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Early home visitation in families at risk for child maltreatment

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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 impending 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. Of 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 and 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.

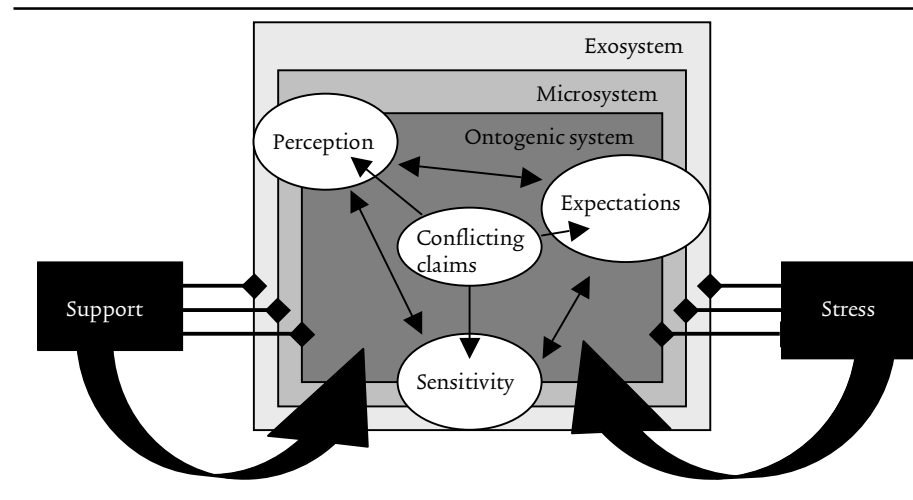
In chapter three we have explored the paradigm chosen for this study. This exploration has served not only as the basis for the selection of families eligible for our study but it has also provided the roadmap for the realization of the objectives of this study. If the prevention of parenting problems 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 where 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 (KIPPI)*. 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 KIPPPPI 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 KIPPPPI 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 jealousy, 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 satisfactory ⁽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 its easily understandable questions, its 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.

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