Child maltreatment in numbers : a multimethod study of year prevalence rates and risk factors

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A Multimethod Study of Year Prevalence Rates and Risk Factors

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To all children who are just a number in this thesis.

Contents

1 General introduction

Child maltreatment has been associated with several short-term and long-term negative outcomes, such as mental health disorders and physical problems (e.g., Alink, Cicchetti, Kim, & Rogosh, 2012; Buckingham & Daniolos, 2013; Maniglio, 2013; Mills et al., 2013). Although these negative consequences of child maltreatment are well documented, providing an exact estimate of how many children are victimized each year remains difficult. In light of the United Nations Convention on the Rights of the Child (1989), in which all 194 ratifying countries are obliged to establish programs for prevention and treatment of child maltreatment, it is important to know how often child maltreatment actually occurs, and whether some children are more at risk than others. These issues are addressed in the current thesis, by presenting prevalence estimates of different types of child maltreatment in different populations in the Netherlands.

Defining child maltreatment

Child maltreatment has been legally defined in the Dutch Youth Care Act as "any form of interaction that is violent or threatening towards a minor, whether physical, psychological or sexual in nature, which may be actively or passively imposed upon the minor by a parent or other person with whom the minor has a dependent or constraining relationship, and which causes or is liable to cause serious physical or psychological harm to the minor" (article 1:1 paragraph m). Moreover, child maltreatment is legally forbidden in the Netherlands (see article 1:247 paragraph 2 of the Dutch Civil Code) and in many other countries (Dubowitz, 2012). Generally, five types of maltreatment are distinguished: Sexual abuse, physical abuse, emotional abuse, physical neglect, and emotional and educational neglect, each with multiple subtypes, as described in the United States' National Incidence Studies (e.g., Sedlak et al., 2010; see Appendix). These descriptions, which are in line with the Dutch legal definition of maltreatment, are used to define child maltreatment in the prevalence studies presented in the current thesis.

Child maltreatment in different populations

Some children may be more at risk of child maltreatment than others, and prevalence rates may vary in different populations. For instance, several socio-demographic characteristics of the child and the family have been identified as risk factors for child maltreatment, such as poverty, low educational level, minority status, and single-parenthood (e.g., Cappelleri, Eckenrode, & Powers, 1993; Sedlak et al., 2010; Slack, Holl, McDaniel, Yoo, & Bolger, 2004; Stith et al., 2009). Families with such characteristics may experience more (parenting) stress, which may increase their risk of child maltreatment.

In addition to socio-demographic factors, out-of-home placement in either residential or foster care can be a risk factor for child maltreatment. Children who are placed out of the home may be extra vulnerable to child maltreatment because of negative experiences before placement, such as abuse or neglect by the biological parent. Moreover, characteristics of the care arrangement, such as a large child-to-caregiver ratio and the absence of a biological relationship between child and caregiver may increase the risk of maltreatment for this population (Daly & Wilson, 1994; Van IJzendoorn et al., 2011).

Children with intellectual disabilities are another population vulnerable to child maltreatment, partly because of their limited social skills and their dependence upon caregivers (Kim, 2010), and their risk may become even higher when they are placed in out-of-home care (Paul & Cawson, 2002). The higher vulnerability of children in out-of-home care may partly be caused by the general climate of violence in residential care settings (Harris & Leather, 2012). A violent environment can make children in out-of-home care more aggressive, which may in turn lead to maltreatment of group care workers by the children they work with. The studies described in the current thesis will focus specifically on several populations at risk for child maltreatment, in order to guide research and policy aimed at preventing child maltreatment.

Measuring child maltreatment

Various methods have been used to assess the prevalence of child maltreatment. First, the number of children who are reported to official authorities such as Child Protective Services (CPS) can be used as an indication of the total number of maltreated children. A more comprehensive method is that of sentinel reports; professionals who work with children are asked to report all cases of child maltreatment they are aware of. Finally, children can report about their own victimization experiences. Recent meta-analytic evidence has shown that prevalence rates based on self-report are considerably higher than prevalence rates based on sentinel and CPS reports (Stoltenborgh, Bakermans-Kranenburg, Alink, & Van IJzendoorn, 2012; Stoltenborgh, Van IJzendoorn, Euser, & Bakermans-Kranenburg, 2011). Many studies have relied on retrospective self-report to estimate the prevalence of child abuse and neglect (e.g., Finkelhor, Ormrod, Turner, & Hamby, 2005). Although such studies may be informative since participants know best about their own experiences of maltreatment, the self-report method has several disadvantages. First of all, the definition of maltreatment in self-report questionnaires is not always straightforward and may be interpreted differently among participants and differently as compared to researchers. Moreover, it may be difficult for participants to remember the exact timing of certain events in the past. This may be less of a problem in CPS reports, but only few cases of child maltreatment are officially reported. When sentinel reports are used, professionals who work with children are asked to use a specific definition of maltreatment. The downside of this method is that sentinels may not be aware of all cases of maltreatment; they may only see the tip-of-the-iceberg (Creighton, 2002). Because all three methods have some disadvantages, it is unlikely to obtain an exact prevalence estimate with either method. Therefore,

to make a more robust comparison between populations and over time, it is important to use a multimethod approach (Brewer & Hunter, 2006).

Aims and outline of this thesis

Findings of the current thesis are based on data from two large epidemiological studies: The second Netherlands' Prevalence study on Maltreatment of children and youth (NPM-2010) and a study on the prevalence of child maltreatment in Dutch residential and foster care facilities. In both studies, sentinel as well as self-reports were used to estimate the prevalence of child maltreatment in the year 2010. In the NPM-2010, professionals from various occupational branches reported each child for whom they suspected child maltreatment. Those reports were combined with all reports of child maltreatment to the Dutch Child Protective Services (CPS) in the same year to obtain an overall prevalence estimate of child maltreatment. In addition, high school students aged 12-17 years completed a questionnaire on their experiences of maltreatment. Findings from all three data sources can be compared with findings from the first Netherlands' Prevalence study (NPM-2005), in which a similar methodology was used to assess the prevalence of child maltreatment in 2005. In the study about child maltreatment in out-of-home care, professionals working with children in residential or foster care reported cases of child maltreatment, and adolescents staying in out-of-home care reported about their own experiences of child maltreatment in the out-of-home care setting. Because the same methodology was used in these two studies, prevalence rates in the general population and in out-of-home care can be compared, which is one of the main aims of the current thesis.

Table 1 shows the methods used to examine the prevalence of different types of maltreatment in the four populations that are targeted in the current thesis. In Chapter 2, the prevalence of child maltreatment is examined in the general Dutch population, based on both sentinel (including CPS) and self-report measures. Moreover, the change in prevalence of child maltreatment over time is addressed in this chapter, by comparing the prevalence rates in 2005 and 2010. The prevalence of child sexual abuse (CSA) in out-of-home care is presented in Chapter 3, and compared with the prevalence rates of CSA in the general population, as reported in Chapter 2. In Chapter 4, self-reports are used to estimate the prevalence of physical abuse among adolescents in out-of-home care. Sexual victimization of children with a mild intellectual disability is examined in Chapter 5, using sentinel reports. Chapter 6 addresses the use of violence against group workers in residential care settings. In the final chapter, the main findings from the current thesis are summarized and discussed, and limitations of the studies and implications for research, theory and practice are addressed.

Table 1. Populations, methods, and types of maltreatment that are presented per chapter in the current thesis

Population	Sentinel report		Self-report	
	SA	*PA*	*SA*	*PA*
General population[1]	Ch. 2	Ch. 2	Ch. 2	Ch. 2
Regular out-of-home care	Ch. 3		Ch. 3	Ch. 4
Out-of-home care for children with ID	Ch. 5			
Youth care workers			Ch. 6	Ch. 6

ID = Intellectual Disability; SA = Sexual Abuse; PA = Physical Abuse

[1] All five types of maltreatment were measured in the general population: Sexual, physical, and emotional abuse, and physical and emotional/educational neglect.

2 The prevalence of child maltreatment in the Netherlands across a 5-year period

Saskia Euser, Lenneke R.A. Alink, Fieke Pannebakker, Ton Vogels, Marian J. Bakermans-Kranenburg, Marinus H. van IJzendoorn. Child Abuse & Neglect, 37, 841-851.

ABSTRACT

The prevalence of child maltreatment in the Netherlands was in 2005 first systematically examined in the Netherlands' Prevalence study on Maltreatment of children and youth (NPM-2005), using sentinel reports and substantiated CPS cases, and in the Pupils on Abuse study (PoA-2005), using high school students' self-report. In this second National Prevalence study on Maltreatment (NPM-2010), we used the same three methods to examine the prevalence of child maltreatment in 2010, enabling a cross-time comparison of the prevalence of child maltreatment in the Netherlands. First, 1,127 professionals from various occupational branches (sentinels) reported each child for whom they suspected child maltreatment during a period of three months. Second, we included 22,661 substantiated cases reported in 2010 to the Dutch Child Protective Services. Third, 1,920 high school students aged 12-17 years filled out a questionnaire on their experiences of maltreatment in 2010. The overall prevalence of child maltreatment in the Netherlands in 2010 was 33.8 per 1,000 children based on the combined sentinel and CPS reports and 99.4 per 1,000 adolescents based on self-report. Major risk factors for child maltreatment were parental low education, immigrant status, unemployment, and single parenthood. We found a large increase in CPS-reports, whereas prevalence rates based on sentinel and self-report did not change between 2005 and 2010. Based on these findings a likely conclusion is that the actual number of maltreated children has not increased from 2005 to 2010, but that professionals have become more aware of child maltreatment, and more likely to report cases to CPS.

INTRODUCTION

The negative consequences of child maltreatment have been documented since several decades (e.g., Cyr, Euser, Bakermans-Kranenburg, & Van IJzendoorn, 2010). However, the actual prevalence of child maltreatment in the Netherlands was only recently systematically examined in the Netherlands' Prevalence study of Maltreatment of children and youth (NPM-2005; Euser, Van IJzendoorn, Prinzie, & Bakermans-Kranenburg, 2010). Based on the National Incidence Studies (NIS), large periodically conducted studies on the prevalence of child maltreatment in the USA (e.g., Sedlak et al., 2010), the NPM-2005 used reports from professionals working with children (sentinels) and substantiated cases reported to Child Protective Services (CPS). This NPM methodology combined with self-report measures of child maltreatment was repeated in the current study, enabling a cross-time comparison of the prevalence of child maltreatment in the Netherlands.

Recent meta-analytic evidence has shown that prevalence rates based on self-report are considerably higher than prevalence rates based on sentinel reports (Stoltenborgh, Bakermans-Kranenburg, Alink, & Van IJzendoorn, 2012; Stoltenborgh, Bakermans-Kranenburg, Van IJzendoorn, & Alink, 2013; Stoltenborgh, Van IJzendoorn, Euser, & Bakermans-Kranenburg, 2011). Most studies have relied on retrospective self-report to estimate the prevalence of child abuse and neglect (e.g., Finkelhor, Ormrod, Turner, & Hamby, 2005; U.S. Department of Justice, 2010). Although such studies may be informative since participants know most about their own experiences of maltreatment, the self-report method has several disadvantages. First of all, the definition of maltreatment in self-report questionnaires is not always straightforward and may be interpreted differently among participants as compared to researchers. Moreover, it may be difficult for participants to remember the exact frequency of certain events in the past. When sentinel reports are used, such as in the NIS or the NPM-2005, professionals who work with children are asked to use the same definitions of maltreatment. The downside of this method is that sentinels may not be aware of all cases of maltreatment; they may only see the tip-of-the-iceberg (Creighton, 2002).

Sentinel reports in combination with CPS reports were first used in the periodically conducted National Incidence Studies (NIS) to calculate prevalence rates of child maltreatment in the USA. The prevalence rate of child maltreatment has increased since the first NIS study in 1979 and 1980 (National Center on Child Abuse and Neglect, 1981), in which a prevalence of 9.8 per 1,000 children was found, solely based on the "harm standard". The definition of maltreatment has since then been broadened with the "endangerment standard" (Sedlak, 1991), which includes all harm cases and all cases in which there is no observable harm but a serious risk of harm, leading to higher prevalence estimates. The first prevalence estimates based on the endangerment standard were 22.6 per 1,000 children in 1986 and 41.9 per 1,000 children in 1993 (Sedlak & Broadhurst, 1996). In the most recent NIS the prevalence estimate remained constant; the NIS-4 (Sedlak et al., 2010) reported that 39.5 per 1,000 children experienced some form of child maltreat-

ment in 2005/2006. In addition, several self-report studies have focused on the change in prevalence of child maltreatment over time. For instance, Knutson and Selner (1994) found no evidence for any systematic change over time in the self-reported lifetime prevalence of severe physical discipline, based on 10 periodically conducted studies from 1982 to 1991. More recently, Finkelhor, Turner, Ormrod, and Hamby (2010) used the Juvenile Victimization Questionnaire to assess children's exposure to violence and abuse in 2003 and 2008 and found no change in physical abuse and neglect by caregivers or witnessing domestic violence, whereas they did find a decline in psychological and emotional abuse by caregivers, and an increase in witnessing physical abuse in the family.

The NPM-2005 was designed as a replication of the NIS studies (Euser et al., 2010) enabling a comparison between the USA' and Dutch prevalence estimates. Before the NPM-2005 was conducted, the only available prevalence estimates of child maltreatment in the Netherlands were based on a direct extrapolation of the NIS-3 prevalence rate to the Dutch population: 23 per 1,000 children. The Dutch prevalence estimate of overall child maltreatment in 2005 was 30 per 1,000 children, which just fell within the estimated prevalence range (30-54 per 1,000) of the NIS-3 (Euser et al., 2010). At the same time as the NPM-2005, which relied on sentinel and CPS reports, another Dutch prevalence study was conducted using high school students' self-reported maltreatment (Pupils on Abuse [PoA-2005]; Lamers-Winkelman, Slot, Bijl, & Vijlbrief, 2007). The results of this self-report study showed an overall prevalence rate of 195 per 1,000 adolescents who reported experiences of child maltreatment in the year 2005/2006.

Several socio-demographic characteristics of the child and the family have been identified as risk factors for child maltreatment, such as young child age, poverty, minority status, and parental stress (e.g., Cappelleri, Eckenrode, & Powers, 1993; Sedlak et al., 2010; Slack, Holl, McDaniel, Yoo, & Bolger, 2004; Stith et al., 2009). Similar results have been found in previous Dutch prevalence studies. Based on sentinel and CPS reports, families with a very low parental educational level or with parental unemployment, immigrant families, single-parent families, stepfamilies, families with three or more children, and children between 0 and 3 years of age were at increased risk for child maltreatment (Euser et al., 2010; Euser, Van IJzendoorn, Prinzie, & Bakermans-Kranenburg, 2011; Van IJzendoorn, Euser, Prinzie, Juffer, & Bakermans-Kranenburg, 2009). Based on adolescents' self-reports (Lamers-Winkelman et al., 2007), main risk factors for child maltreatment were gender (girls reported more maltreatment), immigrant status, age (older adolescents reported more maltreatment), and single-parent families, whereas educational level, parental unemployment, or experienced wealth did not explain child maltreatment.

The results of the NPM-2005 had huge political impact. The Minister of Youth and Families wrote specific directions on the prevention and reduction of child maltreatment in the Netherlands. An important aspect was early detection of child maltreatment by professionals. Child protection professionals were introduced, together with a protocol about how to act when encountering child maltreatment or family violence in organizations working with children and families. Moreover, the NPM-2005 findings received ample publicity in

the media, which may have led to an overall increased awareness for child maltreatment in the Netherlands. The main aim of this second Netherlands' Prevalence study of Maltreatment of children and youth (NPM-2010) was to estimate the overall prevalence of child maltreatment and the prevalence of different types of maltreatment in the Netherlands in 2010, based on three different types of data: sentinel reports, CPS cases, and self-report questionnaires. Further, since the same methodology was used in 2005, the stability of the prevalence of child maltreatment in the Netherlands over a 5-year period can be examined. By using the same definitions of maltreatment in the sentinel- and self-report study, we aimed to close the gap in prevalence rates as much as possible. In addition, using two different methods allowed us to make a more robust cross-time comparison. Finally, we tested which child and family characteristics were risk factors for child maltreatment and whether these risk factors differed from the risk factors found in the NPM-2005 and the PoA-2005. Given the increased awareness of child maltreatment in the Netherlands, and the enhanced focus on early screening and detection, we expected to find an increase in prevalence rates from 2005 to 2010 based on sentinel reports and CPS cases, but not for self-reported maltreatment. Risk factors for child maltreatment were expected to remain constant over time.

METHOD

Sentinels and CPS agencies

Participants. Sentinels, i.e. professionals from organizations within several occupational branches (Table 1) were sampled by randomly selecting organizations and sentinels within these organizations. In order to obtain a geographically representative sample, the number of sentinels within each occupational group was equal across five zones, covering geographical areas in the Netherlands with approximately equal numbers of children. Whenever an organization or professional did not participate, a new organization or professional was randomly selected to prevent selection bias. In total, 1,127 professionals from 416 organizations participated in the study (Table 1).

Sentinel registration form. A standardized registration form, based on the form used in the NIS studies (Sedlak et al., 2010) and the NPM-2005 (Euser et al., 2010), was filled out by the sentinels for each child for whom they suspected child maltreatment in a 3-month period from September to December, 2010. Detailed instructions were provided on how to use the form, including definitions of the different types of child maltreatment. The sentinels were asked to give information on more than 30 characteristics of the reported children, their parental figures and families, the suspected perpetrators, and the severity and nature of the maltreatment. In total, 818 registration forms were returned by the sentinels. Fifteen cases were removed because they did not meet the standards of maltreatment or the victim was 18 years of age or older; 21 cases were removed because the maltreatment did not take place in the designated period, and nine cases were excluded because the child did not belong to the sentinel's population (e.g., the older sibling of a child from the sentinel's

Table 1. Total numbers of participating organizations and sentinels, sample of observed children, and total Dutch population per occupational branch

	Total number of organizations	Total number of sentinels	Sample of observed children[2]	Total Dutch population
Primary schools	59	342	7,999	1,593,055
Secondary schools	28	108	2,186	1,184,064
Shelters for battered women	48	87	660	3,514,478
Well-baby clinics	26	139	18,721	834,220
Home-based and center-based child care	77	171	4,234	353,932
Kindergartens	27	42	960	169,077
Police forces	17	31	258,120	3,514,478
Child Protection Boards	12	25	96,514	3,514,478
General practitioners	131	131	90,230	3,514,478
Emergency departments	6	21	20,848	3,514,478
Child protection professionals in hospitals[1]	30	30	626,107	3,514,478
Total	461	1,127		

[1]Specialized in the evaluation and response to child maltreatment
[2]The samples of observed children cannot be summed to a total, since children can be observed by more than one occupational branch.

day care group). Further, all cases were closely examined for duplications, and 13 cases were reported by two different sentinels. The two registration forms of these children were integrated to one form. This led to the final inclusion of 760 cases of child maltreatment.

Coding of maltreatment. The cases of child maltreatment reported by the sentinels were independently coded by seven trained coders (including one expert coder who also coded cases in the NPM-2005 study), to decide whether the cases qualified as child maltreatment (based on the definitions used in the NPM-2005 [Euser et al., 2010] and the NIS-4 [Sedlak et al., 2010]) and to classify the case as one of six types of maltreatment: (1) sexual abuse, (2) physical abuse, (3) emotional abuse, (4) physical neglect, (5) emotional/educational neglect, and (6) other abuse or neglect. To ensure each child was counted only once in the overall prevalence of child maltreatment, we prioritized the types of abuse in the abovementioned order and assigned each child to the highest type of maltreatment observed for this child (analogous to the NIS and NPM-2005; Euser et al., 2010; Sedlak et al., 2010). To determine reliability, the six coders independently double coded 12% of all cases (n = 92) with the expert coder. The mean inter-coder reliability (kappa) was .94 for sexual abuse, .91 for physical abuse, .86 for emotional abuse, .79 for physical neglect, and .78 for emo-

tional/educational neglect. The overall mean reliability was .84 (95% agreement). The range in kappa's was .65-1.00. Next, all cases were coded separately by two coders. In case of disagreement, the case was discussed with the expert coder to reach consensus.

CPS agencies. Reported and substantiated CPS cases were collected. In the Netherlands child maltreatment can be formally reported to 15 CPS agencies (in Dutch: Advies en Meldpunt Kindermishandeling [AMK]). Anyone working with families or observing children in any professional or informal capacity is entitled to report a case of suspected child maltreatment to CPS. We obtained the files of all substantiated cases of child maltreatment in 2010 and organized the data per child. The following types of maltreatment were reported: Sexual abuse, physical abuse, emotional abuse, physical neglect, emotional/educational neglect, witnessing family violence, and other types of maltreatment. Cases included in CPS files could have been reported by sentinels. Similar to the NPM-2005, we used a set of unique identifiers (i.e., first name, first letter of last name, date of birth, gender, and zip code) to detect overlapping cases between CPS and sentinels. 104 duplicate cases were identified and removed from the CPS data, leading to 22,661 cases.

Comparison samples: National kinship panel study and Central Bureau of Statistics. To compare the family characteristics of the maltreated sample with those of families in the general population (i.e., education, unemployment, single parenthood, family size, stepparenthood, and immigrant status), we used data from the National Kinship Panel Study, a representative dataset on families in the Netherlands (NKPS, for more information see www.nkps.nl; see also Euser et al., 2010). For comparison of child characteristics (i.e., age and gender of the child), data were derived from the Central Bureau of Statistics (CBS).

Self-report

Participants. We randomly selected 42 schools from a database including all high schools in the Netherlands. For each nonparticipating school another school was randomly selected from the database to prevent selection bias. Within each school four classes (different grades) were randomly selected. In total, 29 schools participated in the self-report study (28 of which also participated in the sentinel study), including 108 classes and 1,936 students, evenly distributed among the five geographical zones. Sixteen students were excluded because they were older than 17 years, had incomplete maltreatment data, or had outlying scores on the social desirability questionnaire. The final sample thus consisted of 1,920 high school students aged 12-17 years, of whom 62% received prevocational secondary education (VMBO), 35% received higher general secondary education (HAVO) or pre-university education (VWO), and 3% received another type of education. About half of them were boys (52%). The majority were Dutch (87%), 4% Moroccan, 3% Turkish, 1% Surinamese, 1% Antillean, and 3% had another ethnicity.

Questionnaire. The questionnaire was based on the one used in the PoA-2005 study (Lamers-Winkelman et al., 2007). The questionnaire consisted of 24 questions about different types of maltreatment based on the Dating Violence Questionnaire (Douglas & Straus,

2006) and the Parent-Child Conflict Tactics Scales (CTSPC; Straus et al., 1998), such as 'An adult from my own family has had sex with me' or 'My parent hit me with a belt or other object on another body part than my buttocks'. Maltreatment questions were embedded in a series of questions about unpleasant and nasty incidents (such as bullying), nonviolent discipline by parents (CTSPC; Straus et al., 1998), the social desirability items from the Dating Violence Questionnaire (Douglas & Straus, 2006), and questions about socio-demographical characteristics of the children and their families. Maltreatment was assessed on an 8-point scale (1 = has never happened; 2 = has not happened in the past year, but has happened in the years before; 3 = has happened once in the past year; 4 = has happened twice in the past year; 5 = has happened 3-5 times in the past year; 6 = has happened 6-10 times in the past year; 7 = has happened 11-20 times in the past year; 8 = has happened more than 20 times in the past year). We considered students who answered 3-8 on one or more of the maltreatment items as being maltreated in the past year. The students filled out the questionnaires at school during a regular class hour. Informed consent was acquired from the students and their parents. If the students or the parents did not agree to participate, the students filled out a dummy questionnaire about a neutral topic, in order to prevent stigmatization of non-participating students. These dummy questionnaires were destroyed after data collection.

To assure consistency in the operationalization of maltreatment, the coders who coded the sentinel data also coded the 24 questionnaire items on maltreatment. The 13 items that all coders considered indicative of maltreatment according to the definitions of the sentinel study were used to calculate the prevalence estimate (Cronbach's alpha = .84). The research protocol of the study was approved by the Ethics Committee of the Leiden University Medical Center.

Statistical procedures

Sentinels. Since the sentinel data collection took place over a 3-month period, we extrapolated the number of reported cases to an annual number of cases of child maltreatment. To control for a possible season effect, the season variability in the CPS data was examined. Of all CPS cases in 2010, 22.6% took place during our sentinel data collection period. Therefore, the number of reported cases by our sentinels was multiplied by 4.43 to obtain the prevalence estimate over the year 2010.

All sentinels estimated the number of children they (potentially) observed during the 3-month research period, further indicated as the "sample of observed children per occupational branch" (see Table 1). Using this estimation we calculated the proportion of reported children of the sample of (potentially) observed children by the sentinels in 2010. Furthermore, we determined the total population of children for each occupational branch. Prevalence rates for each occupational branch and each type of abuse were then calculated with formula 2.1. In this formula, X represents the estimation of the number of maltreated children, C is the number of cases reported during the 3-month period, Tot_s is the total number of (potentially) observed children by the sentinels from an occupational branch,

and Tot_{pop} represents the total population of Dutch children belonging to an occupational branch of sentinels (Euser et al., 2010).

$$X = \frac{C * 4.43}{Tot_s} * Tot_{pop} \tag{2.1}$$

Sentinels from four occupational branches observed the same group of children during one year (i.e., child care, kindergarten, elementary school, and high school). In these cases an alternative correction for the season effect was used. To calculate the annual number of maltreated children, we assumed that in the first quarter of the year a certain number of cases of child maltreatment are reported. In the second quarter, the same number of cases are reported, but only 75% of these are new, in the third quarter again the same number of children are reported, but only 75% of the reported children from the second quarter are new, and in the fourth quarter again the same number of children are reported, and now only 75% of the reported children from the third quarter are new. These assumptions led to formula 2.2 to calculate the number of reports in a whole year. In this formula, *C* indicates the number of reported children. Summation of the prevalence estimates of the sentinels and the CPS agencies led to the total number of maltreated children in the Netherlands.

$$X = C + C * 0.75 + C * 0.75^2 + C * 0.75^3 \tag{2.2}$$

Self-report. The number of maltreated children based on self-report was calculated as the proportion of students who reported maltreatment in relation to the number of children who filled out the questionnaire. We then multiplied this proportion by the total population of high school students in the Netherlands (Tot_{pop} = 981,940).

Comparison of 2005 and 2010 prevalence estimates. To determine whether the prevalence rates from 2010 were significantly different from the findings of the NPM-2005 (Euser et al., 2010) and the PoA-2005 self-report study (Lamers-Winkelman et al., 2007), Wilson estimates for the 84% confidence interval were calculated around each prevalence estimate (Euser et al., 2010; Moore & McCabe, 1996; U.S. Department of Justice, 2010; Wilson, 1927). 84% confidence intervals were used for significance testing, since they lead to a probability of overlap of approximately 5% (Julious, 2004). If confidence intervals of two estimates (partly) overlap the prevalence rates are assumed to be not significantly different (Goldstein & Healy, 1995; Julious, 2004; Payton, Greenstone, & Schenker, 2003).

