child Abuse Negl., 22,* 1065-1078.
11. Browne, K. D., Davies, C., & Stratton, P. (1988). *Early prediction and prevention of child abuse*. Chichester: John Wiley & Sons.
12. Coulton, C. J., Korbin, J. E., & Su, M. (1999). Neighborhoods and child maltreatment: a multi-level study. *Child Abuse Negl., 23,* 1019-1040.
13. Coulton, C. J., Korbin, J. E., Su, M., & Chow, J. (1995). Community level factors and child maltreatment rates. *Child Dev., 66,* 1262-1276.

14. Daly, G. (1996). Migrants and gate keepers; the links between immigration and homelessness in Western Europe. *Cities, 13,* 11-23.
15. Eldering, L. (2002). *Cultuur en opvoeding [Culture and childrearing]*. Rotterdam: Lemniscaat.
16. Etter, J. F. & Perneger, T. V. (1997). Analysis of non-response bias in a mailed health survey. *J.Clin.Epidemiol., 50,* 1123-1128.
17. Gerrits, M. H., van den Oord, E. J., & Voogt, R. (2001). An evaluation of nonresponse bias in peer, self, and teacher ratings of children's psychosocial adjustment. *J.Child Psychol.Psychiatry, 42,* 593-602.
18. Giordano, L., Merletti, F., Boffetta, P., & Terracini, B. (1990). [Influence of sociodemographic variables in the enrollment of subjects in a population case-control study]. *Epidemiol.Prev., 12,* 7-12.
19. Gorey, K. M. & Leslie, D. R. (1997). The prevalence of child sexual abuse: integrative review adjustment for potential response and measurement biases. *Child Abuse Negl., 21,* 391-398.
20. Haugaard, J. J. & Emery, R. E. (1989). Methodological issues in child sexual abuse research. *Child Abuse Negl., 13,* 89-100.
21. Islamicity.com (2003). *Male and female muslim names* (n.d.). Retrieved April 4, 2003, from http://www.islamicity.com/culture/names/default.htm [On-line].
22. Jooste, P. L., Yach, D., Steenkamp, H. J., Both, J. L., & Rossouw, J. E. (1990). Drop-out and newcomer bias in a community cardiovascular follow-up study. *Int.J.Epidemiol., 19,* 284-289.
23. Korbin, J. E. (2003). Neighborhood and community connectedness in child maltreatment research. *Child Abuse Negl., 27,* 137-140.
24. Korbin, J. E., Coulton, C. J., Lindstrom-Ufuti, H., & Spilsbury, J. (2000). Neighborhood views on the definition and etiology of child maltreatment. *Child Abuse Negl., 24,* 1509-1527.
25. Korkeila, K., Suominen, S., Ahvenainen, J., Ojanlatva, A., Rautava, P., Helenius, H. et al. (2001). Non-response and related factors in a nation-wide health survey. *Eur.J.Epidemiol., 17,* 991-999.
26. Kreiger, N. & Nishri, E. D. (1997). The effect of nonresponse on estimation of relative risk in a case-control study. *Ann.Epidemiol., 7,* 194-199.
27. Leventhal, T. & Brooks-Gunn, J. (2000). The neighborhoods they live in: the effects of neighborhood residence on child and adolescent outcomes. *Psychol.Bull., 126,* 309-337.
28. Macera, C. A., Jackson, K. L., Davis, D. R., Kronenfeld, J. J., & Blair, S. N. (1990). Patterns of non-response to a mail survey. *J.Clin.Epidemiol., 43,* 1427-1430.
29. Muus, P. (2001). International migration and the European Union, trends and consequences. *European Journal on Criminal Policy and Research, 9,* 31-49.
30. National Institute for Statistics CBS (2001). *Kerncijfers wijken en buurten 2001 [Primary statistics on districts and neighborhoods]* [Data file]. Available from CBS, http://www.cbs.nl/nl/cijfers/statline/index.htm [On-line].

31. Oral, R., Can, D., Kaplan, S., Polat, S., Ates, N., Cetin, G. et al. (2001). Child abuse in Turkey: an experience in overcoming denial and a description of 50 cases. *Child Abuse Negl., 25,* 279-290.
32. Razum, O., Zeeb, H., Beck, K., Becher, H., Ziegler, H., & Stegmaier, C. (2000). Combining a name algorithm with a capture-recapture method to retrieve cases of Turkish descent from a German population-based cancer registry. *Eur.J.Cancer, 36,* 2380-2384.
33. Reijneveld, S. A. & Stronks, K. (1999). The impact of response bias on estimates of health care utilization in a metropolitan area: the use of administrative data. *Int.J.Epidemiol., 28,* 1134-1140.
34. Richiardi, L., Boffetta, P., & Merletti, F. (2002). Analysis of nonresponse bias in a population-based case-control study on lung cancer. *J.Clin.Epidemiol., 55,* 1033-1040.
35. Schumacher, J. A., Smith Slep, A. M., & Heyman, R. E. (2001). Risk factors for child neglect. *Aggression and Violent Behaviour, 6,* 231-254.
36. Sidebotham, P. & Golding, J. (2001). Child maltreatment in the "children of the nineties" a longitudinal study of parental risk factors. *Child Abuse Negl., 25,* 1177-1200.
37. Sidebotham, P., Heron, J., & Golding, J. (2002). Child maltreatment in the "Children of the Nineties:" deprivation, class, and social networks in a UK sample. *Child Abuse Negl., 26,* 1243-1259.
38. Sociale Verzekeringsbank (2003). *Popular Dutch first names in 2002.* Retrieved April 4, 2003, from http://www.svb.nl/index—small.html?envelope=34&folder=m187&year=2002&filmdir=akw [On-line].
39. Sonne-Holm, S., Sorensen, T. I. A., Jensen, G., & Schnohr, P. (1989). Influence of fatness, intelligence and sociodemographic factors in a health survey. *J.Epidemiol.Community Health, 43,* 369-374.

7

Home visitation in families at risk for child maltreatment: process-evaluation

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1 Abstract

The extent of child maltreatment and the seriousness of its consequences emphasize the need for effective preventive interventions. Evaluations of these interventions have mostly focused on effect. The results of effect-evaluations can however be influenced by variability in both intervention and subjects. It is therefore important to determine the nature of this variability. This chapter addresses the implementation of a Dutch intervention program aimed at the prevention of child maltreatment, the realization of program objectives and parental satisfaction about the program. Both for implementation, realization and satisfaction differences in clients and home visitors are explored.

This program is aimed at families with an increased risk for child maltreatment. Based on home visitors reports the implementation (number, duration and dispersal of home visits) and objectives (the improvement of the social support system, of parental awareness and of the influence of the parental development) of the program are addressed. Parental satisfaction is explored regarding both protocol and content of the program. Regarding these parameters differences in clients are explored amongst socio-demographic family-characteristics such as level of education, number of stressors and immigrant status. Differences amongst home visitors are also researched.

We conclude that the program protocol has been implemented adequately, in most objectives significant improvement has been made and parents are highly satisfied. It needs to be reminded that our findings are all based on subjective information and may therefore be biased to some extent. Nevertheless the results of this study provide a direction for a differential analysis of the effects of this intervention.

2 INTRODUCTION

The problem of child maltreatment is an increasing focal point of attention in the Netherlands, both for policy-makers and healthcare workers. The number of children that is reported with a presumption of maltreatment to the *Advies- en Meldpunten Kindermishandeling (AMK)*, the Dutch child maltreatment reporting agency, increases every year. In 2003 28.569 contacts about presumed maltreatment were made with the AMK, an increase of 13% compared to the previous year and an increase of 34% since 2000. Verified reports of maltreatment have increased by 27.3% in the same period, from 5801 to 7976 reports ([24]). Although these numbers can not be compared to the often cited estimate of 50.000 to 80.000 maltreated children per year ([23]), they illustrate the growing concern for maltreated children in the Netherlands. Also these numbers emphasize the need for preventive measures.

In an attempt to fill this need a prevention program named Project OKé (an abbreviation of *Ouder- en Kindzorg extra*, meaning Parent and Childcare extra) was developed. This program, designed as a randomized controlled trial, aimed to provide families at risk for child maltreatment with parenting support by means of postnatal home visits, conducted by child health nurses. The objectives of this program are based on the theories of Belsky (1989), Newberger (1980) and Baartman (1996). The focal points of this program are the parental development, the improvement of the social support system of a family ([2; 3]) and of the level of parental awareness, including perception and expectations of the child, and sensitivity towards the child ([1; 19]).

In several other countries preventive programs, often using the method of home visitation, have been developed and evaluated over the past few decades ([7; 17; 18]). Program evaluation can serve to determine the effectiveness of an intervention (effect-evaluation), to clarify the processes taking place during the intervention in order to adjust or improve them (process-evaluation), or to establish the presence of change in clients (product-evaluation) ([10]). Depending on the manner of establishing effectiveness, product-evaluation might be very similar to effect-evaluation as change in clients may constitute the desired effect. In general, effect-evaluation is the most common type of evaluation used in prevention studies ([see 7; 9; 17; 21]). Other types of evaluation of prevention programs are harder to find. One of the

programs that have been evaluated in other ways is the Nurse Home-visitation Program developed by Olds ([see 4; 12; 13; 20]). Olds and Korfmacher (1998) point out two essential problems in prevention programs targeted at families at risk. First of all, "the concept of risk applies to groups, not individuals, [...thereby] implying heterogeneity in individual functioning" ([20, p24]). Second, "the flexibility and individualization of services inherent in many preventive intervention programs [...] allow for a differential use of the program based upon needs and competencies of participants" ([20 ibidem]). Thus, both in intervention and in subjects a certain degree of variability can be expected, possibly influencing the effects of the program. Hence it is important to explore this variability as preparation for effect-evaluation.

This chapter aims to determine whether the program protocol has been implemented as planned, whether the program objectives have been reached and what degree of client satisfaction has been obtained. As such this chapter concerns mainly process-evaluation. Furthermore, this chapter aims to chart the variability in implementation, objective-attainment and satisfaction and to examine factors that might influence this variability.

3 METHODS

The home visits in this program were conducted by a total of five nurses, working part time. Each nurse had a total caseload of around 45 families. They all had a minimum of five years of experience working as Well Baby Clinic (WBC) nurses. In addition they had several in-service trainings and extra-curricular courses on topics such as parenting, communication skills, special care and child maltreatment. For the purpose of this program special skills and attitudes were promoted through additional training. This training consisted of seven days of schooling accompanied by theoretical and practical articles to be studied on each subject. The subjects that were addressed are displayed in table 1.

Table 1. *Topics of training for home visiting nurses*

Managing personal norms and values during home visits and consultations
Communication skills and models
Central issues in interventions for families with young children
Theory of attachment and sensitivity
Normal and deviant development in infants and toddlers
Possible treatments for crying babies
Cultural differences in parenting
Consequences of childhood experience of family violence in parents
Parents with substance dependence and consequences for children
Parents with psychiatric problems and consequences for children
Materials to be used during the intervention

3.1 Sample for home visitation

A total of 238 families with newborns were selected for participation in the OKé-program based on a questionnaire addressing risk factors for child maltreatment (see chapter 5). Risk factors were scored with either 1 or 0.5 points; a total score of 1 or more resulted in inclusion. Due to administrative errors 10 families were unjustly included in this study, hence the range displayed in table 2. Additional socio-demographic information about the family was obtained through a baseline measurement, along with scores on several instruments for effect-evaluation. One of these instruments, entitled *Kort Instrument voor Pedagogische en Psychologische Probleem Inventarisatie* (KIPPPI), addressed, amongst other issues, the presence of stressors within the family ([15; 16]) as well as the level of concern these stressors raised. In table 2 the characteristics of the sample selected for home visitation are displayed.

All stressors that parents considered (somewhat to severely) worrisome in the KIPPPI have been counted.

Table 2. *Sample characteristics displayed as median (range) or percentage (N=238)*

	Total
Median maternal age	32 (20-43)
Lower educated mother (Lower general secondary education)	16.2%
Higher educated mother (college/university)	34.8%
Immigrant mother (of non-western origin)	5.7%
Median no. of children	2 (1-5)
Percentage first child	47.7%
Single parent	10.5%
Median inclusion score	2 (0.5-8)
Median number of worrisome stressors	2 (0-11)

Sample characteristics did not differ amongst nurses with two exceptions. Nurse A visited significantly more parents with a higher education than did nurse E and nurse C visited families with a significantly higher inclusion score than did nurse E, as was determined through a one-way analysis of variance combined with a Bonferroni post-hoc test.

Families were assigned to a nurse based on their address and the caseload of each nurse. This means that each family was assigned to the nurse living closest to this particular family unless this nurse had too many starting families at the time of assignment. The home visiting nurse had no knowledge of the nature and number of risk factors identified in a family. Other characteristics as displayed in table 2 were known to the nurse, including the number of stressors.

3.2 Protocol and objectives for home visits

After a family was selected for the program, a baseline measurement form was returned and a family was randomly assigned to the intervention group, the first home visit should ideally take place six weeks after the birth of a child. Over the course of eighteen months a total of six home visits were to take place at the child's age of six weeks, three months, six months, nine months, twelve months and eighteen months. To bridge the six months between the fifth and sixth visit a consult by phone was planned at fifteen months. Home visits were to take 75 minutes per visit. A dossier was developed to serve both as a general manual for the visits and as a tool to register the progress of each visit. In this dossier a basic outline

for each visit was provided. Based on the paradigm chosen in this study the main focal points for each visit were the improvement of the influence of the parental ontogenic development (i.e. the parents' childhood experiences as described by Belsky ([3])) upon parenting, the enhancement of the family social support system and the improvement of the child rearing conceptions of the parent. During each visit all of these issues were addressed.

The ontogenic development was discussed to explore and improve its influence on current parenting. This issue was particularly important in case of childhood experiences of maltreatment or violence. If necessary parents were referred to professional treatment. The present social support system in the family was assessed. Parents with low social support were encouraged to enlarge their network by taking up new activities or participating in special parenting activities. In case of conflicted or asymmetric relationships nurses assisted parents in finding ways to restore these relationships in order to increase their supporting quality and decrease their burdensome nature. At each visit parental expectations and perception of both the infant and the parental role were discussed. Information was provided on the child's developmental milestones along with the appropriate and most stimulating parental response to these milestones. Five domains concerning interaction, behavior and health of parents and child were assessed during each visit by means of an observation checklist.

In this checklist each domain contained several items. The domain of *nurture and care* addressed the items 'feeding', 'home environment provided', 'way of holding the child' and 'general care'. The domain of *child health and behavior* concerned 'sleeping', 'crying', 'physical tension' and 'general health'. The third domain, *parent-child interaction* contained three items, 'general interaction as observed by the nurse', 'comforting behavior' and 'communication'. In the domain *affectionate bond* the items 'parent-child attachment', 'parental sensitivity' and 'parental responsivity' are addressed. Finally the domain *involvement of spouse* concerned 'participation in child rearing' and 'amount of caretaking duties'. The nurse scored all items between 1 and 5 with 5 being the optimal score. All scores were based on the observation of the nurse except for the involvement of the spouse. For this domain mothers were asked to rate their partners. In case of low scores advice and

personal demonstrations were given to improve these issues. High scores provided the possibility to confirm parental competence and self-confidence.

Next to these outlined issues for each visit time was reserved for a more client-centered approach. This section of the visit was introduced with three questions. First, parents were asked to share what events in the previous period they had experienced as positive. Then parents were invited to elaborate on issues that troubled them. Finally they were asked to indicate the change they desired regarding these issues as well as the role they would like to see the nurse play in these changes. This way, parents were empowered to remain in control of their situation. However, since parents are not always able to formulate clear questions, the nurses' role was to help articulate parental requests for change.

3.3 Instruments for evaluation and statistical procedures

Both the nurses and the parents were asked to fill out an evaluation-form about the home visits twice during the intervention. The first form was filled out halfway the program at six months, the second at 18 months, after the program was completed. Parents who did not complete the program were also asked to fill out a brief questionnaire addressing their exit-reason(s). The intermediate evaluation-forms were meant to provide basic information about progression and satisfaction and were therefore kept simple. Both parents and nurses were asked some multiple-choice questions regarding the program protocol and some open questions about 'things they appreciated' and 'things they would like to change about the program'. The results of these evaluations were used to create a more standardized evaluation-form that was used at completion of the program. Parents were asked the same questions but more multiple-choice answers were provided. The nurses' questionnaire at completion was much more elaborate since it was used as a means to quantify the information in the dossiers. Thus information was asked about social network, parent-child interaction scores, parental attitudes, types of additional issues addressed during visits as well as referrals and advice provided. As this questionnaire was deployed at completion of the program, the information obtained from the nurse regarding the status of families at the start of the program is of a retrospective nature.

Several statistical procedures were deployed in this study. First of all, in order to determine the relationship between outcomes and certain socio-demographic variables, three procedures were used, depending on the nature of data. To determine the equality of means an independent sample t-test was used or, when more then two categories were present, a one-way analysis of variance with post-hoc Bonferroni-test, using a threshold for ά of .05. In one case a Pearson's correlation was calculated since no specific categories were defined. Second, to explore the quality of progress on certain outcome-variables as reported by the nurse, a paired samples t-test was deployed. Through this test the mean value of the paired difference of each case is determined, displayed as the t-value. Significant t-values represent a significant progress in the outcome.

This study was approved by the Ethics Committee of the Leiden University Medical Center.

4 Results

Of all families 91.6% completed the program. Twenty families left the program early. None of them filled out the intermediate form. Both nurses and parents were asked to fill out a drop-out evaluation form. Nurses indicated no concern about 80% (16 out of 20) of the families dropping out. The following reasons for leaving the program early are provided: 4 families dropped out because they were moving to another part of the country, 5 families gave as their main reason to drop out that they had too many problems on their hands, 8 families claimed they did not have time for the visits and 3 families stated they had enough other support to go without the home visits. 80% of the families dropping out had three or less visits. Response on all evaluations is shown in table 3.

Table 3. *Response of parents and nurses (N=238).*

	Program completed (n=218)		Dropped out (n=20)
	Intermediate evaluation	Final evaluation	Drop-out evaluation
Parents	89.0%	95.4%	55.0%
Nurses	92.2%	100%	100%

4.1 Implementation of the program protocol

At completion of the program the nurses reported an average number of 6.2 visits per family with a maximum of 10 visits and a minimum of 4 visits. Visits shorter than 30 minutes (N=9), that were rescheduled, have not been counted as actual visits. 67.4% of all families received 6 visits; 23 families (10.5%) got less visits and 48 families (22.0%) got more visits. The average number of home visits differs slightly per visiting nurse. Two out of five nurses (nurse A and nurse D) display an average of 6.3 visits per family; nurse C reaches an average of 6.2 visits, nurse E averages 6.1 visits and nurse B has an average of 6.0 visits. Differences are not significant.

In order to determine whether visits took place at their scheduled times we calculated the average number of months after the birth of a child for each visit. Of the families receiving six visits, 16% received their first visit as scheduled, this percentage increased to 54% for the sixth visit being provided as scheduled. Table 4 shows the dispersal of visits, indicating that those families receiving 7 visits got their extra visit as a replacement of the 15 months telephone consult, whereas

families receiving five visits often enrolled in the program too late to receive the first visit.

Table 4. *Dispersal of visits: average number of months after birth for each visit grouped per number of visits.*

Visits	1st visit	2nd visit	3rd visit	4th visit	5th visit	6th visit	7th visit	8th visit
5 (N=21)	3.3	6.0	9.4	13.1	18.0	-	-	-
6 (N=147)	2.3	3.9	6.9	10.1	13.1	18.6	-	-
7 (N=38)	2.6	4.1	6.5	9.2	12.3	15.2	18.4	
8 (N=7)	2.1	3.4	6.1	8.7	11.5	13.5	16.6	19.0

The average amount of time spent per visit was 110 minutes at the first visit. This number declined to 89 minutes at the sixth visit. The visits ranged from 30 minutes to 180 minutes. The amount of time spent per visit as well as the total amount of time spent per family is displayed in table 5, both for the total sample and per nurse. Nurse C needed significantly more time than the other nurses (Nurse A and B $p<.001$; nurse D and E $p<.01$).

Table 5. *Average number of minutes per visit for total sample and per nurse, including total amount of time in minutes spent per family (regardless of number of visits).*

	1st visit	2nd visit	3rd visit	4th visit	5th visit	6th visit	Total
Total sample (N=218)	110	101	99	99	96	89	623
Nurse A (n=44)	112	91	85	81	80	72	555
Nurse B (n=42)	87	81	81	80	80	80	506
Nurse C (n=51)	134	118	107	107	105	92	701
Nurse D (n=37)	105	96	90	90	88	78	575
Nurse E (n=44)	108	96	94	95	89	86	579

The majority of visits took place with only the mother present (73.8%). However, 24.1% of the visits were conducted with both parents present. 1.6% of the visits took place with only the father present and 0.5% of the visits were conducted with others (grandparents, social workers). The (index) child was present at all visits.

In order to determine a possible relationship between the number of visits and several socio-demographic variables of clients an independent sample T-test was conducted. In table 6 the results are presented. Families receiving more than the scheduled 6 visits are found to have a significantly higher inclusion score as well as a significantly higher number of worrisome stressors. There are also significantly more immigrant mothers in these families.

Table 6. *Means (and SD) or percentage for socio-demographic variables related to number of visits with significance of difference (N=218).*

Variable	Number of visits	
	6 or less (N=170)	7 or more (N=48)
Inclusion score	2.0 (1.3)	2.9 (1.7)***
Number of worrisome stressors	2.0 (1.8)	3.4 (2.7)***
First child	49.1%	41.3%
Lower educated mothers	13.7%	23.8%
Immigrant mothers	7.8%	22.2%**

***p‹.001, **p‹.01

A Pearson's correlation test was conducted to determine the relationship between the total amount of time spent per family and the demographic variables shown in table 6. A significant (p‹.001) relationship was found between the amount of time and the family's inclusion score (r =.30) and the number of worrisome stressors (r =.24). This relationship indicates that more time was spent on families with a higher inclusion score or a higher number of worrisome stressors.

4.2 Attainability of the program objectives

Social support for each family is assessed by the nurse, both within the extended family and within the group of friends. The quality of this support is rated at the start and the end of the program. The result of this assessment is displayed in table 7. Improvement of support is analyzed by means of a paired samples t-test. Both t-values indicate a significant improvement of the support system.

Table 7. *Development of social support from family and friends according to the nurse in absolute numbers and results of paired samples t-test (N=217*)*

First visit		Sixth visit			t-value	p-value
		Positive	Neutral	Negative		
Family support:	Positive	80	14	0	5.3	.000
	Neutral	31	52	3		
	Negative	3	26	8		
Friends support:	Positive	80	10	1	6.1	.000
	Neutral	52	55	2		
	Negative	5	7	5		

**Data on one family is incomplete for these variables.*

In order to increase informal social support 83% of all families were referred to various activities. Most referrals were to thematic meetings about parenting (24.8%),

hobby- or sports clubs (23.5%), 'baby-swimming' (23.1%) and parenting courses (17.6%). As for the efforts made to increase formal support; 66.9% of all families were referred to professional care. Most referrals were directed towards the Well Baby Clinics (33.6%), followed by referrals to psychologists, psychotherapists or child rearing counselors (23.9%) and social work (16.8%). Other referrals were to the family physician (13.0%) and the child rearing helpdesk, an information center on parenting issues (11.3%).

The nurses discussed parenting behavior, parent-child interaction and child behavior with the parents during each visit. Observation scores ranging between 1 and 5 were given, with 5 representing the optimal performance. In table 8 the scores given at the first visit are displayed along with the scores at the last visit and the results of a paired samples t-test addressing the significance of positive change. Apparently nurses felt they had achieved a significant positive effect on child health and behavior, on interaction and on the affectionate bond between parent and child.

Table 8. *Observation-scores of parenting and child behavior at first visit, change of scores in percentages and results of paired samples t-test (N=218)*

Observation	Score at 1st visit	Score at 6th visit	t-value	p-value
Nurture and care	3.91	3.95	1.7	.097
Child health & behavior	3.77	3.94	3.6	.000
Parent-child interaction	3.42	3.76	4.8	.000
Affectionate bond	3.88	3.98	3.2	.002
Involvement of spouse	3.72	3.78	1.1	.284

Based on the dialogues the nurse had with the mother regarding mother's ontogenic development the nurse was asked to assess the quality of mother's parenting capacities and her coping with stress, both at the beginning and at the end of the program. The assessment is displayed in table 9, along with a paired samples t-test to determine the positive influence of the intervention as perceived by the nurse. Results of this analysis indicate that the nurses feel they have reached a significant improvement on both variables.

Table 9. *Mother's parenting and coping abilities, according to the nurse, at beginning and end of the program in absolute numbers and results of paired samples t-test*

First visit		Sixth visit			t-value	p-value
		Positive	Neutral	Negative		
Parenting (N=216)*:	Positive	82	5	0		
	Neutral	45	39	1	9.6	.000
	Negative	11	29	4		
Coping (N=215)*:	Positive	56	4	0		
	Neutral	48	59	2	10.1	.000
	Negative	8	33	5		

**Data on two and three families are incomplete for these variables.*

To determine if the intervention objectives were reached with more success for specific types of families the scores on demographic variables provided in paragraph 3.1 were compared through an independent sample t-test. Few socio-demographic variables appear to be related to the improvement of intervention objectives. Nurses feel that family support improves significantly ($p<.001$) in families with a higher inclusion score as does friends support ($p<.05$). Significantly more referrals to formal support have been made in families with a higher inclusion score ($p<.001$) and also in families with a high number of worrisome stressors ($p<.01$). This is the case for immigrant ($p<.05$) and lower educated ($p<.01$) mothers as well. Parent-child interaction is significantly ($p<.05$) improved in families with an immigrant mother according to the nurse. Parent coping appears to improve significantly ($p<.05$) in mothers with a first child based on the nurses' assessment.

4.3 Satisfaction about the program

The results of the intermediate evaluations, both amongst the nurses and the parents, displayed a high level of satisfaction. Nurses indicated that the protocol could be followed well in 96.6% of all families. Nevertheless, nurses felt it was difficult to reach all prescribed goals during the home visits in 15.2% of all families. Forming a bond with parents was reported difficult in only 0.7% of all families. Parents largely confirmed this: 88.7% were very positive about their nurse and the remaining 11.3% were sufficiently satisfied. Regarding the protocol followed, 88.6% of the parents were satisfied about the number of home visits, 94.3% were content about the duration of each visit. Through the open questions many parents indicated that they highly appreciated the time, attention and advice they received

from the nurses, as well as the fact that these visits took place within the trusted environment of their own home. In turn, nurses frequently indicated that they appreciated the possibility to provide more information and advice to families than was possible at the WBC. Furthermore they often stated to be surprised at the openness of parents about their own problems as well as their willingness to change.

In the second evaluation, at completion of the program, parents were asked how they appreciated several aspects of the protocol such as the number and duration of visits. A large majority of parents was very satisfied about all aspects. Of those that were not, 9.6% would have liked more home visits whereas 1.4% preferred less visits (88.9% were satisfied). Regarding the duration of visits, 3.3% would have liked shorter visits and 1.4% rather wanted longer visits (95.2% were satisfied). As for the dispersal of visits, 8.8% would rather have had more visits during the first months, 7.4% on the other hand would have appreciated more visits during the last months of the program (83.8% were satisfied). Finally, regarding the duration of the program, 2.9% of the parents thought 18 months were too long, however 27.1% considered 18 months too short (70.0% were satisfied). No significant differences between nurses were found regarding parental satisfaction about the protocol. Some differences were found on demographic variables. Parents wanting more and longer visits and parents wanting to continue the program after 18 months were significantly ($p<.05$) more often immigrant mothers. Also, mothers preferring longer visits had a significantly lower level of education ($p<.05$). Parents who preferred a shorter program had more than one child significantly more often ($p<.05$) than other parents.

Furthermore, parents were asked how they felt about their future family life and parenting experiences now that the home visits were completed. The majority of parents felt positive about their future (61.7%), 28.3% were not sure how they felt and 10.0% felt insecure about their future. Also parents were asked how meaningful they felt the program had been to their family life and child rearing competence. A majority of 67.5% stated the program had been very meaningful, another 17.5% felt the program had been rather meaningful, 12.6% of the parents had experienced the home visits as sometimes meaningful and 2.4% stated the program had not been meaningful to them. No significant differences between nurses were found on

these answers, however, some differences were found on demographic variables. Significantly more lower educated mothers ($p<.05$) were unsure about their future compared to the other respondents to this question. Also, parents who felt positive about their future had a significantly lower number of worrisome stressors ($p<.05$) than the other two response groups. As for the home visits being meaningful to parents, those that responded negatively to this question had significantly more children ($p<.05$) than other parents.

Finally parents were asked to give a grade between 1 and 10 (10 being the best) for several aspects concerning the content of the program. The average grade for each aspect is very high. In table 10 satisfaction about content aspects is displayed for the entire sample of parents as well as per nurse. No significant differences between the nurses were found in these scores.

Table 10. *Parental satisfaction about the program for total sample and per nurse (N=218)*

Content aspect (av. 1-10)	Total sample	Nurse A	Nurse B	Nurse C	Nurse D	Nurse E
Personal support	8.5	8.5	8.4	8.8	8.4	8.4
Information & advice	8.4	8.4	8.4	8.6	8.2	8.4
Time & attention	8.8	8.7	8.7	9.2	8.6	8.8
Fit to individual family	8.3	8.4	8.4	8.5	8.1	8.4
Bond with nurse	8.7	8.7	8.6	9.0	8.5	8.7

In the same evaluation, at completion of the program, nurses were asked how they perceived the level of problems in the families they visited, both at the first and last visit. They were asked to rate the problems in each family from 0 to 3 with 3 being severe. Through a paired samples t-test the nurses' perception of the influence of the home visits is determined as is displayed in table 11. Furthermore, nurses were asked about their expectations regarding future parenting problems and future maltreatment in the families they visited. These expectations are also displayed in table 11. As was determined in paragraph 3.1, the families that were visited by nurse C had a significantly higher inclusion score than did the families visited by nurse E. We found that in her own perception, nurse C visited significantly ($p<.001$) more families with severe problems at the start of the project than all other nurses. Nurse C also worries about future parenting problems in significantly more of the families she visited ($p<.001$ compared to nurse A and B, $p<.05$ compared to nurse D and E). No significant differences between nurses are found regarding the level of problems at completion, nor regarding the risk for future maltreatment. Except for

nurse E, all nurses feel the level of problems in the families they visited has significantly improved.

Table 11. *Differences in level of problems per nurse, progress through intervention, expectation of future problems, according to the nurse, and relationship to inclusion score (N=218)*

	Incl. score	Problems at start	Problems at completion	t-test results	Future parenting problems	Future maltreatment
Tot. sample	2.3	1.3 (1.0)	0.8 (0.9)	-10.4***	20.8%	4.6%
Nurse A	2.4	1.2 (0.8)	0.6 (0.8)	-5.2***	9.3%	4.5%
Nurse B	2.3	1.0 (1.1)	0.4 (0.8)	-4.2***	11.6%	7.0%
Nurse C	2.6	2.2 (0.7)	1.5 (0.7)	-6.7***	44.0%	6.0%
Nurse D	2.1	1.2 (0.9)	0.4 (0.6)	-6.6***	16.2%	5.4%
Nurse E	1.8	0.8 (0.8)	0.6 (0.8)	-1.2	18.6%	0.0%

***p<.001

For the level of problems in families as perceived by the nurse, and her expectations regarding future problems, differences regarding the demographic variables presented in paragraph 3.1 were found using an independent samples t-test. Families with severe problems at the start, as observed by the nurse, have a significantly (p<.001) higher inclusion score than do families with less severe problems. These families also have a significantly (p<.001) larger number of stressors. Other demographic variables are not related to the severity of problems at the start. The improvement of these problems as perceived by the nurse is also significantly related to a higher inclusion score (p<.001) but not to the number of stressors or any other demographic variables. As for the possibility of future parenting problems, nurses expect these problems significantly more often in families with a high inclusion score and a high number of stressors (p<.01). Parenting problems are also significantly more often foreseen in mothers with a lower education (p<.05) and in families with more than one child (p<.01). Finally future child maltreatment is expected significantly more often in families with high inclusion scores and high numbers of stressors (p<.001) as well as in families with more than one child (p<.01) and immigrant mothers (p<.001).

5 Discussion

Based on the data presented in this study several conclusions can be drawn. First of all, the response on the evaluation forms used to obtain these data is very high. In other process-evaluations this response is often much lower, sometimes as low as 15% ([11]). The same can be said for client retainment. Only 8.4% of all families did not complete the program, whereas for instance Hawaii's Healthy Start Program had lost 49% of their clients by the 12th month ([6]). Reviews on home visitation process-evaluation present percentages of lost clients up to 60% ([7]) or even 67% ([8]).

Regarding the implementation of the program protocol a partial success is attained. Not only does the prescribed number of visits seem feasible according to the mean number of 6.2 visits found, this number has been successfully delivered to 67.4% of all clients. Of the remaining clients only 10.5% received less visits, a result which is contrasted by for instance the 6% families receiving at least the planned number of visits in the Elmira Nurse Home Visiting Program ([13]). It should be noted that the number of visits provided in other studies is often lower than planned ([7]), sometimes even reduced by half ([14]). Still, the dispersal of visits and particularly the duration of each visit deviate from the protocol. There is an average delay of one month in the dispersal of visits and each visit takes over 20 minutes more than was planned in the protocol. The delay may however partly be related to the use of a substantial baseline questionnaire for research purposes. This delay might decrease in a practical setting where no questionnaires will be deployed. Regarding the duration of home visits there are clear differences between the visiting nurses. When exploring the relationship to particular family characteristics it seems that more and longer visits are provided to families with a higher inclusion score as well as to families with a higher number of stressors. More visits are also provided to immigrant mothers.

As for the attainability of the program's objectives, nurses report a significant increase in social support through the intervention, both from the extended family and from friends outside the family. Based on the observation scores that the visiting nurses provided, parenting behavior has improved partially. Noticeable is the fact that nurture and general care for the child have not significantly improved during the intervention according to the nurse. This may be related to the fact that

observed items have changed considerably over time. For instance the appropriate environment for a baby holds different requirements than does the environment for a toddler. According to the nurse mother's parenting and coping capacities have both significantly improved during the intervention. Most of the improvements realized in the families visited do not seem to be related to particular family characteristics. Support was improved particularly in families with a high number of risk factors. Mother's coping capacities improved most in first time mothers and parent-child interaction seemed to gain most improvement for immigrant mothers according to the nurses.

Finally when addressing the parental satisfaction the first conclusion should be that parents are highly satisfied with the program, both regarding protocol issues and regarding the content of the program. The majority of parents had no problem with the fact that the nurses' support had ended, which applies particularly to families with a lower number of worrisome stressors. Those mothers that were unsure regarding their future more often had a lower education. Eighty-five percent of all parents felt the program had been meaningful. It appears that the program is experienced as less meaningful by parents with more than one child. Parental satisfaction did not significantly differ per nurse. There were however differences in the nurses' own perception of problems within a family, which coincide with the average inclusion score found in families when divided per nurse. When exploring the relationship to family characteristics the problems in families are significantly related to the inclusion score and the number of stressors. These problems appear to improve most in families with a higher inclusion score. The prediction of future problems, both in parenting and regarding maltreatment is significantly related to all characteristics with the exception of mother's level of education when maltreatment is concerned and mother's immigrant status when parenting problems are concerned.

At first sight the program seems to be a success. The protocol is adequate although home visits have a slight delay and take up more time than planned. Most objectives improved significantly according to the nurses and parents are highly satisfied. However, all data discussed above are provided by either parents or home visitors. This may very well cause considerable bias in our conclusions, especially regarding the attainability of objectives and the client satisfaction. The most important bias to

be considered is commonly called the Hawthorne Effect ([5]). According to this effect the mere attention nurses were paying to the families visited may have caused improvement in parents. As such, the client satisfaction may be exaggerated. Also, the nurses' desire to diminish the risks in a family may have caused them to over-estimate their own success as they were not only rating a family but their own performance as well. In light of this it may however be interesting that nurses reported an improvement of the level of problems significantly more often in families with a higher inclusion score (a condition to which they were blind) but not in families with a higher number of stressors. A second bias to be considered is called observer bias ([22]). Nurses may have developed a special liking for some families over others which may cause them to over-rate accomplishments in these families. Finally a third bias to be considered is called subject bias ([22]). Parents may have given more positive answers to the evaluation in order to please or compliment their nurse or because they consider the subject of this study to be very important and hope to influence a continuation of the project with their responses.

With these possible biases the results of this study should be handled with care. However, some of the findings provide information that can be used in examining the program effects. Regarding the implementation of the protocol, the large differences found in the amount of time spent per family are worth exploring, controlling for the inclusion score and number of stressors. With regards to the objectives of the program no robust leads for effect analysis are encountered. Few differences between nurses were found. Nurse C differed from the other nurses to some extent on several aspects that may very well be related: the high inclusion score found in the families she visited is related to the level of problems she perceived in these families. This high inclusion score may also be related to the fact that she needed more time per family as well as to the fact that she is more concerned about future parenting problems in these families. Finally regarding the demographic differences found in this study, some of the findings appear to be self-evident. For instance, it makes sense that visits to immigrant mothers take more time due to linguistic difficulties. Particularly the inclusion score and the number of stressors appear to play an important role in several of the outcomes studied, and should thus be explored in effect analysis.

In conclusion we find that the aims of this process-evaluation have mostly been reached. The program under evaluation appears to be implemented as planned. Some variability has been found in all parts of the evaluation, providing leads for the effect-evaluation to be conducted in the next chapter. Both response and client retainment are high compared to other studies and a high degree of satisfaction about the program is found in both clients and home visitors.

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7 References

1. Baartman, H. E. M. (1996). *Opvoeden kan zeer doen, over oorzaken van kindermishandeling [Childrearing can be painful, about the causes of child maltreatment].* Utrecht: SWP.
2. Belsky, J. (1993). Etiology of child maltreatment: a developmental-ecological analysis. *Psychol.Bull., 114,* 413-434.
3. Belsky, J. & Vondra, J. (1989). Lessons from child abuse: the determinants of parenting. In D.Cicchetti & V. Carlson (Eds.), *Child Maltreatment, theory and research on the causes and consequences of child abuse and neglect* Cambridge: Cambridge University Press.
4. Cole, R., Kitzman, H., Olds, D., & Sidora, K. (1998). Family context as a moderator of program effects in prenatal and early childhood home visitation. *Journal of Community Psychology, 6,* 37-48.
5. Cook, T. D. & Campbell, D. T. (1979). *Quasi-Experimentation; Design & Analysis Issues for Field Settings.* Boston: Houghton Mifflin Company.
6. Duggan, A., Windham, A., McFarlane, E., Fuddy, L., Rohde, C., Buchbinder, S. et al. (2000). Hawaii's healthy start program of home visiting for at-risk families: evaluation of family identification, family engagement, and service delivery. *Pediatrics, 105,* 250-259.
7. Geeraert, L. (2004). *Vroegtijdige preventie van kindermishandeling [Early prevention of child maltreatment].* Katholieke Universiteit Leuven.
8. Gomby, D. S., Culross, P. L., & Behrman, R. E. (1999). Home visiting: recent program evaluations--analysis and recommendations. *Future.Child, 9,* 4-223.
9. Guterman, N. B. (1997). Early prevention of physical child abuse and neglect: existing evidence and future directions. *Child Maltreat., 2,* 12-34.
10. Harinck, F. J. H. & Smit, M. (1999). Programma-evaluatie [Program evaluation]. In E.J.Knorth & M. Smit (Eds.), *Planmatig handelen in de jeugdhulpverlening [Systematic action in Youth Healthcare]* (pp. 373-390). Leuven/Apeldoorn: Garant.