Risk factors

Various child and family characteristics were tested as potential risk factors in the sentinel study. Based on the highest education of one of the parents (or substitute caregivers), families were classified as having a moderate-to-high (Vocational Training, School of Higher General Secondary Education, Pre-university Education, or college/university), low (Pre-vocational Education), or very low (Elementary School or less) educational background. Further, we distinguished native Dutch families from traditional immigrants (Turkish, Mo-

roccan, Surinamese, or Antillean), and nontraditional immigrant families (African [except Moroccan], Central Asian, Eastern European, South- and Central American). Other risk factors that were tested are parental unemployment (defined as both parents being without a paid job), single parenthood, large family size (defined as families with three or more children), stepfamilies, child's age, and child's gender. These risk factors were also tested based on the CPS data, except for educational background and parental unemployment, due to lack of information. Potential risk factors in the self-report study were socioeconomic status (with low SES defined as the wealth of the family rated by the adolescents as not so rich or not rich at all, and both parents being without a paid job), student's education, single parenthood, family size, immigrant status, student's age, and student's gender.

Risk ratios, defined as the ratio between the proportion of families/adolescents exposed to the risk factor with maltreatment experiences versus the proportion of families/adolescents unexposed to the risk factor with maltreatment experiences, were computed to examine the strength of risk factors. Furthermore, 95% confidence intervals were calculated to express the precision of each estimate (Rothman, 2002). If confidence intervals do not include the value 1, the characteristic is assumed to be a significant risk factor for child maltreatment. However, this was done with caution, since it is argued by Rothman (2002) that it may be misleading to place emphasis on statistical significance of the risk ratio; correct interpretation of the general width and location of the confidence interval would be much more important.

RESULTS

Sentinels and CPS agencies

Prevalence estimates. 96,175 children or 2.7% of all children were victim of child maltreatment in the Netherlands in 2010, based on sentinel reports (Table 2). Child sexual abuse was the least reported type of maltreatment by the sentinels: 3% of all victims experienced this type of abuse. Physical and emotional neglect were the most frequently reported types of maltreatment, with 37% and 72% of all victims, respectively (Table 2). Numbers of maltreated children per type of maltreatment do not match with the total number of victims because victims may have experienced more than one type of maltreatment: 55% of the reported children experienced one type of maltreatment, 30% experienced two different types, 13% experienced three types, and 2% experienced four or more types (Figure 1).

Of the 22,661 substantiated cases of maltreatment reported to the CPS agencies (0.6% of all Dutch children), 3% involved child sexual abuse, 11% physical abuse, 14% emotional abuse, 10% physical neglect, 52% educational or emotional neglect, 41% violence in the family, and 22% other types of maltreatment. Sixty percent of the cases involved one type of maltreatment, 29% involved two different types, 9% involved three types, and 2% involved four or more types of maltreatment (Figure 1). Adding the CPS cases to the prevalence estimate based on sentinel reports (and after removal of duplicate cases, see Method), we

Table 2. Number of children reported by the sentinels, prevalence estimates, and 95% confidence intervals (CI) per type of maltreatment

Type of maltreatment	Number of reported children	Prevalence estimate ‰	Estimated number of maltreated children	95% CI	
				Lower limit	Upper limit
Sexual abuse	30	0.80	2,796	1,055	4,577
Physical abuse	148	5.06	17,789	9,6364	25,707
Emotional abuse	153	5.50	19,319	10,699	28,015
Physical neglect	245	10.22	25,921	23,873	48,064
Emotional neglect	560	19.80	69,583	50,403	89,497
Other maltreatment	83	3.04	10,693	4,443	17,020
Total[1]	760	27.37	96,175	78,333	114,070

[1]Prevalence estimates for the different types of maltreatment do not match with the total, because children may have experienced more than one type of maltreatment.

found a total prevalence of child maltreatment of 118,836 (95% CI: 100,702-137,027) children, which represents 33.8 per 1,000 children in the Netherlands.

Comparison with NPM-2005. The current study differs on some aspects from the NPM-2005 study: Some organizational branches were added to those included in 2005 (i.e., emergency departments, child protection professionals in hospitals, home-based child care, and kindergartens), and an alternative correction for the season effect was used for some organizational branches. To make a reliable comparison, we used reports from the occupational branches included in both studies, and reanalyzed the 2005 data according to the analyses used in the current study.

This led to a prevalence estimate of 86,836 children or 24.1 per 1,000 children (84% CI: 21.0-27.3) in 2005 and 86,105 children or 24.5 per 1,000 children (84% CI: 21.5-27.6) in 2010, based on sentinel reports. The 84% confidence intervals of the two years are overlapping for overall maltreatment and for the separate types of maltreatment (Figure 2), indicating no significant difference between the prevalence of child maltreatment in the years 2005 and 2010 in the Netherlands.

The total number of cases of child maltreatment reported to the CPS agencies increased with 67% from 2005 (3.8 per 1,000 children) to 2010 (6.4 per 1,000 children). The increase was 18% for sexual abuse, 69% for physical abuse, 64% for emotional abuse, 24% for physical neglect, 253% for emotional/educational neglect, and 196% for witnessing family violence. 'Other', non-specified types of maltreatment decreased with 43%. Although only a small proportion of the total estimate of victims of child maltreatment is reported to CPS, this proportion increased from 14% in 2005 to 21% in 2010.

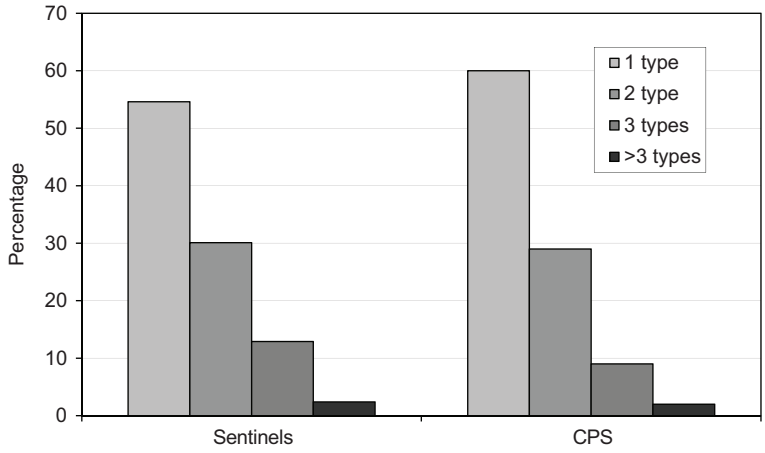

Figure 1. Percentages of victims who experienced one, two, three, or more than three types of maltreatment in the Netherlands in 2010, based on sentinel and CPS reports

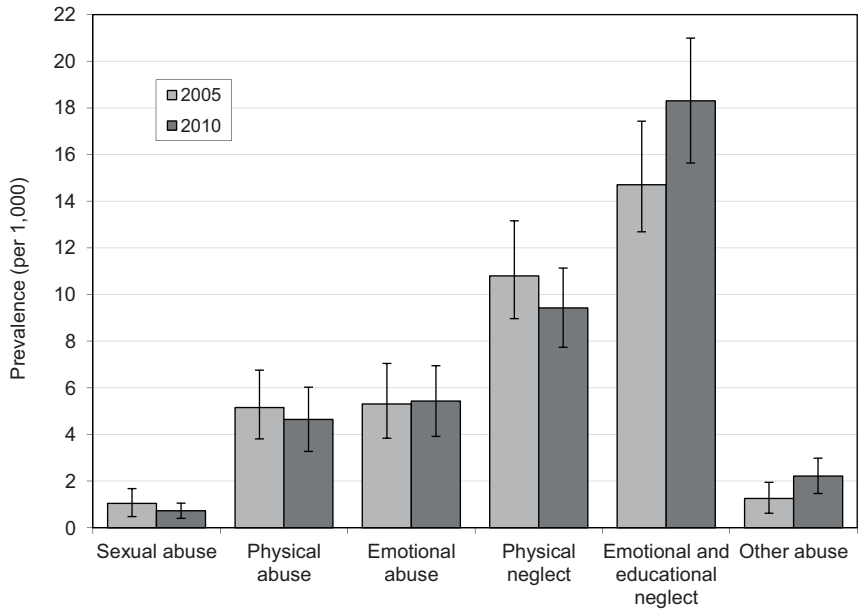

Figure 2. Prevalence estimates (‰) of separate types of child maltreatment in the Netherlands in 2005 and 2010, based on sentinel reports.
Note. Victims can be included in more than one category, because they may have experienced more than one type of maltreatment.

Self-report

Prevalence estimates. Almost 10% of the adolescents reported maltreatment over the year 2010 (99.4 per 1,000). This proportion multiplied by the total population of children between 12 and 17 years of age in the Netherlands yields an absolute prevalence estimate of 97,610 adolescents (95% CI: 85,037-111,880) who were victims of child maltreatment in 2010.

Comparison with PoA-2005. The year prevalence of child maltreatment in 2005/2006 based on self-report was recalculated, using the 13 items indicating child maltreatment comparable to the sentinel reports (see Method). This led to an estimate of 95,936 adolescents or 95.3 per 1,000 adolescents (84% CI: 86.4-106.0) who were victims of child maltreatment in 2005/2006. The comparison of this estimate with the prevalence estimate found in the current study (99.4 per 1,000 [84% CI: 90.4-110.1]) showed that there was no significant increase or decrease between 2005/2006 and 2010.

Comparing sentinel and self-report

The prevalence estimate for children between 12 and 17 years of age based on the sentinel data was calculated in order to compare the findings from the sentinel and the self-report study. According to the sentinels, 16,408 adolescents were victim of child maltreatment, and an additional 6,997 adolescents were reported to the CPS agencies, resulting in an overall prevalence estimate of 23,405 adolescents or 19.8 per 1,000 adolescents. The comparison of this estimate with the prevalence estimate based on self-report (99.4 per 1,000) showed that the prevalence of child maltreatment based on self- report was nearly five times higher than the prevalence of child maltreatment based on sentinel and CPS reports (Figure 3). Eighty-four percent confidence intervals did not overlap, indicating a significant difference.

Risk factors

Risk ratios with 95% confidence intervals are shown in Figure 4 for sentinel, CPS, and self-report data. The largest risk factor was found for low education in sentinel data; families with a low educational level had a ninefold increase in risk for child maltreatment. Low education was also found to be a significant risk factor in self-report data; adolescents with a low educational level had an 80% increase in risk for maltreatment. Other significant risk factors were unemployment of both parents (in the self-report data parental unemployment was combined with family wealth), single parent families, large family size (only significant in sentinel and CPS data), stepfamilies, and traditional and nontraditional immigrant status. However, it should be noted that the risk for traditional immigrant families disappeared when we controlled for educational level of the parent in the sentinel study or for step-parenthood in the CPS data, which has been described in an earlier paper, using a somewhat different approach for calculating risk factors (Alink, Euser, Van IJzendoorn, & Bakermans-Kranenburg, 2013). Children in the youngest age category (0-3 years old) were at increased risk in the sentinel data (RR = 2.6; 95% CI: 2.58-2.65), while in the CPS data children between 4 and 11 years of age were at increased risk for child maltreatment

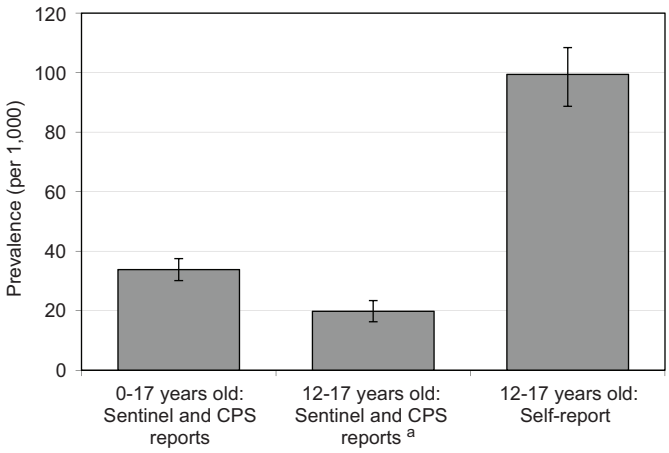

Figure 3. Prevalence estimates (‰) of child maltreatment based on sentinel and CPS reports and based on self-report.
[a]This prevalence estimate is based on a subgroup of all sentinel and CPS reports: Only victims of 12 to 17 years of age are included.

(RR = 1.7; 95% CI: 1.66-1.75). Based on the self-report data, we found an increased risk for older adolescents (Odds ratio = 1.21; Wald = 16.37; $p < .01$; $N = 1{,}811$). Finally, gender was a significant, but small risk factor in the sentinel data only; girls had a 10% increase in risk for child maltreatment. However, the risk for girls for sexual abuse in both sentinel (RR = 8.4; 95% CI: 8.25-8.59) and CPS data (RR = 2.4; CI: 2.40-2.46) was large and significant.

DISCUSSION

The overall prevalence of child maltreatment in the Netherlands has remained relatively stable across a 5-year period. The second Netherlands' Prevalence study of Maltreatment of children and youth shows a prevalence of 118,836 children or 33.8 per 1,000 children between 0 and 17 years of age in 2010, based on sentinel and CPS reports, with highest prevalence rates for physical and emotional neglect. This prevalence rate based on sentinel-reports did not differ significantly from the prevalence in 2005, whereas the number of children reported to CPS increased by 67%. Moreover, the percentage of the number of victims who were reported to CPS (as compared to the total prevalence estimate) increased from 14% in 2005 to 21% in 2010. The prevalence estimate based on self-report was considerably higher than the sentinel-CPS estimate: 99.4 per 1,000 adolescents between 12 and 17 years of age reported having been victim of maltreatment in the past year, which is equal to 97,610 adolescents in the Netherlands. This prevalence was not significantly different from the prevalence found in the PoA study in 2005/2006.

As expected based on meta-analytic evidence (e.g., Stoltenborgh, Bakermans-Kranenburg, Alink, & Van IJzendoorn, 2012), prevalence rates based on self-report were (nearly

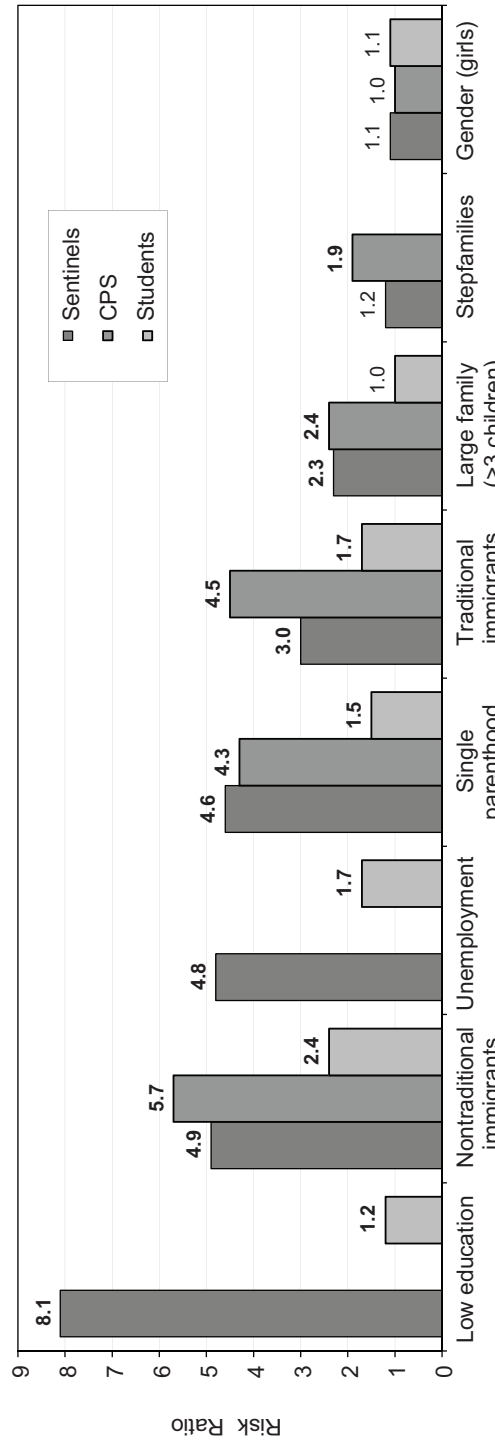

Figure 4. Risk ratios for child maltreatment based on Sentinel reports, CPS reports, and Self-report. Missing bars indicate that the effect of the risk factor was not tested. Significant risk factors are shown in boldface.
[a] Unemployment is combined with family wealth in the self-report study.

five times) higher than those based on sentinel and CPS reports when controlled for age. However, in our study the difference was smaller than could be expected based on the meta-analytic evidence. One of the reasons may be that in the current study the 13 child maltreatment items included in the self-report study were consistent with the definition of child maltreatment used in the sentinel study, which decreased the discrepancy between the two prevalence estimates. However, adolescents may still have misunderstood these questions or interpreted them differently from what was meant by the researchers. On the other hand, part of the difference may be caused by the fact that sentinels only see the tip of the proverbial iceberg, which may have resulted in an underestimate in the sentinel-CPS results.

Although the different methods led to different prevalence estimates, the risk factors for child maltreatment based on sentinel reports, CPS reports, and self-report are largely overlapping. The risk ratios are not identical, but all methods showed that children from families with a low educational level, single-parent families, (non)traditional immigrant families, and children with unemployed parents have an increased risk to become a victim of child maltreatment. Gender was only a small risk factor for child maltreatment in general, although girls are at increased risk for sexual abuse. It should be noted that educational level and unemployment were not tested in the CPS study, due to incomplete reports. Large family size was only identified as a risk factor based on sentinel and CPS data, and the increased risk for stepfamilies was only found in CPS data.

Some limitations of the current study should be considered. The sentinel study of the NPM-2010 and the NPM-2005 differed in some respects, which may limit the comparison over time. First, in the current study sentinels were informed about the types and definitions of maltreatment and the use of the registration form in a mailed information package, while in 2005 the majority of sentinels were visited by one of the researchers for instruction meetings, analogous to the NIS procedure (Sedlak et al., 2010). Since analyses from 2005 showed no differences in the number of reported cases between sentinels who attended an instruction meeting and sentinels who only received an instruction package (Euser et al., 2010), we decided to use only instruction packages in 2010. Second, numbers of participating sentinels per occupational branch were somewhat different in 2005 and 2010. Although cases of child maltreatment reported by sentinels from occupational branches that were only included in 2010 were excluded for the comparison between the two years, some occupational branches were overrepresented in the sample of 2010 compared to 2005 (e.g., general practitioners), while others were underrepresented (e.g., secondary education). Since general practitioners reported relatively fewer cases of child maltreatment than sentinels from secondary education, their overrepresentation may have decreased the prevalence estimate of child maltreatment in 2010.

Taken together, our findings show an increase in CPS-reports but no change in sentinel and self-reports. Based on these findings a likely conclusion is that the actual number of maltreated children has not increased from 2005 to 2010, but that professionals have become more aware of child maltreatment, and more likely to report cases to CPS. This

may also explain the particularly large increase in CPS reports of the less visible types of maltreatment, such as emotional and education neglect and witnessing family violence. Moreover, the decrease in reported cases of nonspecified maltreatment suggests that professionals became more precise in their reports of maltreatment to the CPS. The heightened attention for child maltreatment in the Netherlands may be due to multiple factors, including the findings of the NPM-2005, which led to an increased awareness of the problem, and the arrangement of a specific Ministry for Youth and Families in 2007, with policy issues concerning the prevention of child maltreatment. For instance, to improve early signaling of child maltreatment, this ministry introduced child protection professionals and a protocol about how to act when encountering child maltreatment or family violence in organizations working with children. Unfortunately, the Dutch Ministry for Youth and Families disappeared in 2010, diminishing the political focus on the prevention of child maltreatment.

Comparable to our findings, results of the NIS showed no differences in overall prevalence of child maltreatment between 1993 and 2005/2006, whereas the prevalence rates of sexual and emotional abuse decreased and the prevalence rate of emotional neglect increased (Sedlak et al., 2010). Moreover, similar to our results, the percentage of maltreated children who were investigated by CPS increased toward the most recent version of the NIS, which was especially true for emotional neglect. Prevalence studies solely based on child abuse reported to CPS agencies have been conducted in Canada and Australia, and showed, in contrast to the current findings, that CPS reports may have reached a saturation point. Trocmé and colleagues (2010) examined the prevalence of child maltreatment cases reported to CPS agencies in the Canadian Incidence Studies (CIS), and found an increase between 1998 and 2003 of 79%, whereas the prevalence remained stable between 2003 and 2008. The large increase since 1998 may to a large extent be attributed to more effective reporting and investigation practices, including an increased awareness of emotional maltreatment and exposure to domestic violence (Trocme et al., 2005). Similarly, the number of victims of child maltreatment reported to Australian CPS increased from 2006-2007 to 2008-2009, but then even slightly decreased towards 2010-2011 (Australian Institute of Health and Welfare, 2012). However, the trend over time varied for the different Australian jurisdictions; for instance, the number of substantiated cases of child maltreatment reported in Northern Territory increased with 46% from 2008-2009 to 2010-2011, probably due to the reform of several areas of its child protection system. To examine and compare the actual effects of country-specific policies on the prevalence of child maltreatment in Europe, a European initiative is needed to coordinate child maltreatment prevalence studies in the various countries.

A periodic monitor of the prevalence of child abuse and neglect in the Netherlands was established with the current study. Based on both sentinel reports and self-report the overall prevalence of child maltreatment did not change significantly over a 5-year period. Political attempts to decrease the prevalence of child maltreatment in the Netherlands may have led to an increased awareness and attention for signaling and reporting child abuse

and neglect, reflected in the large increase in reported cases to the CPS agencies. A next Dutch prevalence study is needed to examine whether the policies of the shortly existing Ministry for Youth and Families have contributed to the prevention of child abuse and neglect on the long term.

3 The prevalence of child sexual abuse in out-of-home care: A comparison between abuse in residential and in foster care

Saskia Euser, Lenneke R.A. Alink, Anne Tharner, Marinus H. van IJzendoorn, Marian J. Bakermans-Kranenburg (2013). Child Maltreatment. Advance online publication.

ABSTRACT

We investigated the 2010 year prevalence of child sexual abuse (CSA) in residential and foster care and compared it with prevalence rates in the general population. We used two approaches to estimate the prevalence of CSA. First, 264 professionals working in residential or foster care (sentinels) reported CSA for the children they worked with (N = 6,281). Second, 329 adolescents staying in residential or foster care reported on their own experiences with CSA. Sentinels and adolescents were randomly selected from 82 Dutch out-of-home care facilities. We found that 3.5 per 1,000 children had been victims of CSA based on sentinel reports. In addition, 58 per 1,000 adolescents reported having experienced CSA. Results based on both sentinel and self-report revealed higher prevalence rates in out-of-home care than in the general population, with the highest prevalence in residential care. Prevalence rates in foster care did not differ from the general population. According to our findings, children and adolescents in residential care are at increased risk for CSA compared to children in foster care. Unfortunately, foster care does not fully protect children against sexual abuse either, and thus its quality needs to be further improved.

INTRODUCTION

Residential care arrangements are typically characterized by large, frequently changing peer groups, and frequent shifts and instability of caregivers (Ryan, Marshall, Herz, & Hernandez, 2008; Van IJzendoorn et al., 2011), while children in foster care grow up in a more stable family environment. However, in both types of care transitions seem to occur more often than would be desirable (Allen & Vacca, 2010; Oosterman, Schuengel, Slot, Bullens, & Doreleijers, 2007). Frequent transitions, the non-biological relationship between child and caregiver, and possible earlier maltreatment experiences of children, may increase the risk for child sexual abuse (CSA) in out-of-home care. Moreover, because of the larger child-to-caregiver ratio, the presence of larger numbers of vulnerable peers of both sexes and the more unstable care arrangement with high peer and staff turn-over, children in residential care may be at increased risk for CSA compared to children in foster care. However, it has recently been suggested that residential group rearing should be preferred over foster care (Allen & Vacca, 2011; Whetten et al., 2009). We add to this discussion by examining the year prevalence of CSA in residential and foster care, and comparing the prevalence estimates in both types of care with the year prevalence of CSA in the general population.

Child sexual abuse

CSA is defined here as every form of sexual interaction with a child between 0 and 17 years of age against the will of the child or without the possibility for the child to refuse the interaction. Such interactions can be with or without physical contact, such as penetration, molestation with genital contact, child prostitution, involvement in pornography, or voyeurism (Sedlak et al., 2010), and refer to sexual acts by adults as well as peers. Meta-analytic evidence indicates that CSA is a global problem with lifetime prevalence rates between 4 per 1,000 children for informant studies and 127 per 1,000 children for self-report studies (Stoltenborgh, Van IJzendoorn, Euser, & Bakermans-Kranenburg, 2011). The terms prevalence and incidence are both used when describing the occurrence of child maltreatment. The incidence of maltreatment generally refers to all new cases in a given time period, while prevalence rates indicate the total number of children maltreated in a given time period, irrespective of the time of onset (Rothman, 2002). The current study reports year prevalence estimates, which refer to the total number of children experiencing child maltreatment in a specific year.

Among the largest and most comprehensive studies on the year prevalence of child maltreatment including CSA are the National Incidence Studies (NIS; Sedlak et al., 2010). The NIS are periodically conducted in the US since 1979, using reports from professionals working with children (sentinels) and reports to child protective services (CPS) to calculate year prevalence rates of child maltreatment. The most recent version of this study, the NIS-4 (Sedlak et al., 2010), reports that 180,500 children or 2.4 per 1,000 children experienced CSA in the US in 2005/2006. The same sentinel survey methodology was used in combination with self-report by high school students in two Dutch replications of the NIS:

The Netherlands' Prevalence Studies of Maltreatment of Youth (NPM-2005: Euser, Van IJzendoorn, Prinzie, & Bakermans-Kranenburg, 2010; NPM-2010: Alink et al., 2011). The most recent version of the NPM (NPM-2010; Alink et al., 2011) showed year prevalence rates of CSA in 2010 in the Netherlands between 0.8 per 1,000 children (based on sentinel reports) and 58 per 1,000 children (based on self-report).

Child sexual abuse is associated with a variety of short- and long-term negative correlates. Victims of CSA are likely to develop various types of internalizing and externalizing problem behaviors, are at increased risk for recurred sexual victimization, and may as parents place their own children at risk for abuse and neglect (Cutajar et al., 2010; Trickett, Noll, & Putnam, 2011). The large impact of CSA necessitates protecting children against this type of abuse. This protection is especially important for children who have been removed from the home due to maltreatment experiences, because these children may be more vulnerable for becoming victims of CSA than children living with their (biological) parents (e.g., Benedict, Zuravin, Brandt, & Abbey, 1994).

Residential and foster care

When children are abandoned or orphaned, or not properly cared for by their parents, they can be placed out of the home in either residential or foster care. There are indications that children growing up in residential care and foster care have a higher risk of maladaptive development, such as socio-emotional problems and lower cognitive functioning, than children living in biological families (Van IJzendoorn, Luijk, & Juffer, 2008, Vorria, Rutter, Pickles, Wilkind, & Hobsbaum, 1998). Although both residential and foster care can be characterized by frequent placement changes (Ryan et al., 2008) and thus by caregivers who may not be as emotionally involved as a biological parent would be (Van IJzendoorn et al., 2011), foster families seem to offer a relatively stable rearing environment during one placement. Residential care during 24 hours, 7 days per week, however, is often characterized by frequent shifts and instability of caregivers, and frequent changes in the composition of the residential group on a day-to-day basis (e.g., Roy, Rutter, & Pickles, 2000), forcing children to forge new peer relationships more often than foster children.

In addition to the possibly maladaptive development of children in residential and foster care, these children may also be at greater risk for CSA (e.g., Benedict et al., 1994; Hobbs, Hobbs & Wynne, 1999). There are several possible explanations that could lead to such an increased risk. First, children who have been removed from the home may have earlier maltreatment experiences and often show emotional and behavioral problems. Such problems may make children more vulnerable and their behavior can elicit further maltreatment. However, Jaffee, Caspi, Moffit, Polo-Thomas, and Price (2004) found that there is a limit to child effects: Difficult and coercive child behavior can provoke corporal punishment, but the occurrence of physical abuse is largely explained by family factors and not by child characteristics. It is however unknown whether this is also the case for CSA. Second, the non-biological relationship between children and their caregivers in foster or residential care may increase the possible risk for CSA. For example, results of the first

Dutch Prevalence study of Maltreatment of youth (NPM-2005) indicated that children in stepfamilies are at increased risk for maltreatment compared to biological families (Van IJzendoorn, Euser, Prinzie, Juffer, & Bakermans-Kranenburg, 2009). Third, residential groups often have a mixed gender composition, and children with the most severe problem behaviors are frequently placed together in the same group (Ryan et al., 2008; Van IJzendoorn et al., 2011). Without sufficient monitoring of the group interactions by professional caregivers the mixed nature of the residential groups and the severe problem behaviors of the group members may easily trigger peer sexual abuse.

However, comparing the outcomes of children in residential and foster care is difficult, since differences may partly be due to the fact that children are not placed at random in either residential or foster care. It has been found that children in residential care already had more severe problems at the time of placement than children in foster care (e.g., Scholte, 1996). However, some studies have specifically shown that institutional care may cause developmental problems. For instance, in the Bucharest Early Intervention Project (BEIP) young institutionalized children were randomly assigned to foster care or to continued institutional care in Romania (e.g., Smyke, Zeanah, Fox, Nelson, & Guthrie, 2010). The impaired developmental outcomes of children in residential care compared to those of children who went to foster families indicate that residential care is detrimental to child development in virtually all domains, notably the cognitive and socio-emotional domain although the starting points for children in foster and residential care were similar. In addition, Ryan and colleagues (2008) examined the relation between out-of-home placements and juvenile delinquency, using propensity score matching to minimize potential selection bias. Group home placements were associated with a higher risk of delinquency as compared to foster home placements controlling for differences before placement.

Few studies actually examined CSA in out-of-home care, but all found high levels in both residential and foster care (e.g., Benedict et al., 1994; Rosenthal, Motz, Edmonson, & Groze, 1991; US Department of Justice, 2010). None of these studies compared the prevalence rates of CSA in residential care to those in foster care. Furthermore, these studies were often based on self-report of children who experienced CSA, and they did not use a randomly selected sample. For instance, Rosenthal and colleagues (1991) examined 290 cases of abuse reported to an advisory committee, and Benedict and colleagues (1994) examined cases of CSA reported to CPS. This means that only children who were reported to this committee or to the CPS were taken into account, while many non-reported cases were not likely taken into account.

The current study

The prevalence of CSA in residential and foster care has never been systematically examined and compared. The current study addresses CSA that occurred during a one year period (2010), and only while the children were living in out-of-home care. We used a random sample of adolescents in residential and foster care reporting on their own experiences with CSA, and professionals working with children between 0 and 17 years of age

in out-of-home care (sentinels) reporting on cases of CSA. Using two different methods allows us to make a more robust comparison between residential and foster care. Furthermore, earlier findings from the NPM-2010 (Alink et al., 2011) applying the same methods are used for comparison with the general population. The research method of the present study is largely similar to the method used in the NPM-2010 (Alink et al., 2011), except for some adjustments to the Dutch out-of-home care system. Therefore, it is possible to compare the year prevalence estimates from the current study with the year prevalence of CSA in the general Dutch population.

The following research questions were be addressed separately for sentinel and self-report data: 1) What was the overall year prevalence of CSA in out-of-home care in 2010?; 2) Did the year prevalence of CSA in residential care differ from the year prevalence in foster care?; 3) Did the prevalence estimates of the current study differ from the year prevalence of CSA in the general Dutch population?; 4) What were the characteristics of victims and perpetrators of CSA in out-of-home care? It was expected that CSA would occur more often in out-of-home care than in the general population. In addition, because of the greater lack of continuity of care and the group settings in residential care, we expected that the risk for CSA would be higher in residential care than in foster care. Although we expected to find higher prevalence estimates based on self-report compared to sentinel reports (Stoltenborgh et al., 2011), we anticipated that the relative differences between prevalence estimates for the two types of care would converge for the two methods. Since the main aim of this paper was to examine the risk for CSA in different types of care, regardless of type of reporter, the results section is organized by type of reporter. Finally, because both residential and foster care are care arrangements with a number of children living under the same roof, we expected that peers living in the same care arrangement would often be perpetrators of CSA.

METHOD

Participants

Out-of-home care facilities. Both the sentinels and the adolescents were selected from four types of care facilities in the Netherlands: 1) foster care, 2) regular residential care (in which children are free to leave the facility), 3) secure residential care (in which children are not allowed to leave the facility), and 4) juvenile detention. Of all children who stayed in Dutch out-of-home care in 2010, 52% lived in foster care, 39% in regular residential care, 6% in secure residential care, and 3% lived in juvenile detention. In order to realize a representative distribution of these types of facilities in our sample, we selected the four types of facilities proportionate to the numbers of children staying in these types of facilities in the Netherlands. This led to the inclusion of all (locations of) foster care (n = 25), secure residential care (n = 15), and juvenile detention (n = 11) facilities. Foster families in the Netherlands are affiliated with one of 25 foster care facilities. From the 224 regular residential care facilities, a random selection of 20 facilities was drawn (one facility can consist of multiple

locations). In total, 82 locations were asked to participate in the study and 79 locations (96%) agreed to participate.

Sentinels. Professionals from the selected care facilities were sampled based on the following criteria: 1) the employee worked directly with the children staying at the facility (e.g., youth care workers, not foster parents) and 2) the employee had been working in out-of-home care since 2010 or before. In all residential facilities (including juvenile detention facilities), only one professional was selected from each group to prevent professionals reporting on the same group of children. Analogous to the NIS (Sedlak et al., 2010) these selected professionals are called sentinels. To compensate for possible non-response, a back-up sample with a similar number of professionals was selected from each facility, but they were only contacted if one or more sentinels in the first group did not participate. In total, 411 sentinels (36% from foster care) were invited to participate by e-mail, which included a short introduction of the study, a link to the registration form and a link to unsubscribe for participation. The overall response was 64% (n = 264), with 80% for foster care versus 57% for residential care. To compensate for the lower response rate in residential care, a larger number of professionals from the back-up sample were contacted. Sentinels received a compensation of €10 for participation.

Adolescents. Participants of the self-report study were adolescents who stayed in one of the participating care facilities. Adolescents were eligible for participation if they met the following criteria: 1) between 12 and 17 years of age in 2010, 2) stayed in out-of-home care in 2010, and 3) without intellectual disabilities, because completing the questionnaires would have been too challenging for children with intellectual disabilities. A random selection from all eligible adolescents was made: 12 adolescents from each regular residential care and juvenile detention facility, 10 from each foster care facility (in some cases two adolescents from the same foster family), and five from each secure residential care facility. To compensate for possible non-response, an equal number of adolescents were selected from each facility, but they were only contacted if one or more adolescents in the first group did not participate. All selected adolescents and their legal guardians were informed about the study by mail and asked for permission to participate. In the case of foster care placement, the foster parents were also informed about the study. Adolescents who agreed to participate were visited in their residential care facility or foster home by one or two research assistants. They completed the digital questionnaire on the research assistant's laptop. After completing the questionnaire, participants received a leaflet with information about possible effects of traumatization and contact information for help or support. Participating adolescents received a compensation of €10. In total, 669 adolescents were invited to participate; 341 (51%) adolescents actually participated in the study. Data inspection showed that 12 adolescents had systematic answering tendencies or provided very unlikely answers (e.g., over 100 perpetrators). Data from these adolescents were not used in the analyses, leading to a final sample of 329 adolescents. Somewhat more than half of these participants were male (56%), and they were between 12 and 19 years old at the time of par-

ticipation (M = 15.67; SD = 1.66). Eighty-seven percent were born in the Netherlands, and 46% had at least one parent of non-Dutch origin. More than half of the adolescents (52%) received education on the prevocational level or lower, 24% received vocational training, 13% received higher general secondary education or pre-university education, 6% received another type of education or did not know the type of education, and 5% did not go to school. The research protocol of the study was approved by the Ethical Committee of the Leiden University Medical Center.

Measures

Sentinel registration form. The standardized registration form, based on the form used for the NIS (Sedlak et al., 2010), NPM-2005 (Euser et al., 2010), and NPM-2010 (Alink et al., 2011), was digitalized for this study. Sentinels were asked whether they suspected that one or more children experienced child sexual, physical, or emotional abuse, or physical or emotional neglect which occurred in foster or residential care in 2010. Sentinels were asked to report substantiated, non-substantiated, and never reported cases of abuse and neglect. The current study focuses on sexual abuse. The form included open questions to describe the abuse and possible injury, and closed questions about characteristics of the child and the perpetrator, the location and period of the maltreatment, and the frequency with which the maltreatment has occurred. Finally, the sentinels were asked to estimate the number of children they had worked with in 2010. Six sentinels (2%) worked in both types of care in 2010, and they reported separately on residential and foster care (regarding the reported children and total number of observed children). The total numbers of sentinels, reported cases of CSA, observed children in the year 2010 and the total population of children in care are shown in Table 1. Slightly more than half of the observed children were male (53%), 44% were younger than 12 years of age, and 17% had an intellectual disability. In contrast to the self-report study, children with an intellectual disability are taken into account in the sentinel study, to obtain a representative sample of children in out-of-home care.

Coding of child sexual abuse. The cases of child maltreatment reported by the sentinels were independently coded by six trained coders (including one expert coder who also coded cases in the NPM-2010 study), to decide whether the case qualified as sexual abuse (based on the definitions used in the NPM-2010 [Alink et al., 2011] and the NIS-4 [Sedlak et al., 2010]) and to classify the case in one of five types of sexual abuse: 1) sexual abuse with penetration, 2) sexual abuse with genital contact (without penetration), 3) sexual abuse with physical contact (without genital contact and/or penetration), 4) sexual abuse without physical contact, and 5) other sexual abuse. Reported cases of CSA that did not occur in 2010 or occurred in 2010 but prior to the out-of-home placement were not included. Further, consensual sexual interactions between a child and an adult over 21 years of age were included, while consensual sexual interactions between two children under 21 years of age were excluded. To determine reliability, the five coders independently double coded 25% of all cases (n = 89) with the expert coder. The mean inter-coder reliability (kappa) for

Table 1. Total number of participating organizations and sentinels,number of reported children, sample size of children observed by the sentinels and total population of children in dutch out-of-home care, per type of facility

Type of facility	Total number of sentinels[1]	Number of reported children	Sample size of observed children	Total population in Dutch out-of-home care[2]
Foster care	117	7	3,466	24,150
Residential care	153	14	2,815	22,677
Total		21	6,281	46,827

[1]The sentinels from foster care and residential care cannot be summed, because six sentinels reported on both types of care. A total number of 264 sentinels reported on foster care and/or residential care.
[1]Derived from Jeugdzorg Nederland (2011) and Pleegzorg Nederland (2011).

sexual abuse was .95 (98% agreement). The mean inter-coder reliabilities for the different types of sexual abuse were: .86 (98%) for sexual abuse with penetration, .64 (95%) for sexual abuse with genital contact, .74 (96%) for sexual abuse with physical contact, .73 (96%) for sexual abuse without physical contact and .75 (93%) for other sexual abuse. The range in kappas was .59-.96 (93% - 98%). All cases were coded separately by two coders. In case of disagreement, the case was discussed to consensus with the expert coder.

Self-report questionnaire. The questionnaire, based on the NPM-2010 (Alink et al., 2011; see also Lamers-Winkelman, Slot, Bijl, & Vijlbrief, 2007), consisted of questions derived from the Dating Violence Questionnaire (Douglas & Straus, 2006) and the Parent-Child Conflict Tactics Scales (CTSPC; Straus, Hamby, Finkelhor, Moore, & Runyan, 1998) that were embedded in a series of questions about unpleasant and nasty incidents (such as bullying), nonviolent discipline by parents (CTSPC; Straus et al., 1998), the social desirability items from the Dating Violence Questionnaire (Douglas & Straus, 2006), and questions about socio-demographical characteristics of the children and their families. In the NPM-2010 four questions were asked about sexual abuse. For the current study, 20 questions about sexual abuse were added (six based on Hamby & Finkelhor, 2000; see also Finkelhor, Hamby, Ormrod & Turner, 2005; Helweg-Larsen, & Larsen, 2006) resulting in a total of 24 items on sexual abuse (e.g., An adult has had sex with me; A child/adolescent under 18 years of age forced me to touch his/her genitals; Someone showed me pornographic movies or magazines). Adolescents were asked to report only experiences of CSA that occurred in 2010 while they lived in out-of-home care. If one of the questions about sexual abuse was answered affirmatively, questions were asked about characteristics of the perpetrator, the location and period of the maltreatment, and the frequency with which the maltreatment has occurred. The sexual abuse questions were grouped into five subcategories (similar to

the categories used in the sentinel study).

Statistical procedures

Prevalence rate. The prevalence rate of child sexual abuse (CSA) was reflected as the proportion of reported cases of CSA in relation to the number of observed children in 2010. To obtain this number, the sentinels' estimates of the numbers of children they worked with in 2010 were summed. This was done separately for sentinels from foster care and residential care (regular residential care, secure residential care, and juvenile detention). Prevalence rates for both types of care and for the different types of sexual abuse were calculated with the following formula:

$$X = \frac{C * 4.43}{Tot_s} * Tot_{pop} \tag{3.1}$$

In this formula, X represents the prevalence estimate, C is the number of cases of CSA, Tot_s is the number of children observed by the sentinels and Tot_{pop} represents the total number of children in the population. Summation of the absolute prevalence estimates for foster care and residential care leads to the total prevalence rate of CSA in Dutch out-of-home care.

The same procedure was used to estimate the prevalence of CSA in the self-report study. In this case, the total number of observed children is equal to the number of adolescents who filled out the questionnaire. However, the proportion was not multiplied by the total population to obtain an absolute prevalence estimate, since we were not able to calculate the total number of children between 12 and 17 years of age who stay in Dutch out-of-home care. To calculate the overall prevalence estimate based on self-report, all 24 items about sexual abuse were taken into account. However, when comparing the prevalence rate in out-of-home care with that found in the NPM-2010, only the four questions used in the NPM-2010 were used. Furthermore, the sample of the NPM-2010 was matched with the sample of the current study based on educational level and ethnicity.

Comparison of prevalence estimates. Risk ratios (RRs) with 95% confidence intervals were calculated to determine whether prevalence rates were significantly different. RRs are defined as the ratio between the risk for maltreatment in the exposed group (i.e., out-of-home care) versus the risk for maltreatment in the unexposed group (i.e., NPM-2010). If the confidence interval of the RR includes the value 1, the risk of the exposed group is assumed to be not significantly different from the risk in the unexposed group (Rothman, 2002). In addition, Wilson estimates of the 84% confidence intervals (CI) are presented in the figures depicting the prevalence estimates (Wilson, 1927; Alink et al., 2011; Euser et al., 2010; U.S. Department of Justice, 2010; Moore & McCabe, 1996). 84% CIs indicate a probability of overlap of approximately 5%, and therefore, if 84% CIs of two estimates (partly) overlap, prevalence rates are assumed not to be significantly different (Goldstein & Healy, 1995; Julious, 2004; Payton, Greenstone, & Schenker, 2003). Because the data from the sentinels

Table 2. Prevalence estimates of CSA in 2010, based on sentinel reports: Overall number of children reported by the sentinels, prevalence estimates with 95% confidence intervals, and estimated absolute numbers of abused children

Type of CSA	Number of reported children[1]	Prevalence estimate (‰) [1]	95% CI[2]	Estimated number of abused children
Overall prevalence	21	3.5	0.7-8.3	161
Physical contact	19	3.1	0.5-8.0	146
Penetration	8	1.3	0.1-3.6	61
Touch (genitals)	8	1.3	0.1-3.6	61
Touch (not the genitals)	3	0.5	0.0-2.3	24
No physical contact	3	0.5	0.0-1.3	24
Other	1	0.2	0.0-1.7	7

[1] The numbers of children and the prevalence estimates within Overall prevalence (Physical contact, No physical contact, and Other) and within Physical contact (Penetration, Touch [genitals], and Touch [not the genitals]) do not sum to the total, since children can have experienced multiple types of sexual abuse.
[2] The reported CI is corrected for possible design effect.

may be clustered, a correction for design effect was applied to the confidence intervals of the sentinel study (Hox, 2002; Kish, 1965).

RESULTS

Sentinel study

Prevalence rates. The overall prevalence estimate and the estimates for the different types of CSA with 95% confidence intervals are shown in Table 2 for overall out-of-home care in 2010. A total of 161 children were victim of CSA, and the majority of victims experienced CSA with physical contact. The overall prevalence estimate of CSA in foster care was 49 children or 2.0 (95% CI: 0.02-6.08) per 1,000 children. In residential care the overall prevalence of CSA was 112 children or 5.0 (95% CI: 1.3-11.2) per 1,000 children. Observed children in residential care were on average substantially older (89% were 12 years or older) than children in foster care (32% were 12 years or older). To prevent a possible age effect when comparing the two populations, the prevalence estimates were recalculated for children aged 12 years or older. The risk ratio was not significantly different from one, RR = 1.17; 95% CI: 0.8-1.7, indicating that for this age group, the prevalence of CSA in foster care (4.6 per 1,000) was not significantly different from the prevalence in residential care (5.4 per 1,000), at least from the perspective of the sentinels.

Comparison with the general population (NPM-2010). The second Dutch Prevalence Study of Maltreatment of youth (NPM-2010; Alink et al., 2011) showed that on the basis of

sentinel reports 2,796 children or 0.8 (95% CI: 0.3-1.3) per 1,000 children between 0 and 17 years of age had experienced CSA in the Netherlands in 2010. The risk ratio for overall out-of-home care was 4.5 (95% CI: 3.9-5.3), indicating that children in Dutch out-of-home care had a nearly fivefold increase in risk for CSA compared to children in the general Dutch population in 2010 (Figure 1a). The risk for children from 0-17 years of age in foster care was also significantly higher than the risk for children in the general population (RR = 2.3; 95% CI: 1.9-3.4). However, the 84% confidence intervals of the two estimates (in which a correction for possible design effect was taken into account [see Method]) are partly overlapping, indicating that the prevalence of CSA in foster care is not significantly different from the prevalence in the general population (Figure 1b). Because in our sample most children in residential care had a minimum age of 12, the prevalence estimates for children aged 12 years or older were compared with that of the same age category of the NPM-2010. The prevalence rate of CSA in the general Dutch population of children aged 12 years and older was 0.7 (95% CI: 0.3-1.0) per 1,000 children. The risk ratio for residential care was significant and large, RR = 9.2, 95% CI: 7.5-11.3; children in residential care had a ninefold increase in risk for CSA in 2010 compared to children aged 12 years or older in the general Dutch population (Figure 1c).

Child and perpetrator characteristics. The sexually abused children reported by the sentinels were between 4 and 17 years of age, 86% were 12 years of age or older, 95% of the reported children were girls, 24% had an intellectual disability, and 81% were born in the Netherlands. A proportion test showed that girls more frequently experienced CSA than boys ($\chi^2 = 21.43$; $p < .01$), and children who were sexually abused were significantly older overall ($\chi^2 = 7.53$; $p < .01$), and in foster care ($\chi^2 = 5.00$; $p < .05$), but not in residential care ($\chi^2 = 0.55$; $p = .46$).

In 67% of the cases of CSA one perpetrator was involved and in all other cases two or more perpetrators were reported by the sentinel. In foster care, perpetrators were foster parents or other adult members of the foster family (57%), adolescents who stayed in the same foster home (14%), or people who were unknown to the sentinel (29%). In the majority of all cases in residential care, perpetrators were adolescents from the same residential care facility (50%) or other adolescents (29%). In the other cases, an employee of the residential care facility was the perpetrator (7%) or the perpetrator was unknown to the sentinel (21%). Percentages for residential care do not sum to 100%, because one child was abused by more than one type of perpetrator. Of all perpetrators, 91% were male, 3% were female, and of 6% of the perpetrators the gender was unknown. 53% of the perpetrators were 21 years old or younger, 19% of the perpetrators were older than 21 years and in 28% the age of the perpetrator was unknown.

Self-report study

Prevalence rates. In total, 78 adolescents reported at least one type of CSA. The prevalence estimates for all types of CSA with 95% confidence intervals for overall out-of-home care

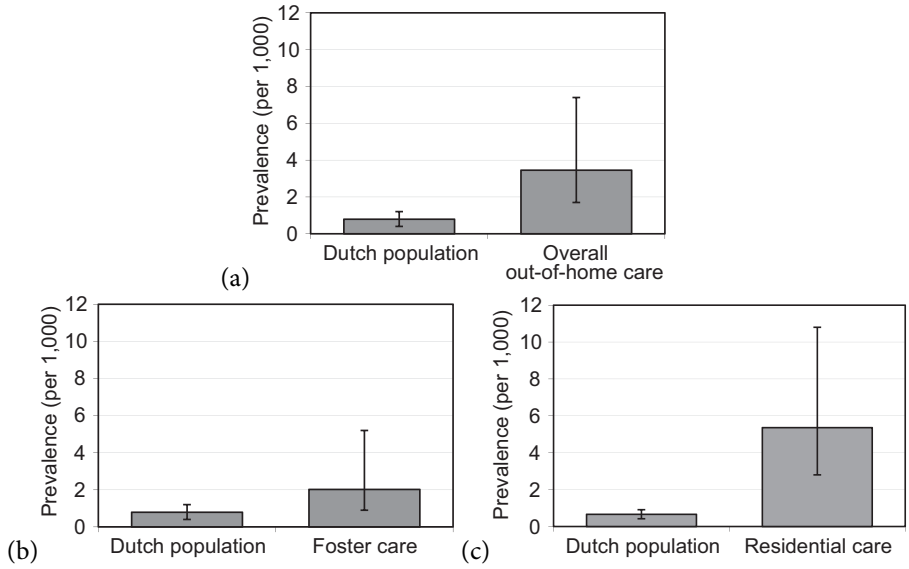

Figure 1. (a) Prevalence estimates (‰) of child sexual abuse in 2010 based on sentinel reports in the general Dutch population and overall out-of-home care. (b) Prevalence estimates (‰) of child sexual abuse in 2010 based on sentinel reports in the general Dutch population and foster care. (c) Prevalence estimates (‰) of child sexual abuse of children with a minimum age of 12 years based on sentinel reports in the general Dutch population and in residential care.
Note. 84% confidence intervals are presented instead of 95% confidence intervals, because they indicate a probability of overlap of approximately 5% (Julious, 2004).

based on self-report are shown in Table 3. Comparable to the sentinel study, the majority of victims reported CSA with physical contact. More than half of the adolescents (51%) stayed in residential care, 35% stayed in foster care, and 14% of the adolescents reported that they stayed in both residential and foster care in 2010. In this sample, boys (63%) were overrepresented in residential care, while boys and girls were evenly distributed in the other two groups. Furthermore, adolescents in residential care (M = 16.1; SD = 1.46) were significantly older than adolescents in foster care (M = 15.1; SD = 1.83). The groups did not differ on ethnicity. We found significant differences between the overall prevalence estimate of CSA in foster care and residential care. Prevalence rates of CSA in 2010 were 168 (95% CI: 110-249) per 1,000 in foster care, 280 (95% CI: 216-355) per 1,000 in residential care, and 341 (95% CI: 219-489) per 1,000 for adolescents who stayed in both residential and foster care. Risk ratios indicated that adolescents in foster care reported significantly less CSA than adolescents from residential care (RR = 0.6; 95% CI: 0.37-0.97) and adolescents from both residential and foster care (RR= 0.5; 95% CI: 0.3-0.9). The difference between residential care and both residential and foster care was not significant (RR = 0.8; 95% CI: 0.5-1.3).

Table 3. Prevalence estimates of CSA in 2010 per type of sexual abuse, based on self-report: sample size, overall number of adolescents who reported sexual abuse, and prevalence estimates with 95% confidence intervals

Type of CSA	N[1]	Number of adolescents who report CSA[2]	Prevalence estimate (‰)[2]	95% CI
Overall prevalence	314	78	248	204-299
Physical contact	314	59	188	149-235
Penetration	315	27	86	59-122
Touch (genitals)	316	39	123	92-165
Touch (not the genitals)	319	27	85	59-121
No physical contact	316	53	168	131-213
Other	312	9	29	15-55

[1]Participants who did not want to answer specific questions are considered missing.
[2]The numbers of adolescents and the prevalence estimates within Overall prevalence (Physical contact, No physical contact, and Other) and within Physical contact (Penetration, Touch, genitals, and Touch not the genitals) do not sum to the total, because adolescents can have experienced multiple types of sexual abuse.

Comparison with the general population (NPM-2010). The prevalence estimates based on self-reports from the current study were compared with those from the NPM-2010. To control for possible effects of educational level and ethnicity, a random NPM-sample was selected (n = 543) with equal percentages of highly educated adolescents (13%) and adolescents born in the Netherlands (87%) as in the sample of the current study. In this NPM-2010 sample, the prevalence estimate of CSA was 74 (95% CI: 54-99) per 1,000 adolescents. On the basis of the four items about CSA used in the NPM questionnaire, the prevalence of CSA in out-of-home care was 143 (95% CI: 109-187) per 1,000 adolescents. Based on self-report measures, the risk for CSA in Dutch out-of-home care was significantly higher than in the matched Dutch population (RR = 2.0; 95% CI: 1.3-2.9). The prevalence estimates in the Dutch population and in foster care (55 [95% CI: 23-117] per 1,000; based on the four NPM-items) were not significantly different (RR = 0.7; 95% CI: 0.3-1.7). However, the risk for CSA in residential care (194 [95% CI: 140-263] per 1,000; based on the four NPM-items) was significantly higher than in the Dutch population (RR = 2.6; 95% CI: 1.7-4.1). Prevalence estimates based on the four NPM-items are shown in Figure 2.

Adolescent and perpetrator characteristics. Adolescents who reported CSA were between 12 and 19 years of age at the time of participation in the study (M = 15.73, SD = 1.47), 60% were girls, and 49% had at least one parent of non-Dutch origin. It should be noted that only adolescents of 12 years or older were selected to participate. Girls reported experiences of overall CSA more frequently than boys (χ^2 = 10.32; p < .01). No differences were found

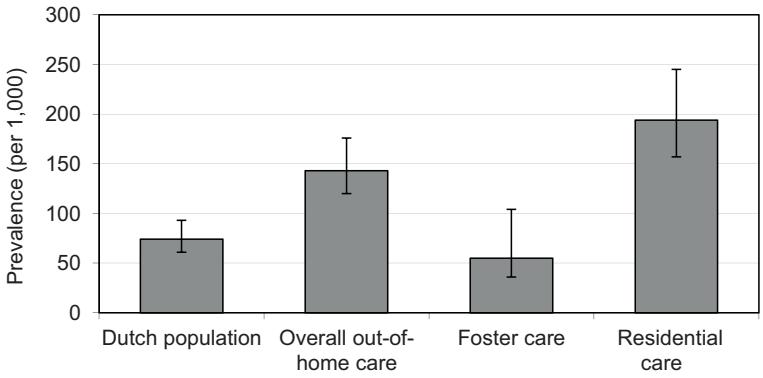

Figure 2. Prevalence estimates (‰) of child sexual abuse in 2010 based on self-report in the Dutch population, overall out-of-home care, foster care, and residential care. The NPM-2010 and out-of-home care sample are matched on educational level and ethnicity for comparison.
Note. 84% confidence intervals are presented instead of 95% confidence intervals, because they indicate a probability of overlap of approximately 5% (Julious, 2004).

for age (F [1,314] = .21; p = .65) or ethnicity (χ^2 = .20; p = .66) between adolescents who did and who did not report CSA.