11. Hiatt, S. W., Michalek, P., Younge, P., Miyoshi, T., & Fryer, E. (2000). Characteristics of volunteers and families in a neonatal home visitation project: the Kempe Community Caring Program. *Child Abuse Negl., 24,* 85-97.
12. Kitzman, H. J., Cole, R., Yoos, H. L., & Olds, D. (1997). Challenges experienced by home visitors: a qualitative study of program implementation. *Journal of Community Psychology, 25,* 95-109.
13. Korfmacher, J., Kitzman, H., & Olds, D. (1998). Intervention processes as predictors of outcomes in a preventive home-visitation program. *Journal of Community Psychology, 26,* 49-64.
14. Korfmacher, J., O'Brien, R., Hiatt, S., & Olds, D. (1999). Differences in program implementation between nurses and paraprofessionals providing home visits during pregnancy and infancy: a randomized trial. *Am.J.Public Health, 89,* 1847-1851.
15. Kousemaker, N. P. J. (1996). *Zoeken, vinden, zorgen delen: de ontwikkeling van een praktijkparadigma voor onderkenning en pedagogische preventie van psychosociale problematiek in de Jeugdgezondheidszorg. [Searching, finding, sharing care: the development of a practise paradigm for the discernment and pedagogical prevention of psychosocial problems in Youth Healthcare].* Universiteit van Amsterdam.
16. Kousemaker, N. P. J. (1997). *Onderkenning van psychosociale problematiek bij jonge kinderen [Discernment of psychosocial problems in young children].* Assen: van Gorcum.
17. MacMillan, H. L., MacMillan, J. H., Offord, D. R., Griffith, L., & MacMillan, A. (1994). Primary Prevention of child Physical Abuse and Neglect: a critical review. Part I. *J Child Psychol Psychiatry, 35,* 835-856.
18. MacMillan, H. L., MacMillan, J. H., Offord, D. R., Griffith, L., & MacMillan, A. (1994). Primary prevention of child Sexual Abuse: a critical review. Part II. *J Child Psychol Psychiatry, 35,* 857-876.
19. Newberger, C. M. (1980). The cognitive structure of parenthood; the development of a descriptive measure. In R.L.Selman & R. Yando (Eds.), *Clinical-developmental psychology. New directions of child development: clinical developmental research, No. 7* San Francisco: Jossey-Bass.
20. Olds, D. L. & Korfmacher, J. (1998). Maternal psychological characteristics as influences on home visitation contact. *Journal of Community Psychology, 26,* 23-36.
21. Olsen, J. L. & Spatz Widom, C. (1993). Prevention of child abuse and neglect. *Applied & Preventive Psychology, 2,* 217-229.
22. Robson, C. (1993). *Real World Research.* Oxford: Blackwell Publishers Ltd.
23. Willems, J. C. M. (1999). *Wie zal de opvoeders opvoeden; kindermishandeling en het recht van het kind op persoonswording [Who will educate the parents; child maltreatment and the right of the child to become a person].* Den Haag: T.M.C. Asser Press.
24. Wolzak, A. (2004). Adviezen en meldingen over kindermishandeling in 2003; registratiegegevens van de Advies en Meldpunten Kindermishandeling [Advices and reports on child maltreatment in 2003; registered data from the Child Maltreatment Reporting Agency AMK] Utrecht: NIZW Jeugd/Expertisecentrum Kindermishandeling.

8

HOME VISITATION IN FAMILIES AT RISK FOR CHILD MALTREATMENT: ANALYSIS OF EFFECTS

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1 Abstract

Over the past decades a large number of programs for the primary prevention of child maltreatment in families at risk have been designed. This study aims to determine the efficacy of such a program implemented in the Netherlands.

In a randomized controlled setting including 500 families at risk for maltreatment, six home visits were provided by specially trained Well Baby Clinic (WBC) Nurses over a period of eighteen months. Effects of the intervention were evaluated through comparison of a baseline measurement and consecutive measurements at 1 and 2 years of age of the index-child. Parental self-reported parameters were abuse potential (CAP), parenting attitudes (AAPI), child psychosocial development and family burden (KIPPPI) as well as social support. Additional information was obtained from physicians and from the Dutch maltreatment reporting agency.

Parental expectations as well as child development significantly improved and a clinically significant reduction of the risk for maltreatment was achieved in almost a quarter of the families visited, over twice as much as in the control group (22% versus 8%). An analysis of trends revealed particular benefits for families at increased risk. No significant between-group differences were found based on the information from consulted physicians except for families in the intervention group being more punctual regarding their WBC-appointments. A significantly larger proportion of successful referrals to psychological care were found in the intervention group. Maltreatment reports were made slightly more often about families in the control group when excluding reports from visiting nurses. Combined reports suggested an increase of the early detection of maltreating families in the intervention group.

The results of the program suggest a modest success, which is comparable to similar studies in other countries. Further analysis of data to determine specific factors for success as well as follow-up of participating families is recommended.

2 INTRODUCTION

Although there has been an interest in child maltreatment since the beginning of the previous century ([see 22; 46]), it was not until 1962, when Kempe and others called attention to the 'battered child syndrome' ([31]), that child maltreatment became a multi-disciplinary focal point. Just as Helfer (1976) predicted, over the last decades this focus widened from recognition of the most serious form to the initiation of screening and prevention programs ([27]). As knowledge on magnitude, causes, consequences and treatment possibilities increases it becomes clear that primary prevention is indeed our best option ([13; 20; 38]). Reports on the increasing detection of child maltreatment cases and sequelae ([48; 51]) emphasize the urgency of the development and implementation of primary preventive programs.

Over the past decades a large number of different programs have been developed, using different approaches to prevention. Increasingly these programs have been subject to evaluation. Subsequent reviews of systematically evaluated studies demonstrated that primary prevention, especially designed as home visitation, holds promise, although results are ambiguous ([see 19; 23; 36; 37]). A recent meta-analysis of preventive interventions found 28 programs (25 of which were situated in the United States), with a wide variety of designs regarding theoretical foundation, target population, onset, duration, frequency and program objectives ([18; 19]). The measurements used to determine the effects of such programs are related to reports of maltreatment, medical history of the child, (mental) health of the child and the parent, parent-child interaction, family functioning and family context ([18; 19]). This variety in design and outcome parameters may well be one of the causes for the ambiguous results that are found thus far. The search for the most successful design and outcome parameters continues.

In the Netherlands an attempt was made to contribute to these developments in prevention by implementing a program of home visitation in families at risk for maltreatment. This program was designed as a randomized controlled trial and was named Project OKé (an abbreviation of *Ouder- en Kindzorg extra*, meaning Parent and Childcare extra). Different aspects of the program were designed based on reviews of available research and theory. Process evaluation of the implementation of this program has demonstrated a high level of satisfaction in

participants and a general sense of accomplishment in home visitors. Furthermore client retainment was high and protocol implementation, especially regarding the planned number of home visits, was a success. The number of risk factors found at inclusion, the rate of family stress and the time spent per family were determined to be variables that might interfere with effects of the intervention (see chapter 7). The quality of this program can only be fully established once a systematic effect evaluation has been conducted. Such is the purpose of this chapter.

Based on a combination of two theories, the ecological theory of Belsky ([6-8]) and the theory of parental awareness introduced by Newberger and elaborated by Baartman ([1; 2; 43]), several objectives for this study were formulated. Evidently the primary objective is the prevention of child maltreatment and consequentially the reduction of the risk of maltreatment. It is reasoned that this reduction should be realized by improving parental awareness through the enhancement of knowledge, attitudes and skills related to child rearing and the understanding of the parental developmental history. Furthermore reduction of the risk for maltreatment should be helped through the establishment of functional connections to professional support as well as the enhancement of the social support system. This study seeks to determine the effects of home visitation versus normal care in families at risk, on parenting attitudes, child development, family stresses, social support and risk for maltreatment. In addition differences on (mental) health-related outcomes are studied.

3 Methods

For this home visitation program families at risk were selected, from the entire population of families with newborn children in the northern part of the province South Holland, by means of a questionnaire addressing risk factors for child maltreatment. The questionnaire consisted of a page for the Well Baby Clinic (WBC) nurse to fill out and three pages for the parents, one with general questions and one for both father and mother. The WBC nurse visited the families two weeks after the birth of a child and collected the questionnaires. Twenty-three demographic and psycho-social risk factors, such as single parenthood, childhood experiences of maltreatment, social isolation and dysphoria (i.e. depression, psychiatric disorders and severe psychological distress) as well as the nurses' 'concern' about a family were addressed in this questionnaire. Response could result in a maximum of 21 points. A score of 1 point was enough to select a family (see chapter 5).

A total of 1263 families out of 8899 were selected by means of this questionnaire (see figure 1 and chapter 5). Families were approached for the program and asked to fill out a baseline measurement and a consent form with respect to participation and agreement to filling out questionnaires. Permission to send questionnaires to both the general practitioner and the WBC-physician was also obtained. Families responding with signed consent were randomly assigned to either the control group or the intervention group through a computer program using an undisclosed sequence of numbers to assign to individual cases. A program secretary sent out written notification to families in the control group along with information about a child rearing telephone-helpline available in the Netherlands. Home visiting nurses approached families in the intervention group by telephone to set a date for the first home visit.

All families in the intervention group received home visits by a specifically trained WBC-nurse. The home visitation program was devised to provide a total of six home visits, each with a duration of 75 minutes, at the child's age of six weeks, three months, six months, nine months, twelve months and eighteen months. A consultation by telephone was scheduled at fifteen months. The focal points for each visit were the parental development, the family social support system and the child rearing conceptions of the parent (see chapter 7).

3.1 Instruments for effect evaluation

Aside from the baseline, measurements were taken twice, first at the child's age of one year and again at the child's age of two years, in order to measure the effects during the intervention as well as the persistence of effects six months after the last home visit. For this purpose questionnaires were sent to parents and, if consent was provided, to general practitioners (in 83.6% of the cases) and WBC-physicians (in 80.8% of the cases). All questionnaires for the physicians were designed especially for the program. Questionnaires for the parents were sent per family and parents were free to decide who would fill them in. In each measurement over 90% of the questionnaires were filled in by mothers. In 93% of the families one parent consistently responded to all measurements.

3.1.1 Parental evaluation

The parental questionnaire consisted of four instruments and some general information. This information was used for a demographic profile of the participants (such as age, level of education and number of children - see table 1). Other general information was related to the birth of a child since the start of the program as well as the family's medical consumption. The first instrument deployed is the Adult Adolescent Parenting Inventory (AAPI) version 2. The AAPI, containing four constructs, was first developed in 1979 ([4]). In 1999 the AAPI was revised and a fifth construct was added. The internal reliability of the constructs ranges from .75 to .86 and test-retest reliability for the total test was reported at .76. The inventory was normed on a sample of more than 2000 adults and 6500 adolescents, including separate samples of abusive adults and abused adolescents ([26]). The five constructs of the AAPI 2 are 'Inappropriate parental expectations' (A), 'Parental lack of an empathic awareness of children's needs' (B), 'Strong belief in the use and value of corporal punishment' (C), 'Parent-child role reversal' (D) and 'Oppressing children's power and independence' (E). For each construct norm scores between 1 and 10 have been developed. Scores between 4 and 7 are considered mid-range. Scores above 7 represent a nurturing, non-abusive parenting philosophy ([3]). All five constructs are used in this study.

The AAPI has not been used previously in Dutch-speaking countries. For the purpose of this study it had to be translated. In order to ensure linguistic validation a process of 'back translation' was applied which means translation of the original

wording into (in this case) Dutch and back to English followed by a comparison of both English versions, which allows for the clarification of discrepancies. Proper linguistic validation requires more than the translation of a string of words from one language into an equivalent string of words in another language. It requires that comparability in meaning is achieved, or in other words, conceptual equivalence ([16]). This is accomplished best by employing native speakers from both countries who are familiar with culture-related concepts behind the wording of questions as has been done in this study. The Dutch version of the AAPI has resulted in generally acceptable Cronbach's alphas at baseline: .78 in constructs A and B, .79 in construct C, .75 in construct D and .50 in construct E.

The second instrument used in the parental questionnaire is the short version of the Child Abuse Potential Inventory (CAPI). This instrument originally contained 160 statements to which parents had to agree or disagree. Each worrisome answer is assigned a number of points, ranging from 1 to 23 and yielding a possible total score of 485. An elevated score indicates an increased risk for maltreatment. The statements are divided over six scales, the main scale being the 'abuse potential' scale. This main scale can again be divided into six 'factor scales', related to distress, rigidity, unhappiness, problems with child and self, problems with the family and problems with others ([40]). The CAPI yields a correct classification rate of 96% for various types of maltreatment ([40; 42]). In the short version the main ('abuse potential') scale is reduced from 77 to 70 items through removal of the factor scale 'problems with child and self', resulting in a maximum total score of 450 points. Confirmation of the internal consistency and correlation to the original instrument is yet to be published but preliminary results indicate that both are very high ([41]). A Dutch translation of the full CAPI has been deployed by the universities of Leuven (Belgium) and Amsterdam (Netherlands, Vrije Universiteit). The latter reported an internal consistency of .93 ([see 32]). The short version of the CAPI (from here on referred to as the CAP) has not been used previously in Dutch-speaking countries. In this study the CAP resulted in a Cronbach's alpha of .86.

The third instrument deployed is a Dutch questionnaire developed especially for use at Well Baby Clinics, called the Short Instrument for the Inventory of Psychological and Pedagogical Problems (*Kort Instrument voor Pedagogische en Psychologische Probleem Inventarisatie*, KIPPPI) ([34]). Several versions of this

instrument are available, deploying questions specific for different developmental stages of infants and toddlers aged 0-5 years. Reliability of the instrument has been researched on multiple occasions with different versions and a Cronbach's alpha of 0.81 to 0.83 has been reported ([35]). In this study three different versions of the KIPPPI were used; one for infants, one specially tailored for one-year-olds and one for two year old children. Each version addresses the child's health, behavior, emotional, social and cognitive development. Since responses to these items are provided by parents the resulting outcomes can to some extent be related to parental perception, especially considering socio-emotional behavior. Furthermore family burden is assessed through a series of questions on the perception of parenting and caretaking as well as the presence of certain stressors. In the baseline measurement this burden is assessed over the past two years. Stressors are related to psychological and physical health, conflict and financial matters in the nuclear and larger family. Apart from the presence of these stressors, parents are asked to indicate the level of concern these stressors caused to them. The response to the KIPPPI can be classified into several constructs ([35]). For the purpose of this study response to each measurement, although slightly different in number and wording of questions, were divided into two constructs: 'child behavior and development' and 'family burden', generating a Cronbach's alpha of .73 and .81 respectively. The construct of child behavior and development has a maximum of 116 points at baseline, 112 points at the first year measurement and 204 points at the final measurement. The construct of family burden has a maximum of 176, 108 and 112 points respectively. Through linear transformation all scales were made comparable with a maximum of 100 points. Elevated scores warrant concern in a family.

The final instrument for the parental evaluation is a brief Social Support questionnaire, containing 15 items addressing the level of support from spouse, family, friends, neighbors and professionals regarding parenting, household duties and personal issues, as well as the parental satisfaction regarding the received support. The questionnaire was designed based on several questionnaires addressing social support ([10]). Reliability of this particular questionnaire has not been investigated. In this study a Cronbach's alpha of .76 was found. We decided to present the entire questionnaire as a single construct where a maximum score of 68

points could be reached. An elevated score implies the presence of satisfying support.
Since information on scores obtained from a normal population are not available in the Netherlands for three of the four instruments used in the parental evaluation, a second control group was established at a later time to compare the scores after two years in our sample to those in a supposedly low-risk population. Out of the 4615 families that responded to our selection questionnaire but were not found to be at risk, a random sample of 400 families was approached. Of these families 13 turned out to have moved away. In the remaining 387 families the response was 63.6%. No reminder system was deployed to increase this percentage.

3.1.2 Health-related evaluations

The questionnaires for the general practitioners and the WBC-physicians were sent twice: at the children's age of one and two years. Both questionnaires were designed for this study. The general practitioner was asked about the number of contacts with each family, both face to face and by telephone, the physicians' concern about a family and the number of visits to the emergency room. Furthermore the general practitioner was asked about several diagnoses that may be indicative of child maltreatment. These are classified into 'injuries' (intoxications, burns, brain damage and other accidents or injuries) and worrisome diagnoses (such as dehydration, anemia, excessive crying, cystitis, diaper-dermatitis, nutritional problems and delayed growth). The WBC-physician was asked about the development of the child regarding motor skills and communication, about the physicians' concern about a family, and about parents keeping their appointments to the Well Baby Clinic. To establish possible bias in the judgment of physicians they were asked whether they knew in which group a family was randomized. General practitioners knew this in 1.8% of all families; WBC-physicians had this knowledge on a slightly larger portion of parents: 7.6%. As these percentages are small they will not be included in the analysis.

More information on health-related issues is derived from the family's medical consumption, addressed in the general information section of the parental measurements. First of all parents were asked to report the number of visits they paid to the emergency room with their index-child to enable verification with the reports of the general practitioner. Secondly they were asked to indicate their use of

other professional support. This support was divided into medical (such as hospital specialists, physiotherapy, speech therapy etcetera) or psychological support (such as psychotherapists, social workers and child rearing counselors).

Finally, data were obtained from the local Child Maltreatment Reporting Agency (*Advies en Meldpunt Kindermishandeling*, AMK) regarding the number of maltreatment reports they received and verified during the total of 3 years since the start of this study. Since there is no mandatory reporting law in the Netherlands neither large nor representative numbers of reports can be expected. Also, due to understaffing, there are waiting-lists for the verification of reports, which results in a further decline of the number of reports available to this study. Nevertheless, there are no alternative options for this type of data available. The AMK differentiates between reports made for the purpose of advice and for the purpose of intervention. Only reports for intervention are registered with the child's name. These reports were therefore the only ones that could be linked to our database. AMK data were group wise anonimized. Group division was based on the type of response received from parents (see figure 1). Reports made by the program's home visiting nurses were excluded to differentiate between intervention effects and 'natural course'.

This study was approved by the Ethics Committee of the Leiden University Medical Center.