Overall, nearly half of the adolescents who reported CSA (46%) did not want to report about their relationship with the perpetrator. Of the adolescents who did report about the perpetrator, in foster care, 27% of the adolescents reported to be sexually abused by their foster parent or another adult member of the foster family, 27% by an adolescent from the same foster home, 40% by another adult, and 27% by another adolescent. Perpetrators reported by adolescents from residential care were adolescents from the same residential facility (57%), employees from the residential facility (13%), other adults (33%), or other adolescents (27%). Percentages within residential and foster care do not sum to 100%, because victims could report more than one type of perpetrator. Of the adolescents who did report about the perpetrator, 77% reported that at least one of the perpetrators was 21 years of age or younger and 41% reported that at least one of the perpetrators was older than 21 years of age. Seventy-two percent of the victims of CSA reported that at least one of the perpetrators was male, 32% of the CSA victims reported that at least one of the perpetrators was female, and the gender of at least one of the perpetrators was not reported by 22% of the victims.

DISCUSSION

Children who are placed in out-of-home care and in residential care in particular, seem to experience CSA more frequently than children in the general Dutch population. Based on sentinel reports, a total number of 162 children or 3.5 per 1,000 children experienced CSA in out-of-home care in 2010. The separate year prevalence rates for residential care

and foster care were 5.0 per 1,000 and 2.0 per 1,000, respectively. These prevalence rates did not differ significantly. The year prevalence estimates based on self-report were considerably higher than those based on sentinel reports: 248 per 1,000 children in overall out-of-home care, 168 per 1,000 children in foster care, and 280 per 1,000 children in residential care. In contrast to the results based on sentinel reports, adolescents in residential care reported significantly more CSA than adolescents in foster care. As expected, CSA occurs more frequently in out-of-home care, and residential care in particular, than in the general population. Based on sentinel reports the difference between foster care and the general population did not seem substantial, and based on self-report the year prevalence of CSA in foster care did not differ from the general population.

Given the non-experimental research design, the current findings cannot provide any causal explanations for the divergence between residential and foster care so we can only speculate about this. As discussed before, the characteristics of residential care settings may be responsible for a higher prevalence of CSA. It has been suggested that the absence of a biological relationship between the child and the caregiver can increase the risk for CSA (Daly & Wilson, 1994). However, since we found that the risk was particularly increased for children in residential care and that the results were equivocal for foster care, the absence of a biological relationship cannot be the only risk factor for CSA. Residential care settings have previously been associated with 'structural neglect' (Van IJzendoorn et al., 2011). In a care arrangement with a large flow in both caregivers and children, it is difficult for a child to develop and maintain stable relationships with their caregivers and peers. Moreover, children in residential care live in large groups of children that often consist of both boys and girls and children with the most severe problem behaviors are frequently placed together in the same group. This may increase the risk of CSA, also by peers, who were the perpetrator in about half of the cases in the current study, especially in residential care. An important implication of our findings is that not only child-caregiver relationships in out-of-home care should be closely examined, but also peer relationships in residential and foster care need more supervision to prevent CSA.

Based on sentinel and self-report, girls were more frequently victims of CSA. Since relatively more boys than girls are staying in residential care as compared to foster care, the gender difference cannot account for the higher prevalence rates in residential care. Other studies also found this gender difference in prevalence rates of CSA. A comprehensive meta-analysis on the worldwide prevalence of CSA showed that girls reported CSA more frequently than boys (Stoltenborgh et al., 2011).

The same meta-analysis also showed a large discrepancy between sentinel and self-report prevalence rates (Stoltenborgh et al., 2011). Because of these expected differences between sentinel and self-reported prevalence rates, both approaches were included in the current study. Indeed, we found large differences between prevalence estimates based on sentinel reports and self-report, with adolescents reporting considerably more CSA than sentinels. One of the explanations for the different prevalence rates is that sentinels only report about cases of CSA that are known to them. CSA is a great taboo and therefore

children may not always disclose their experiences to their caretakers. The fact that more than half of the adolescents in our study did not want to report who the abuser was shows that victims of CSA are reluctant to talk about their experiences, even on an anonymous questionnaire. Therefore, it is likely that the cases of CSA reported by professionals are only the tip of the iceberg (Stoltenborgh et al., 2011). Furthermore, the prevalence estimate based on adolescent self-report may be an over- or underestimation, since adolescents may interpret questions about different types of sexual abuse differently from what was meant by the researchers (Stoltenborgh et al., 2011). Therefore, the prevalence rates in the current study based on sentinel reports should be considered as a lower bound of the actual prevalence rate of CSA.

It should also be noted that the current study assessed year prevalence and not life-time prevalence of CSA. The former is generally associated with lower prevalence rates compared to life-time prevalence (Stoltenborgh et al., 2011). This should be kept in mind when interpreting the high year prevalence estimates found in the current study. Only in one year and based on sentinel reports, already over 160 Dutch children placed out of the home experienced CSA. Lifetime prevalence of CSA in residential and foster care would likely show even higher rates.

Because of the large differences in prevalence rates based on methodology, it is not possible to give a reliable absolute number of victims of CSA in residential and foster care. However, and more importantly, we were able to compare our results with those in the general population (Alink et al., 2011), because of similar methods. Comparisons between out-of-home care prevalence rates based on sentinel and self-report on the one hand and general population rates on the other converged. Both approaches showed a higher prevalence of CSA in out-of-home care compared to the general population, and in both approaches this difference was mainly accounted for by the high prevalence estimate in residential care.

Some limitations of the current study should be considered. First, branch organizations and management teams of out-of-home care facilities were at first reluctant to participate, which has led to a delay in data collection. This increased the time interval between participation and the period about which the sentinels and adolescents reported CSA, leading to a possible underestimation of the prevalence of CSA. The moderate response rate in the self-report study (51%) shows that adolescents or their legal guardians were also reluctant to participate. This may have led to an underestimate, if abused adolescents or their legal guardians felt uncomfortable with participation, or to an overestimate, if non-abused adolescents or their legal guardians thought it was unnecessary to participate, since the adolescents did not have anything to report. A second limitation pertains to the measurement of CSA. On the one hand, sentinel reports provide valuable information, but it is likely that sentinels are not aware of all cases of CSA. On the other hand, retrospective self-report of children may have limited reliability and validity. Nevertheless, the comparison with the general population still holds, because the two approaches of the current study were similar to those used to assess CSA in the general population. Results from both ap-

proaches converge in that they indicate higher year prevalence rates in residential care as compared to the general population.

This is the first study in which the prevalence of CSA in residential and foster care was systematically examined and compared, and therefore a first indication of the increased risk for CSA in out-of-home care and in residential care specifically. However, since the prevalence rates reported in this paper are based on cases of CSA during one year, in one country, generalizing our findings should be done carefully. This systematic prevalence study needs to be replicated in order to examine the risk for CSA in out-of-home care in other countries, but also to examine the effect of changing policies on CSA in out-of-home care.

Finally, we did not have information about variables that may be related to the increased risk for CSA in residential care, such as care stability or group composition. Therefore, it remains unclear whether the increased risk for CSA in residential care is actually caused by the characteristics of the residential care arrangement. In fact, it should be noted that placement in either residential or foster care does not occur at random, and thus the divergence in prevalence could partly be due to pre-existing differences between children before placement. However, these possible differences may be difficult to assess, partly because of the large placement instability between types of care. For instance, James and colleagues (2004) found that about one third of the children in out-of-home care did not achieve placement stability in the first 18 months of out-of-home care, and often moved back and forth from foster care to residential care. In the current sample of adolescents, we found that boys were overrepresented in residential care, and that adolescents in residential care were somewhat older than those in foster care. These factors cannot account for differences in victimization rates because we found that girls were more at risk for experiencing CSA and because we controlled for age in the analyses on the difference between residential and foster care. However, children in residential care may also differ on other aspects from children in foster care, such as maltreatment experiences, attachment representations or problem behavior present before placement (e.g., Ryan et al. 2008; Zegers, Schuengel, Van IJzendoorn, & Janssens, 2008). Such pre-existing differences could make these children more vulnerable to become a victim of CSA. However, these differences do not justify the higher prevalence rates in residential care; if children in residential care are indeed more vulnerable, they should receive extra protection against CSA in a professional therapeutic environment. The actual effect of changes in caregivers, large group size, or same-sex or mixed-sex groups on CSA in out-of-home care remains unclear. Future studies examining CSA in out-of-home care should measure and control for such characteristics of the care arrangement.

In light of the current findings we return to the renewed debate about residential and foster care. It has been argued that residential care is a good alternative to foster care and might even be better for the development of children than community rearing (Allen & Vacca, 2011; Whetten et al., 2009). For example Allen and Vacca (2011) state that children in foster care would lag behind in their academic achievements due to the frequent placement

changes and the system would fail to prepare children for life after they have aged out of foster care. Instead of the current foster care system, it is proposed to look at properly working residential care settings and implement these as an alternative to foster care (Allen & Vacca, 2011). However, these arguments for residential care as a better alternative to foster care do not hold in light of the increased year prevalence of CSA in residential care. Especially given the large number of under-aged perpetrators, small, single-sex residential groups and smaller child-to-caregiver ratios are recommended in residential care, in order to enable adequate supervision of group interactions. However, because we have shown that CSA still occurs in foster families, policy should also be directed at improving foster care, such as reducing the number of transitions, and promoting support for foster parents taking care of these vulnerable children.

In conclusion, the current findings show that children in residential care are at increased risk for CSA compared to children growing up in foster families. This raises questions about the use of residential care for treatment of vulnerable children who may already be at risk for adverse development related to earlier maltreatment experiences. Although the risk of sexual abuse may be lower for children in foster care than for children in residential care, the quality of foster care should be further improved to protect vulnerable children against any risk of abuse.

4 Out of home placement to promote safety? The prevalence of physical abuse in residential and foster care

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ABSTRACT

Out-of-home placement may not always protect children against violence or maltreatment. We investigated the prevalence rates of physical abuse of adolescents in different types of out-of-home care, and compared these with the prevalence of physical abuse in the general population, using findings from the Netherlands' Prevalence study of Maltreatment of children and youth (NPM-2010; Alink et al., 2011). Adolescents (N = 329) between 12 and 17 years of age living in residential and foster care reported on their experiences with physical abuse during the year 2010. Twenty-five percent of all participating adolescents experienced physical abuse, which is a nearly three-fold increase in risk compared to the general population. Prevalence rates in residential care, especially in secure care, were significantly higher than in foster care. However, the prevalence of physical abuse in juvenile detention did not differ from either foster care or the general population. Boys reported more physical abuse in out-of-home care than girls. Age, ethnicity, and education did not affect the prevalence of physical abuse. The current findings indicate that children in out-of-home care, and especially in residential care, are not well protected against violence or maltreatment.

INTRODUCTION

In the United Nations Convention on the Rights of the Child (1989) the 194 ratifying countries state that they will take all appropriate measures to protect a child from all forms of violence, abuse, or neglect by their parents or any other person who takes care of the child. Based on this convention, children who are abused or neglected can be placed in out-of-home care in order to protect them from further maltreatment (Jud, Fallon, & Trocmé, 2012). However, it has been suggested that a considerable proportion of children in out-of-home care are abused by their new adult caretakers, especially in residential care (e.g., Gilbert et al., 2008), indicating that children who are placed out of their homes for protection may in reality not be protected against further violence and maltreatment. In the current study we examined the year prevalence of physical abuse in out-of-home care with 12-18-year-old children. It is not known whether the occurrence of physical abuse differs between the various types of out-of-home care. Therefore, we investigated whether there is a difference in prevalence rates between residential and foster care. We then compared our findings to the prevalence in a comparable age cohort of the general Dutch population, based on findings from the second Netherlands' Prevalence study of Maltreatment of children en youth (NPM-2010; Alink, Van IJzendoorn, Bakermans-Kranenburg, Pannebakker, Vogels, & Euser, 2011; Euser, Alink, Van IJzendoorn, Bakermans-Kranenburg, 2013a), that used a similar methodology.

Physical abuse in out-of-home care Victims of child physical abuse experience a wide array of short and long term adverse effects (Gilbert et al., 2008), and these effects may even be worse for children who are abused in out-of-home care. Children in care are often damaged by traumatic experiences before the out-of-home placement, and the re-abuse in care is thus cumulative harm (Uliando & Mellor, 2012). Even though children are placed out of the home for protection from further violence or maltreatment, several studies have shown that child maltreatment in residential and foster care by adult staff is not uncommon. For instance, a Romanian study showed that 38% of 7-18-year-old children in residential care reported severe physical punishment or beatings in a one-year period (Gilbert et al., 2008). Also, the Finnish Child Victim Survey revealed that 12% of children in out-of-home care, including both residential and foster care, reported experiences of physical violence. Although this is a substantial number of victimized children, the authors also found 20% of children living at home reporting such experiences (Ellonen & Pösö, 2011). They argued that the decreased risk of abuse may be caused by the high standards of substitute care in Finland, where foster parents are carefully selected and social workers in residential facilities are required to have professional qualifications.

In most other studies, physical abuse is found to occur more often in out-of-home care than in biological families. In the Unites States, the prevalence rate of institutional abuse (40 per 1,000 children) was higher than that of familial abuse (18 per 1,000 children; Rindfleisch & Rabb, 1984). In addition, 10% of the foster families in Baltimore City were reported for physical abuse between 1984 and 1988, and foster families were seven times more likely

to be reported for physical abuse than biological families (Bendict, Zuravin, Brandt, & Abbey, 1994). Similarly, an English study (Hobbs, Hobbs, & Wynne, 1999) showed that children in residential or foster care had a six to eightfold increase in risk of abuse compared to the general population. Finally, in the current study sample we found a nearly five-fold increase in risk for sexual abuse in out-of-home care compared to the general population (Euser, Alink, Tharner, Van IJzendoorn, Bakermans-Kranenburg, 2013b).

The higher risk for abuse in out-of-home care may be explained by several factors associated with the care arrangement. Children who are placed in these care settings often have prior traumatic experiences such as abuse or neglect before placement, which may lead to problem behaviors such as aggression and provocative behavior (Zegers, Schuengel, Van IJzendoorn, & Janssens, 2008). If group workers and foster parents are not properly prepared to deal with such challenging behaviors, they can easily escalate. A lack of adequate training, experience and support of group workers and foster parents may then lead to an increased risk of child abuse in these difficult care settings (Nunno, 1997; Uliando & Mellor, 2012). However, in this context we should note the study by Jaffee, Caspi, Moffit, Polo-Tomas, and Price (2004), which found that difficult child behavior can elicit corporal punishment, but not physical abuse. Although this study focused on parent-child interactions, this could also indicate that the risk for abuse in out-of-home care cannot solely be explained by the behavioral problems of the individual children.

Another factor that may be associated with abuse is the large child-to-caregiver ratio, especially in residential care. A large child-to-caregiver ratio may increase group workers' job stress and feelings of inefficacy, which can increase the likelihood to use violence (Nunno, 1997). Finally, the non-biological relationship between the child and caregiver in out-of-home care may increase the risk for physical abuse in residential and foster care. For example, results of the first Netherlands' Prevalence study of Maltreatment of children and youth (NPM-2005) indicated that children in stepfamilies were at increased risk for maltreatment compared to children in biological families (Van IJzendoorn, Euser, Prinzie, Juffer, & Bakermans-Kranenburg, 2009).

Previous studies that examined child abuse in out-of-home care combined the different types of care (Ellonen & Pösö, 2011), or estimated the prevalence in only residential or foster care (Benedict, Zuravin, Brandt, & Abbey, 1994; Rindfleish & Rabb, 1984), making it impossible to systematically compare the prevalence of abuse in different care arrangements. However, several important differences between the residential and foster care setting may influence the prevalence of abuse. Residential care is often characterized by frequent shifts and instability of caregivers, while a foster family offers a stable caregiver who is available day and night, at least within one placement. Furthermore, children in residential care live in large groups, and children with the most severe behavior problems are often placed in the same group (e.g., Roy, Rutter, & Pickles, 2000; Van IJzendoorn et al, 2011), which may increase their problem behavior. For instance, McCord (2003) showed that a summer camp as treatment for boys from "ghastly" families may do more harm than good. Boys who were sent to summer camp more than twice had worse outcomes than control boys.

Rhule (2005) suggested that these negative effects may be caused by the unsupervised contact with other high-risk youth, which may increase (the acceptance of) aggression and other problem behavior (a concept that has also been described by Dishion & Tipsord [2011] as peer contagion). As discussed above, it may be difficult for group workers to deal with such challenging behaviors, which can increase the risk of physical abuse (Nunno, 1997; Uliando & Mellor, 2012).

Measuring child maltreatment

Most studies on child maltreatment in out-of-home care relied on cases reported to official authorities. For instance, Rosenthal and colleagues (1991) examined 157 cases of physical abuse in overall out-of-home care reported to an advisory committee, and Benedict and colleagues (1994) examined 201 cases of physical abuse in foster care reported to child protective services (CPS). It is evident that these reported children may only be the metaphorical tip of the iceberg (Creighton, 2002), and there is likely a large number of undiscovered cases of child abuse not taken into account in these studies. When self-report measures are used, part of the child abuse iceberg that lies under water may become visible. Indeed, recent meta-analytic evidence showed that prevalence rates of physical abuse based on self-report are considerably higher than prevalence rates based on informant studies (Stoltenborgh, Bakermans-Kranenburg, Van IJzendoorn, & Alink, 2013).

The current study

The main aim of the current study was to systematically examine and compare the prevalence of physical abuse in different types of out-of-home care. We selected a random sample of adolescents in residential and foster care who reported on physical abuse experienced during a 1-year period (2010), while they were living in out-of-home care. In addition, we compared the findings from the present study with the prevalence rate of physical abuse in the same age cohort of the general population. The method of this study is largely similar to that of the NPM-2010 (Alink et al, 2011; Euser et al., 2013a), in which a representative sample of 1,920 high school students reported on their experienced physical abuse. This enabled us to make a reliable comparison of the 2010 year prevalence of physical abuse in different types of out-of-home care and the general Dutch population.

In the current study, we included adolescents from foster care and three different types of residential care: group care, secure care, and juvenile detention. Group care provides 24-hour care and supervision to children who are (temporarily) placed out of their homes because their development is jeopardized. This type of residential care also includes care settings such as shelters and supervised apartments. Children in secure care are placed as a result of a civil procedure, because of more severe parenting problems and/or behavior problems of the child. In contrast to group care, children cannot leave the secure care facility without authorization. Finally, juvenile detention is the residence of juvenile delinquents who are convicted for a crime or awaiting court hearings. Because of the different

care settings and the different reasons for placement, we examined differences in prevalence of physical abuse between foster care, group care, secure care, and juvenile detention.

In the current study we addressed the following questions: 1) What is the year prevalence of physical abuse in overall out-of-home care and, more specifically, in residential and foster care in 2010?; 2) Are there any differences in prevalence rates of physical abuse in four different types of out-of-home care: foster care, group care, secure care, and juvenile detention?; 3) Do the prevalence estimates in out-of-home care differ from the prevalence of physical abuse in the general population?; 4)What are the characteristics of victims and perpetrators of physical abuse in out-of-home care and do these characteristics differ between out-of-home care and the general population? It was expected that physical abuse would occur more often in out-of-home care compared to the general population. Moreover, because of the more unstable care arrangement in residential care, we expected to find higher prevalence rates in the residential care settings than in foster care.

METHOD

Participants

A total of 341 adolescents living in Dutch out-of-home care facilities participated in the study. Data inspection showed that 12 adolescents had systematic answering biases or provided very unlikely answers (e.g., more than 100 perpetrators). Data from these adolescents were removed from the data set, leading to a final sample of 329 adolescents. Somewhat more than half of these participants were male (56%), and they were between 12 and 19 years old at the time of participation (M = 15.67; SD = 1.66). The majority (87%) was born in the Netherlands, and 46% had at least one parent of non-Dutch origin. More than half of the adolescents (52%) had a low educational level (prevocational level or lower), 24% had a moderate educational level (vocational training), 13% had a high educational level (higher general secondary education or pre-university education), 6% received another type of education or did not know the type of education, and 5% did not go to school. More than half of all participants (51%; n = 168) lived in residential care, 35% lived in foster care (n = 115), and 14% lived in residential care as well as in foster care in the year 2010 (n = 46). Fourteen adolescents did not answer the questions about physical abuse and were excluded for further analyses, leading to a final sample of 315 adolescents.

Procedure

In order to realize a representative distribution of the different types of residential and foster care facilities in our sample, we selected the different types of facilities proportionate to the numbers of children staying in these types of facilities in the Netherlands. Of all children who stayed in Dutch out-of-home care in 2010, 52% lived in foster care, 39% in group care, 6% in secure care, and 3% stayed in juvenile detention. This led to the inclusion of all (locations of) foster care facilities with which foster families in the Netherlands are affiliated (n = 25), secure care (n = 15), and juvenile detention (n = 11) facilities. In the

Netherlands, approximately 40% of all children in out-of-home care live in one of the 224 group care facilities. In order to realize a representative distribution of the different types of facilities in our sample, we included a random selection of 31 locations from 20 group care facilities (one facility can have multiple locations). In total, 82 locations (foster care, secure care, juvenile detention, and group care) were asked to participate in the study and 79 locations (96%) agreed to participate.

Adolescents were eligible for participation if they met the following criteria: 1) between 12 and 17 years of age in 2010, 2) stayed in out-of-home care in 2010, and 3) without intellectual disabilities. From all eligible adolescents we randomly selected 12 adolescents from each group care and juvenile detention facility, 10 from each foster care facility, and five from each secure care facility. To compensate for possible non-response, an equal number of adolescents were randomly selected from each facility, but they were only contacted if one or more adolescents in the first group did not participate. All selected adolescents and their legal guardians were informed about the study by mail and asked for permission to participate. In case of placement in foster care, the foster parents were also informed about the study. In total, 669 adolescents were invited to participate of whom 341 (51%) actually participated. Separate response rates were 43% for adolescents from foster care, 54% for group care, 56% for juvenile detention, and 61% for secure care. If both the adolescent and the legal guardian(s) approved of participation, adolescents were visited in their residential care facility or foster home by one or two research assistants. Adolescents completed a digital questionnaire on a laptop provided by the research assistant. After completing the questionnaire, participants received a leaflet with information about possible effects of traumatization and contact information for help or support. Participating adolescents received a compensation of €10. The research protocol of the study was approved by the Ethics Committee of the Leiden University Medical Center.

Questionnaire. The self-report questionnaire, based on the NPM-2010 (Alink et al., 2011; Euser et al., 2013a; see also Lamers-Winkelman, 2007), consisted of 24 questions about child maltreatment derived from the Dating Violence Questionnaire (Douglas & Straus, 2006) and the Parent-Child Conflict Tactics Scales (CTSPC; Straus, Hamby, Finkelhor, Moore, & Runyan, 1998) that were embedded in a series of questions about unpleasant and nasty incidents (such as bullying), nonviolent discipline by parents (CTSPC; Straus et al., 1998), the social desirability items from the Dating Violence Questionnaire (Douglas & Straus, 2006), and questions about socio-demographical characteristics of the children and their families. Similar to the NPM-2010, the questionnaire consisted of 8 questions about physical abuse (e.g., An adult has beaten me up; An adult has hit me with a belt or other object). If a question was answered affirmatively, additional questions were asked about characteristics of the perpetrator, the location and period of the abuse, and the frequency with which the abuse had occurred. Adolescents were asked to only report experiences of physical abuse that occurred in 2010 while they lived in out-of-home care.

Statistical procedures

The prevalence rate of physical abuse is presented as the proportion of reported cases in relation to the number of participating adolescents. Separate prevalence rates were calculated for adolescents in foster care and residential care (group care, secure care, and juvenile detention combined). The prevalence estimates from the current study were compared with those from the NPM-2010. In the NPM-2010, a total of 1,876 adolescents answered the same questions on experiences of physical abuse in 2010 (Alink et al., 2011). However, to control for possible effects of educational level and ethnicity, a random NPM-sample matched on education and ethnicity was selected (n = 539). Slightly more than half of the adolescents in the matched NPM-sample were male (53%), comparable to the gender distribution in the current sample (56% male). However, adolescents in the random NPM-sample were significantly younger (M = 13.98; SD = 1.33) than adolescents from the current sample (M = 15.67; SD = 1.66). Because physical abuse was not related to age (see Results), it was not necessary to control for age.

Risk ratios (RRs) with 95% confidence intervals were calculated to determine whether prevalence rates were significantly different. RRs are defined as the ratio between the risk for maltreatment in the group exposed to out-of-home care versus the risk for maltreatment in the unexposed group (i.e., NPM-2010). If the confidence interval of the RR includes the value 1, the risk of the exposed group is assumed to be not significantly different from the risk in the unexposed group (Rothman, 2002). In addition, Wilson estimates of the 84% confidence intervals were presented in Figures 1 and 2 (Wilson, 1927; Alink et al., 2011; Euser et al., 2010; Moore & McCabe, 1996). In contrast to 95% confidence intervals, 84% confidence intervals indicate a probability of overlap of approximately 5% (Julious, 2004), and therefore, if confidence intervals of two estimates (partly) overlap, prevalence rates are assumed to be not significantly different (Goldstein & Healy, 1995; Julious, 2004; Payton, Greenstone, & Schenker, 2003).

Twenty-eight percent (n = 87) of all participants stayed in more than one type of care in 2010. To obtain prevalence estimates for the separate types of care settings (i.e., foster care, group care, secure care, and juvenile detention) that are ecologically valid, adolescents who stayed in more than one type of care in 2010 were located in the denominator of each of those types of care and their possible reports of abuse only in the numerator of the type of care where the abuse has occurred. This means that several adolescents are included more than once in those analyses, and thus the groups are no longer independent. In these cases 84% confidence intervals instead of RR's are used for significance testing. For ten adolescents, physical abuse experiences could not be located with certainty in a specific out-of-home care setting, and these participants were therefore not taken into account in the separate prevalence estimates.

Table 1. Characteristics of adolescents in residential and foster care

	Residential care (n = 161)	Foster care (n = 110)	p
Mean age (SD)	16.1 (1.43)	15.1 (1.86)	< .01
Gender			
% Male	62	47	< .01
Country of birth			
% Netherlands	85	93	.48
Education			
% High[a]	11	17	.12
% Low-Moderate[b]	76	73	.82

[a]Higher general secondary education or pre-university education. [b]Vocational training, education on the prevocational level or lower

RESULTS

Demographic characteristics

As can be seen in Table 1, adolescents in residential care were significantly older than adolescents in foster care. Furthermore, boys (63%) were overrepresented in residential care, whereas in foster care boys and girls were evenly represented. The different types of care settings did not differ on ethnicity or educational level.

Prevalence of physical abuse

In total, 81 adolescents reported physical abuse while they lived in out-of-home care in 2010, leading to an overall prevalence estimate of 257 (95% CI: 212-308) per 1,000 adolescents. The prevalence of physical abuse in foster care was 164 (95% CI: 106-245) per 1,000 adolescents. In residential care, the prevalence of physical abuse was 304 (95% CI: 239-380) per 1,000 adolescents. Risk ratios indicated that within out-of-home care, adolescents in residential care had a significantly higher risk for physical abuse than adolescents in foster care (RR = 1.9; 95% CI: 1.2-3.0). Prevalence estimates with 84% CIs for the different types of care are shown in Figure 1.