3.2 Statistical procedures and analysis of data

Raw scores on all constructs used in the parental evaluations were treated as prescribed in the according scoring-manuals. To improve accuracy in case of missing response on a construct the method of proration was used. Each missing response was assigned a score equal to the mean item score for the particular construct. In case a manual did not provide a limitation of the number of missing responses allowed for a construct to still be considered valid, we applied a limit of 10% missing items per construct. As it turned out the proportion of families generating invalid constructs due to blanc responses did not exceed 4% of the sample on any of our measurements. In case of duplicate answers to an item or in case of a 'between-item'-response (where parents checked between two boxes

indicating they couldn't choose between two answers) consistently the more worrisome response was chosen in data processing.
In order to determine the effects of the intervention both groups of families are compared on a number of demographic variables. In case of scores on these variables the mean score and Standard Deviation (SD) are displayed, except for parental age where the range is indicated. In case of the presence or absence of a certain condition percentages are presented. To determine if scores or percentages in more than two groups differed significantly from each other a one-way analysis of variance with post-hoc Bonferroni-test (with $p<.05$) was used. In case of a two-group comparison this was done by means of an independent sample t-test.

Linear regression analysis was used to compute differences between the intervention group and the control group, separately for the results after one and two years and in both cases adjusted for baseline scores. Regression coefficient (B) and 95% confidence intervals are displayed. Significance of the regression coefficient occurs if the entire interval is either below or above zero. Using so-called dummy variables the interaction effects for subgroups of families were determined, again by means of linear regression analysis. The interaction effects indicate the difference found in the effect of the intervention for subgroups of families with either a high or low score on another variable. Regression was also deployed to determine the influence of the inclusion score, the amount of family burden and the time spent on home visits (variables found in the previous chapter) on the effects of the intervention.

To determine to what extent changes in scores on parental measurements due to the intervention could be considered clinically significant the Reliable Index of Change was calculated. This index was introduced by Jacobson and others ([for example 29]) and has later been refined by Hageman and Arrindell ([25]) as the RC Index, utilizing *i*mproved pre-post *d*ifference scores (RCid). The Reliable Index of Change was designed to ensure that changes observed from pre- to post-test are reflecting "more than the fluctuations of an imprecise measuring instrument" ([29, p14]). The refinement by Hageman and Arrindell, the RCid, constitutes an adjustment for regression to the mean "in so far as the phenomenon is present and caused by measurement unreliability" ([25, p700]). The RCid presents an advantage for this study as it can be calculated without the use of the Standard Error of Measurement (SEM),

whereas the original index by Jacobson and others cannot. Calculation of the RCid requires the mean, standard deviation and reliability of scores (calculated using Guttmann's reliability coefficients) of pre- and post scores as well as the Pearson correlation of pre- and post scores. For the exact formula see Hageman and Arrindell, 1993, pages 697 and 698 ([25]). Application of the RCid results in a transformation of individual scores on a given construct. With the level of significance set at 5%, the absolute value of a transformed score has to exceed 1.96 (or -1.96) to conclude that some reliable change has occurred ([25]). As such the RCid allows for a classification of clients into three categories: deteriorated, recovered and unchanged (or changed but not beyond the threshold of 1.96) ([29]).

In this study the RCid has been calculated separately for the intervention group and for the control group, using their own parameters (such as standard deviation and reliability of scores). Outcomes are provided for all constructs investigated in this study and both for results after one and two years. Results on the RCid are simplified by omitting the proportion of families remaining unchanged on the index. Thus, only two out of three categories are presented.

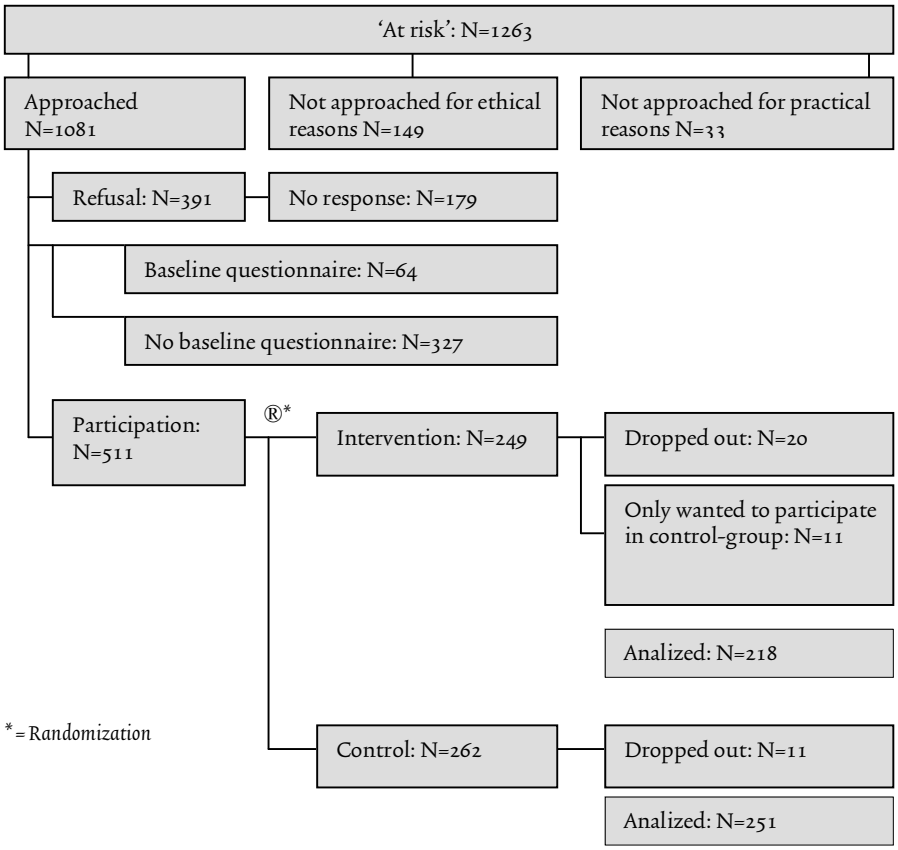
4 Results

As is displayed in figure 1, 1263 in 8899 families were found to be at risk through the selection procedure (see chapter 5). Most of these families were approached for the home visitation program. Two groups of families were not approached; 33 families for practical reasons such as administrative errors or because the selection questionnaire was returned more than six months after the birth of the child. Another 149 families were not approached for ethical reasons: either parents explicitly denied participation on the selection questionnaire or a nurses' concern was expressed without a parental questionnaire being returned. In the latter cases sending out an invitation for the program was considered a substantial risk of damage to the relationship between a family and their Well Baby Clinic (WBC).

Upon approach, a total of 902 (391+511) families responded, 391 of which denied participation although 64 (16%) did fill out the baseline questionnaire. While families were approached by phone to set a first home visit date, 11 families indicated they wanted only to participate in the control-group. As this was considered selective participation these families were excluded from the program. Later analysis of this process revealed some administrative errors during selection resulting in a total of 20 families, equally divided over intervention- and control group, actually not being at risk for child maltreatment. These families are included in the analysis.

During the entire study 11 families from the control group and 20 families from the intervention group ceased to participate in the program. The majority (6 families from the control group and 19 families from the intervention group) did so before their child turned 1 year. Reasons for drop out of the intervention group are described in chapter 7. Of the families that ceased to participate in the control group five families felt the questionnaire was too extensive, two families moved outside the country and in one family the child passed away. The remaining 3 families failed to return their measurements with no known reason.

Figure 1. *Sample composition*



Eventually 218 families in the intervention group and 251 families in the control group were included in our analysis. Within this sample, five families from the intervention group and seven families from the control group returned their 2-year questionnaire but not their 1-year questionnaire, while seven families from the intervention group and fourteen families from the control group did the opposite. In table 1 the socio-demographic characteristics of our sample are presented, as well as those of the 'low-risk' group approached at two years. Comparison of the intervention group and the control group demonstrates that, with the exception of immigrant status for both parents and lower education for fathers, the intervention

group appears to hold a slightly more concerning population on all variables. These differences are however not significant with the exception of fathers' higher education level.

Table 1. *Sample characteristics.*

	Intervention	Controls	'Low risk'
N=	218	251	246
Inclusion score	2.2 (1.4)	2.0 (1.4)	0
Selected on mother	51.8%	51.8%	-
Selected on father	17.4%	20.7%	-
Selected on both parents	25.7%	23.5%	-
Parent(s) maltreated as child	61.0%	55.4%	-
Social isolation in family	27.5%	25.5%	-
Parent(s) dysphoria	44.5%	39.0%	-
Nurses' concern about family	14.7%	10.4%	-
Single parent family	10.6%	7.2%	0
Mother's age	31.6 (20-43)	32.4 (22-42)	32.8 (23-48)
Immigrant* mother	7.1%	10.7%	3.0%
Lower educated mother†	15.8%	13.2%	5.1%
Higher educated mother‡	32.6%	42.6%	45.5%
Father's age	34.1 (19-60)	35.3 (21-59)	35.4 (25-53)
Immigrant* father	7.2%	5.7%	1.7%
Lower educated father†	13.8%	16.7%	7.8%
Higher educated father‡	30.3%	44.2%	42.6%
Average number of children	1.7 (1-5)	1.8 (1-5)	2 (1-7)
First child	47.4%	42.6%	29.0%

* *Immigrant: born outside western European countries, North America, Australia or New Zealand (for rationale see chapter 6).*

† *Lower education: lower general secondary education*

‡ *Higher education: college or university*

Compared to the intervention group mothers in the 'low-risk' group are significantly older and less often lower educated, while fathers are also significantly older and less often of immigrant status. 'Low-risk' families have significantly more children than do families in the intervention group and the index-child is significantly less often a first child. When comparing low-risk families to the control group the pattern of significant differences diverges slightly from the intervention group: we found less lower educated mothers and less mothers of immigrant status, less lower educated fathers and less first children.

When comparing the intervention and control group to the other groups presented in figure 1, we found few significant differences. Amongst families that dropped

dropped out (N=31) significantly less immigrant fathers are found. Furthermore, families dropping out had a significantly higher average inclusion score of 3.0. Finally, amongst families that refused participation or failed to respond (N=570) we found significantly less dysphoric parents.

4.1 Evaluation of parental measurements

In table 2 all parental responses to the effect measurements are displayed. Average scores on baseline, first year and second year measurements for all scales are presented. Also regression coefficients for the intervention effect in each construct are shown. On the baseline measurement the control group scores slightly better than the intervention group does, which coincides with findings from table 1. Comparison to other groups of families as presented in figure 1 generates no significant differences with one exception: families refusing participation have significantly lower scores on the CAP.

Regression analysis shows some significant effects. Construct A of the AAPI (*expectations*) improved significantly (p=.025) during the intervention; however, this effect was lost at two years. The first construct of the KIPPPI (*child development*) demonstrated a significant effect of the intervention in both measurements (p=.036 at 1 year and p=.018 at 2 years). Construct E of the AAPI (*non-oppressive parenting*) deteriorated in both measurements although deterioration was smaller after two years (p=.019 at 1 year and p=.038 at 2 years). Comparison of both measurements shows small differences. Furthermore, an analysis of interaction effects generated two significant findings regarding constructs of the AAPI. We found that the intervention significantly improved scores on construct B (*empathy*) in families with a higher risk of maltreatment (CAP scores ›80; B = .90, p=.012), and on construct C (*punishment*) in families with a higher burden score (Family Burden ›16; B = .63, p=.032; data not shown in table 2). Finally, in the intervention group 23 families (11.0%) reported the birth of a new child in their family after they started participation, versus 39 families (17%) in the control group (data not shown in table 2). This difference is approaching significance (p=.088).

A closer analysis of the effects of the intervention after two years, whereby baseline scores were categorized into tertiles, resulted in the following significant findings regarding the construct of social support. First of all social support seemed to

improve most through the intervention (though not significant) in families with either very little support or very much support at baseline when compared to the control group. However, in families with an average amount of support the intervention generated a reverse effect: support decreased significantly (B= -4.04, p=.030) compared to the control group. Thus, the effects of the intervention seem to describe a u-form regarding this construct. Second, the intervention had an almost significantly positive effect in families that started out with high spousal support (B= 3.0, p=.057). With these findings a closer examination of the results on the social support scale was conducted. We found that in both the intervention group as well as in the control group, the number of supportive resources decreased over time along with the satisfaction experienced about these different supportive resources. In the intervention group this decrease was however significantly smaller regarding the support from the spouse when compared to the control group, as was determined by an independent sample t-test (p=.031; further data not shown).

In the previous chapter three variables were assumed to influence the effect of the intervention: the family's inclusion score, the amount of family burden and the amount of time spent during the home visits. However, regression analysis within subgroups of families marked either low or high on these variables demonstrated no significant effects.

Table 2. *Scores on parental measurements and regression analysis of intervention effect at 1 and 2 years, controlled for baseline (Ni =218, Nc= 251)*

		Baseline Mean (SD)	1 Year Mean (SD)	B_1*	95% CI_1*		2 Year Mean (SD)	B_2†	95% CI_2†	
					lower	upper			lower	upper
Appropriate expectations (AAPI A)	I	6.3 (1.9)	6.5 (1.5)	.266	.03	.50	6.4 (1.6)	.148	-.10	.40
	C	6.4 (1.9)	6.3 (1.5)				6.2 (1.5)			
Empathic awareness (AAPI B)	I	5.7 (1.8)	6.1 (2.0)	.076	-.22	.37	6.1 (1.9)	.117	-.19	.43
	C	5.7 (1.7)	6.0 (1.9)				5.9 (1.9)			
Values alternatives to Corporal punishment (AAPI C)	I	5.7 (1.2)	6.0 (1.3)	.081	-.14	.30	5.9 (1.3)	.047	-.19	.28
	C	5.8 (1.3)	5.9 (1.4)				6.0 (1.4)			
Appropriate family roles (no role reversal) (AAPI D)	I	5.7 (1.6)	7.1 (1.6)	.023	-.22	.27	7.2 (1.5)	.117	-.09	.44
	C	5.7 (1.6)	7.0 (1.7)				7.0 (1.6)			
Non-oppressive to. Childs' power & independence (AAPI E)	I	5.4 (2.3)	3.5 (1.8)	-.412	-.75	-.07	3.7 (1.9)	-.361	-.70	-.02
	C	5.5 (2.4)	3.9 (1.9)				4.1 (1.9)			
Worrisome child development (KIPPPI)	I	11.1 (9.2)	5.1 (4.9)	-1.059	-2.05	-.07	7.0 (5.6)	-1.379	-2.52	-.24
	C	10.2 (8.0)	6.1 (6.1)				8.3 (6.5)			
Family Burden (KIPPPI)	I	10.3 (8.6)	5.7 (5.6)	.331	-.58	1.25	5.3 (6.3)	.009	-1.01	1.03
	C	8.6 (7.9)	5.1 (5.1)				4.7 (5.3)			
Family's Social Support	I	42.9 (10.0)	41.3 (10.1)	.324	-1.12	1.77	41.1 (9.6)	.223	-1.33	1.78
	C	42.3 (9.5)	40.2 (9.0)				40.2 (9.5)			
Child Abuse Potential (CAP)	I	84.8 (66.3)	75.6 (65.0)	-.830	-8.91	7.25	70.1 (62.5)	-2.605	-10.92	5.71
	C	74.2 (56.9)	69.6 (55.7)				66.3 (54.6)			

* *Difference between intervention group& control group controlled for baseline (regression coefficient) and 95% confidence interval at 1 year*

† *Difference between intervention group& control group controlled for baseline (regression coefficient) and 95% confidence interval at 2 years*

Nota Bene: Higher scores on constructs of the AAPI and on Family's social support are considered improvement, in the KIPPPI and the CAP lower scores are considered improvement.

The next step in our evaluation of parental measurements is the comparison of scores of families in the 'low-risk' second control group at two years to those found in the intervention group and the control group. This is done in table 3, presenting the mean scores and standard deviations found in the 'low risk' group, combined with the significance of this comparison through one-way ANOVA. Following our findings presented above, families in the intervention group do not differ from low-risk families on the outcome of child development (KIPPPI) while families in the control group do. On family burden (KIPPPI), social support and Child Abuse Potential (CAP) our sample still differs from the low-risk population. Regarding scores on all AAPI constructs, no differences between groups are found.

Table 3. *Scores in 'low-risk' second control group (N=246) at 2 years and significance of comparison to Intervention (I) and Control group (C) through one-way ANOVA.*

	'Low-risk' group Mean (SD)	ANOVA vs. I	ANOVA vs. C
Appropriate expectations (AAPI A)	6.2 (1.4)	1.0	.477
Empathic awareness (AAPI B)	6.0 (1.9)	1.0	1.0
Values alternatives to Corporal punishment (AAPI C)	6.0 (1.4)	1.0	1.0
Appropriate family roles (no role reversal) (AAPI D)	7.0 (1.3)	.249	1.0
Non-oppressive towards children's power & independence (AAPI E)	3.9 (1.8)	.469	1.0
Worrisome child development (KIPPPI)	6.1 (5.6)	.305	.000
Family Burden (KIPPPI)	2.3 (3.2)	.000	.000
Family's Social Support	46.6 (9.5)	.000	.000
Child Abuse Potential (CAP)	32.7 (25.8)	.000	.000

4.1.1 Clinical significance of parental measurements

Since the effects for the intervention found through regression analysis were small we decided that it was important to calculate the percentage of families in whom effects were clinically significant. For this purpose the reliable index of change (RCid) was calculated. Positive change in families is considered significant if this index is larger than 1.96. Results are presented in table 4.

Table 4. *Improvement and deterioration (%) on the reliable index of change RCid after 1 and 2 years.*

		Results after 1 year				Results after 2 years			
		Impr.	p	Deter.	p	Impr.	p	Deter.	p
Appropriate expectations (AAPI A)	I	18.0%	.970	21.3%	.730	19.3%	.038	20.8%	.911
	C	17.9%		20.0%		12.1%		21.2%	
Empathic awareness (AAPI B)	I	23.6%	.217	26.0%	.215	23.3%	.610	16.7%	.679
	C	28.8%		31.3%		21.3%		15.2%	
Values alternatives to Corporal punishment (AAPI C)	I	11.0%	.162	7.7%	.722	13.9%	.978	11.1%	.937
	C	7.2%		6.8%		13.9%		10.8%	
Appropriate family roles (no role reversal) (AAPI D)	I	37.3%	.805	4.8%	.328	48.1%	.074	10.5%	.425
	C	38.5%		3.0%		39.7%		12.9%	
Non-oppressive towards children's power & indep. (AAPI E)	I	40.6%	.437	39.1%	.584	55.1%	.377	44.9%	.377
	C	44.3%		36.6%		50.9%		49.1%	
Child development (KIPPPI)	I	32.2%	.000	1.5%	.066	9.0%	.000	10.9%	.139
	C	16.6%		0%		0.9%		15.9%	
Family Burden (KIPPPI)	I	33.5%	.182	0%	-	38.3%	.128	0%	.347
	C	27.6%		0%		31.3%		0.4%	
Family's Social Support	I	2.2%	.122	6.5%	.077	1.1%	.021	4.8%	.000
	C	5.1%		11.6%		5.2%		17.9%	
Decreased Child Abuse Potential (CAP)	I	18.2%	.003	10.8%	.070	22.0%	.000	10.0%	.291
	C	8.6%		6.0%		8.1%		7.2%	

Positive change after two years was achieved significantly more often in the intervention group compared to the control group in three constructs (AAPI A, *expectations,* KIPPPI, *child development* and CAP) and approached significance in AAPI D, *family roles*. Family Social Support improved significantly more often in the control group after two years, but it also deteriorated significantly more often in this group, when compared to the intervention group. Interestingly, when comparing the results from 1 and 2 years, in the intervention group the percentage of positive change increased on 6 out of 9 constructs, while this percentage decreased in 4 out of 9 constructs in the control group.

Positive change in at least 6 out of 9 constructs as presented in table 4 was found after two years in 10.0% of the control group as opposed to 18.3% of the intervention group. This difference is significant (p=.009). Interestingly, when comparing these 'successful families' in the intervention group to the remaining families in the intervention group we found that these parents almost significantly more often participated with their first child (p=.051) and furthermore that these parents presented significantly more worrisome baseline scores on the KIPPPI constructs *child development* (p=.007) and *family burden* (p=.001).

4.2 Health-related evaluations

Response on the questionnaires for general practitioners and WBC-physicians was high. After the first year, 88% of the general practitioners and 99% of the WBC-physicians responded. After the second year, 85% response was received from both physicians. Overall, 79% of the general practitioners and 84% of the WBC-physicians filled out both questionnaires. The results of the combined responses of general practitioner and WBC-physician on both measurements are displayed in table 5, along with parental reports on visits to the Emergency Room (ER) and 'medical consumption' (including the use of professional psychological care).

Again some significant differences between intervention group and control group are found in this analysis. The lower number of face to face contacts to the general practitioner in the intervention group approaches significance (p=.098). Families in the intervention group were significantly more punctual in keeping their appointments to the Well Baby Clinic (p<.05). Also, families in the intervention group needed significantly less specific medical care (p<.05) and had significantly more (p<.01)

psychological professional support. This is in spite the fact that there are no significant between-group differences in referrals made by both the general practitioner and the WBC-physician (data not shown).

Table 5. *Combined physicians' report on family contact, concern and assessment as well as parental report on ER-visits and consumption of professional care.*

	Intervention (SD)	Controls (SD)	β	95% CI	
				low	up
General practitioner report	N=151	N=169			
Concern about family	20.5%	19.5%	.027	-.09	.14
Face to face contacts	6.1 (5.4)	7.2 (6.6)	-1.143	-2.50	.21
Phone contacts	2.0 (2.9)	2.1 (5.5)	-.081	-1.14	.98
Mean of injury-related diagnoses	.23 (.52)	.20 (.47)	-.031	-.08	.14
Mean of other worrisome diagnoses	.48 (.73)	.50 (.98)	-.022	-.23	.18
Mean of ER visits	.60 (.94)	.59 (.95)	-.043	-.20	.21
Actual ER visits	49 (32.4%)	52 (30.8%)			
WBC-physician report	N=160	N=179			
Family keeps appointments	98.0%	93.5%	.045	.00	.09
Child development worrisome	13.1%	18.4%	-.053	-.13	.02
Support indicated	37.3%	30.3%	.070	-.03	.17
Parental reports	N=218	N=251			
Mean of ER visits	.34 (.92)	.32 (.67)	.025	-.15	.20
Actual ER visits	23 (10.5%)	26 (10.3%)			
Medical care	21.7%	31.2%	-.109	-.22	-.00
Psychological care	33.2%	19.6%	.220	.11	.33
No extra care	51.6%	53.5%	-.028	-.12	.06

Regarding the comparison of reported visits to the emergency room, in the intervention group 37 parents did not report these visits and general practitioners did not know about 12 families visiting the ER. In the control group 39 parents did not report their visits whereas general practitioners were uninformed about the visits of 16 families. Combined reports of ER visits show the same nonsignificant differences as are displayed in table 5.

In table 6 the reports on suspected child maltreatment per response group, following figure 1, are presented together with the percentage of children per group that is reported with several exceptions. First, groups in which no reports were made are omitted from table 6. Second, as part of the families dropping out of this study moved to other parts of the Netherlands no information could be obtained on possible reports

about these families. Therefore this group is omitted as well. Finally, as was discussed in the methods section, reports by the home visiting nurses are also omitted from table 6. Two families were reported to the AMK by the visiting nurses at completion of the program.

Table 6. *Verified reports of child maltreatment in groups of families.*

Families	Reports	
	N	%
Intervention group (N=218)	1	0.5
Control group (N=251)	2	0.8
Refused participation to the program (N=327)	1	0.3
Did not respond to the invitation for participation (N=179)	5	2.8
Not approached for ethical reasons (N=149)	6	4.0
Total number of reports in families at risk (N=1263)	15	1.2

Through one-way ANOVA several significant differences between these groups were found. Families that were not approached for ethical reasons are significantly more often reported than families in the control group (p=.002), families that refused participation (p=.000) and almost significantly more often than families in the intervention group (p=.057). Furthermore, families that refused participation were significantly more often reported than families that did not respond to the invitation for participation (p=.024).

Against the background of this entire study other group-divisions have also been studied. First of all three categories are made to compare families at risk to those that were considered 'low risk' and those that did not respond to our selection questionnaire. Amongst 'low-risk' families (N=3757) 5 verified reports were filed (0.1%), amongst non-respondent families (N=3880) 29 verified reports were filed (0.7%). Comparison through one-way ANOVA demonstrates significant differences (p<.01) between all three categories. Secondly we found that 4 of the families about whom a nurses' concern was registered (N=306) were reported (1.3%), whereas about families without a nurses' concern (N=6829) only one report was filed (0.02%). Finally, when considering the origin of selection, in families that were selected based on mother's score 9 in 710 families were reported (1.3%) while in families selected based on father's score 2 in 300 families were reported (0.7%). In families that were selected based on both parents 7 in 304 families were reported (2.3%), which is significantly more (p=.050) than in families that were selected based on father's score.

5 Discussion

This randomized controlled trial resulted in several positive effects. Statistically significant improvements during the intervention were realized regarding *parental expectations* (AAPI A) and *child development* (KIPPPI). The latter of these improvements was maintained after the intervention was completed. On this construct (KIPPPI -*child development*-) we also found that home visited families no longer differed from 'low-risk' families at two years. Clinically significant changes through the Reliable Index of Change demonstrated improvement in 1% - 55% of all families visited. These improvements were significantly larger than those in the control group in three constructs (*Child Abuse Potential* -CAP-, *Child development* -KIPPPI- and *Parental expectations* -AAPI A-). Clinically significant positive change in six or more out of nine constructs was found almost twice as often in the intervention group compared to the control group, a significant difference. Over time clinically significant positive change increased in two-third of the constructs due to the intervention, while without the home visits positive change decreased in almost half the constructs. Through the health-related evaluation we found that families in the intervention group had established connections to professional psychological support sources significantly more often than did families in the control group. Finally we found slightly more reports about suspected child maltreatment in families in the control group when reports by the program's nurses were excluded. Reports in the intervention group increased by 200% (from 1 to 3) when including those made by the visiting nurses, suggesting that the program improves the early recognition of maltreatment.

A closer analysis of separate parameters has provided several interesting findings. First of all it should be considered encouraging that the intervention caused a particular improvement of parental *empathy* (AAPI B) in families at a high risk for maltreatment. As low levels of empathy are found to reflect a greater likelihood of maltreatment ([17]) inversely one might reason that improvement of empathy could serve as a buffer against the risk for maltreatment. Secondly the intervention appeared to result in a better appreciation of non-physical punishment methods, particularly in families with a high level of burden (KIPPPI). As both family stressors and a positive attitude with regards to physical punishment can increase the risk for maltreatment ([9; 33]) the accomplished shift in attitude towards physical

punishment in this particular group of families could constitute an important protective coping skill in stressful situations ([see 28]). Furthermore it is worth mentioning that we found fewer subsequent births in families in the intervention group compared to the control group, a difference approaching significance. Small time-spacing between children is considered to increase the risk for child maltreatment ([11]). This finding is reported by Olds, Henderson, Kitzman, Eckenrode, Cole and Tatelbaum (1999) as well, as part of their long-term findings ([45]), which suggests that the differences found in our study on this particular outcome may increase over time.

We found a reversed effect of the intervention on the AAPI construct *non-oppressive parenting* (AAPI E) in both measurements. This construct is considered the weakest of all five AAPI constructs ([30]) according to the designers of the instrument, which is confirmed by the lower Cronbach's alpha (.50) found in our study for this construct. A closer examination of this particular construct demonstrates that the individual items (i.e. *Children who learn to recognize feelings in others are more successful in life* or *Parents who are sensitive to their children's feelings and moods often spoil them*) seem to entail more than the construct suggests to be measuring. Parents scoring low on this particular construct are supposed to "view children with power as threatening and are expecting strict obedience to their demands" ([3 scoring sheet]). Perhaps these types of questions are more difficult to answer as parents cannot envision the consequences of the described behavior. The fact that even scores found in the 'low risk' second control group are within the worrisome range (below 4) suggests that other influences may be at play concerning this construct. These influences may be related to cultural differences between the Netherlands and the country of origin of the instrument (United States). They may also be related to the timing of our measurements, as children go through a difficult phase around this time and tend to increasingly challenge their parents.

Results from the Social Support questionnaire demonstrated that the improvement of the social support system hinges on the quality of spousal support. This is consistent with the conclusions of Belsky (1981) about the crucial role of spousal support ([5]) and confirms the notion that this source of support should be an important focus in future interventions. As for the general lack of improvement caused by the intervention, intuitively it makes sense that encouraging families to

restore and enlarge their social network may result in initial social commotion before generating positive results. Also, the quality of a social support network is likely to change, particularly after the birth of a first child. The fact that the intervention caused support to improve in families scoring either high or low at the baseline while at the same time causing a decrease for families scoring average at the baseline when compared to the control group was puzzling. Possibly the intervention has caused a re-evaluation of the available support in this group, resulting in lower scores on consecutive measurements. Either way, further research is necessary on this subject.

Regarding the health-related evaluation we found no differences between groups for maltreatment-related diagnoses or visits to the emergency room. A number of preventive studies used these parameters as outcome, however only few of them found significant differences ([see 21; 37]). Olds, Henderson, Chamberlin and Tatelbaum (1986) did find significant differences, particularly for babies of poor, unmarried teenagers ([44]). These findings suggest that we may find significant differences in subgroups of participating families, a topic for future research. Interestingly, our intervention resulted in significantly more punctual WBC-visits, a result aimed for by a number of studies but rarely reported ([see 21]). The most robust results of programs that aim to prevent child maltreatment are to be measured through the number of maltreatment reports. As maltreatment is a relatively rare event in the population (at least 23 in each 1000 children are supposedly maltreated each year in the Netherlands ([based on 49])), large numbers of participants are necessary to demonstrate significant changes in the rate of occurrence of maltreatment ([21]). In addition, in the Netherlands the number of reports to be expected is even lower due to a lack of mandatory reporting laws. Also, it should be considered that only 27% of all reports are about children age 3 or younger (the age-group in our sample) ([51]), which may be related to the fact that 52.5% of all reports are made by schools and (mental) health-care institutions to which children below three years of age are less visible ([50]). As a result of these limitations only cautious conclusions can be drawn from the small numbers of reports found in this study.

When considering our sample of participants, two conclusions can be drawn. First, 47% of all at-risk families approached agreed to participation. This percentage may

be low compared to enrollment proportions in other studies (75-90%), retainment on the other hand was very high (92% versus percentages ranging from 33 to 80) ([21]). As far as could be determined based on the baseline questionnaires returned by 16% of the refusing families, those families that declined participation to the program did not differ significantly from participants, suggesting that enrollment bias was small. Families that did not complete the program had a significantly higher number of risk factors than those that remained in the program, although no significant differences were found on the baseline measurement. Secondly, a large amount of our outcomes was based on parental self-reported parameters. Therefore we have to consider the possibility of bias ([14; 47]). The likelihood of bias is largest in the intervention group, as the home visits through their very purpose have probably made parents more aware of a number of issues that are particularly addressed in the selected measurements. Furthermore, bias due to the so-called Hawthorne effect as well as 'subject bias' may have occurred (see also chapter 7). However, bias in the control group may also have occurred due to the so called test-effect. In fact, several parents reported in their consecutive measurements that 'even answering the questions in these measurements had made them think about their parenting behavior and role'. All things considered the presence of bias is conceivable in our study but the direction and consequences of this bias are difficult to establish.

For the evaluation of preventive programs there are literally dozens of instruments to choose from. In this study four instruments were chosen in relation to the program objectives. Ideally a prevention program should generate the following cascading set of parental reactions ([21]): improved knowledge and skills in parents should enhance perception and expectations and thereby promote empathic and sensitive parenting, thus decreasing the risk of maltreatment. In this study particularly the KIPPPI and the AAPI helped confirm this cascading pattern to a certain point, although a significant decrease in the risk of maltreatment (CAP) could not be obtained. Two of the instruments used in this study generated unexpected results: the Social Support questionnaire (as addressed above) and the CAP. A recent publication by Chaffin and Valle (2003) suggested that, although the CAP has a high static predictive validity, the dynamic predictive validity is less well supported ([12]). This may be related to the fact that part of the characteristics addressed in the CAP, such as parental personality traits and the adult's own

childhood history of maltreatment, tend to be relatively stable characteristics and are therefore difficult to change by an intervention ([39]). Consequentially the RCid was applied (as suggested by Milner ([41])) , not only to the CAP but also, since the modified RCid made this possible, to the other constructs used in this study.

We conclude that this program is a modest success. The findings of relatively small effect sizes are consistent with those of other studies addressing populations of high-risk families ([23; 24]). Timing may be a factor in the size of our findings as it is unclear which 'time horizon' is best in establishing effects of an intervention ([23]). The dosage of this intervention may also be related to the effect sizes found although findings on the ideal dosage for an intervention remain unclear ([23; 36]). A clinically significant reduction of the risk for maltreatment was realized in almost a quarter of the intervention group. Similar reductions were found in the constructs AAPI A (*expectations*) and KIPPPI (*child development*). A partial success was achieved regarding the improvement of support through the intervention. When comparing scores in our sample to a supposed 'low risk' sample at two years we found that scores in both the intervention and control group were still significantly more worrisome regarding *family burden* (KIPPPI), *social support* and *child maltreatment potential* (CAP). This finding suggests that there is still a long way to go for our study sample. However, the significant amount of professional (psychological) support realized in the intervention group through the nurses' referrals, combined with the finding that clinically significant positive change in two third of the constructs used in this study increased between one and two years, could provide an indication that effects may grow over time. This would be consistent with other studies demonstrating a strengthening of program gains over time ([see 15; 36]). Follow-up of our study sample is necessary to determine such outcomes.

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7 References

1. Baartman, H. E. M. (1996). Als mishandelde kinderen ouder worden [When maltreated children grow up]. *Tijdschrift voor Orthopedagogiek, 35,* 392-406.
2. Baartman, H. E. M. (1996). *Opvoeden kan zeer doen, over oorzaken van kindermishandeling [Childrearing can be painful, about the causes of child maltreatment].* Utrecht: SWP.
3. Bavolek, S. J. & Keene, R. G. (2001). *Adult-Adolescent Parenting Inventory; administration and development handbook*. Family Development Resources, Inc.
4. Bavolek, S. J., Kline, D. F., McLaughlin, J. A., & Publicover, P. R. (1979). Primary prevention of child abuse and neglect: identification of high-risk adolescents. *Child Abuse Negl., 3,* 1071-1080.
5. Belsky, J. (1981). Early human experience: A family perspective. *Developmental Psychology, 17,* 3-23.
6. Belsky, J. (1984). The determinants of parenting: a process model. *Child Dev., 55,* 83-96.
7. Belsky, J. (1993). Etiology of child maltreatment: a developmental-ecological analysis. *Psychol.Bull., 114,* 413-434.
8. Belsky, J. & Vondra, J. (1989). Lessons from child abuse: the determinants of parenting. In D.Cicchetti & V. Carlson (Eds.), *Child Maltreatment, theory and research on the causes and consequences of child abuse and neglect* Cambridge: Cambridge University Press.
9. Black, D. A., Heyman, R. E., & Slep, A. M. (2001). Risk factors for child physical abuse. *Aggression and Violent Behaviour, 6,* 121-188.
10. Boom, D. C. v. d. (1988). *Neonatal irritability and the development of attachment : observation and intervention.* Universiteit Leiden.

11. Browne, K. D. & Saqi, S. (1988). Approaches to screening for child abuse and neglect. In K.D.Browne, C. Davies, & P. Stratton (Eds.), *Early prediction and prevention of child abuse* (pp. 57-85). Chichester: John Wiley & Sons.
12. Chaffin, M. & Valle, L. A. (2003). Dynamic prediction characteristics of the Child Abuse Potential Inventory. *Child Abuse Negl., 27,* 463-481.
13. Cohn, A. H. & Daro, D. (1987). Is treatment too late: what ten years of evaluative research tell us. *Child Abuse Negl., 11,* 433-442.
14. Cook, T. D. & Campbell, D. T. (1979). *Quasi-Experimentation; Design & Analysis Issues for Field Settings*. Boston: Houghton Mifflin Company.
15. Daro, D. & McCurdy, K. (1994). Preventing child abuse and neglect: programmatic interventions. *Child Welfare, 73,* 405-430.
16. Deutscher, I. (1973). Asking Questions cross-culturally: some problems of linguistic comparability. In D.P.Warwick & S. Osherson (Eds.), *Comparative Research Methods* (pp. 163-186). Englewood Cliffs, New Jersey: Prentice-Hall, Inc.
17. Feshbach, N. D. (1989). The construct of empathy and the phenomenon of physical maltreatment of children. In D.Cicchetti & V. Carlson (Eds.), *Child Maltreatment, theory and research on the causes and consequences of child abuse and neglect* Cambridge: Cambridge University Press.
18. Geeraert, L. (2004). *Vroegtijdige preventie van kindermishandeling [Early prevention of child maltreatment].* Katholieke Universiteit Leuven.
19. Geeraert, L., Van den, N. W., Grietens, H., & Onghena, P. (2004). The effects of early prevention programs for families with young children at risk for physical child abuse and neglect: a meta-analysis. *Child Maltreat., 9,* 277-291.
20. Gelles, R. (1984). *Applying our knowledge of family violence to prevention and treatment: What difference might it make?* In Durham: Paper presented to the Second National Conference for Family Violence Researchers.
21. Gomby, D. S. (1999). Home Visiting: Recent Program Evaluations - Analysis and Recommendations. *The Future of Children, 9,* 4-26.
22. Gordon, L. (1988). *Heroes of their own lives; the politics and history of family violence*. New York: Viking Penguin Inc.
23. Guterman, N. B. (1997). Early prevention of physical child abuse and neglect: existing evidence and future directions. *Child Maltreat., 2,* 12-34.
24. Guterman, N. B. (1999). Enrollment strategies in early home visitation to prevent physical child abuse and neglect and the "universal versus targeted" debate: a meta-analysis of population-based and screening-based programs. *Child Abuse Negl., 23,* 863-890.
25. Hageman, W. J. J. M. & Arrindell, W. A. (1993). A further refinement of the reliable change (RC) index by *i*mproving the pre-post *d*ifference score: introducing RCid. *Behav.Res.Ther., 31,* 693-700.
26. Hanson, R. A. (1990). Initial Parenting Attitudes of Pregnant Adolescents and a Comparison with the Decision About Adoption. *Adolescence, 25,* 629-644.