Physical abuse in four types of care. Half of all participants (50%; n = 151) lived in foster care, 46% lived in group care (n = 141), 19% lived in secure care (n = 59), and 15% lived in juvenile detention (n = 45) in 2010. These numbers include some overlap, because 25% of the participants (n = 77) lived in more than one type of care during the year 2010. Based on these separate samples per type of care setting, prevalence rates were 152 (84% CI: 120-203) per 1,000 adolescents in foster care, 184 (84% CI: 147-239) per 1,000 adolescents in group care, 305 (84% CI: 235-400) per 1,000 adolescents in secure care, and 89 (84% CI: 56-188) per 1,000 adolescents in juvenile detention. As can be seen in Figure 2, adolescents in secure care reported significantly more physical abuse than adolescents in either foster

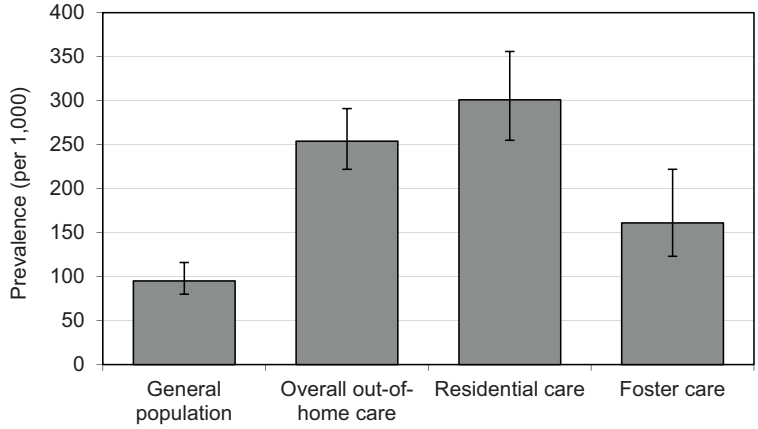

Figure 1. Year prevalence estimates (‰) of self-reported physical abuse with 84% confidence intervals (CI) for the general population, overall out-of-home care, residential care, and foster care. Eighty-four percent CI are shown because they indicate a probability of overlap of approximately 5% (Julious, 2004).

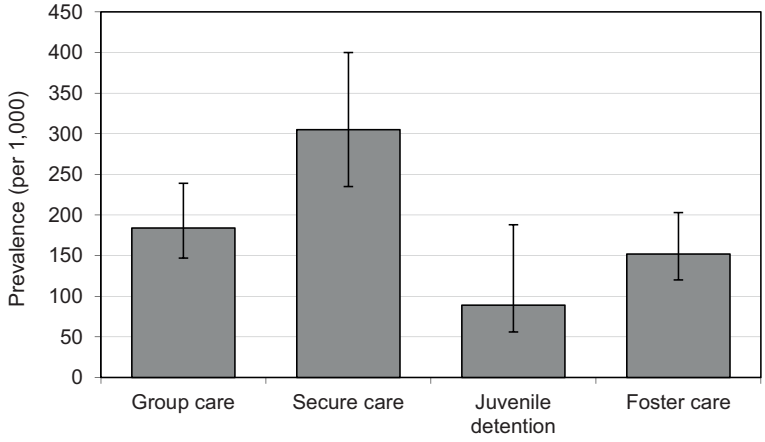

Figure 2. Year prevalence estimates (‰) of self-reported physical abuse with 84% confidence intervals (CI) for group care, secure care, juvenile detention, and foster care. Eighty-four percent CI are shown because they indicate a probability of overlap of approximately 5% (Julious, 2004).

care or juvenile detention, whereas no significant differences were found between the other types of care.

Comparison with the general population. The risk for physical abuse in out-of-home care was compared with the risk found in the general population matched on education and ethnicity (NPM-2010; Alink et al., 2011). In the general population, 95 (95% CI: 73-123) per 1,000 adolescents reported physical abuse in the year 2010, see Figure 1. Overall, adolescents in out-of-home care had an almost threefold increase in risk for physical abuse compared to adolescents in the general population, RR = 2.7 (95% CI: 2.0-3.8). Risk ratios were also calculated for residential and foster care separately. Adolescents in residential care had a more than three times higher risk compared to the general population, RR = 3.2 (95% CI: 2.3-4.6). The risk for adolescents in foster care was somewhat lower, but still significantly higher than in the general population, RR = 1.7 (95% CI: 1.1-2.8). The risks for physical abuse in the four different types of care (as described in the previous paragraph) were also compared with the risk in the general population. Adolescents in group care had a two-fold increase in risk compared to the general population, RR = 2.0 (95% CI: 1.3-3.0), and the increase in risk in secure care was more than three-fold, RR = 3.2 (95% CI: 2.0-5.1). The risk in foster care was lower but still significantly higher than in the general population, RR = 1.6 (95% CI: 1.02-2.54). The risk for physical abuse in juvenile detention did not significantly differ from the risk in the general population, RR = 0.9 (95% CI: 0.3-2.4).

Victim and perpetrator characteristics

Overall, more boys (31%) than girls (18%) reported to have experienced physical abuse in out-of-home care, RR = 1.7 (95% CI: 1.1-2.6). When examined separately, the risk of physical abuse in residential (RR = 1.7; 95% CI: 0.98-2.92) or foster care (RR = 1.1; 95% CI: 0.5-2.6) was not significantly higher for boys than for girls. Physical abuse was not related to country of birth (born in the Netherlands: RR = 1.1; 95% CI: 0.6-2.0), educational level (high vs. low-moderate education: RR = 0.5; 95% CI: 0.3-1.2), or age (OR = 1.1; $p = .50$) of the adolescent in overall out-of-home care or in the separate types of care ($ps > .13$).

Of all 81 adolescents who reported experiences of physical abuse, 38% chose not to report their relationship with at least one of the perpetrators (33% in foster care and 42% in residential care). Of the adolescents who did report on the perpetrator, two thirds (67%) of all victims in foster care reported having been abused by their foster parent or another adult from the foster family. Similarly, in residential care, the majority of the victims (71%) were abused by an employee from the residential care facility. In addition, 9% of the victims from residential care reported youths of 18 years or older from the residential care facility as perpetrator. Other perpetrators were other adults (e.g., teachers, security personnel, strangers; 33% in foster care vs. 26% in residential care). Two victims from residential care reported more than one type of perpetrator.

In contrast to the out-of-home care sample, boys in the general population did not have a higher risk for physical abuse than girls, RR = 0.9 (95% CI: 0.6-1.6). Similar to the out-

of-home care sample, physical abuse in the general population was not related to ethnicity (born in the Netherlands: RR = 1.5; 95% CI: 0.7-3.0), educational level (high education: RR = 0.6; 95% CI: 0.2-1.5), or age (OR = 1.1; p = .31).

DISCUSSION

Adolescents in out-of-home care have an increased risk for physical abuse as compared to a similar age cohort in the general population. Results of the current study indicate that approximately 25% of the adolescents in out-of-home care experienced physical abuse in 2010 while in care, which is an almost threefold increase in risk for physical abuse compared to adolescents in the general population. Within out-of-home care, adolescents in residential care have an increased risk for physical abuse compared to adolescents in foster care and adolescents in the general population.

Although the results of the current study fall short of causal explanations for the heightened prevalence of physical abuse in out-of-home care, we can speculate about possible factors that may contribute to the increase in risk. First, previous studies have shown that the risk for maltreatment is higher for stepfamilies compared to biological families (Euser et al., 2010; Daly & Wilson, 1994). This could be related to the absence of a biological relationship between child and stepparent, which is also absent in out-of-home care. Moreover, it can be assumed that children who are placed in out-of-home care are damaged; some of them because of earlier maltreatment experiences or frequent placement changes, but all of them because of the separation from their biological home. Group workers in residential facilities and foster parents may not always be adequately educated or supported in dealing with such emotionally damaged adolescents. For example, Parkin and Green (1997) suggested that the focus of caregivers in out-of-home care is mainly on surveillance and discipline, and less on support and therapeutic help for prior abuse that brought children into out-of-home care. Previous untoward experiences of the adolescents in combination with insufficiently equipped caregivers experiencing substantial job stress may increase the risk for physical abuse in out-of-home care. Nevertheless, increased problem behavior of adolescents in out-of-home care cannot be an excuse for the use of physical violence in care. Instead, it should be expected from the therapeutic environment that safety and protection are provided against child abuse, which is legally forbidden in the Netherlands (see article 1:247 paragraph 2 of the Dutch Civil Code) and in many other countries (Dubowitz, 2012). Fortunately, from 2014, professionals working in out-of-home care in the Netherlands are obliged to be legally registered. The registration requires adequate education and training and will hopefully help to protect children in out-of-home care from harmful experiences.

However, none of these factors explain the increased risk for physical abuse in residential care compared to foster care. A possible explanation may be that in contrast to foster care, residential care is characterized by frequent shifts and instability of caregivers and frequently changing peer groups. This makes it more difficult for adolescents to develop and maintain stable relationships with their caregivers and peers, and may decrease

the group workers' emotional involvement with the (development of) adolescents under their care. Several studies have shown that group based treatment may foster problem behavior, because of the close contact between high-risk peers (Rhule, 2005). The large majority of group workers in youth residential care are themselves victims of violence by the adolescents they work with (Alink, Euser, Van IJzendoorn & Bakermans-Kranenburg, 2013a). In short, residential facilities are challenging care settings where multiple children with difficult behavior live under the same roof, while caregivers are often not adequately trained to deal with such behaviors. Unfortunately, we did not have information about the participants' problem behavior or experiences before placement, such as maltreatment or multiple placement changes. Based on the current findings, we cannot conclude if there are systematic differences between adolescents in different types of care that may explain the increased risk for physical abuse in residential care.

We also obtained prevalence estimates for each of the three different types of residential care settings (i.e., group care, secure care, or juvenile detention). The highest prevalence estimate was found for secure care (30%), which was significantly higher than the prevalence in foster care (15%) and juvenile detention (9%). We found in another study that group workers from secure care have a higher risk for verbal and physical victimization compared to group workers in group care or juvenile detention (Alink et al., 2013), indicating that especially the secure residential setting may be an overall violent environment. The prevalence rate in group care (18%) did not differ from any of the other types of care. As expected, the risk of physical abuse was higher in group care and secure care than in the general population. Interestingly, the risk in juvenile detention was not different from the general population, even though adolescents in this type of care may be most difficult. The stricter rules and more regulated structure in juvenile detention compared to secure care may lead to a setting in which problematic behaviors of the adolescents are less of a challenge for group workers. Although the ecological validity of these prevalence estimates may be increased because adolescents who stayed in more than one type of care are also included, it should be noted that the different groups were no longer independent, which may have influenced the conclusion validity of these estimates.

Several limitations should be considered. First, branch organizations and management teams of out-of-home care facilities were at first reluctant to participate, which has led to a delay in data collection. This increased the time interval between participation and the period about which the adolescents reported physical abuse, leading to a possible underestimation of the prevalence of physical abuse. The moderate response rate (51%) shows that adolescents or their legal guardians were also reluctant to participate. This may have led to an underestimation, if abused adolescents or their legal guardians felt uncomfortable with participation, or to an overestimation, if non-abused adolescents or their legal guardians thought it was unnecessary to participate, since the adolescents had nothing to report.

Another limitation pertains to the measurement of physical abuse. Prevalence estimates derived from self-report may have several disadvantages. First of all, the use of self-report questionnaires limits the group of eligible participants to children of 12 years of age or older,

because younger children are likely unable to independently complete the questionnaire. Thus, in the current study, only prevalence rates of physical abuse for adolescents are reported. Also, it may be difficult for participants to remember exactly when and how often certain events occurred in the past. Therefore, prevalence estimates reported in the current paper based on self-report could be an over- or underestimate of the actual prevalence rate.

Although there are some limitations to the measurement of physical abuse in the current study, the different types of care can still be compared with the general population, because the measurement in the current study corresponded to that used in the NPM-2010 (Alink et al., 2011; Euser et al., 2013a). These comparisons clearly show a higher risk for physical abuse in out-of-home care compared to the general population, and the risk is particularly increased in (secure) residential care. These results, in combination with an increased risk of sexual abuse of youth in residential care (Euser et al., 2013b) and violence towards group workers in residential settings (Alink et al., 2013b), point to an overall violent environment in out-of-home care, in particular in residential care.

CONCLUSION

Children who are placed in out-of-home care should be considered as the most vulnerable children in our society. Although removing children from their (biological) parents may be stressful and have a large impact on their development (Grant et al., 2006), it is sometimes necessary for the child's safety to be placed out of the home. However, results of this study showed that children in both residential and foster care are at increased risk for physical abuse compared to children in the general population. Although the risk is lower for foster children than for children in residential care, the risk for physical abuse is still increased in foster care. It can be concluded that children in out-of-home care, and especially in residential care, are not well protected against violence or maltreatment. Residential care settings can be seen as overall violent environments, and placements in such settings should thus be considered as a last resort for the treatment of children who are unsafe in their (biological) home (Dozier et al., 2013). Residential care settings should be structurally changed to prevent physical abuse whenever residential placement is necessary. Although the occurrence of physical abuse in foster care may still be higher compared to the general population, the risk is not as high as in residential care. However, to decrease physical abuse in foster care, foster parents should receive more support to provide positive care for emotionally damaged children.

5 The prevalence of child sexual abuse in out-of-home care: Increased risk for children with a mild intellectual disability

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ABSTRACT

Children in out-of-home care, and especially in residential care, have a higher risk of child sexual abuse (CSA; Euser, Alink, Tharner, Bakermans-Kranenburg, Van IJzendoorn, 2013b). For children with an intellectual disability the higher risk of sexual victimization may be even higher. In the current study we examined the 2010 year prevalence of CSA in out-of-home care for children with a mild intellectual disability, and we compared it with the prevalence in out-of-home care for non-disabled children and in the general Dutch population. One-hundred and four professionals (sentinels) from out-of-home care facilities reported the cases of CSA that occurred in 2010 in the children they worked with (*N* = 1,650), while the child stayed in out-of-home care. In overall out-of-home care, 9.8 per 1,000 children with intellectual disabilities were victim of CSA. Prevalence rates in residential and foster care did not differ significantly. Prevalence estimates in overall out-of-home care, foster care, and residential care for children with intellectual disabilities were significantly higher than prevalence rates in regular out-of-home care and in the general population. Girls had a significantly higher risk of CSA than boys. The majority of offenders were male and, especially in residential care, most offenders were younger than 21 years old and lived in the same care facility. These findings indicate that children with a mild intellectual disability have a higher risk of CSA, irrespective of type of care. Adequate education and support for both children and caregivers is necessary to recognize and prevent further sexual abuse.

INTRODUCTION

Worldwide, high rates of child sexual abuse (CSA) have been found for the population in general and for children with disabilities specifically (Stoltenborgh et al., 2011; Westcott & Jones, 1999). Because of their impaired communicative skills and larger dependence, children with an intellectual disability particularly may have an increased risk of sexual abuse victimization (Westcott & Jones, 1999; Kim, 2010). Moreover, children with disabilities are more likely to be placed in out-of-home care compared to children without disabilities (Lightfoot, Hill, & LaLiberte, 2011; Rosenberg, & Robinson, 2004). An increased risk of CSA has been found for children (without intellectual disabilities) who were placed out of the home in residential care but not for children in foster care (Euser, Alink, Tharner, Van IJzendoorn, Bakermans-Kranenburg, 2013b). It is not known whether the same is true for children with an intellectual disability in out-of-home care. In the current study we examined the year prevalence of CSA in residential and foster care for children with a mild intellectual disability, and compared these prevalence estimates with the prevalence of CSA in regular out-of-home care and in the general population.

Intellectual disabilities and child sexual abuse

Since the 1960s, several studies have shown that intellectual disabilities are related to an increased prevalence of all types of abuse (Westcott & Jones, 1999). These studies indicated an increased risk of maltreatment in children with a disability as compared to other children. For instance, in a Spanish study, professionals reported maltreatment experiences of 445 intellectually handicapped children (Verdugo, Bermejo, & Fuertes, 1995). In this group of intellectually handicapped children the prevalence of overall maltreatment was 12% (of which 2% were sexually abused), compared to 2% in a control group of non-handicapped children. More specifically, a large epidemiological study (Sullivan & Knutson, 2000) showed sexual abuse rates of 10.1% for children with a mental disability, compared to 2.6% for non-disabled children, indicating that mentally disabled children have a nearly four times larger risk to be sexually abused in comparison with non-disabled children. A small Israeli self-report study showed even higher prevalence estimates of CSA for adolescents with intellectual disabilities (Reiter, Bryan, & Shachar, 2007). Fifty adolescents with intellectual disabilities and 50 non-disabled adolescents reported whether they had experienced sexual abuse. Adolescents with intellectual disabilities reported significantly more sexual abuse (40%) and unwanted sexual touching (38%) than non-disabled adolescents (16% and 18% respectively). In addition, a Turkish study showed that 50% of sexually abused children with a mental retardation experienced more severe sexual abuse (e.g., vaginal penetration) compared to only 15% of non-disabled victims (Akbaş et al., 2009).

Several explanations have been suggested for this increased risk of sexual victimization for children with intellectual disabilities. First of all, mentally disabled persons may have a lower understanding of sexuality (Healy, McGuire, Evans, & Carley, 2009; Isler, Tas, Beytut, & Conk, 2009), which may decrease their ability to discriminate between appropriate

and inappropriate sexual contacts (Kim, 2010; McGuire & Bayley, 2011). If they do recognize unwanted sexual advances, their lower cognitive abilities may prevent them from disclosing the abuse. Indeed, in the Spanish sample, the highest risk of sexual abuse was found for children with the largest speech defect (Verdugo et al., 1995). Furthermore, children with a mental disability are more dependent on their caregivers than regular children (Kim, 2010). It is therefore more common for them that others make decisions about their lives, and they may believe that others also decide about their sexual activities (McCabe, Johnson, & Reid, 1994). This, together with the inexperience and lack of confidence of caregivers to provide sexual education to mentally disabled children (Lafferty, McConkey, & Simpson, 2012; Schaafsma, Stoffelen, Kok, & Curfs, 2013), may increase the risk of sexual exploitation of this vulnerable population.

Child sexual abuse in out-of-home care

A recent prevalence study showed that children in out-of-home care and especially in residential care have a higher risk of CSA than children in the general population (Euser et al., 2013b). Children with intellectual disabilities are more often placed out of the home in a residential setting than non-disabled children (Lightfoot, Hill, & LaLiberte, 2011; Paul & Cawson, 2002). In combination with the general increased risk of CSA for children with intellectual disabilities, living in a residential care setting may further increase the risk of sexual abuse victimization in these children (Paul & Cawson, 2002; Sobsey & Doe, 1991; White, Holland, Marsland, & Oakes, 2003; Westcott & Jones, 1999). However, to our knowledge, the actual prevalence of CSA in out-of-home care specifically for children with a mild intellectual disability has never been systematically examined.

This prevalence may be particularly high for children with intellectual disabilities living in residential care. Children in residential care may experience frequent placement changes (Ryan, Marshall, Herz, & Hernandez, 2008) and thus have a larger number of caregivers who may sometimes be less committed than their parents would be (Van IJzendoorn et al., 2011). Additionally, residential care during 24 hours, 7 days per week, is characterized by shifts and instability of caregivers (Ryan et al., 2008; Van IJzendoorn et al., 2011). Thus, children in residential care are exposed to more caregivers, which increases the risk of an offending caregiver among them (Paul & Cawson, 2002; Sobsey & Doe, 1991; Westcott & Jones, 1999). Moreover, residential groups often have a mixed gender composition (Ryan et al., 2008; Van IJzendoorn et al., 2011). It has been suggested that, in addition to the higher risk of sexual victimization, people with intellectual disabilities also have a higher risk of sexual offending, due to their insufficient sexual knowledge and their inability to discriminate between appropriate and inappropriate sexual advances (e.g., Timms & Gorenczny, 2002). Without sufficient monitoring of the group interactions by professional caregivers, the mixed nature of the residential groups and the overall low cognitive abilities and low understanding of sexuality of the group members may trigger peer sexual abuse.

The current study

In this study, we examined the 2010 year prevalence of CSA in Dutch residential and foster care for children with a mild intellectual disability. CSA is defined as every form of sexual interaction with a child between 0 and 17 years of age against the will of the child or without the possibility for the child to refuse the interaction. Such interactions can be with or without physical contact, such as penetration, molestation with genital contact, child prostitution, involvement in pornography, or voyeurism (Sedlak et al., 2010), and refer to sexual acts by adults as well as peers. We specifically examined the prevalence of sexual abuse among children with a *mild intellectual disability*, which includes children with an IQ between 50 and 85, combined with social adaptation problems.

In order to uncover CSA cases that may not be reported to official authorities, such as Child Protective Services (CPS; Creighton, 2002), we asked a random sample of professionals working in residential or foster care for this population to report all cases of CSA known to them. The same methodology was used in two previous studies examining the 2010 year prevalence of CSA in regular out-of-home care (Euser et al., 2013b), and in the general Dutch population (the second National Prevalence Study of Maltreatment of children and youth; NPM-2010; Euser et al., 2013a). Because of the analogous methodologies, we were able to compare the findings from the current study with the prevalence rates of CSA in regular out-of-home care and in the general population. Finally, we examined characteristics of both the victims and the perpetrators of sexual abuse in out-of-home care for children with a mild intellectual disability.

Considering the larger instability of care in residential settings, we expected to find higher prevalence estimates of CSA in residential care than in foster care, as was also found in out-of-home care for non-disabled children (Euser et al., 2013b). Furthermore, because of the higher risk of CSA for children with an intellectual disability (e.g., Westcott & Jones, 1999) we expected that children with a mild intellectual disability in out-of home care have a higher risk of CSA compared to children with no intellectual disability in out-of-home care as well as compared to the general population. Finally, because children with intellectual disabilities are living together under the same roof in out-of-home care and because of the possible risk for children with an intellectual disability to become sexual offenders, we hypothesized that some of the offenders of sexual abuse in this setting are peers living in the same care arrangement.

METHOD

Participants

A total of 113 professionals working at Dutch care facilities for children with a mild intellectual disability participated in this study. Analogous to the NIS (e.g., Sedlak et al., 2010), these professionals are called sentinels. Nine sentinels were excluded because they did not work in residential or foster care for children with a mild intellectual disability in 2010, leading to a final sample of 104 sentinels. Participants were on average 36.4 years old (SD =

10.0), and 77% were female,. The majority of participants (58%) worked in residential care, 39% worked in foster care, and 3% worked in both types of care in 2010.

Procedure

In the Netherlands, all foster families taking care of children with an intellectual disability are affiliated with one foster care organization. In addition, there are 116 residential care facilities for children with a mild intellectual disability in the Netherlands. We randomly selected 24 residential care facilities of which 18 (75%) agreed to participate. The foster care organization also agreed to participate in the study. Professionals from the participating facilities were eligible for participation if they 1) worked directly with children with a mild intellectual disability (IQ between 50 and 85 combined with social adaptation problems) who stayed in residential or foster care (e.g., youth care workers, not foster parents) and 2) had been working in out-of-home care for children with a mild intellectual disability since 2010 or before. All eligible professionals from the foster care facility were contacted for participation. In the residential facilities, only one sentinel per group was selected to prevent sentinels reporting on the same group of children. To compensate for possible non-response, a back-up sample with a similar number of sentinels was selected from each residential facility, but they were only contacted if one or more sentinels in the first group did not participate. In total, 176 sentinels (44% from foster care) were invited to participate. They received an e-mail including a short introduction of the study, a link to the registration form and a link to unsubscribe for participation. The overall response was 64% (N = 113), with 65% for foster care (n = 50) versus 64% for residential care (n = 63).

Sentinel registration form. The standardized registration form, based on the form used for the NIS (Sedlak et al., 2010) and NPM (Alink et al., 2011; Euser et al., 2010; Euser et al., 2013a), was used in a digitalized format (see also Euser et al., 2013b). Sentinels were asked whether they suspected that one or more children experienced child sexual, physical, or emotional abuse, or physical or emotional neglect, which occurred in foster or residential care in 2010. Sentinels were asked to report substantiated, non-substantiated, and never reported cases of abuse and neglect. The current study focuses on sexual abuse only. The form included open questions to describe the abuse and possible injury, and closed questions about characteristics of the child and the perpetrator, the location and period of the maltreatment, and the frequency with which the maltreatment had occurred. Finally, the sentinels were asked to estimate the number of children they had worked with in 2010. Sentinels who worked in both types of care reported separately on residential and foster care (regarding the reported children and total number of observed children).

Coding of child sexual abuse. The cases of abuse reported by the sentinels were independently coded by six trained coders (including one expert coder who also coded cases in the NPM-2010), to decide whether the case qualified as sexual abuse (based on the definitions used in the NPM-2010 [Alink et al., 2011; Euser et al., 2013a] and the NIS-4 [Sedlak et al., 2010]) and to classify the case in one of five types of sexual abuse: 1) sexual abuse with

penetration, 2) sexual abuse with genital contact (without penetration), 3) sexual abuse with physical contact (without genital contact and/or penetration), 4) sexual abuse without physical contact, and 5) other sexual abuse. Reported cases of CSA that did not occur in 2010 or occurred in 2010 but prior to the out-of-home placement were not included. Further, consensual sexual interactions between a child and an adult over 21 years of age were included, while consensual sexual interactions between two children under 21 years of age were excluded. To determine reliability, the five coders independently double coded 25% of all cases (n = 89; cases from both regular out-of-home care [see Euser et al., 2013b] and care for children with a mild intellectual disability) with the expert coder. The mean inter-coder reliability (kappa) for sexual abuse was .95 (98% agreement). The mean inter-coder reliabilities for the different types of sexual abuse were: .86 (98%) for sexual abuse with penetration, .64 (95%) for sexual abuse with genital contact, .74 (96%) for sexual abuse with physical contact, .73 (96%) for sexual abuse without physical contact and .75 (93%) for other sexual abuse. The range in kappas was .59-.96 (93% - 98%). All cases were coded separately by two coders. In case of disagreement, the case was discussed with the expert coder to reach consensus.

Statistical procedures

Separate prevalence rates were calculated for overall out-of-home care, foster care and residential care. In this study, the prevalence rate of CSA is reflected as the proportion of reported cases in relation to the number of observed children. To obtain this number, the sentinels' estimates of the numbers of children they worked with in 2010 were summed, separately for sentinels from foster care and residential care.

Prevalence estimates from the current study were compared with the prevalence of CSA in regular out-of-home care (see Euser et al., 2013b) and the prevalence in the regular Dutch population (see Euser et al., 2013a). Risk ratios (RRs) with 95% confidence intervals were calculated to determine whether prevalence rates were significantly different. RRs are defined as the ratio between the risk of maltreatment in the exposed group (i.e., out-of-home care for children with a mild intellectual disability) versus the risk of maltreatment in the unexposed group (i.e., regular out-of-home care, general population). If the confidence interval of the RR includes the value 1, the risk in the exposed group is assumed to be not significantly different from the risk in the unexposed group (Rothman, 2002). In addition, Wilson estimates of the 84% confidence intervals are presented in the figures depicting the prevalence estimates (Wilson, 1927; Alink et al., 2011; Euser et al., 2010; Moore & McCabe, 1996). In contrast to 95% confidence intervals, 84% confidence intervals lead to a probability of overlap of approximately 5% (Julious, 2004), and therefore, if confidence intervals of two estimates (partly) overlap, prevalence rates are assumed to be not significantly different (Goldstein & Healy, 1995; Julious, 2004; Payton, Greenstone, & Schenker, 2003). Because the data from the sentinels may be clustered, a correction for design effect was applied to the confidence intervals (Hox, 2002; Kish, 1965). Finally, to examine whether there was an effect of child characteristics on sexual abuse victimization, we used proportion tests

to compare frequencies of specific characteristics in the sample of abused children with proportions of these characteristics in the sample of observed children.