27. Helfer, R. E. (1976). Early identification and prevention of unusual child-rearing practices. *Pediatr.Ann., 5,* 91-105.
28. Hillson, J. M. C. & Kuiper, N. A. (1994). A stress and coping model of child maltreatment. *Clinical Psychology Review, 14,* 261-285.
29. Jacobson, N. S. & Truax, P. (1991). Clinical Significance: A statistical approach to defining meaningful change in psychotheray presearch. *Journal of Consulting and Clinical Psychology, 59,* 12-19.
30. Keene, R. G. (4-8-2005*). AAPI questions.* Ref Type: Personal Communication
31. Kempe, C. H., Silverman, F. N., Steele, B. F., Droegemueller, W., & Silver, H. K. (1962). The Battered-child Syndrome. *JAMA, 181,* 105-112.
32. Keuning, M., Schulze, H. J., Stams, G. J., Groenewegen, I., & Schuengel, C. (2002). Marital conflict strategies predict child abuse potential in Dutch families from low socioeconomic backgrounds. *Zeitschrift für Familienforschung, 14,* 153-166.
33. Kotch, J. B., Browne, D. C., Ringwalt, C. L., Dufort, V., Ruina, E., Stewart, P. W. et al. (1997). Stress, social support, and substantiated maltreatment in the second and third years of life. *Child Abuse Negl., 21,* 1025-1037.
34. Kousemaker, N. P. J. (1996). *Zoeken, vinden, zorgen delen: de ontwikkeling van een praktijkparadigma voor onderkenning en pedagogische preventie van psychosociale problematiek in de Jeugdgezondheidszorg. [Searching, finding, sharing care: the development of a practise paradigm for the discernment and pedagogical prevention of psychosocial problems in Youth Healthcare].* Universiteit van Amsterdam.
35. Kousemaker, N. P. J. (1997). *Onderkenning van psychosociale problematiek bij jonge kinderen [Discernment of psychosocial problems in young children].* Assen: van Gorcum.
36. MacLeod, J. & Nelson, G. (2000). Programs for the promotion of family wellness and the prevention of child maltreatment: a meta-analytic review. *Child Abuse Negl., 24,* 1127-1149.
37. MacMillan, H. L., MacMillan, J. H., Offord, D. R., Griffith, L., & MacMillan, A. (1994). Primary Prevention of child Physical Abuse and Neglect: a critical review. Part I. *J Child Psychol Psychiatry, 35,* 835-856.
38. MacMillan, H. L., Thomas, B. H., Jamieson, E., Walsh, C. A., Boyle, M. H., Shannon, H. S. et al. Effectiveness of home visitation by public-health nurses in prevention of the recurrence of child physical abuse and neglect: a randomised controlled trial. *The Lancet,* (in press).
39. McNary, S. W. & Black, M. M. (2003). Use of the Child Abuse Potential inventory as a measure of treatment outcome. *Child Abuse Negl., 27,* 459-461.
40. Milner, J. S. (1990). *Child abuse potential inventory Manual (2nd edition).* Illinois: Webster: Psytec Corporation.
41. Milner, J. S. (25-3-2004). *Short CAPI.* Bouwmeester, M. Ref Type: Personal Communication
42. Milner, J. S. & Ayoub, C. (1980). Evaluation of "at risk" parents using the Child Abuse Potential Inventory. *J.Clin.Psychol., 36,* 945-948.

43. Newberger, C. M. (1980). The cognitive structure of parenthood; the development of a decriptive measure. In R.L.Selman & R. Yando (Eds.), *Clinical-developmental psychology. New directions of child development: clinical developmental research, No. 7* San Francisco: Jossey-Bass.
44. Olds, D. L., Henderson, C. R., Jr., Chamberlin, R., & Tatelbaum, R. (1986). Preventing child abuse and neglect: a randomized trial of nurse home visitation. *Pediatrics, 78,* 65-78.
45. Olds, D. L., Henderson, C. R., Jr., Kitzman, H. J., Eckenrode, J. J., Cole, R. E., & Tatelbaum, R. C. (1999). Prenatal and infancy home visitation by nurses: recent findings. *Future.Child, 9,* 44-1.
46. Parton, N. (1985). *The Politics of Child Abuse.* London: MacMillan Publishers Ltd.
47. Robson, C. (1993). *Real World Research.* Oxford: Blackwell Publishers Ltd.
48. Sedlak, A. J. & Broadhurst, D. D. (1996). *The Third National Incidence Study of Child Abuse and Neglect: NIS 3.* Washington: U.S. Department of Health and Human Services.
49. Willems, J. C. M. (1999). *Wie zal de opvoeders opvoeden; kindermishandeling en het recht van het kind op persoonswording [Who will educate the parents; child maltreatment and the right of the child to become a person].* Den Haag: T.M.C. Asser Press.
50. Wolzak, A. (2002). *Adviezen en meldingen over kindermishandeling in 2001; registratiegegevens van de Advies en Meldpunten Kindermishandeling [Advices and reports on child maltreatment in 2001; registered data from the Child Maltreatment Reporting Agency AMK]* Utrecht: NIZW Jeugd/Expertisecentrum Kindermishandeling.
51. Wolzak, A. (2004). *Adviezen en meldingen over kindermishandeling in 2003; registratiegegevens van de Advies en Meldpunten Kindermishandeling [Advices and reports on child maltreatment in 2003; registered data from the Child Maltreatment Reporting Agency AMK]* Utrecht: NIZW Jeugd/Expertisecentrum Kindermishandeling.

9

General discussion

1 Introduction

This study was a first attempt to establish the efficacy of a prevention program for families at risk of child maltreatment in a randomized controlled setting. In this final chapter we reflect upon what we have done, how we have gone about that, what results we gained and where we should go from here. There are three main topics for this last chapter. These are the method of selecting families at risk, the implementation and efficacy of the intervention of choice, and the future implications of this study.

We first discuss the selection of families at risk. How did the instrument we designed for this study perform compared to other instruments? What theoretical perspective did we assume when designing our instrument and why did we do so? Which results were obtained from parents and nurses and to what use can we put these results?

Secondly, we discuss the implementation and efficacy of our prevention method, that of home visitation. We review the choices we made regarding the design of our study and their possible implications. We continue to discuss the results that were obtained and the considerations that go with the effects as they were generated through our different measurements.

Finally we address the future implications of our study. Which topics should be further investigated and what is our conclusion regarding implementation of the program in the practical setting?

2 SELECTING FAMILIES AT RISK

At the beginning of this thesis, in chapter 2, we have presented different definitions for prevention and chose to integrate the definitions of Caplan (1964) and Gordon (1983) into *indicated primary prevention*: "Primary prevention involves lowering the rate of new cases by counteracting harmful circumstances before they have had a chance to produce 'illness' ..." ([12, p26]), this should be "applied to persons who are found to manifest a risk factor that identifies them, individually, as being at high risk for the future development of a 'disease'..." ([41, p21]). In chapter 4 we returned to this choice, stipulating the reasons why this choice needed to be made. We chose indicated primary prevention in spite of the chances that we would reach smaller effects. We chose indicated primary prevention because we consider a family at risk to be in need of intervention and support, not only because of a future risk but first of all because of current dire circumstances. And most of all, we chose indicated primary prevention for practical reasons, because universal primary prevention with sufficient intensity just is not affordable at current times ([18; 29]).

This choice requires the selection of families at risk and it requires an instrument to perform this selection. Given the design of our intervention (which will be addressed in paragraph 3.1) such an instrument should be administered at an early stage, preferably perinatally. A number of instruments could be deployed for the selection of families at risk, such as the Child Abuse Potential Inventory ([40]) focusing primarily on parental psychosocial functioning or the Short Psychological and Pedagogical Problems Inventory ([32; 33]), focusing primarily on aspects of child well being, behavior and development as well as parental attitudes, the parent-child dyad and influences of family stressors. Aside from these possibilities we found several instruments that were developed with the purpose of determining the population of families at risk based on a large scope of variables. These instruments mainly originated in the United States, but also in Belgium, the United Kingdom, Greece, New Zealand and Australia ([1; 3; 4; 11; 21; 27; 42; 43]). Most of these checklists, except for two of them ([27; 42]), addressed both demographic and psychosocial items. The two exceptions addressed psychosocial items only. Publications on six out of eight checklists also provided a percentage of families found to be at risk through actual prospective application of the instrument, which ranged from 6.7% to 39%. The instrument for selection we have designed for this study was similar to previous

designs in a number of ways. Our instrument contained 21 questions per parent addressing both demographic and psychosocial items with the emphasis on psychosocial items. The choice for these items was first of all based on the review of risk factors for child maltreatment as we have presented in chapter 3. Considering the examples of earlier instruments developed as well as the strength of the relationship between a particular risk factor and child maltreatment a number of factors were chosen for our instrument. Through several expert-meetings with experts in theory (scientists) and practice (nurses) the wording as well as the weight for each particular question was decided.

At the base of our decisions concerning our selection instrument are the paradigms chosen for this study (see chapters 2 and 3). By working from the ecological model presented by Belsky (1980) ([7]) combined with the notion of parental awareness ([6; 44]) we chose to approach the parenting situation from the parental perspective. That is, we included all systems from the ecological model but emphasized the role of the parent and his or her parental interactions. For, as Van der Pas (2003) put it, Belsky's model "tunnels a set of determining influences through a box, called 'parenting', and declares child development to be the end product of what goes on in that particular box" ([46, p78]). We needed the notion of parental awareness to understand what goes on in this 'box' of Belsky. Of course we could have chosen other paradigms for this study, ones that place more emphasis on the wider parenting situation or on the child and its development. However, this would require a different point of view. In chapter 3 we discussed how the family (micro) system, including the characteristics and development of the child, and the wider supporting (exo) system do indeed influence the parenting situation. Still, in the end it is the way in which parents cope with these influences that can lead the parenting situation towards maltreatment, and the parental coping abilities are in turn influenced by their personality and developmental history. Thus, from our point of view, based on theoretical and empirical considerations (see chapter 3) the parent-centered approach is the obvious one.

From this approach then, we asked ourselves what constitutes parenting? If we are to understand child maltreatment as a parenting problem, as was established in chapter 2, it makes sense to select parents at risk for maltreatment based on risk factors that are most related to parenting. Van der Pas considered a parent to be "a

person with an awareness of being responsible for a child, unconditionally and forever" ([46, p62]). This definition focuses "on the ethical quality of the parental stance *vis a vis* a child" ([46, p41 -original italics-]). It rises above biological ties, procreation and child rearing proper as "the essence of the parental stance is not biological or psychological in nature, and does not refer to rights, duties and the generally known responsibilities of parents" ([46, ibidem]). Van der Pas claimed that this definition is not affected by differences in class, race, gender, religion, sexual orientation and intellectual endowment; essentially all demographic factors. Parenting is much more influenced, according to Van der Pas, by the community values on parenting, the accessibility of services (including those from family, friends and, particularly, spouse), the parental ability to reflect upon their actions as parents and finally the experience of 'good parent moments' ([46]); factors that could be classified within the 'psychosocial domain'. Therefore we have placed more emphasis on psychosocial risk factors in our selection instrument, and less emphasis on demographic risk factors.

Amongst the risk factors we chose, there are several factors that in itself are subject to little change, such as the experience of childhood maltreatment in parents, or single parenthood. One could argue against selecting families based on relatively static risk factors when the purpose of this selection is a preventive intervention. We made this choice for two reasons. First of all, the presence of these factors contributes to the amount of risk in a family as was found in chapter 3. Secondly, although these factors themselves cannot be changed, the way they are perceived by parents can indeed be altered through an intervention, resulting in improved parental actions.

2.1 Results of selection

After thirteen months of deploying our instrument in the local population of families with a newborn child we defined 17.0% of these families to be at risk. This percentage resulted in a sample of 511 families willing to participate in our preventive intervention as is described in chapter 8. Selecting a population for our preventive intervention was however not our only goal in deploying the questionnaire. While literature is scarce regarding the actual numbers of families with newborns at risk to be found in a population, in the Netherlands knowledge on the incidence of individual risk factors as well as the amount of families at risk is virtually nonexistent. Therefore charting the incidence of individual risk factors in

the Netherlands was a second important goal to be achieved through our questionnaire. As is the case in foreign studies, our estimate of the amount of families at risk depended on the threshold set for 'at-risk' status. Although another threshold would have generated another percentage of families at risk, information gained with the threshold set for this study is useful to increase knowledge on the size of the Dutch at risk population.

With regards to individual risk factors our goal has been achieved to some extent. When comparing our findings in chapter 5 to international findings the proportion of Dutch families presenting particular risk factors is similar or in some cases lower (such as current spousal violence and sexual abuse). As was discussed at the end of chapter 5 this could be due to several causes, for instance the timing of our questionnaire, the possibility of socially desirable responses and the cultural differences between the Netherlands and other countries, such as the United States, from which much of the research used for comparison originated. Our findings probably constitute an under-estimation of incidence of individual risk factors. Due to the possibility of socially desirable responses, the amount of non-response to our questionnaire and the characteristics of the region in which our study took place (a mostly rural area with only few larger cities in it) we cannot be sure that the percentages we found are representative for the entire Dutch population. Regarding the total percentage of families 'at-risk' we bear in mind that another threshold would have generated a different percentage. Still, the percentage found in this study lies well within the range found through other (foreign) selection instruments. For the Netherlands it has recently been confirmed by research in another province in the Netherlands, Zeeland, where 19.4% at-risk families were found at 18 months after the birth of a child in the family ([47]).

A very important question regarding the selection of families at risk is whether we did in fact select the right families. Data presented in chapter 8 regarding the number of child maltreatment reports indicate that our instrument was in fact rather successful in depicting which families were at increased risk. Only 0.1% of the families found to be at low risk were reported to the AMK (*Advies en Meldpunt Kindermishandeling*, the Dutch maltreatment reporting agency), compared to 1.2% in families at risk. This means that the Negative Predictive Value (indicating the percentage of families that will not maltreat their children amongst the population

supposed to be 'low risk') of our instrument is high (99.9%). Since there will never be a 100% reporting rate at AMK's we cannot make statements about the Positive Predictive Value (the percentage of families amongst high-risk families in which actual maltreatment will be found) based on these data. With these numbers we should of course consider the non-response to our selection questionnaire. The fact that 0.7% of these families were reported for suspected child maltreatment confirms our findings in chapter 6. In this chapter we concluded that part of the non-respondent population was at increased risk for maltreatment although our data were not suited for the determination of an exact proportion within the non-respondent group. We assumed that part of this group did not respond for other reasons such as lack of time, illiteracy and failure to understand the purpose of our study. This assumption is confirmed by the fact that the proportion of reported families amongst non-respondents is lower than the proportion of reports from our high-risk group.

Because we envisioned future implementation into daily Child Health Care practice for our program if proven successful, we placed particular emphasis on the Well Baby Clinic nurses' perception of a family. As was presented in chapter 5, nurses considered 4.3% of all families to be at risk, which is only about a quarter of the total number of families found to be at risk through parental reports on our questionnaire. We assumed that this might be explained by the fact that nurses weigh the presence of protective factors in their assessment and furthermore that their assessment may be influenced by, for instance, their amount of experience and the extent of disclosure in parents. Compared to the risk factors reported by parents it appeared that nurses' concern coincided most often with directly visible risk factors such as signals of psychological problems, single parenthood and low birth weight. Statistical relations between nurses' concern and parental developmental history or social isolation were nonsignificant.

We have reason to believe that the proportion of families raising a nurses' concern would be higher if we were to select families now, three years later. This is related to the fact that recently the issue of parental developmental history has been added to the questions in the WBC-dossier that is to be started at the nurses' first visit to a family. It seems plausible that this addition to the nurses' routine will have made them more sensitive to the risk factors related to a problematic developmental

history. Furthermore we feel that nurses in the study-region have improved their assessment skills due to this project, which would influence the rate of families identified to be at risk in future implementation in this particular region. In a survey conducted after the selection was completed, 71.4% of all participating nurses indicated they had become more alert to the signals of at-risk families (data not previously presented).

The proportion of families nurses expressed concern about is again well comparable to the Zeeland study referred to earlier, where 3.3% of families caused concern in nurses ([47]). Finally, when we assess the reliability of the nurses' concern we find the same Negative Predictive Value as we found based on the entire questionnaire. The selection of families based solely on the nurses' assessment may appear to be a good option based on these results, however, nurses missed at least 10 families that were reported in the at-risk group based on parental responses. As such it is our conclusion that the combined selection procedure of both nurses' assessment and parental self report remains the best option.

3 PREVENTION IN FAMILIES AT RISK

Based on an extensive review of 28 different prevention programs Geeraert (2004) described several essential elements for a successful prevention program ([24]). In accordance with a number of other publications ([for instance 28; 37]) she concluded that home visitation was the most promising form of primary preventive intervention. Home visits should start prenatally or immediately postnatally and they should be lengthy and intensive. Home visits should be provided on a voluntary basis and their contents and aims should be plural - aside from parenting skills, parental personal problems, individual family circumstances and social support should be targets of the intervention as well ([24]). In chapter 4 we presented a number of possibilities regarding the design of a home visiting program, on which we based the decisions for our study.

3.1 Implementation

We chose to implement our program postnatally, contrary to a number of other programs ([like 19; 38; 45]) that preferred to start during pregnancy. It appears that this preference is often based on a study by Larson (1980) comparing different initiation points for preventive studies and concluding that a prenatal onset is most effective ([34]). Both Guterman (1997) and Geeraert (2004) point out that no other studies provided support for the findings of Larson. Since both prenatal and postnatal studies gained positive results there is no strong empirical evidence for the choice of a prenatal onset over later program initiation ([24; 28]). That being said, there are some practical considerations, related to, amongst other things, the possibility of forming a bond between parent and visitor, as we discussed in chapter 4. Our choice to start postnatally was mostly based on our possibilities for implementation: given the setting of our study, placed in the Well Baby Clinics, recruitment of families was easiest right after the birth of a child in a family. As a consequence the intervention had to start postnatally as well. As was presented in chapter 7, the establishment of a functional bond between parent(s) and home visitor was very successful despite the fact that home visits were not initiated prenatally.

Many suggestions have been made about the duration and intensity of preventive programs. According to Cohn-Donnelly (1992) visits should last at least six months

and preferably three to five years ([17]). In her review Geeraert concluded that visits should take place at least every other week at the beginning of the program. The intensity of a program could be reduced after the first six months ([24]). Empirical evidence for the best 'dosage' of preventive programs is ambiguous. As an example, Gabinet (1979) found that improvement in families was related to the duration of the intervention ([22]). More recently MacLeod and Nelson (2000) found that parental behavior improved most when a maximum of 12 home visits was provided ([36]). Finally Chaffin, Bonner and Hill (2001) found no relationship between program intensity or duration and outcomes ([14]). Our choice was to provide a relatively mild program, including six visits over 18 months, the first three of which took place within six months. Again, this choice was largely based on practical (financial) grounds. Aside from empirical evidence suggesting that a higher dosage of intervention does not automatically imply better results, there are several practical considerations, as were outlined in chapter 4. A high-dosage program may send the message that parents cannot cope without constant surveillance. Also chances of drop out increase as a higher demand is made on the availability of parents. It should however not be forgotten that part of our intervention was the referral of families to specific professional support whenever necessary, something that was accomplished very well as was presented in chapter 8. Based on the results in chapter 7 we conclude that the design of this study was implemented successfully and generated a high level of satisfaction in participating parents. This is contrary to several other programs that were unable to provide visits as scheduled ([for example 31]) or lost a substantial part of their clients before the end of the program ([for example 20]).

Regarding the contents and aims of a successful intervention program Geeraert stipulated that the mere provision of parenting education will not be sufficient. Essentially programs should aim at parenting and childrearing, at personal problems and needs of the parents, at the (material) family circumstances and at the social support a family can expect. As such a program should be tailor-made to the individual needs and possibilities of each family participating in the program in order to be successful ([24]). The core of our program was the paradigm of parental awareness ([5; 6; 44]). We placed this paradigm within Belsky's ecological system ([7; 8]) as was visualized in chapter 4. As a result social and professional support systems and family stressors became a focal point for our intervention, but the central notion remained parental awareness: perceptions, expectations and sensitivity, of and

towards the child but also towards the parent's own history, interests and needs. The way this focus was exercised during the home visits has much to do with two of the 'moderator mechanisms' proposed by Van der Pas (2003): 'taking a meta-position' and 'good parent-moments', two closely related concepts. Taking a meta-position is described as a mental activity of reflection, which "differs from the awareness of being responsible in that it is a mental and managerial activity, rather than an ethical stance [...] meta-thinking places the parent above the emotional turmoil, the deliberational dilemmas and the behavioral hassles of the day" ([46, pp260]). The experience of good parent-moments reinforces self-confidence, which then leads to better performance and eventually to personal growth ([46]). Essentially a good parent-moment constitutes part of taking a meta-position. By emphasizing parental positive behavior during home visits, nurses can help parents reflect on their behavior (at a meta-position) to understand what created the success. This will in turn reinforce future positive performance as a parent. Combined with the direct support parents experienced from the nurses that visited them and the social and professional support parents learned to mobilize, we assumed that our program had potential for success. The sense of accomplishment in nurses as well as the large proportion of families considering the program to be meaningful to their parenting competence (85%) confirmed this assumption (see chapter 7).

3.2 Results of intervention

As was previously established, the satisfaction about the program offered in this study was very high (see chapter 7). We feel that this satisfaction was not only expressed through the survey held amongst parents in the intervention group but also through the retainment of participating parents in the study sample at large. Ninety-two percent of these parents responded to all measurements, a proportion that is larger than most other studies (a review by Gomby (1999) found the highest percentage to be 80 ([26])).

The effects of this study were researched based on several outcome parameters, the first of which is obtained from the AMK. Considering the fact that the reporting of maltreatment is not mandatory in the Netherlands combined with the fact that only 27% of all reports concerns children age three or younger ([49]) an under-representation of reality should be expected on this parameter. Nevertheless we concluded first of all that, three years after the first of 8899 children in our sample

was born, 0.58% of all children were reported to the AMK. Secondly, when considering only third-party reports, more reports were made in the control group in comparison to the intervention group. Since maltreatment is a relatively rare incident in the population (23 in each 1000 children are maltreated each year ([based on 48])) we have to work with very small numbers. It should therefore not be surprising that differences between both groups are not significant. Perhaps the most interesting result on this parameter is the fact that the number of reports in the intervention group is tripled (from 1 to 3) when reports made by the programs' nurses are included. This suggests the increased ability for early detection of our preventive program. Off course we need to keep in mind that we are drawing conclusions based on very small numbers, which means they are less reliable and therefore warrant modesty.

Just like in a number of other studies ([see 24; 25; 26; 28; 37 for reviews]) another parameter we used was related to health-care outcomes that could constitute an indication of maltreatment, such as visits to the emergency room and diagnoses related to injuries, intoxications and other worrisome problems. No significant between-group differences were found on these variables, however sub-group research is yet to be conducted. The fact that Olds, Henderson, Chamberlin and Tatelbaum (1986), as one of few, did find significant differences particularly for babies of poor, unmarried teenagers ([45]), provides an indication that sub-group research may be worthwhile. An interesting finding related to this area is the fact that families in the intervention group established significantly more relationships to professional psychological support. Data about professional support was initially required to determine the influence of support upon the effects as reported by parents. However, no interaction effects related to professional support were found. Though consequences of this difference between groups may not have been visible in our measurements, they might become visible in the future.

As the central focus of our intervention program was parental awareness, our parameters for establishing the effects have been largely attuned to this paradigm. In chapter 8 we argued that results on the KIPPPI (Short Psychological and Pedagogical Problems Inventory) can to some extent be related to the improved perception parents have of their children. We subsequently conclude that two out of four notions of parental awareness (expectations and perception) were modestly

improved through the intervention. There are several considerations to these results. First of all there is the fact that these parameters rely on parental self-report. As was discussed in chapter 8 we should consider the presence of bias in these reports. In addition there is the matter of 'psychological costs' as discussed by Garbarino (1986). He concluded that the increased knowledge and understanding of parenting and related constructs (such as the parents' developmental history or ontogenic development ([8])) may cause doubt, insecurity and worries in parents ([23]). This has probably influenced responses to consecutive measurements and may even constitute a partial explanation for both the reversed effect found in the AAPI construct E (*non-oppressive parenting*) and the overall small sizes of the effects of this intervention found in our study. Secondly, we should consider the timing of our final measurement, which was taken at the time the index-child turned two years. This period in the child's development is commonly referred to as the 'terrible two's'. By nature children in this stage are very explorative and testing the boundaries that parents set for them ([9]). For parents this is a trying time, which may have influenced their responses to our final measurement. Finally, we should not forget that the instruments used to determine these parent-related parameters presume to measure parental attitudes, which cannot simply be considered equal to parental actual behavior ([see 2]). Intuitively it makes sense that, especially in families at risk, parental attitudes may be divergent from their actual behavior. It is quite conceivable that, particularly under stress, parents may not be able to act upon their beliefs. With these considerations we expect responses to be somewhat biased. However, since there are a number of influences at play regarding these responses, we cannot tell the direction of this bias.

Regarding the individual constructs in our parental self-administered measurements there are two final remarks to be made. First of all related to the AAPI A (*expectations*) construct, on which scores improved significantly when compared to the control group after one year. The fact that effects lost significance after two years might imply either one of two things: possibly the intervention should have been continued over a longer period of time to realize lasting improvement on this construct, or perhaps nurses should have provided more information about future development of the child to parents. Secondly, there is the inconsistency between the nurses' observation of significant improvement of social support (see chapter 7) and the parental report of a small decrease in social support through our

measurements. This may in part be due to differences in the wording and particular aim of the questions used. In their study Olds et al ([45]) found conflicts with relatives to be a negative side effect of the intervention. If this is the case in our study as well, perhaps it may serve to mask actual positive effects related to social support when assessed through parental self-report.

The instruments used in this study, particularly the Social Support Questionnaire and the Child Abuse Potential Inventory have presented us with some difficulties. Regarding the first instrument important information was unavailable at the time a choice had to be made. We later learned that the author of this instrument had no scoring system and no norms available and furthermore that she no longer supported the quality of this instrument ([10]). In retrospect another instrument should have been chosen to measure social support. Regarding the second instrument the recent publication by Chaffin and Valle (2003) on the CAP's lack of usefulness in determining the dynamics of an intervention ([15]) made us less satisfied about our initial choice for this instrument. Still, no other instrument could have been found to measure the risk for maltreatment. Looking back, perhaps we would have chosen different instruments, yet the fact remains that there are no tailor-made instruments available to measure all the intended effects of a preventive intervention such as the one under evaluation in this study, at least not in the Netherlands. This is not surprising as trials such as this one are scarce or non-existent in this country. As a result one has to assemble a package of instruments each measuring partial objectives of a study. To maintain instrument size and time-investment below reasonable limits (thereby avoiding non-response) one has to make choices, thus excluding certain parameters. As a consequence, this study's objective to increase parental stress-coping abilities was insufficiently measured. Also there were no measurements found that could adequately establish the improvement of parental insight into 'conflicting claims' (a construct within parental awareness).

4 Future directions

Although this study has covered many issues related to the prevention of child maltreatment in families at risk through home visitation, there is yet much research to be done. An important shortcoming throughout our research was the lack of actual Dutch data on the incidence of maltreatment, particularly in children of young age. The only data we have are extrapolated from international studies. Both in relation to our selection results and in relation to the findings from the AMK it will be interesting to make a comparison to actual numbers. More in general a Dutch incidence study is necessary to emphasize the need for preventive actions in the Netherlands.

Based on the findings from the AMK, however small in number, the conclusion at this point in time should be that the instrument designed for the selection of families at risk shows promise. Future research should focus at the determination of validity of this instrument by comparison to other parameters. Also, future research could entail experimenting with the threshold to 'at-risk' status in order to enhance the correct classification rate of the instrument. To improve knowledge on the incidence of individual risk factors, screening by means of our selection questionnaire could be applied on a national level. Regarding the implementation of the intervention program it would be interesting to experiment with the duration of the program as well as a more flexible division of the home visits to be provided. As we found in chapter 7 there is a relationship between the number of risk factors and the amount of time spent per family. Possibly a more flexible or lengthy program in certain families would have generated more substantial effects in a larger group of participants. Although families refusing participation in the OKé program are similar to those that did participate when comparing their risk factors, more reports were made to the AMK about these families (see chapter 8). Therefore, in case of implementation in daily practice we would advice that more efforts are undertaken to involve these families in the intervention. Furthermore, national implementation would help to reduce drop out from the program due to families moving to other parts of the country.

This study has generated an enormous amount of data. Analysis thereof has in part been presented in chapters 7 and 8 but there is more to investigate, particularly

related to subgroups of participants. In spite of the fact that further investigations cannot be added to this thesis, we recommend they are executed and published as the data from this study are at this point unique in the Netherlands and should be researched to their full extent. Finally it is highly recommended that the sample of this study is followed during childhood and adolescence. An endurance or possibly even increase of the effects found during the first two years would add substantial information that the program may lead to long-term improvement.

Was this intervention effective? The answer to this question depends on our definition as well as our expectations. If we define effectiveness in terms of impact on family life, family well-being and parental competence, and ask this question to the parents that were visited, the answer would be a rather unambiguous 'yes'. As was discussed in chapter 7 parents were highly satisfied about the program and a majority had experienced it as meaningful. There is however more to the question of effectiveness. We can safely say that it is unrealistic to expect that child maltreatment will never take place in any of the families visited. So what should the 'success rate' be in order to call this program effective? From an ethical stance we could argue that improving the fate of just one child should be worth the effort since it is our moral and judicial obligation to prevent child maltreatment, as was discussed in chapters 1 and 2. From a practical stance we should ask if the intervention is worth its costs. The following simplified model could answer this question. We assume a crude estimate of €1,000.- as a price tag for selection and 1.5 years of intervention per family, including costs for the 5 families that were not selected in the process of finding this family. Meerding (2005) found that the annual costs of child maltreatment approach one billion euros in the Netherlands, based on findings over 2003 ([39]). In 2003 there were a total of 3,783,000 children between the ages of 0 and 18 years in the Netherlands ([13]). Supposing that 17% of these children are at risk, costs could be apportioned over this percentage, resulting in an amount of €1,500.- per child at risk, per year. This means that every single successful intervention will produce a total profit of €26,000.- once the child has reached the age of 18 (the annual costs of €1,500.- per child times 18, minus the costs of the intervention). Within this model the intervention could be provided to 26 children so long as in one of them maltreatment is avoided, without any financial loss. In other words, the intervention could be provided at break-even with a 'success rate' of 1:26, that is 3.8%.

Of course this model is simplified, it disregards the possibility of unjust 'at-risk' classification, it does not take into account the possibility of increasing effects after completion of the intervention and it assumes the possibility of predicting total success in prevention. At this point in time we can only conclude that our intervention has caused a certain amount of improvement in a proportion of families (up to 55% depending on the construct at hand). We can further conclude that effects of the intervention increase over time in a majority of the constructs evaluated. And finally we can conclude that after two years families at risk, regardless of receiving an intervention, can not (yet) be compared to a 'normal' population on variables such as family burden, social support or the potential for future maltreatment. With these conclusions we assume that, though these families still have a long road ahead of them, some foundation for future success has been established. As the children in these families grow older the certainty of success will increase, but never to 100%.

A substantial proportion of families receiving home visits has improved on a number of variables, in several variables this proportion is significantly larger than it would have been without the intervention (see chapter 8). The fact that the effects of our intervention are small should not be surprising as similar small findings are reported in a number of meta-reviews ([24; 28; 37]) and according to Guterman (1999) smaller effect sizes are typical for samples selected on psychosocial criteria ([29]). Also, "effect sizes for prevention programmes tend to be smaller than those of treatment, largely because prevention applies the same strategies to a population group that might or might not be at risk for a later mental health problem. However, from a public health perspective the prevention strategy can be cost-effective, as a small effect size in a large number of people can lead to a greater population gain than a large effect size in a small number of people" ([30]). With the significant amount of successful early referrals to psychological support comes the possibility of sustained or even increased improvement through the intervention. Pending future findings we feel that further implementation of this program is justified, especially when the recommended research is conducted to refine the methods developed in project OKé.

Child maltreatment is a serious problem with very serious consequences. Through the ratification of the Convention for the Rights of the Child the Netherlands have

made a commitment to protect all children from any form of child maltreatment. This commitment should be honored through all types of prevention, primary, secondary and tertiary. The primary impetus still seems to be on tertiary prevention, in spite the statement by Cohn and Daro (1987): "the results of a decade of evaluative research on treatment programs suggest that putting all resources into intervention after the fact does not make sense" ([16, p440]). Leventhal (1996) was very adamant when he stated "we do know how to prevent abuse and neglect" ([35, p647]). The times for saying 'we *do not* know how to prevent child maltreatment' are over in the Netherlands. Of course we can not be as adamant as Leventhal, but we do have a first general idea of a primary preventive intervention that does result in improvement in families at risk for maltreatment. Now is the time to start building on this idea, to refine and improve this intervention and to implement it into daily practice.

5 References

1. Agathonos-Georgopoulou, H. & Browne, K. D. (1997). The prediction of child maltreatment in Greek families. *Child Abuse Negl., 21,* 721-735.
2. Albrecht, S. L. & Carpenter, K. E. (1976). Attitudes as predictors of behavior versus behavior intentions: A convergion of research traditions. *Sociometry, 39,* 1-10.
3. Altemeier, W. A., O'Connor, S., Vietze, P., Sandler, H., & Sherrod, K. (1984). Prediction of child abuse: a prospective study of feasibility. *Child Abuse Negl., 8,* 393-400.
4. Armstrong, K. L., Fraser, J. A., Dadds, M. R., & Morris, J. (1999). A randomized, controlled trial of nurse home visiting to vulnerable families with newborns. *J.Paediatr.Child Health, 35,* 237-244.
5. Baartman, H. E. M. (1996). Als mishandelde kinderen ouder worden [When maltreated children grow up]. *Tijdschrift voor Orthopedagogiek, 35,* 392-406.
6. Baartman, H. E. M. (1996). *Opvoeden kan zeer doen, over oorzaken van kindermishandeling [Childrearing can be painful, about the causes of child maltreatment].* Utrecht: SWP.
7. Belsky, J. (1980). Child maltreatment: an ecological integration. *Am.Psychol., 35,* 320-335.
8. Belsky, J. & Vondra, J. (1989). Lessons from child abuse: the determinants of parenting. In D.Cicchetti & V. Carlson (Eds.), *Child Maltreatment, theory and research on the causes and consequences of child abuse and neglect* Cambridge: Cambridge University Press.
9. Boom, D. C. v. d. (1999). *Ouders op de voorgrond, een educatieve lijn voor 0-18 jaar [Parents in the limelight, an educative line for the ages 0-18].* Utrecht: Sardes.
10. Boom, D. C. v. d. (1-4-2004). *Social Support Questionnaire.* Ref Type: Personal Communication
11. Browne, K. D. & Saqi, S. (1988). Approaches to screening for child abuse and neglect. In K.D.Browne, C. Davies, & P. Stratton (Eds.), *Early prediction and prevention of child abuse* (pp. 57-85). Chichester: John Wiley & Sons.
12. Caplan, G. (1964). *Principles of preventive psychiatry.* New York: Basic Books.
13. CBS (2003). *Demographic data of the Netherlands, Statline 2003.* www.cbs.nl/nl/cijfers/statline/index.htm [On-line].
14. Chaffin, M., Bonner, B. L., & Hill, R. F. (2001). Family preservation and family support programs: child maltreatment outcomes across client risk levels and program types. *Child Abuse Negl., 25,* 1269-1289.
15. Chaffin, M. & Valle, L. A. (2003). Dynamic prediction characteristics of the Child Abuse Potential Inventory. *Child Abuse Negl., 27,* 463-481.
16. Cohn, A. H. & Daro, D. (1987). Is treatment too late: what ten years of evaluative research tell us. *Child Abuse Negl., 11,* 433-442.
17. Cohn-Donnelly, A. (1992). Healthy families America. *Child Today, 21,* 25-28.
18. Daro, D. & McCurdy, K. (1994). Preventing child abuse and neglect: programmatic interventions. *Child Welfare, 73,* 405-430.
19. Dawson, P., Doorninck, W. J. v., & Robinson, J. L. (1989). Effects of home-based, informal social support on child health. *Developmental and Behavior Pediatrics, 10,* 63-67.

20. Duggan, A., Windham, A., McFarlane, E., Fuddy, L., Rohde, C., Buchbinder, S. et al. (2000). Hawaii's healthy start program of home visiting for at-risk families: evaluation of family identification, family engagement, and service delivery. *Pediatrics, 105,* 250-259.
21. Egan, T. G., Monaghan, S. M., Muir, R. C., Gilmore, R. J., Clarkson, J. E., & Crooks, T. J. (1990). Prenatal screening of pregnant mothers for parenting difficulties: final results from the Queen Mary Child Care Unit. *Soc.Sci.Med., 30,* 289-295.
22. Gabinet, L. (1979). Prevention of child abuse and neglect in an inner-city population. II. The program and the results. *Child Abuse Negl., 3,* 809-817.
23. Garbarino, J. (1986). Can we measure success in preventing child abuse? Issues in policy, programming and research. *Child Abuse Negl., 10,* 143-156.
24. Geeraert, L. (2004). *Vroegtijdige preventie van kindermishandeling [Early prevention of child maltreatment].* Katholieke Universiteit Leuven.
25. Geeraert, L., Van den, N. W., Grietens, H., & Onghena, P. (2004). The effects of early prevention programs for families with young children at risk for physical child abuse and neglect: a meta-analysis. *Child Maltreat., 9,* 277-291.
26. Gomby, D. S. (1999). Home Visiting: Recent Program Evaluations - Analysis and Recommendations. *The Future of Children, 9,* 4-26.
27. Grietens, H., Geeraert, L., & Hellinckx, W. (2004). A scale for home visiting nurses to identify risks of physical abuse and neglect among mothers with newborn infants. *Child Abuse Negl., 28,* 321-337.
28. Guterman, N. B. (1997). Early prevention of physical child abuse and neglect: existing evidence and future directions. *Child Maltreat., 2,* 12-34.
29. Guterman, N. B. (1999). Enrollment strategies in early home visitation to prevent physical child abuse and neglect and the "universal versus targeted" debate: a meta-analysis of population-based and screening-based programs. *Child Abuse Negl., 23,* 863-890.
30. Jane-Llopis, E., Hosman, C., Jenkins, R., & Anderson, P. (2003). Predictors of efficacy in depression prevention programmes. Meta-analysis. *Br.J.Psychiatry, 183,* 384-397.
31. Korfmacher, J., O'Brien, R., Hiatt, S., & Olds, D. (1999). Differences in program implementation between nurses and paraprofessionals providing home visits during pregnancy and infancy: a randomized trial. *Am.J.Public Health, 89,* 1847-1851.
32. Kousemaker, N. P. J. (1996). *Zoeken, vinden, zorgen delen: de ontwikkeling van een praktijkparadigma voor onderkenning en pedagogische preventie van psychosociale problematiek in de Jeugdgezondheidszorg. [Searching, finding, sharing care: the development of a practise paradigm for the discernment and pedagogical prevention of psychosocial problems in Youth Healthcare].* Universiteit van Amsterdam.
33. Kousemaker, N. P. J. (1997). *Onderkenning van psychosociale problematiek bij jonge kinderen [Discernment of psychosocial problems in young children].* Assen: van Gorcum.
34. Larson, C. P. (1980). Efficacy of prenatal and postpartum visits on child health and development. *Pediatrics, 66,* 191-197.
35. Leventhal, J. M. (1996). Twenty years later: we do know how to prevent child abuse and neglect. *Child Abuse Negl., 20,* 647-653.