RESULTS

Prevalence rates

The sentinels observed 1,650 children in overall out-of-home care, 955 children in residential care, and 695 children in foster care in the year 2010. Sixty percent of the observed children were male, 38% were younger than 12 years of age, and 95% had a mild intellectual disability. The few children without a mild intellectual disability observed in residential groups were also taken into account, because those children live in the same group as children with a disability and the exact definition of a mild intellectual disability may not always be straightforward. Children observed in foster care were significantly younger than children observed in residential care ($p < .01$); in foster care, 31% were 12 years of age or older, versus 84% in residential care.

In total, 16 cases of CSA were reported, of which the majority (89%) were classified as sexual abuse with physical contact. This led to an overall 2010 year prevalence estimate of 9.8 (95% CI: 2.4-33.7) per 1,000 children who were victim of CSA in out-of-home care for children with a mild intellectual disability. Prevalence estimates for the different types of sexual abuse are shown in Table 1. Separate prevalence estimates for residential and foster care were 11.5 (95% CI: 3.2-37.8) per 1,000 and 7.2 (95% CI: 0.0-36.2) per 1,000 children, respectively.

These prevalence estimates for residential and foster care cannot be compared directly. In our sample, children observed in foster care were younger than children observed in residential care. To prevent a possible age effect, we recalculated the prevalence estimates for children aged 12 or older. In this age group, the prevalence of CSA in residential care (9.9 [95% CI: 1.7-38.3] per 1,000) was not significantly different from the prevalence in foster care (9.3 [95% CI: 0.0-85.7] per 1,000; RR = 1.1 [95% CI: 0.2-5.0]). In addition, 84% confidence intervals for the two population were overlapping, indicating no significant difference between residential (84% CI: 5.1-22.4) and foster care (84% CI: 3.3-43.6).

Comparison with regular out-of-home care. The prevalence estimates of CSA in residential and foster care for children with a mild intellectual disability were compared with the prevalence of CSA in regular residential and foster care. Reports of 264 professionals from regular out-of-home care showed that 3.5 (95% CI: 0.7-8.3) per 1,000 children were victim of CSA in regular out-of-home care during the year 2010 (Euser et al., 2013b). The risk ratio for children with a mild intellectual disability in out-of-home care compared to non-disabled children in out-of-home care was 2.9 (95% CI: 1.5-5.5), indicating that there is an almost threefold increase in risk of CSA in out-of-home care for children with a mild intellectual disability. The risk was higher for children with a mild intellectual disability in both residential and foster care examined separately. The risk in residential care for children with a mild intellectual disability was more than twice as high as in regular residential care

Table 1. Prevalence estimates of CSA in overall out-of-home care for children with a mild intellectual disability in 2010: Number of children reported by the sentinels, and prevalence estimates with 95% confidence intervals

Type of CSA	Number of reported children[1]	Prevalence estimate (‰)[1]	95% CI[2]
Overall prevalence	16	9.7	3.7-27.0
Physical contact	14	8.5	2.9-25.1
Penetration	6	3.6	0.3-10.8
Touch (genitals)	7	4.2	0.5-11.7
Touch (not the genitals)	6	3.6	0.3-10.8
No physical contact	2	1.2	0.0-6.9
Other	3	1.8	0.0-7.9

Note. Sentinels observed 1.650 children with a mild intellectual disability in out-of-home care.

[1] The numbers of children and the prevalence estimates within Overall prevalence (Physical contact, No physical contact, and Other) and within Physical contact (Penetration, Touch [genitals], and Touch [not the genitals]) do not sum to the total, because children can have experienced multiple types of sexual abuse.

[2] The reported CI is corrected for possible design effect.

(RR = 2.3 [95% CI: 1.1-5.1]), and the increase in risk of CSA for children with an intellectual disability was even larger in foster care, with a RR of 3.5 (95% CI: 1.1-10.9). However, these findings are equivocal when we use the more conservative approach of comparing 84% confidence intervals with correction for possible design effects (see Method). Prevalence rates with 84% confidence intervals of CSA in regular out-of-home care and in out-of-home care for children with a mild intellectual disability are shown in Figure 1. The 84% confidence intervals of the estimates for care for children with a mild intellectual disability and regular care are partly overlapping. Based on these more conservative comparisons, there is no significant difference between the prevalence of CSA in out-of-home care for children with a mild intellectual disability and the prevalence of CSA in regular out-of-home care.

Comparison with the general population. Prevalence estimates of CSA in out-of-home care for children with a mild intellectual disability were also compared with the prevalence of CSA in the general population. The second Netherlands' Prevalence study on Maltreatment of children and youth (NPM-2010; Euser et al., 2013a) showed that 0.8 (95% CI: 0.3-1.3) per 1,000 children were victim of CSA in the Netherlands in 2010. Because of the possible age effect, we controlled for age in the comparison of residential care with the general population. In the Netherlands, 0.7 (95% CI: 0.3-1.0) per 1,000 adolescents from 12 to 17 years of age were victim of CSA in 2010. Prevalence rates with 84% confidence intervals of CSA in the general Dutch population and in out-of-home care for children with a mild

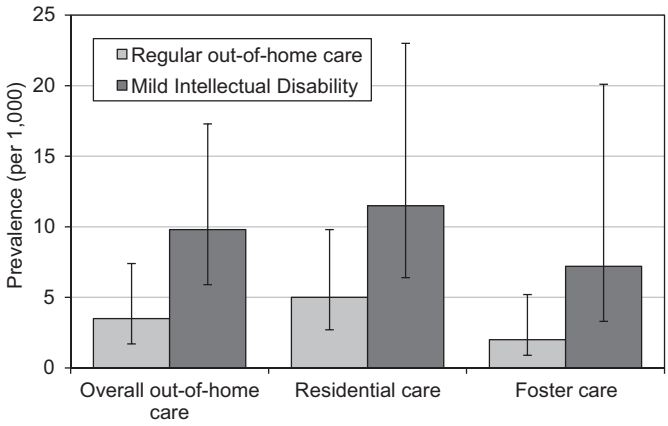

Figure 1. Prevalence estimates (‰) of child sexual abuse (CSA) with 84% confidence intervals (CI) for regular out-of-home care and out-of-home care for children with a mild intellectual disability. Eighty-four percent CIs are shown because they indicate a probability of overlap of approximately 5% (Julious, 2004).

intellectual disability are shown in Figure 2. This relatively conservative approach showed that the prevalence of CSA in overall out-of-home care, residential care, and foster care for children with a mild intellectual disability was significantly higher than in the general Dutch population.

Based on rough estimates of the total population of children with mild intellectual disabilities in out-of-home care, we calculated risk ratios for overall out-of-home care (RR = 13.8; 95% CI: 11.2-17.0), residential care (RR = 16.1; 95% CI: 12.2-21.1), and foster care (RR = 9.1; 95% CI: 5.2-15.9). The risk in all types of care was significantly higher than in the general population. These findings converge with the non-overlap of the 84% CIs, indicating that children with an intellectual disability in out-of-home care have an increased risk of CSA compared to the general population.

Victim and perpetrator characteristics

Victims of CSA in out-of-home care for children with an intellectual disability were between 4 and 16 years of age (M = 12.4; SD = 3.9). Proportion tests showed that there were no effects of age on CSA experiences for overall, foster, or residential care (ps > .31). Similar to regular out-of-home care (Euser et al., 2013b), the majority (75%) of the victims were female and this percentage was significantly higher than the total percentage of girls in out-of-home care, indicating that girls are at increased risk of experiencing CSA than boys (χ^2 = 8.17; p <.01). The higher risk for girls was also found in residential care separately (χ^2 = 12.55; p <.01), but not in foster care (χ^2 = 0.16; p = .69). Eighty-eight percent of the victims were born in the Netherlands.

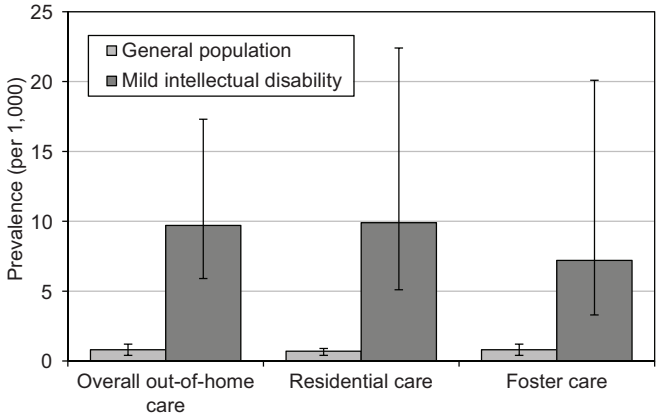

Figure 2. Prevalence estimates (‰) of child sexual abuse (CSA) with 84% confidence intervals (CI) for the general Dutch population and out-of-home care for children with a mild intellectual disability. Eighty-four percent CIs are shown because they indicate a probability of overlap of approximately 5% (Julious, 2004). To control for a possible age effect, only children between 12 and 17 years of age were included in the comparison between residential care and the general population.

In total, the sentinels reported 30 perpetrators (93% male). More than one third of the victims (38%) were sexually abused by more than one perpetrator. In residential care, 91% of the perpetrators were younger than 21 years of age, and the majority of victims (55%) were abused by other children or adolescents from the same residential facility. Because the victims stayed in a facility for children with a mild intellectual disability, it may be assumed that these perpetrators also have an intellectual disability. The perpetrator was unknown to the sentinel in all other cases of CSA in residential care. Half of all perpetrators (50%) in foster care were below 21 years of age. In 80% of the cases, victims were abused by foster parents or other adult members of the foster family, 20% were abused by children or adolescents from the same foster family, and 20% by children or adolescents who did not live in the same foster family[1].

DISCUSSION

Children with mild intellectual disabilities in out-of-home care have a nearly three times higher risk of CSA than children in regular out-of-home care. Results of the current study indicate that 9.8 per 1,000 children in out-of-home care for children with a mild intellectual disability were victim of CSA in 2010, compared to 3.5 per 1,000 in regular out-of-home care (Euser et al., 2013b). The risk was even higher compared to the general Dutch population, in which 0.8 per 1,000 children were victimized in the same year (Euser et al.,

[1]Percentages do not always sum to 100%, because some children were abused by more than one type of perpetrator.

2013a). The current study assessed year prevalence and not life-time prevalence of CSA. Year prevalence yields lower prevalence rates than life-time prevalence (Stoltenborgh et al., 2011). This should be kept in mind when interpreting the high year prevalence estimates found in the current study. Only in one year and based on sentinel reports, 10 per 1,000 Dutch children with mild intellectual disabilities placed out of the home experienced CSA.

It should be noted that the difference between regular out-of-home care and out-of-home care for children with a mild intellectual disability was significant using Risk Ratios (RRs), but not when 84% confidence intervals (CIs) were used. Therefore, conclusions about the difference between the two populations must be drawn with caution. Using Risk Ratios (RRs) is more common for significance testing when standard errors of the two groups are different. However, comparing 84% CIs enables correction for a possible design effect, and can therefore be considered as the more conservative approach.

In regular out-of-home care, children in residential care have an increased risk of both sexual and physical abuse compared to children in foster care (Euser et al., 2013b; Euser et al., 2013c). We expected to find similar results in out-of-home care for children with a mild intellectual disability. Separate prevalence rates for residential and foster care for children with a mild intellectual disability were 11.5 and 7.2 per 1,000, respectively. However, in contrast to regular out-of-home care, we did not find a significant difference between prevalence rates in residential and foster care for children with a mild intellectual disability, when controlled for age. Thus, whereas for non-disabled children placement in foster care seems to protect against an elevated risk of sexual abuse, for children with a mild intellectual disability in out-of-home care the increased risk of sexual abuse is irrespective of type of care.

The results of this observational study do not provide any causal explanations of the increased risk in out-of-home care for children with a mild intellectual disability or of the unexpectedly higher prevalence in foster care. In the literature, several factors have been suggested to contribute to the higher risk of CSA for children with a mild intellectual disability. For instance, children with intellectual disabilities generally have impaired social skills and sexual knowledge and may easily consent with inappropriate sexual advances because they have been taught to be compliant to authority figures (Kim, 2010). Children with intellectual disabilities in out-of-home care may experience more placement instability than their non-disabled peers (Hill, 2012), hampering the development and maintenance of stable relationships with caregivers and peers. Furthermore, children with intellectual disabilities may be used to being touched by (relatively) unknown adults (e.g., for assistance in personal care) and may think they do not have the right to refuse adults' inappropriate acts or demands (Kim, 2010). The dependency of children with intellectual disabilities upon caregivers may make them even more vulnerable and thereby "easy" targets for sex offenders (Paul & Cawson, 2002).

The current findings show that the majority of offenders were other children living in the same care facilities for children with intellectual disabilities, especially in residential care.

Peer abuse may be explained by the mixed gender composition of the groups (Ryan et al., 2006) and the higher risk of sexual offending for children with an intellectual disability (Timms & Gorenczny, 2002). Given the impaired sexual knowledge and social skills of sex offenders with intellectual disabilities (e.g., Isler et al., 2009), the distinction between victim and perpetrator is not always straightforward in this population. These explanations for the higher prevalence of CSA are particularly relevant for children with an intellectual disability in residential care, and cannot fully explain the high prevalence in foster care. It is crucial that the factors associated with the high risk of CSA for children with a mild intellectual disability as found in the current study, also in foster care, are uncovered in order to prevent sexual abuse of this vulnerable population.

Some limitations of the current study should be addressed. Sector associations and management teams of out-of-home care facilities were at first reluctant to participate, leading to a delay in data collection. This increased the time interval between participation and the period about which the sentinels and adolescents reported CSA, with a possible underestimation of the prevalence of CSA as a result. In addition, we used sentinel reports to assess sexual abuse. Meta-analytic evidence indicates that prevalence rates of sexual abuse based on self-report are considerably higher than prevalence rates based on sentinel studies (Stoltenborgh et al., 2011). An important advantage of sentinel reports is that all sentinels use the same definition of sexual abuse. On the other hand, sentinels may not be aware of all cases of sexual abuse; they may only see the tip of the iceberg (Creighton, 2002). This proverbial iceberg may be even further under water when sentinels report about the sexual abuse of children with intellectual disabilities. There may be more reluctance to disclose the abuse of these children; children themselves may not know that the abuse is wrong, or caregivers may not recognize the (non-verbal) signs of the abuse because of the child's disability (Kvam, 2000; Kendall-Tackett, Lyon, Taliaferro, & Little, 2005). Although self-reports may uncover a larger part of the iceberg, they would have been too challenging for children with intellectual disabilities to complete. Even more so than for non-disabled children, it may be more difficult for children with intellectual disabilities to remember when and how often certain events occurred in the past, and it would be unclear whether questions were interpreted correctly. Therefore, prevalence estimates of the current study are not directly comparable with prevalence rates based on self-report studies (e.g., Reiter et al., 2007). However, because sentinel reports were also used to examine the prevalence of CSA in the general population and in regular out-of-home care, the comparisons of the current findings with these populations are reliable.

Finally, the prevalence estimates presented in the current paper have large confidence intervals. In some cases, this led to very skewed confidence intervals, because the lower bound of an interval cannot drop below zero. Moreover, the intervals indicate that the exact prevalence rates of CSA of children with mild intellectual disabilities in out-of-home care are uncertain. However, the comparison with other populations holds because of the similar methodology. The difference with the general population was also significant using the more conservative approach of non-overlapping confidence intervals, and shows

that children with a mild intellectual disability in out-of-home care have an increased risk of sexual abuse victimization. Note however that we should be careful when comparing the findings of the current study with the prevalence rate in the general population. The higher risk of children with a mild intellectual disability in out-of-home care may not only be caused by the out-of-home care arrangement, but also by their disability status, because the large majority of the children in the general population do not have a disability. Nevertheless, this comparison shows that children with a disability in out-of-home care need more protection against victimization.

Our findings imply the urgency of improved education about sexuality and inappropriate sexual behavior for children with intellectual disabilities in out-of-home care, especially in residential care where peers were the main offenders. These children should be taught how to recognize, avoid, decline, and disclose unwanted sexual advances. For instance, it has been shown that a sex education intervention can improve the capacity of young adults with intellectual disabilities to make sexuality-related decisions (Dukes & McGuire, 2009). Comparable education programs for children and adolescents with intellectual disabilities need to be tested and, when effective, implemented (McGuire & Bayley, 2012; Schaafsma et al., 2013). Moreover, residential staff and foster parents should be carefully selected and supervised, and need to be adequately educated to recognize the signs of sexual abuse in these vulnerable children (White et al., 2003), in order to prevent abuse by caregivers and peers.

In sum, the current findings show that, in out-of-home care children with a mild intellectual disability have a higher risk of CSA than non-disabled children. The prevalence rates are alarming, and underscore the idea that children with an intellectual disability belong to an extremely vulnerable population. Whereas non-disabled children who are placed out of the home only have a higher risk of CSA in residential care settings (Euser et al., 2013b), children with mild intellectual disabilities in out-of-home care seem to be at a higher risk of CSA irrespective of care setting. It is crucial and urgent that these children are better educated about sexuality and inappropriate sexual behavior, and that their professional caregivers learn how to prevent risky situations and recognize signs of sexual abuse in order to decrease sexual abuse in out-of-home care.

6 A challenging job: Physical and sexual violence towards group workers in youth residential care

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ABSTRACT

In this study, we investigated the prevalence of victimization of youth care workers in residential care. We also tested whether characteristics of the group care workers and the type of care facility influenced this prevalence. One hundred seventy-eight participants reported whether they had experienced verbal threat, physical threat, physical violence, verbal sexual harassment, and physical sexual harassment by one or more of the youth they worked with in a 1-year period. We found that the large majority, 81% of the group workers, experienced some type of violence. Most incidents were verbal threats, but about half of the participants experienced physical violence. In addition, youth care workers from secure care experienced significantly more overall violence and verbal threat than youth care workers in group care, and significantly more physical violence than youth care workers in juvenile detention facilities. Verbal sexual harassment and physical sexual harassment were more frequently reported by youth care workers from juvenile detention facilities than by youth care workers in group care. Rates of physical threat, physical violence, and verbal sexual harassment were increased for participants working with children with a mild intellectual disability. Gender of the youth care worker was not related to the rate of victimization, but age was; younger group workers reported more incidents than older group workers. The high levels of violence in residential youth care indicate that residential care may not be the best workplace for professionals nor the best therapeutic setting for youth. Alternative care settings, such as treatment in a family-type environment, should be explored.

INTRODUCTION

Violence at work greatly impacts the victims' quality of life. It is widely known that violence is a concern for health care workers (e.g., Harris & Leather, 2012; Rippon, 2000). More specifically, there is evidence that the majority of residential or group care social workers regularly experience physical violence (Harris & Leather, 2012; Winstanley & Hales, 2008). However, there is little research on *sexual harassment* in addition to physical victimization of social workers in *youth* residential or group care.

We recently showed that children in residential care are more likely to be victims of physical and sexual abuse as compared to children in the general population (Euser, Alink, Tharner, Van IJzendoorn, & Bakermans-Kranenburg, 2013b; Euser, Alink, Tharner, Van IJzendoorn, & Bakermans-Kranenburg, 2013c). However, being victim of sexual and physical aggression may not be limited to residents of institutions. A general climate of violence is to be expected based on evidence indicating that social workers in residential care are at high risk for experiencing workplace violence (Balloch, Pahl, & McLean, 1998; Harris & Leather, 2012).

The prevalence of violence against social workers and residential staff is generally found to be high. In Australia, 67% of social workers reported to have experienced at least one form of physical, sexual or verbal violence in a 1-year period (Koritsas, Coles, & Boyle, 2010). Similarly, in Canada more than half of the social workers reported verbal harassment by clients, 20% reported threats with physical harm, and 10% reported having been sexually harassed in a 2-year period (MacDonald & Sirotich, 2005). Rates of experienced violence in residential care are also strikingly high; Balloch et al. (1998) showed that 62% of residential workers had experienced aggression during their careers. However, most studies focus on violence by adult clients. Little is known about violence towards group workers in youth residential care. One of the few studies that did report on this, investigated experiences of physical assault and threatening behavior of staff in three children's homes in the UK (Winstanley & Hales, 2008). Of the participating staff, 64% reported assault, and 72% had been threatened with physical violence. Unfortunately, this study had a small sample (87 staff members from three children's homes) and did not report on sexual harassment.

Nevertheless, high rates of violence towards youth residential group workers are expected. In order to support policy aimed at preventing violence it is important to know whether the risk of victimization is influenced by the type of care and characteristics of group workers. Koritsas et al. (2010) showed that social workers who had experienced property damage, theft, verbal abuse, or intimidation were younger than social workers who did not report these experiences. However, no effect of age was found by Winstanley and Hales (2008). In addition, there is some evidence for an increased risk for female staff (Koritsas et al., 2010) but since the gender distribution in samples is often very skewed (i.e., far more female staff) no strong conclusions can be drawn on gender as a risk factor.

Regarding type of care, as far as we know differences between risk of violence in different types of residential facilities for youth have not been investigated. The current study

included different types of residential care for youth with severe behavior problems and/or severe problems in the parent-child relationship: group care (in which children are free to leave the facility), secure care (in which children are not allowed to leave the facility), and juvenile detention (for children awaiting court hearings or convicted of a crime). In addition, we included facilities for youth with a mild mental disability (IQ between 50 and 85 combined with social adaptation problems). We expected the rates of group worker victimization to be highest in juvenile detention, because it could be argued that youth in these facilities would be most violent.

Violence in the workplace compromises the safety of both staff and residents. More exposure to violence is related to lower job satisfaction and more stress symptoms of staff (Harris & Leather, 2012). In addition, allowing violence to solve problems or to deal with frustration may be detrimental to the therapeutic process of the residents. To inform policy in residential youth care it is important to know about violence towards youth care workers. The current study investigated the prevalence of physical violence and sexual harassment towards youth care workers from different types of residential care and tested whether characteristics of the care facilities and group workers influenced this risk.

METHOD

Participants

The youth care workers were selected from three types of residential care facilities in the Netherlands: 1) group care (in which children are free to leave the facility), 2) secure care (in which children are not allowed to leave the facility), and 3) juvenile detention. Regular care facilities as well as facilities for children with a mild intellectual disability were selected. To realize a representative distribution of the different types of facilities in our sample we included all (locations of) secure care (n = 17), and juvenile detention (n = 11) facilities. From the 334 group care facilities, a random selection of 40 facilities was drawn (one facility can have multiple locations). In total, 85 locations were asked to participate in the study and 76 locations (89%) agreed to participate. Most children in these types of care were 12 years or older: 79% for group care, 97% for secure care, and 93% for juvenile detention. The percentage of boys in group care (56%) was significantly higher than in secure care (46%, $p < .01$). In juvenile detention, the percentage of boys was substantially higher compared to the other two types of care: 97% (ps < .01). In care facilities for children with a mild intellectual disability, the percentage of boys (68%) was significantly higher than in regular residential care (61%; $p < .01$) whereas the distribution of age was not significantly different.

Youth care workers from the selected care facilities were sampled based on the following criteria: 1) the employee worked directly with the children staying at the facility and 2) the employee had been working in residential care since 2010 or before. Only one professional was selected from each group to prevent professionals reporting on the same group of children. To compensate for possible non-response, a back-up sample with the same number of professionals was selected from each facility, but they were only contacted if one or more

group workers in the first group did not participate. Participants received a compensation of €10.

In total, 375 group workers were invited to participate. The overall response was 58% (n = 218). Group workers who worked in more than one type of care in 2010 or provided unclear information about their work history were excluded, leading to a final sample of 178 participants. Sample sizes for the different types of care were 123 for group care, 32 for secure care, 23 for juvenile detention, 123 for regular residential care, and 55 for care for children with a mild intellectual disability. Participants were on average 34.7 years of age (SD = 9.71). There were no differences between the ages of participants working in different types of care (ps > .05). Of the total sample, 33% were male and 67% were female. The gender distribution was similar for the different types of care (ps > .05).

Questionnaire

After reporting on the type of facility, their gender and age, participants were asked whether they suspected that one or more children in their group had experienced child sexual, physical, or emotional abuse, or physical or emotional neglect (see Euser et al., 2013b). The questionnaire ended with five questions on their own experiences with violence. Participants reported whether they had experienced, in order, verbal threat, physical threat, physical violence, verbal sexual harassment, and physical sexual harassment by one or more of the youth they worked with in a 1-year period (the year 2010).

RESULTS

Prevalence of maltreatment

Overall, 81% of the total group of residential care workers reported that they experienced at least one of the issues in 2010, 78% reported verbal threat, 25% physical threat, 37% physical violence, 15% verbal sexual harassment, and 2% reported physical sexual harassment. Of all victims, 45% experienced one type of violence, 25% two types, 23% three types, 4% four types, and 3% experienced all types of violence.

Risk factors

Significantly more group workers from secure care experienced overall violence (94% indicated that they had experienced at least one of the different types of violence), χ^2 (1, N = 155) = 4.77, p < .05, and verbal threat (91%), χ^2 (1, N = 155) = 4.02; p < .05, than group workers from open residential care (76% and 74%). In addition, significantly more group workers from secure care experienced physical violence (53%) than group workers from juvenile detention facilities (22%), χ^2 (1, N = 55) = 5.49; p < .05. Verbal sexual harassment, χ^2 (1, N = 146) = 12.32; p < .01, and physical sexual harassment, χ^2 (1, N = 146) = 12.32; p < .01, were more frequently reported by group workers from juvenile detention facilities (35% and 9%) than by group workers from group care (11% and 3%; see Figure 1).

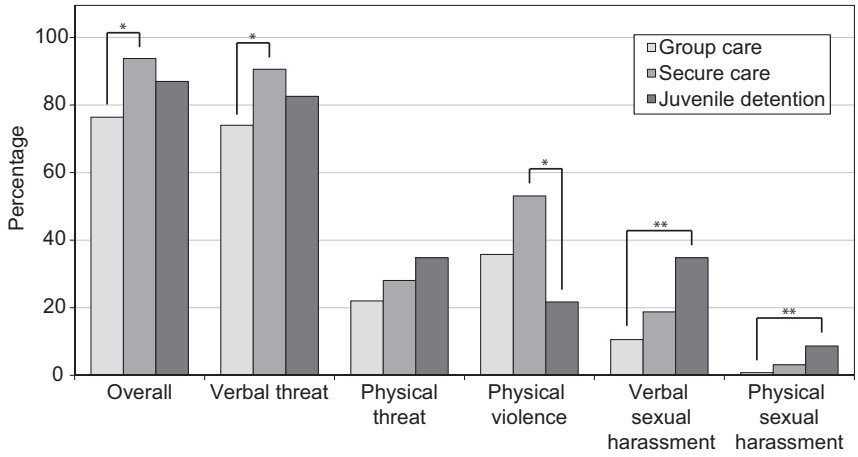

Figure 1. Percentages of group workers in group care, secure care, and juvenile detention who reported physical abuse and/or sexual harassment
$^{*}p < .05$; $^{**}p < .01$.

Significantly more participants working with children with a mild intellectual disability experienced physical threat (35%), χ^2 (1, N = 178) = 4.13; $p < .05$, physical violence (46%), χ^2 (1, N = 178) = 10.41; $p < .01$, and verbal sexual harassment (24%), χ^2 (1, N = 178) = 4.44; $p < .05$, than participants from regular residential care (20%, 29%, and 11%, respectively; Figure 2). There was no difference between the two types of care in overall victimization.

There were no significant differences between males and females on any of the physical abuse or sexual harassment items (ps > .05). Finally, we examined whether age of the participants was related to the occurrence of maltreatment, using a logistic regression analysis with abuse experiences as outcome variable and age as covariate. Overall, younger group workers were more likely to report experiences of violence (OR = .96; Wald = 5.87; $p < .05$; N = 178) and more specifically of verbal threat (OR = .96; Wald = 4.22; $p < .05$; N = 178). No differences were found for the other four items.

DISCUSSION

The large majority of group workers in residential youth care, 81%, reported to have been victimized by children they worked with. The prevalence in our study was somewhat higher than that of other studies (e.g., Winstanley & Hales, 2008). Almost all victims experienced verbal threat. About half of the group workers reported physical violence. Physical sexual harassment was the least occurring type of violence. Residential youth care is a violent setting, not only for pupils (Euser et al., 2013b; Euser et al., 2013c) but also for the professionals working with them.

We found that the risk of verbal and physical victimization was particularly high among group workers in secure settings and that the risk of verbal and physical sexual harassment

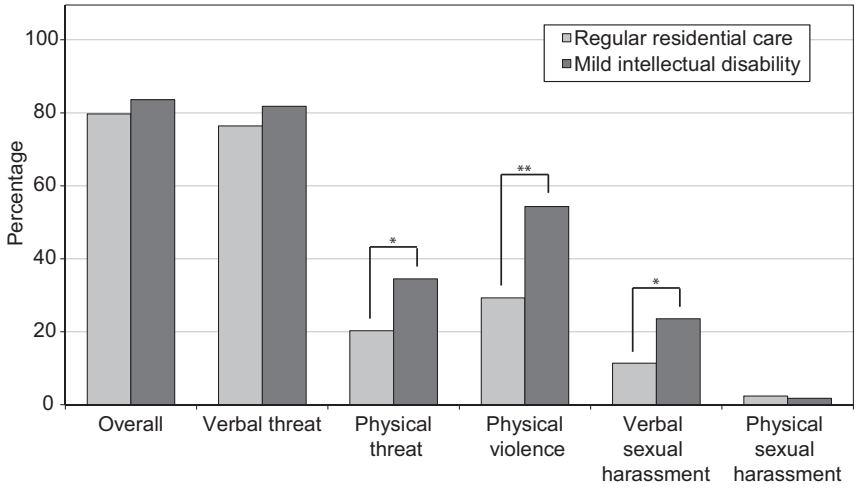

Figure 2. Percentages of group workers in regular group care and youth care for children with a mild intellectual disability who reported physical abuse and/or sexual harassment
$^{*}p < .05$; $^{**}p < .01$.

was increased for group workers in juvenile detention centers. The higher risk in secure care may be explained by the fact that the children in this type of care often have severe behavior problems, more so than children in group care. While behavior problems of youth in juvenile detention may be even more severe, rules and regulations in juvenile detention centers are usually more strict, preventing part of the potential violence from happening. In contrast to youth in group care and secure care, almost all of the youth in detention centers were male, whereas the majority of the group workers were female. This may (partly) explain the increased rate of sexual harassment reported by group workers in juvenile detention centers. Unfortunately, we do not know for sure whether the perpetrators of the violence were male or female, so this explanation remains tentative. In addition, the group of participants in juvenile facilities was too small to test for gender differences in experiencing sexual harassment.

We also found that group workers in residential care for children with a mild intellectual disability reported more physical threat and violence and more verbal sexual harassment as compared to group workers in regular residential care. This is in line with other research showing a negative association between cognitive development and aggression. For example, Loeber et al. (2012) showed that low IQ predicted a large peak in criminal offending in adolescence and early adulthood. In addition, there are indications that low verbal IQ is related to intimate partner violence independent of other factors such as a poor relationship with the parents (Theobald & Farrington, 2012).

Rates of victimization were not different for men and women, but younger group workers reported more victimization than older group workers. This may be explained by their

level of experience, but we did not have information on the number of years the respondents had been working in residential care. Previous research by Winstanley and Hales (2008) did not report an effect of either age or experience in the job on victimization. However, our sample was considerably larger and included a broad age range, which may enable unveiling these effects.

Peer contagion may be an explanation of the high rate of victimization in residential youth care in general. This refers to the idea that if antisocial youth are spending much time together in groups, their antisocial behavior may increase (Dishion & Tipsord, 2011). Several studies have shown that interventions in which antisocial adolescents were aggregated had iatrogenic effects. The most famous example is the Cambridge-Sommerville youth program (McCord, 1992). In this program, high-risk adolescents were sent to summer camps in order to prevent them from entering a criminal pathway. However, long-term effects showed that antisocial behavior did not decrease, but instead increased after participating in the summer camp (McCord, 2003). There is also evidence for peer contagion in longer-term residential care (Lee & Thompson, 2009).

Based on these findings, Dodge, Lansford, and Dishion (2006) list a number of recommendations. One of these is particularly valuable in the context of our study: "Implement alternative interventions that do not require peer aggregation and that can be effectively delivered in school settings, mental health settings, and juvenile corrections. In particular, family-centered interventions are an effective alternative, and in public schools, universal interventions are effective and do not involve aggregation" (Dishion & Tipsord, 2011, p. 197). In an earlier study, we reported that youth in residential care were more often victims of physical and sexual abuse than youth growing up in their biological or foster families (Euser et al., 2013b; Euser et al, 2013c). As expected, these findings, combined with those of the current study indicate a general climate of violence in residential care. Residential care should thus be reconsidered as the solution for youth with severe behavior problems, and only be used if treatment in a family setting is not possible (Dozier et al., 2013).

7 General discussion

The general aim of this thesis was to examine the prevalence of child maltreatment in different populations in the Netherlands and investigate which children are more at risk than others. In the current series of studies we used a multimethod approach to assess prevalence rates of different types of maltreatment. In Chapter 2, the prevalence of child maltreatment in the general Dutch population was addressed, which served as a comparison group for populations that were examined in the other chapters: children in regular out-of-home care (Chapters 3 and 4) and children with intellectual disabilities in out-of-home care (Chapter 5). The victimization of group care workers in residential care settings was addressed in Chapter 6. Because of the identical methodologies used in the various populations, we were able to compare the prevalence rates of different types of child maltreatment between populations. In this final chapter, the main findings from the current series of studies are summarized and discussed in light of implications for research and policy aimed at preventing child maltreatment.

Year prevalence estimates

The second Netherlands' Prevalence study on Maltreatment of children and youth (NPM-2010), described in Chapter 2, showed overall year prevalence rates of 118,836 children or 33.8 per 1,000 children between 0 and 17 years of age based on combined reports from sentinels and Child Protective Services (CPS), and 97,610 adolescents or 99.4 per 1,000 adolescents between 12 and 17 years of age based on self-reports. When controlled for age, the estimate based on self-report was nearly five times higher than the estimate based on sentinel and CPS reports. Moreover, year prevalence estimates in 2010 based on both sentinel and self-report data were not different from the year prevalence of child maltreatment in 2005, whereas the number of CPS reports increased with 67% in this 5-year period. This indicates that although the actual year prevalence of child maltreatment remained relatively stable, the awareness about child maltreatment in the Netherlands has increased and professionals have become more likely to report cases to CPS.

We also examined the year prevalence of different types of maltreatment, based on sentinel and CPS data. Emotional and physical neglect were the most frequently occurring types of maltreatment, with year prevalence rates of 19.8 and 10.2 per 1,000 children respectively (Chapter 2; see Appendix I for elaborate definitions). Sexual abuse was the least prevalent type of maltreatment: 0.8 per 1,000 children experienced this type of maltreatment in 2010 according to the sentinels. In addition, different types of maltreatment co-occurred in nearly half of all cases.

Although we examined the year prevalence of all different types of maltreatment in the NPM-2010, the focus of the out-of-home care study was on sexual and physical abuse.

Therefore, comparisons of year prevalence rates in different populations as described in Chapters 3 to 6 were solely based on these types of abuse. Year prevalence rates of sexual (SA) and physical abuse (PA) in these populations based on sentinel and self-report are shown in Figure 1. The 84% confidence intervals (CIs) in this figure indicate a probability of overlap of approximately 5%, and therefore, if CIs of two estimates do not (partly) overlap, year prevalence rates are assumed to be significantly different (Goldstein & Healy, 1995; Julious, 2004; Payton, Greenstone, & Schenker, 2003). First, adolescents in out-of-home care reported significantly more sexual (143 per 1,000) and physical abuse (254 per 1,000) than adolescents in the general Dutch population (Figure 1a; Chapters 3 and 4). Self-reported year prevalence rates in a general Dutch population sample matched with the out-of-home care sample on ethnicity and education were 74 per 1,000 for sexual abuse and 95 per 1,000 for physical abuse. Furthermore, as presented in Chapters 3 and 5, the year prevalence estimates of sexual abuse based on sentinel reports in out-of-home care for non-disabled children (3.5 per 1,000) and for children with a mild intellectual disability (9.8 per 1,000) were also significantly higher than the year prevalence in the general Dutch population (Figure 1b). Thus, children in out-of-home care have an increased risk for sexual and physical abuse compared to children living with their (biological) parents.

A recent series of meta-analyses examined the prevalence of child maltreatment across the globe (Stoltenborgh, Bakermans-Kranenburg, Van IJzendoorn, & Alink, 2013; Stoltenborgh, Van IJzendoorn, Euser, & Bakermans-Kranenburg, 2011). Worldwide prevalence rates of sexual and physical abuse reported in those meta-analyses are also shown in Figure 1. Based on self-report, year prevalence rates of sexual and physical abuse in the general Dutch population are significantly lower than global prevalence estimates (Figure 1a). In contrast, the year prevalence of sexual and physical abuse in out-of-home care did not differ from the global prevalence. Comparisons with global prevalence rates based on sentinel studies were not significantly different for any of the populations or types of abuse (Figure 1b). However, differences between the absolute year prevalence estimates of sexual abuse were in the expected direction: The year prevalence of sexual abuse in the Dutch population was somewhat lower than the global prevalence, while the year prevalence in out-of-home care was approximately equal.

The difference between the Dutch and the global prevalence based on self-report can partly be explained by the period of prevalence. Self-report studies included in the meta-analyses reported life-time maltreatment experiences, whereas in the current studies we assessed year prevalence, which refers to the total number of children experiencing child maltreatment in a specific year. The same meta-analyses showed that a longer period of prevalence generally yields higher prevalence rates (e.g., Stoltenborgh et al., 2011). This issue may be less relevant in the comparison of prevalence rates based on sentinel reports, because the majority of sentinel studies included in the meta-analyses covered a one-year period, similar to the sentinel studies presented in the current thesis.

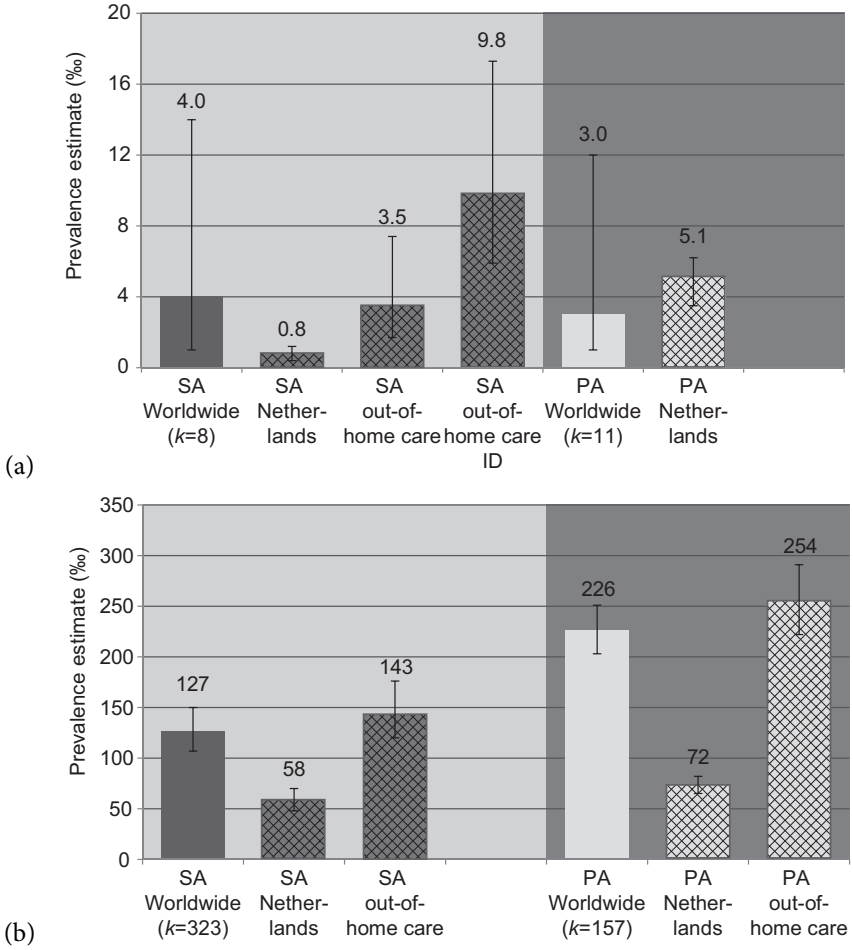

Figure 1. Prevalence estimates (‰) with 84% confidence intervals for sexual and physical abuse, worldwide, in the general Dutch population, and in Dutch out-of-home care, based on (a) sentinel and (b) self-report measures. Missing bars indicate that the prevalence was not examined in that population.
Note. SA = Sexual abuse; PA = Physical abuse; ID = Intellectual Disability

Vulnerable populations

According to the ecological-transactional model (Belsky, 1980, 1993; Cicchetti & Valentino, 2006), the etiology of child maltreatment can be explained by risk and protective factors from different levels: individual factors, familial factors, and factors related to the community or culture. Interactions between such risk and protective factors may explain the risk of child maltreatment. In the current series of studies we found large differences in risk of child maltreatment between various (sub)populations. The factors that contributed

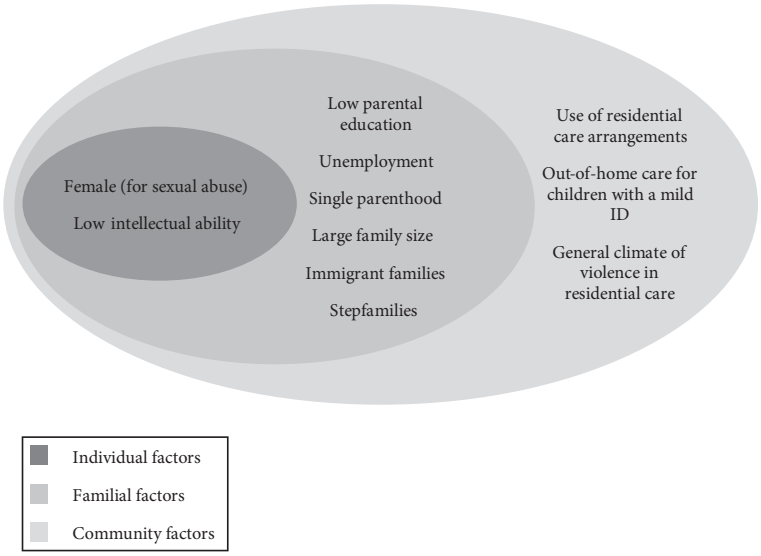

Figure 2. Risk factors for child maltreatment in the ecological-transactional model.
Note. ID = Intellectual Disability

significantly to a higher risk of child maltreatment can be located in one of the first three levels from the ecological-transactional model: the individual, familial, or contextual level (Figure 2). The strength of each of these risk factors is shown in Figure 3, separately for sentinel, CPS, and self-report data.

Individual risk factors. On the most proximal, individual level, girls were identified as more vulnerable for experiencing child sexual abuse. In the NPM-2010 girls had an eight times higher risk of sexual abuse compared to boys based on sentinel reports and a two times higher risk based on CPS reports (Chapter 2). Moreover, in out-of-home care, the large majority (81%) of the victims of sexual abuse reported by the sentinels were female (Chapters 3 and 5). Three meta-analyses on the worldwide prevalence of child sexual abuse also found higher prevalence rates for girls (Barth, Bermetz, Heim, Trelle, & Tonia, 2013; Pereda, Guilera, Forns, & Gómez-Benito, 2009; Stoltenborgh et al., 2011). Although the actual prevalence of sexual abuse of girls may be higher compared to boys, underreporting of sexual abuse of boys has been suggested as an important issue. On the one hand, professionals may be less aware of sexual abuse of boys (Maikovich-Fong & Jaffee, 2010), and on the other hand, boys themselves may be reluctant to disclose their sexual abuse because they feel weak or are afraid to be labeled as homosexual (Romano & DeLuca, 2001). Moreover, definitions of sexual abuse as used in prevalence studies may especially capture the nature and characteristics of sexual abuse of girls, and be less adequate for male sexual abuse (Pereda et al., 2009).

Children with low intellectual abilities are another vulnerable population. As described

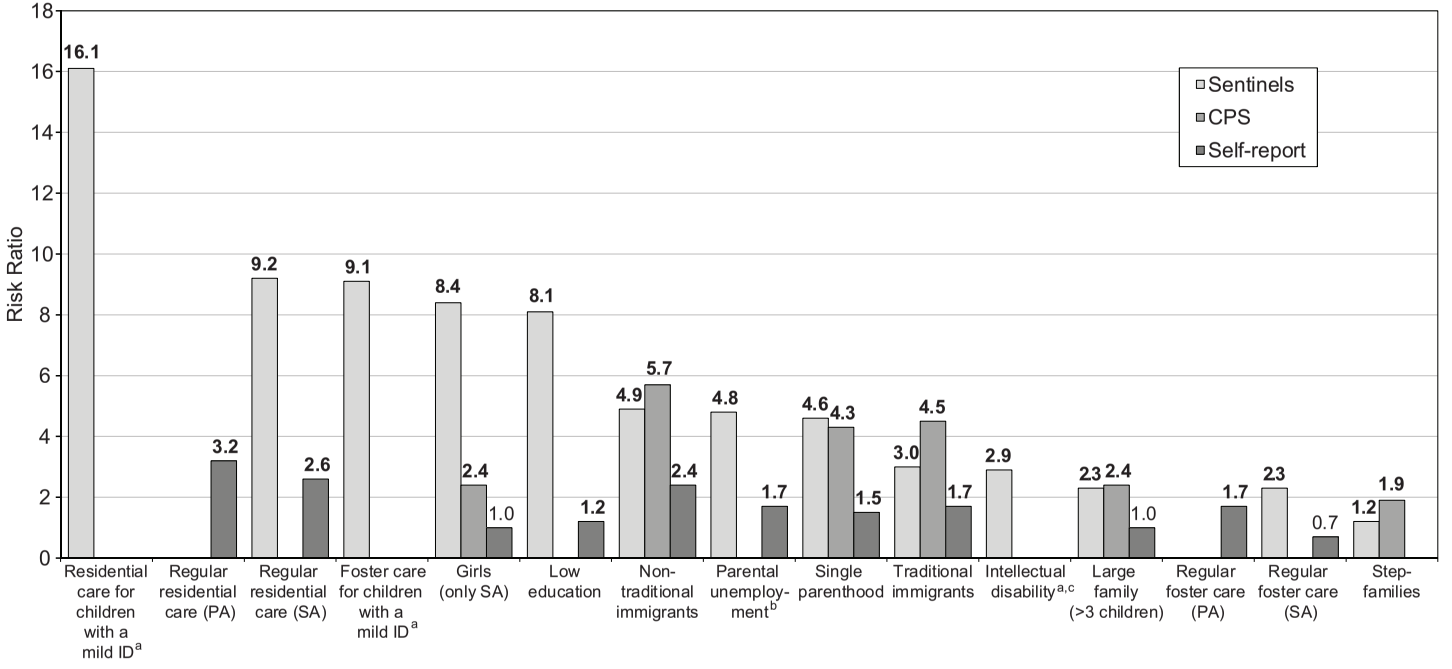

Figure 3. Risk ratios for child maltreatment based on Sentinel reports, CPS reports, and Self-report. Missing bars indicate that the effect of the risk factor could not be tested. Significant risk factors are shown in boldface.

Note. ID = Intellectual disability; SA = Sexual abuse

[a] Risk ratios for children with intellectual disabilities are only based on sexual abuse. [b] Unemployment is combined with family wealth in the self-report study. [c] Risk ratio for children with intellectual disabilities is based on the out-of-home care sample.

in Chapter 2, adolescents with a lower educational level (prevocational secondary education) in the general Dutch population reported more child maltreatment than adolescents with a high educational level (higher general secondary educational level or pre-university education). Furthermore, findings in Chapter 5 indicated that the risk of child sexual abuse in out-of-home care for children with a mild intellectual disability was nearly three times higher compared to regular out-of-home care. In the out-of-home care study, we only tested the risk of sexual abuse in children with an intellectual disability. Children with intellectual disabilities often have a lower understanding of sexuality, impaired communicative skills, and a decreased ability to recognize inappropriate sexual advances, or disclose sexual abuse experiences, which makes them 'easy' targets for sexual abuse (McGuire & Bayley, 2011). However, based on findings from the NPM-2010 (Chapter 2) and earlier studies (e.g., Spencer et al., 2005; Sullivan & Knutson, 2000), it may be expected that children with intellectual disabilities are also more vulnerable to become victim of other types of maltreatment. Because of the higher dependency of children with an intellectual disability, taking care of such a child may be exhaustive and stressful for the parent or caregiver. Parents may feel frustrated when their child does not respond to verbal guidance, which may increase the risk of physical or emotional abuse (Hibbard et al., 2007; Weisleder, 2011). Finally, the higher needs of children with disabilities may increase the risk of neglect, when the parent or caregiver fails to provide adequate education or (medical) care (Hibbard et al., 2007).

Familial risk factors. Based on the findings from the NPM-2010 (Chapter 2), we identified several risk factors for child maltreatment on the familial level (Figure 2). First, factors associated with a low socio-economic status (i.e., low parental education and unemployment of both parents) and factors related to family composition (i.e., single parent families and families with three or more children) increased the risk of child maltreatment. The significance of these risk factors was also indicated in a meta-analysis examining the strength of 39 risk factors on the etiology of physical abuse and neglect (Stith et al., 2009). The influence of these two risk factors may be explained by their association with more stress in the family and limited social support, which in turn have frequently been related to an increased risk of child maltreatment (e.g., MacKenzie, Kotch, & Lee, 2011; Slack, Holl, McDaniel, Yoo, & Bolger, 2004). For instance, in line with the family stress model, the stressful experience of economic hardship may cause less involved and more negative parenting behavior (Conger & Donnellan, 2007).

Second, we found that immigrant status of a family leads to a higher vulnerability to experience child maltreatment. Although the increased risk was found for both traditional (Turkish, Moroccan, Surinamese, or Antillean), and nontraditional immigrant families (African [except Moroccan], Central Asian, Eastern European, South- and Central American), the risk for traditional immigrant families disappeared after we controlled for parental education or step-parenthood (Alink, Euser, Bakermans-Kranenburg, & Van IJzendoorn, 2013a). This finding is consistent with results from a systematic literature re-

view, which showed that the generally lower sensitivity of minority parents is more likely to be explained by socioeconomic stressors than by cultural differences (Mesman, Van IJzendoorn, & Bakermans-Kranenburg, 2012). However, the vulnerability of nontraditional immigrant families to experience child maltreatment seems to be independent of socio-economic status or family composition. The increased risk for non-traditional immigrant families may (partly) be explained by parental post-traumatic stress caused by war experiences (Van Ee, Kleber, & Mooren, 2012), in combination with a precarious refugee status.

Finally, we found an increased risk of child maltreatment for stepfamilies. Their vulnerability may be caused by the absence of a biological relationship between the child and the stepparent. According to the parental investment theory, stepparents may be less motivated to care for their stepchildren than a biological parent, because the stepparent chose to live with the partner, but not their partner's offspring (Daly & Wilson, 1994). However, it should be noted that the perpetrator of the abuse or neglect in these stepfamilies was not necessarily the stepparent. Moreover, findings from the NPM-2005 indicated that the adoptive families had a lower risk of child maltreatment compared to the general Dutch population (Van IJzendoorn, Euser, Prinzie, Juffer, & Bakermans-Kranenburg, 2009). The sample of maltreating families in the NPM-2010 consisted of too few adoptive families to test their risk of child maltreatment in the current thesis.

Community risk factors. The next circle in the ecological-transactional model contains factors that are related to the community in which the child lives, such as policy regulations. In the current set of studies, we showed that the use of out-of-home care in the Netherlands increases the risk of child maltreatment. Compared to the general Dutch population, the year prevalence of sexual and physical abuse for non-disabled children based on sentinel reports was significantly higher in residential care settings, whereas in foster care the increased risk was only significant for physical abuse, and not for sexual abuse (Chapters 3 and 4). Moreover, adolescents in residential care reported significantly more physical and sexual abuse than adolescents in foster care, indicating that especially children in residential care settings are at increased risk. In contrast, children with a mild intellectual disability were more vulnerable for sexual victimization in both residential and foster care (physical abuse was not measured in this population; Chapter 5). Whereas a family-based care setting like foster care seems to protect against an elevated risk of sexual abuse for non-disabled children, out-of-home care for children with an intellectual disability leads to an increased risk of sexual abuse irrespective of type of care.

Thus, the use of residential care for non-disabled children and the overall use of out-of-home care for children with an intellectual disability may be considered as important community factors in a child's vulnerability to experience maltreatment. Children in out-of-home care often had negative early caregiving experiences, potentially causing a range of behavioral problems (Zegers, Schuengel, Van IJzendoorn, & Janssens, 2008). Such behavioral problems may even increase in residential care, because of close contact between

high-risk youth (Dishion & Tipsord, 2010; Rhule, 2005). Children in residential care live in relatively large groups of children, often including both boys and girls, and children with the most severe problem behaviors are frequently placed together in the same group (Van IJzendoorn et al., 2011). This may increase the risk of abuse by peers, who were the perpetrator in the majority of cases in the out-of-home care study, especially in residential care. A lack of support, experience, and adequate training of foster parents or group care workers to deal with such challenging behaviors may lead to an increased risk of child maltreatment. Moreover, comparable to stepfamilies, the increased risk in out-of-home care might partly be explained by the absence of a biological relationship between the child and caregiver (Daly & Wilson, 1994). Besides the high victimization rates found for children in out-of-home care, 81% of the group care workers in residential care experienced verbal, physical, or sexual violence by one or more of the youth they worked with (Chapter 6). These findings suggest a general climate of violence in group care settings, which may contribute to the high risk of physical and sexual abuse of children in residential care.