36. MacLeod, J. & Nelson, G. (2000). Programs for the promotion of family wellness and the prevention of child maltreatment: a meta-analytic review. *Child Abuse Negl., 24,* 1127-1149.
37. MacMillan, H. L., MacMillan, J. H., Offord, D. R., Griffith, L., & MacMillan, A. (1994). Primary Prevention of child Physical Abuse and Neglect: a critical review. Part I. *J Child Psychol Psychiatry, 35,* 835-856.
38. Marcenko, M. O. & Spence, M. (1994). Home visitation services for at-risk pregnant and postpartum women: a randomized trial. *Am.J.Orthopsychiatry, 64,* 468-478.
39. Meerding, W. J. (2005). De maatschappelijke kosten van kindermishandeling [The social costs of child maltreatment]. In H.E.M.Baartman, R. Bullens, & J. C. M. Willems (Eds.), *Kindermishandeling: de politiek een zorg [Child maltreatment, concerns for politics]* (pp. 46-64). Amsterdam: SWP.
40. Milner, J. S. (1990). *Child abuse potential inventory Manual (2nd edition).* Illinois: Webster: Psytec Corporation.
41. Mrazek, P. J. & Haggerty, R. J. (1994). New Directions in Definitions. In P.J.Mrazek & R. J. Haggerty (Eds.), *Reducing Risks for Mental Disorders: Frontiers for Preventive Intervention Research* (pp. 19-29). Washington, DC: National Academy Press.
42. Murphy, S., Orkow, B., & Nicola, R. M. (1985). Prenatal prediction of child abuse and neglect: a prospective study. *Child Abuse Negl., 9,* 225-235.
43. Murry, S. K., Baker, A. W., & Lewin, L. (2000). Screening families with young children for child maltreatment potential. *Pediatr.Nurs., 26,* 47-54, 65.
44. Newberger, C. M. (1980). The cognitive structure of parenthood; the development of a descriptive measure. In R.L.Selman & R. Yando (Eds.), *Clinical-developmental psychology. New directions of child development: clinical developmental research, No. 7* San Francisco: Jossey-Bass.
45. Olds, D. L., Henderson, C. R., Jr., Chamberlin, R., & Tatelbaum, R. (1986). Preventing child abuse and neglect: a randomized trial of nurse home visitation. *Pediatrics, 78,* 65-78.
46. Pas, A. J. M. v. d. (2003). *A Serious Case of Neglect: the Parental Experience of Child Rearing; Outline for a Psychological Theory of Parenting.* Delft: Eburon.
47. Staal, I. I. E., Roodzant-Velthausz, M. D., Reerink, J. D., & Schrijvers, A. J. P. (2005). Huisbezoek bij peuters van 18 maanden in de provincie Zeeland [Home visitation with 18-months old toddlers in the province Zeeland]. *Tijdschrift voor Jeugdgezondheidszorg, 37,* 42-46.
48. Willems, J. C. M. (1999). *Wie zal de opvoeders opvoeden; kindermishandeling en het recht van het kind op persoonswording [Who will educate the parents; child maltreatment and the right of the child to become a person].* Den Haag: T.M.C. Asser Press.
49. Wolzak, A. (2002). *Adviezen en meldingen over kindermishandeling in 2001; registratiegegevens van de Advies en Meldpunten Kindermishandeling [Advices and reports on child maltreatment in 2001; registered data from the Child Maltreatment Reporting Agency AMK]* Utrecht: NIZW Jeugd/Expertisecentrum Kindermishandeling.

I

List of abbreviations

AAPI	Adult Adolescent Parenting Inventory – questionnaire used to establish the effects of this study.
AMK	*Advies en Meldpunt Kindermishandeling* – the Dutch maltreatment reporting agency.
ANOVA	Analysis of Variance – statistical procedure.
B	Regression Coefficient – statistical term.
CAPI	Child Abuse Potential Inventory – questionnaire.
CAP	Child Abuse Potential – used to distinguish between the original instrument, CAPI, and the abbreviated version as it was used in this study to establish the effects of the intervention.
CBS	*Centraal Bureau voor de Statistiek* – Dutch National Institute for Statistics.
CI	Confidence Interval – statistical term.
EM	Emotional Maltreatment – used in the tables in chapter 3.
ER	Emergency Room, also used to indicate visits to the *Huisartsenpost*, an after-hours GP-service.
GP	General Physician.
ISPCAN	International Society for the Prevention of Child Abuse and Neglect.
KFSC	Kempe Family Stress Checklist.

KIPPPI	*Kort Instrument voor Pedagogische en Psychologische Probleem Inventarisatie* – Short Psychological and Pedagogical Problems Inventory, questionnaire used in this study to establish the effects of the intervention.
N	Neglect – used in the tables in chapter 3.
OKé	*Ouder- en Kindzorg extra* – Parent and Childcare extra, the name under which this research project was presented.
OKZ	*Ouder- en Kind Zorg* – Parent and Childcare, the Dutch version of the Well Baby Clinic.
OR	Odds Ratio – statistical term.
PCA	Principal Components Analysis – statistical procedure.
PM	Physical Maltreatment – used in the tables in chapter 3.
r	Correlation Coefficient – statistical term.
RCid	Reliable Index of Change – statistical procedure.
SA	Sexual Abuse – used in the tables in chapter 3.
SD	Standard Deviation - statistical term.
SEM	Standard Error of Measurement – statistical term.
SES	Social Economic Status.
SPCC	Society for the Prevention of Cruelty to Children.
US	United States of America.
WBC	Well Baby Clinic.
WHO	World Health Organization.
ZonMw	Zorg Onderzoek Nederland – financing fund for Medical and Socio-medical research.

II

Summary

Raising a child may be the most difficult task we face in our lives. It becomes all the more difficult when we are occupied by past or present adversities, causing distraction, doubt and stress and making us a lesser parent than we aspire to be – sometimes even, inadvertedly, a maltreating parent. Although many parents would benefit from additional support in raising their children, this is most true for those facing adversities – those at risk. The additional support that is best suited for this group of parents should focus on helping them learn how to cope with their adversities, it should help them recognize the best interest of their children and it should be easily accessible, that is: it should be provided to them in the trusted environment of their own home. This is the principal reasoning behind the current study, the purpose of which was to determine the effectiveness of early home visitation in families at risk for child maltreatment. In chapter one this study is introduced.

Child maltreatment is a burdened term, which may be related to the fact that the notion of child maltreatment as a problem is not much older than a century. It was not until the second half of the past century that people ceased to see child maltreatment predominantly as a threat to society and started to see it as a threat to the child's right to 'becoming a person'. Consequentially our response to the problem is slowly shifting from treating and restricting the implications of maltreatment towards understanding and preventing the onset of maltreatment, as we discuss in chapter two.

In the attempt to understand the mechanisms of child maltreatment a number of theories have been developed, two of which were selected and integrated for the purpose of this study. Through these theories the paradigm for this study becomes one that integrates an ecological perspective on the family functioning with the notion of parental awareness, emphasizing the importance of the parental role. This paradigm constitutes the basis for both the method of selecting families at risk and the method of preventive intervention. In chapter three, in addition to an elaborate exploration of the different aspects of our paradigm, a review of risk factors and their relationship to child maltreatment is presented. Based on this theoretical as well as empirical exploration a decision was made regarding the development of an instrument to be used in the selection of families at risk.

Chapter four discusses a number of aspects of the design of this study. First of all, based on several international reviews of predecessing intervention studies, choices are discussed regarding the population and way of recruitment, the onset, duration, frequency and staffing of the intervention, and the objectives and content of the intervention. It was decided to provide six postnatal home visits during a period of 18 months, conducted by Well Baby Clinic nurses. The designated population for this intervention was to consist of families with an increased risk for maltreatment, who were to be recruited through a mailed questionnaire. The content of the intervention was based upon the paradigm that was selected for this study. Consequentially, the intervention aimed at the improvement of parental functioning, the parent-child interaction and the underlying perceptions, expectations and sensitivity and finally at the enhancement of the social support network surrounding a family. Aside from the design of the intervention chapter four also addresses the way in which the effectiveness of the intervention had to be established. Based upon a number of considerations it was decided to research the effects through parental self-administrated questionnaires as well as third-party information from general practitioners, Well Baby Clinic physicians and the local maltreatment reporting agency (AMK).

From chapter five onward the results of different aspects of our study are presented. First up are the results of our screening method. A brief questionnaire was deployed to select families at risk. This questionnaire was sent to all families with newborns in a clearly defined region during a period of 13 months in cooperation with the nurses from the Well Baby Clinics in that region. Of all 8899 families approached, 55%

responded while participating nurses responded about 80% of all families. Most commonly found risk factors were childhood experiences of maltreatment or violence, in 16% of the mothers and 10% of the fathers, and social isolation in 8% of both parents. Based on the results of this screening method 14.2% of all families approached were selected for the intervention.

As 45% of all parents approached with our screening method did not respond, a separate chapter is dedicated to compare these non-respondent parents to those that did respond. For this purpose a name algorithm was developed in order to help determine the family ethnicity. Furthermore, based on the family address neighborhood characteristics were determined for each family. Finally, through a sample of medical files other socio-demographic variables became available. The results of this comparison demonstrated that respondents and non-respondents differ significantly from each other regarding the variables studied. We concluded that non-respondents were similar to families at risk. Therefore additional methods of screening need to be deployed in order to reach all families in need of preventive home visits.

The results of these home visits are described in chapters seven and eight. In the first of these two chapters the intervention process is evaluated. Based upon evaluations amongst both participating parents and home visiting nurses it is concluded that the design of the program was feasible, on most objectives of the intervention parents have improved significantly according to the nurses and parents were highly satisfied. In chapter eight finally the effects of the intervention are discussed. Findings demonstrated improved parental expectations regarding their children as well as a better child physical and psycho-social development due to the intervention. Also a clinically significant reduction of the risk for child maltreatment was found in almost a quarter of the intervention group compared to 8% in the control group. The intervention turned out to have special benefits for families at increased risk and families with a first child. In the final chapter of this book we conclude that the results of this study are promising and that follow-up is recommended.

III

Samenvatting: Vroegtijdige huisbezoeken in gezinnen met een verhoogd risico op kindermishandeling

De opvoeding van een kind is misschien wel de moeilijkste taak waar we in ons leven voor komen te staan. Die taak wordt des te moeilijker wanneer we in beslag worden genomen door problemen in heden of verleden die ons afleiden, aan het twijfelen brengen en spanning veroorzaken waardoor we een minder goede ouder zijn dan we zouden willen – soms zelfs, ongewild, een mishandelende ouder. Hoewel veel ouders baat zouden hebben bij extra ondersteuning in het opvoeden van hun kinderen geldt dit het sterkst voor ouders met problemen – risico-ouders. De extra ondersteuning die het best geschikt is voor deze ouders zou zich moeten richten op hulp bij het leren hanteren van hun problemen en bij het herkennen van de belangen van hun kinderen. Bovendien zou deze ondersteuning gemakkelijk toegankelijk moeten zijn, dat wil zeggen, ze zou moeten worden aangeboden in de veilige omgeving van het eigen thuis. Dit is de grondgedachte achter deze studie, waarvan het doel was om vast te stellen wat het effect is van huisbezoeken in gezinnen met een verhoogd risico op kindermishandeling. In hoofdstuk één wordt deze studie geïntroduceerd.

Kindermishandeling is een beladen term, wellicht omdat kindermishandeling als probleem nog niet veel ouder is dan 100 jaar. Pas in de tweede helft van de afgelopen eeuw werd kindermishandeling voor het eerst gezien als een bedreiging voor de ontwikkeling en 'persoonswording' van het kind, in plaats van als een bedreiging voor de samenleving. Als gevolg daarvan verschuift de reactie op het probleem langzaam van het behandelen en beperken van de gevolgen van mishandeling richting het begrijpen en voorkomen van het ontstaan van kindermishandeling, zoals wordt besproken in hoofdstuk twee.

In een poging om de mechanismen achter kindermishandeling te begrijpen zijn diverse theorieën ontwikkeld. Twee daarvan zijn geïntegreerd tot een paradigma voor deze studie. Hierin wordt een ecologisch perspectief op het gezinsfunctioneren verenigd met de notie van pedagogisch besef, waarmee het belang van de rol van de ouder benadrukt wordt. Dit paradigma vormt de basis voor zowel de methode van het selecteren van gezinnen als de preventieve interventiemethode. In hoofdstuk drie wordt, naast een uitgebreide verkenning van de verschillende aspecten van ons paradigma, een review van risicofactoren en hun relatie met kindermishandeling gepresenteerd. Op basis van deze zowel theoretische als empirische verkenning is een beslissing genomen over de ontwikkeling van het instrument dat werd ingezet bij de selectie van risicogezinnen.

In hoofdstuk vier worden diverse aspecten van het design van deze studie besproken. Ten eerste betreft dit keuzes voor de vormgeving van de interventie, waarbij gebruik wordt gemaakt van verschillende buitenlandse overzichten van interventiestudies. Het gaat dan over de populatie en werving van deze populatie, over de start, duur en frequentie van de huisbezoeken, de vraag wie deze bezoeken uitvoert en tenslotte de doelstellingen en inhoud van de interventie. In deze studie werd ervoor gekozen om zes postnatale huisbezoeken gedurende de eerste 18 maanden af te laten leggen door wijkverpleegkundigen van het consultatiebureau. Doelgroep voor deze huisbezoeken waren gezinnen met een verhoogd risico op kindermishandeling, welke werden geworven door middel van een per post verzonden vragenlijst. De inhoud van de interventie werd zoals gezegd gebaseerd op het paradigma dat is geselecteerd voor deze studie. Dat hield in dat de interventie zich moest richten op verbetering van het ouderlijk functioneren, de interactie

tussen ouder en kind en de onderliggende perceptie, verwachting en sensitiviteit alsmede op de optimalisatie van het sociale netwerk rond het gezin. Naast het design van de interventie wordt ook het design van de effectstudie in dit hoofdstuk besproken. Op grond van verschillende overwegingen werd besloten om de effecten van de interventie vast te stellen op grond van door ouders ingevulde vragenlijsten, aangevuld met informatie van derden, te weten de huisartsen en CB-artsen van gezinnen en het AMK.

Vanaf hoofdstuk vijf worden de verschillende aspecten van de resultaten van deze studie gepresenteerd. Als eerste betreft dat de resultaten van de selectiefase. Een korte vragenlijst werd gebruikt om risicogezinnen te kunnen selecteren. Deze vragenlijst werd verzonden aan alle gezinnen met een pasgeboren kind in de noordelijke helft van Zuid Holland gedurende 13 maanden. Dit vond plaats in samenwerking met de JGZ-verpleegkundigen van consultatiebureaus in de regio. Van alle 8899 gezinnen die werden benaderd reageerden 55% terwijl de deelnemende wijkverpleegkundigen over 80% van de gezinnen rapporteerden. De meest gevonden risicofactoren zijn jeugdervaringen van mishandeling en geweld, bij 16% van de moeders en 10% van de vaders, en sociale isolatie bij 8% van beide ouders. Op grond van de ingevulde vragenlijsten werden 14.2% van alle benaderde gezinnen geselecteerd voor de interventie.

Aangezien 45% van de met een vragenlijst benaderde ouders niet reageerden is een apart hoofdstuk gewijd aan een vergelijking tussen deze non-respondenten en de responderende ouders. Om deze vergelijking te kunnen maken werd een namenalgoritme ontwikkeld zodat de etniciteit van elke familie kon worden vastgesteld. Daarnaast werden op basis van de adresgegevens voor een groot aantal families enkele buurtkarakteristieken vastgesteld. Tenslotte werden op grond van een steekproef uit de dossiers van het consultatiebureau andere socio-demografische variabelen achterhaald. Het resultaat van de vergelijking toonde aan dat respondenten en non-respondenten significant van elkaar verschillen. We concludeerden voorts dat non-respondenten veel lijken op de risicogezinnen die door middel van onze vragenlijst werden gevonden. Daarom is het noodzakelijk dat andere methoden worden ingezet bij de selectie van risicogezinnen zodat alle gezinnen die preventieve huisbezoeken nodig hebben kunnen worden bereikt.

De resultaten van deze preventieve huisbezoeken worden beschreven in de hoofdstukken zeven en acht. Allereerst wordt in hoofdstuk zeven het proces van de interventie besproken. Op basis van evaluaties onder zowel de deelnemende ouders als de bezoekende wijkverpleegkundigen is vastgesteld dat het programma, zoals dat is ontworpen, goed uitvoerbaar is, dat ouders de meeste doelstellingen van de interventie gehaald hebben volgens de wijkverpleegkundige en tenslotte dat ouders zeer tevreden zijn over het programma. In hoofdstuk acht worden dan uiteindelijk de effecten van de interventie besproken. De uitkomsten tonen aan dat zowel de ouderlijke verwachtingen van hun kinderen als de fysieke en psychosociale ontwikkeling van de kinderen zelf significant verbeterd zijn als gevolg van de interventie. Ook is een klinisch significante reductie van het risico op kindermishandeling gevonden in bijna een kwart van de interventiegroep ten opzichte van 8% in de controlegroep. De interventie blijkt goede resultaten te sorteren in gezinnen met een verhoogd risico en in gezinnen met een eerste kind. In het laatste hoofdstuk van dit boek concluderen we dat de resultaten van deze studie veelbelovend zijn en dat vervolgonderzoek de moeite waard is.

IV

Curriculum Vitae

Merian Bride Rafael Bouwmeester-Landweer was born on January 16th 1976 in Ouder- Amstel, the Netherlands. In 1995 she graduated from secondary education at the Stichtse Vrije School in Zeist. In September of that year she started her studies in Educational Science at Utrecht University. For her closing internship she participated in the preparation of the nationwide Standard for Signaling Child Maltreatment at TNO Prevention & Health in Leiden. In December 2000 she received her MSc degree.

From 2001 through 2005 she was a PhD student at the Pediatrics Department of the Leiden University. Under the supervision of Prof. Dr. Jan-Maarten Wit of the Leiden University and Prof. Dr. Herman Baartman of the Vrije Universiteit of Amsterdam, helped by Dr. Pieter Kousemaker and Dr. Friedo Dekker of the Leiden University she conducted the research presented in this thesis. Merian presented the results of this work in oral presentations at the 14th ISPCAN international Congress on Child Abuse and Neglect (Denver, USA) and at the 9th ISPCAN regional European Conference on Child Abuse and Neglect (Warszawa, Poland) as well as at a number of Dutch conferences.

As part of her extra-curricular activities Merian has been actively involved in the board of the Educational Scientists Student Association PAP at Utrecht University and later was Treasurer for the board of the PhD Student Association Leids Promovendi Overleg (LEO).

Merian has a part-time involvement in the implementation of Project OKé in its' original region and assists the implementation in organizations all over the Netherlands. As of April 2006 she works as a researcher for the Leiden University department of Orthopedagogy. Merian lives in Utrecht and shares her life with René Bouwmeester.

Raising a child may be the most difficult task we face in our lives. It becomes all the more difficult when we are occupied by past or present adversities, causing distraction, doubt and stress and making us a lesser parent than we aspire to be – sometimes even, inadvertedly, a maltreating parent.

Although many parents would benefit from additional support in raising their children, this is most true for those facing adversities – those at risk. The additional support that is best suited for this group of parents should focus on helping them learn how to cope with their adversities, it should help them recognize the best interest of their children and it should be easily accessible, that is: it should be provided to them in the trusted environment of their own home.

This is the principal reasoning behind the current study, the purpose of which was to determine the effectiveness of early home visitation in families at risk for child maltreatment.

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