Limitations

Some limitations of the studies presented in the current thesis should be addressed. First, some occupational branches in the NPM-2010 (Chapter 2), and management teams of care facilities in the out-of-home care study (Chapters 3 - 6) were reluctant to participate. Moreover, response rates of sentinels (58%) and adolescents (52%) in the out-of-home care study were only moderate. This may have led to an underestimate if sentinels or abused adolescents (or their legal guardians) felt uncomfortable with reporting about maltreatment experiences, or to an overestimate if sentinels or non-abused adolescents (or their legal guardians) thought it was unnecessary to participate, since they did not have anything to report. Furthermore, we did not have sufficient information to examine parental psychological problems as a risk factor for child maltreatment. It has previously been found that parental problems like anxiety, psychopathology, depression, and alcohol abuse increase the risk of physical abuse and neglect (Stith et al., 2009). Therefore, in order to create a more complete overview of relevant risk factors for child maltreatment more attention should be paid to parental psychopathology in future prevalence studies. Another limitation of the out-of-home care study pertains to the non-random placement of children in either residential or foster care. Based on the current findings, we do not know whether the divergence in year prevalence estimates between residential and foster care is actually caused by the characteristics of the care arrangements or (partly) by pre-existing differences between children before placement. It has been suggested that children who are placed in residential care have more maltreatment experiences and problem behaviors than children in foster care (e.g., Ryan et al., 2008). Although such differences may make children in residential care more vulnerable for child maltreatment, they may not cause or justify the higher year prevalence rates found in residential care compared to foster care.

There are several limitations to the measurement of child maltreatment. First of all, when sentinel and CPS reports are used, a large proportion of cases of child maltreatment

may remain undiscovered (Creighton, 2002). This is especially notable when it comes to children with intellectual disabilities, since these children are more reluctant or unable to disclose their abusive experiences, and it may be more difficult for professionals to recognize signs of maltreatment in this population. Moreover, it may be problematic that in the majority of cases child maltreatment cannot directly and independently be observed, but judgments about the occurrence of maltreatment are based on the observation of its negative effects. These problems may partly be resolved when children report about their own experiences of maltreatment. However, it may be difficult for children to remember the exact timing of abusive events in the past. In addition, the use of self-report questionnaires limits the group of eligible participants. For instance, self-report year prevalence rates presented in the current series of studies only include children between 12 and 17 years of age, because the questionnaire would likely be too challenging for younger children to complete. For similar reasons, findings in the sample of children with an intellectual disability were solely based on reports from sentinels. Because the findings for children with intellectual disabilities are not based on a multimethod approach and thus present a one-sided perspective, conclusions about the differences between residential and foster care for children with an intellectual disability, and the differences between out-of-home care for children with intellectual disabilities and other populations should be drawn with caution.

Implications for research

Each of the single methods used to estimate the year prevalence rates of child maltreatment presented in this thesis has its own advantages and disadvantages, and we found a large discrepancy between year prevalence rates based on the various methods. Overall, year prevalence estimates based on self-reports were considerably higher than estimates based on sentinel and CPS reports, which is consistent with earlier meta-analytic evidence (Stoltenborgh et al., 2011; Stoltenborgh et al., 2013). This implies that prevalence rates based on only one of these measures may not provide a reliable estimation of the actual prevalence. In several countries, prevalence estimates of child maltreatment are solely based on the number of cases reported to CPS. Such estimates are likely an underestimate, since only a small proportion of cases are reported to official authorities. In the current thesis, we found that only 21% of the cases reported by sentinels were reported to CPS agencies (Chapter 2). Triangulation, which involves the use of multiple methods to assess the same phenomenon (Brewer & Hunter, 2006), is an important strength of the current thesis. Although the actual year prevalence of child maltreatment in the Netherlands remains uncertain, the multimethod approach enables us to provide a range of year prevalence estimates. More importantly, comparisons of the various year prevalence estimates and estimates of risk factors converged for the different methods, which makes results about the risk of maltreatment in various populations presented in the current thesis more powerful.

In the current set of studies we tried to unravel the large difference between year prevalence rates based on sentinel and self-report. First, in order to assure consistency in the definition of child maltreatment, coders who coded the sentinel reports in the NPM-2010

also coded the 24 questions about child maltreatment in the self-report questionnaire. They unanimously decided that only 13 of the questions were indicative of child maltreatment, based on the definitions used in the sentinel study. Although the exclusion of items not indicative of maltreatment led to a decrease in the year prevalence rate based on self-report data - from 187 per 1,000 adolescents based on all 24 questions to 99 per 1,000 based on the 13 questions coded as maltreatment - the self-reported year prevalence of child maltreatment is still considerably higher than the year prevalence based on sentinel data.

Second, in the NPM-2010, adolescents participating in the self-report study were selected from the same 28 schools as the sentinels from secondary education. Because these sentinels observed all adolescents who reported about their own maltreatment experiences, we were able to make a direct comparison between sentinel and self-report data. According to sentinels from secondary education, 2,962 adolescents were victim of child maltreatment in 2010 (Alink et al., 2011), whereas self-report data indicated a nearly 33 times higher year prevalence in the same sample: 97,212 victimized adolescents. Concerning sentinels from secondary education, even more cases of maltreatment may remain undiscovered, because teachers only see children during a few hours per week, and always in a group of approximately 30 other children. To further examine the reliability of prevalence estimates, future studies should include reports in the same population from multiple informants (e.g., child, parent, siblings) and at multiple time points.

Because a sensitive topic like child maltreatment may induce the tendency to respond in a socially desirable way, we may wonder to what extent this biased the findings presented in the current thesis. Although we excluded participating adolescents with an outlying value on the social desirability scale in the self-report questionnaires and computer administration of questionnaires may already decrease the likelihood of social desirability, there are other techniques to avoid such bias. The Randomized Response Technique (RRT) is specifically developed to obtain valid answers to sensitive questions and avoid bias related to social desirability (Lensvelt-Mulders, Hox, & Van der Heijden, 2005). In such techniques, participants are convinced that their anonymity is guaranteed, because the meaning of the their answer is hidden by random noise that is added to the data. For instance, with a certain outcome of a randomizer (e.g., dice, cards), participants are forced to answer either ”yes” or ”no” to some sensitive questions. Then, using the probability of forced yes and forced no, the researcher can estimate the probability of admitting maltreatment. Although the use of RRT leads to larger standard errors, it has been shown to be more effective that a direct question-answer design (Lensvelt-Mulders et al., 2005), and may be a valuable technique to reduce bias caused by social desirability in future prevalence studies on child maltreatment.

Another important issue is the definition of child maltreatment that is used in prevalence studies. As we found in the self-report study of the NPM-2010 (Chapter 2), broader definitions yield higher year prevalence rates than narrow definitions (see also Stoltenborgh et al., 2011; Stoltenborgh et al., 2013). Therefore, prevalence rates based on different definitions of child maltreatment cannot directly be compared. Child maltreatment has

been legally defined in 2005 in the Dutch youth care act as "any form of interaction that is violent or threatening towards a minor, whether physical, psychological or sexual in nature, which may be actively or passively imposed upon the minor by a parent or other person with whom the minor has a dependent or constraining relationship, and which causes or is liable to cause serious physical or psychological harm to the minor". Although this definition highlights several important aspects of child maltreatment, such as the active or passive character of maltreatment and the dependency of the minor upon the perpetrator, the definition remains vague about what specific events constitute child maltreatment. Therefore, this legal definition may not be very applicable to operationalize child maltreatment in epidemiological studies. For the studies presented in the current thesis, we adopted the definitions of child maltreatment used in the US National Incidence Studies (NIS; e.g., Sedlak et al., 2010), as was done for the NPM-2005. Based on these more elaborate definitions (see Appendix I), reported cases could be reliably coded as sexual abuse, physical abuse, emotional abuse, physical neglect, emotional/educational neglect or other maltreatment.

Implications for policy and practice

The year prevalence of child maltreatment in the Netherlands was first systematically examined in 2005. Before that, the only available prevalence estimate was based on an extrapolation of the NIS-3 prevalence rate (Sedlak & Broadhurst, 1996) to the Dutch population. The results of the first NPM had huge political impact and received ample publicity in the media, which led to the introduction of child protection professionals and an overall increased awareness for child maltreatment in the Netherlands. With the second Dutch prevalence study presented in the current thesis, we established a periodic monitor of child maltreatment in the Netherlands, enabling cross-time comparisons and examinations of the effect of changing policies on child maltreatment. Results presented in Chapter 2 showed that year prevalence rates based on self-report and sentinel report remained stable from 2005 to 2010, whereas the number of cases reported to CPS increased with 67% over the same 5-year period. Thus, the increased (political) attention for child maltreatment after the publication of the NPM-2005 may have led to better signaling and reporting, but it has not (yet) resulted in a decrease of the actual occurrence of child maltreatment. It remains thus far unclear whether the changing policies and increased awareness will affect the prevalence of child maltreatment on the long term. Subsequent Dutch prevalence studies and international comparisons may shed light on the actual effects of (country-specific) policies on the prevalence of child maltreatment (Ministerie van Volksgezondheid, Welzijn en Sport en Ministerie van Veiligheid en Justitie, 2012).

The findings presented in the current thesis about year prevalence rates and vulnerability of various populations may be considered as an empirical foundation for future policy aimed at the prevention of child maltreatment. First of all, the use of residential care and the use of out-of-home care in general for children with an intellectual disability seem to be the largest risk factors for child maltreatment (see Figure 3). Given the alarming year prevalence rates of sexual and physical abuse in residential care, and the large number of

peer offenders, we should reconsider the use of residential care for treatment of vulnerable children with previous maltreatment experiences. Instead, residential care should only be used as a last resort, with single-sex residential groups and smaller child-to-caregiver ratios, in order to enable adequate supervision of group interactions (Dozier et al., 2013). Furthermore, the high year prevalence of staff victimization in residential care settings indicates a general climate of violence in residential care settings. Interestingly, this increased level of violence was not found in juvenile detention centers, suggesting that strict rules and regulations are important in the prevention of maltreatment in group care settings. Although findings in the current thesis indicate that children in residential care have an increased risk for child maltreatment compared to children growing up in foster families, foster care is not free of child maltreatment either, especially foster care for children with a mild intellectual disability. Therefore, caregivers in residential care as well as foster parents should receive more training and support to deal with difficult, vulnerable children, in order to reduce the abuse of children in out-of-home care.

Second, the familial risk factors found in the NPM-2010 may be informative for the prevention of child maltreatment in families. According to findings from the current thesis, a low SES is the most important familial risk factor for child maltreatment (Figure 3). Thus, policy aimed at enhancing employment rates and at creating opportunities for continued education for parents may reduce the prevalence of child maltreatment. The latter may be especially valuable for traditional immigrant parents, since their risk of child maltreatment disappears when the effects of low education were controlled for. Moreover, parent support programs should specifically target families that are the most vulnerable. Single parent families, (non-traditional) immigrant families, stepfamilies, and families with three or more children may experience more daily parenting stress, leading to a higher risk of child maltreatment. An evidence-based preventive intervention program, such as the Video-feedback to promote Positive Parenting and Sensitive Discipline (VIPP-SD; Juffer, Bakermans-Kranenburg, & Van IJzendoorn, 2008) may decrease the risk of child maltreatment for these vulnerable families. At the same time, it is important to note that prevention efforts should not solely be focused on the populations identified as vulnerable in the current thesis. Although the risk of child maltreatment is higher among these groups, and especially among families with a combination of multiple risk factors, they constitute only a very small proportion of all maltreating families. If prevention and intervention programs would only focus on this specific high-risk group, the majority of maltreated children remains invisible and victimized (Alink, 2013).

Conclusion

The main aim of the current thesis was to examine the year prevalence of various forms of child maltreatment in the general Dutch population and in Dutch out-of-home care. Based on reports from professionals from diverse occupational branches and to CPS agencies, 33.8 per 1,000 children between 0-17 years old were victim of child maltreatment in the

Netherlands in 2010. Based on self-reports, 99.4 per 1,000 adolescents from 12-17 years old experienced child maltreatment in the same year.

The current thesis also sheds light on the vulnerability to experiencing child maltreatment in different populations. Besides the vulnerability of children with low intellectual abilities and a higher risk of sexual abuse for girls, our findings identified several types of families that are more vulnerable to child maltreatment, such as low educated families, unemployed families, single parent families, immigrant families, and families with three or more children. However, the highest risks were found for children in out-of-home care. Non-disabled children in residential care have a higher risk of sexual and physical abuse, and children in out-of-home care for children with intellectual disabilities were at increased risk of sexual abuse, irrespective of care arrangement. We hope that the year prevalence rates and risk factors presented in this thesis will contribute to programs increasing safety for such vulnerable children in their home or other care settings.

Appendix

Definitions and subtypes of child maltreatment

The definitions of the different types of child maltreatment used in the current studies are based on the definitions used in the fourth United States' National Incidence Study (NIS-4; Sedlak et al., 2010). These definitions are in line with the legal definition of child maltreatment included in the Dutch Youth Care Act: "... any form of interaction that is violent or threatening towards a minor, whether physical, psychological or sexual in nature, which may be actively or passively imposed upon the minor by a parent or other person with whom the minor has a dependent or constraining relationship, and which causes or is liable to cause serious physical or psychological harm to the minor" (article 1:1 paragraph m).

Sexual abuse

- Intrusion sex without force
- Intrusion sex involving use of force
- Child's prostitution or involvement in pornography with intrusion
- Molestation with genital contact
- Attempted/threatened sexual abuse with physical contact
- Exposure/Voyeurism
- Providing sexually explicit materials
- Child's involvement in pornography without intrusion
- Sexual comments about a child or a child's body
- Failure to supervise child's voluntary sexual activity
- Other/unknown sexual abuse

Physical abuse

- Shake, throw, purposefully drop
- Hit with hand
- Hit with object
- Push, grab, drag, pull
- Punch, kick
- Other physical abuse

Emotional abuse

- Close confinement: tying/binding
- Close confinement: other
- Verbal assaults and emotional abuse
- Threats of sexual abuse (without contact)
- Threats of other maltreatment
- Other types of openly penalties, exploitation, miscalling, or non-specific abuse
- Terrorizing the child
- Administering unprescribed substances
- Other/unknown abuse

Physical neglect

- Refusal to allow or provide needed care for diagnosed condition or impairment
- Unwarranted delay or failure to seek needed care
- Refusal of custody/abandonment
- Other refusal of custody
- Illegal transfers of custody
- Other or unspecified custody-related maltreatment – unstable custody arrangements
- Inadequate supervision
- Inadequate nutrition
- Inadequate personal hygiene
- Inadequate clothing
- Inadequate shelter
- Other/unspecified disregard of child's physical needs and physical safety

Emotional/Educational neglect

Emotional neglect

- Inadequate nurturance/affection
- Domestic violence
- Knowingly permitting drug/alcohol abuse
- Knowingly permitting other maladaptive behavior
- Refusal to allow or provide needed care for diagnosed emotional or behavioral impairment/problem
- Failure to seek needed care for emotional or behavioral impairment/problem
- Overprotectiveness
- Inadequate structure
- Inappropriately advanced expectations
- Exposure to maladaptive behaviors and environments
- Other inattention to development/emotional needs

Educational neglect

- Permitted chronic truancy
- Other truancy
- Failure to register or enroll
- Other refusal to allow or provide needed attention to diagnosed educational need

Other maltreatment

- Lack of preventive health care
- General neglect-other/unspecified neglect allegations
- Custody/child support problems
- Behavior control/family conflict issues
- Parent problem
- General maltreatment-unspecified/other (not coded above)

Nederlandse samenvatting

Kindermishandeling kan zeer ernstige fysieke, emotionele en cognitieve gevolgen hebben voor kinderen, zowel op korte als op lange termijn (Alink, Cicchetti, Kim, & Rogosch, 2012). Ook hebben ouders die als kind zelf zijn mishandeld een groter risico om hun eigen kinderen te mishandelen (Pears & Capaldi, 2001). Ondanks deze ernstige gevolgen van kindermishandeling is er weinig gedegen onderzoek gedaan naar de prevalentie van kindermishandeling. Hoeveel kinderen worden jaarlijks het slachtoffer van kindermishandeling? En welke kinderen of gezinnen lopen het hoogste risico? Antwoorden op dit soort vragen zijn cruciaal voor de ontwikkeling van efficiënte preventie- en interventieprogramma's. In dit proefschrift wordt antwoord gegeven op deze vragen aan de hand van de resultaten van twee prevalentiestudies naar kindermishandeling in verschillende Nederlandse populaties.

In Nederland is in 2005 de jaarprevalentie van kindermishandeling voor het eerst systematisch onderzocht. De jaarprevalentie is het totaal aantal kinderen dat in een gegeven jaar slachtoffer is van kindermishandeling, onafhankelijk van het moment waarop de mishandeling begon. De eerste Nationale Prevalentiestudie Mishandeling van kinderen en jeugdigen (NPM-2005; Euser et al., 2010) liet een jaarprevalentie zien van 107.000 Nederlandse kinderen ofwel 30 per 1.000 kinderen die slachtoffer waren van kindermishandeling. De methode die werd gebruikt in dat onderzoek was gebaseerd op de National Incidence Studies (NIS; Sedlak et al., 2010), een serie grootschalige Amerikaanse prevalentiestudies die periodiek worden uitgevoerd. Professionals uit verschillende beroepsgroepen die met kinderen werken (informanten) werd gevraagd om gedurende drie maanden hun vermoedens van kindermishandeling te melden. Op basis van die meldingen en alle meldingen van kindermishandeling in 2005 bij de Advies en Meldpunten Kindermishandeling (AMK's) is het totale aantal mishandelde kinderen in Nederland in 2005 berekend. Daarnaast is in 2005-2006 het onderzoek Scholieren over Mishandeling (SOM-2005; Lamers-Winkelman, Slot, Bijl, & Vijlbrief, 2007) uitgevoerd in Nederland, waarin middelbare scholieren hebben gerapporteerd over hun eigen ervaringen met mishandeling. De resultaten van dit onderzoek lieten zien dat 95,936 jongeren ofwel 195 per 1.000 jongeren tussen de 12 en 17 jaar oud werden mishandeld in 2005.

Deze prevalentieschattingen gelden voor de algemene Nederlandse populatie. Eerder onderzoek naar mishandeling van kinderen die uit huis zijn geplaatst heeft aannemelijk gemaakt dat kinderen in residentiële instellingen en in pleeggezinnen een hoger risico hebben op kindermishandeling dan kinderen die bij hun (biologische) ouders opgroeien (o.a. Benedict, Zuravin, Brandt, & Abbey, 1994). Kenmerken van jeugdzorginstellingen zoals grote leefgroepen, vaak wisselende verzorgers, en een niet-biologische relatie tussen verzorger en kind dragen hier mogelijk aan bij (Van IJzendoorn et al., 2011). In dit proef-

schrift zijn de prevalenties van verschillende typen kindermishandeling in de algemene Nederlandse populatie en in de Nederlandse jeugdzorg onderzocht en met elkaar vergeleken.

Verschillende meetmethoden

In eerdere prevalentiestudies zijn verschillende meetmethoden gebruikt om kindermishandeling te meten. In de SOM-2005 zijn jongeren zelf gevraagd naar hun ervaringen met kindermishandeling. Kinderen weten zelf natuurlijk het beste wat zij hebben meegemaakt, maar er zitten ook nadelen aan het gebruik van zelfrapportage. Zo kan het moeilijk zijn voor kinderen om zich exact te herinneren wanneer eventuele mishandeling in het verleden heeft plaatsgevonden. Daarnaast is het onduidelijk hoe kinderen vragen over mishandeling interpreteren en welke ervaringen zij wel en niet als mishandeling bestempelen. Verschillen in interpretatie van kindermishandeling is een minder groot probleem wanneer men gebruik maakt van informantenmeldingen, zoals in de NPM-2005. Informanten rapporteren hun vermoedens van kindermishandeling namelijk aan de hand van vooraf vastgestelde definities. Een nadeel van deze methode is echter dat informanten lang niet altijd op de hoogte zijn van alle gevallen van kindermishandeling, waardoor veel gevallen onbekend blijven. Dit probleem is nog groter wanneer alleen gebruik gemaakt wordt van AMK-meldingen. Slechts een klein deel van alle gevallen van kindermishandeling wordt gemeld bij het AMK, waardoor het gebruik van AMK-meldingen vaak tot een grove onderschatting van de werkelijke prevalentie leidt. Prevalentieschattingen op basis van zelfrapportage zijn significant hoger dan die op basis van meldingen door informanten (Stoltenborgh et al., 2011). De drie verschillende meetmethoden, informantenmeldingen, AMK-meldingen en zelfrapportage, zijn in dit proefschrift gecombineerd om zo tot een mogelijk bereik van jaarprevalentieschattingen te komen en beter onderbouwde conclusies te kunnen trekken over factoren die het risico op kindermishandeling beïnvloeden.

Prevalentieschattingen

Uit resultaten van de tweede Nationale Prevalentiestudie Mishandeling van kinderen en jeugdigen (NPM-2010) beschreven in Hoofdstuk 2 bleek dat op basis van informanten en AMK-meldingen 118.836 kinderen ofwel 33,8 per 1.000 kinderen tussen de 0 en 17 jaar in 2010 het slachtoffer werden van kindermishandeling. Op basis van zelfrapportage door bijna 2.000 middelbare scholieren vonden we een jaarprevalentieschatting van 97.610 jongeren. Dat betekent dat bijna 10% van alle jongeren tussen de 12 en 17 jaar in Nederland aangaf een vorm van kindermishandeling te hebben meegemaakt in 2010. De prevalentieschattingen op basis van informantenmeldingen en zelfrapportage verschilden niet significant van de prevalenties in 2005, maar het aantal gevallen van kindermishandeling dat gemeld werd bij het AMK is in vijf jaar tijd met 68% gestegen. Hieruit kan worden geconcludeerd dat het aantal gevallen van kindermishandeling relatief stabiel is gebleven, maar dat er meer bewustzijn is gekomen voor het signaleren en rapporteren van kindermishandeling in Nederland.

In Hoofdstukken 3, 4 en 5 van dit proefschrift is de jaarprevalentie van seksuele en lichamelijke mishandeling in de Nederlandse jeugdzorg beschreven. Op basis van meldingen door professionals uit de pleeg- en residentiële zorg vonden we een jaarprevalentieschatting voor seksueel misbruik van 3,5 per 1.000 kinderen in de reguliere jeugdzorg en 9,8 per 1.000 kinderen in de jeugdzorg voor kinderen met een lichte verstandelijke beperking. Jaarprevalentieschattingen op basis van zelfrapportage (door kinderen in de reguliere jeugdzorg, dat wil zeggen niet specifiek voor kinderen met een verstandelijke beperking) lagen beduidend hoger: 143 per 1.000 jongeren gaven aan slachtoffer te zijn van seksueel misbruik en 254 per 1.000 jongeren rapporteerden lichamelijke mishandeling in de jeugdzorg in 2010. Jaarprevalentieschattingen op basis van beide methoden lagen significant hoger dan de jaarprevalenties van seksueel misbruik en lichamelijke mishandeling in de algemene Nederlandse populatie, zoals gevonden in de NPM-2010. Kinderen en jongeren in de jeugdzorg bleken dus een verhoogd risico te hebben op mishandeling in vergelijking met kinderen en jongeren in de algemene Nederlandse populatie.

Wanneer we echter naar de losse jaarprevalentieschattingen in pleegzorg en residentiële zorg kijken, hebben met name kinderen in de residentiële zorg een sterk verhoogd risico. Zo was bijvoorbeeld het risico op seksueel misbruik in de pleegzorg op basis van informantenmeldingen en zelfrapportage niet significant hoger dan in de algemene Nederlandse populatie en waren de jaarprevalentieschattingen van seksuele en fysieke mishandeling op basis van zelfrapportage in de residentiële zorg significant hoger dan in de pleegzorg. Dit verschil tussen pleeg- en residentiële zorg gaat echter niet op voor kinderen met een lichte verstandelijke beperking; zij hebben ongeacht het type zorg een sterk verhoogd risico op seksueel misbruik. Waar pleegzorg aan kinderen zonder beperking dus een vergelijkbare bescherming lijkt te bieden voor seksueel misbruik als een biologisch gezin, hebben kinderen met een lichte verstandelijke beperking in zowel pleeg- als residentiële zorg een verhoogd risico op seksueel misbruik.

Risicofactoren

Naast de jaarprevalentie van kindermishandeling is in dit proefschrift onderzocht of bepaalde populaties een hoger risico hebben op kindermishandeling. Daarvoor hebben we gekeken naar het effect van kind- en gezinskenmerken en uithuisplaatsing in pleegzorg of residentiële zorg.

Als eerste lieten resultaten van de NPM-2010 zien dat meisjes een hoger risico hebben op seksueel misbruik. Op basis van informantenmeldingen was het risico voor meisjes ruim acht keer zo hoog als het risico voor jongens en op basis van AMK-meldingen tweeënhalf keer zo hoog. Dit verhoogde risico kan worden verklaard doordat meisjes werkelijk vaker slachtoffer zijn van seksueel misbruik, maar onderrapportage van seksueel misbruik door jongens kan hierin ook een rol spelen. Jongens kunnen bijvoorbeeld bang zijn om als homoseksueel bestempeld te worden wanneer zij onthullen seksueel misbruikt te zijn (Romano & De Luca, 2001).

Een andere factor die invloed heeft op het risico op kindermishandeling is het intellectuele vermogen van het kind. In de NPM-2010 rapporteerden jongeren op het VMBO meer mishandeling dan jongeren op het HAVO of VWO. Daarnaast vonden we in het onderzoek naar seksueel misbruik in de jeugdzorg dat jongeren met een lichte verstandelijke beperking in de jeugdzorg een bijna drie keer zo hoog risico hadden op seksueel misbruik dan kinderen zonder beperking in de jeugdzorg.

Verschillende gezinskenmerken beïnvloeden het risico op kindermishandeling. Zo is het risico op kindermishandeling acht keer zo hoog voor gezinnen met een laag opleidingsniveau, vijf keer zo hoog voor gezinnen waarin beide ouders werkloos zijn, ruim vier keer zo hoog voor eenoudergezinnen en ruim twee keer zo hoog voor gezinnen met drie of meer kinderen. Dit soort gezinnen kan meer stress ervaren door financiële problemen en heeft vaak een kleiner sociaal netwerk om op terug te vallen (Conger & Donellan, 2007). Een andere risicofactor is de aanwezigheid van een stiefouder in het gezin. Op basis van informanten- en AMK-meldingen bleek dat stiefgezinnen een 20% tot 90% hoger risico hebben op kindermishandeling. Mogelijk kan dit verhoogde risico worden verklaard door het feit dat stiefouders minder investeren in een stiefkind; ze hebben immers alleen voor de partner gekozen en niet voor het kind (Van IJzendoorn, Euser, Prinzie, Juffer, & Bakermans-Kranenburg, 2009). Tot slot vonden we een verhoogd risico op kindermishandeling in allochtone gezinnen. Het vier keer zo hoge risico voor 'traditioneel' allochtone gezinnen (Turks, Marokkaans, Surinaams/Antilliaans) kan worden verklaard door hun lage opleidingsniveau, maar het vijf tot zes keer zo hoge risico voor 'nieuw' allochtone gezinnen (Afrikaans (uitgezonderd Marokkaans), Oost-Europees, Zuid- en Midden Amerikaans, West-Aziatisch) blijft significant na controleren voor opleidingsniveau (Alink, Euser, Bakermans-Kranenburg, & Van IJzendoorn, 2013). Oorlogservaringen in het land van herkomst en de vaak onzekere status als asielzoeker in Nederland dragen hier mogelijk aan bij (Van Ee, Kleber, & Mooren, 2012).

Zoals al genoemd in de paragraaf over prevalentieschattingen, hebben ook kinderen die in de jeugdzorg zijn geplaatst een verhoogd risico op seksueel misbruik en lichamelijke mishandeling. Net als bij stiefgezinnen ontbreekt meestal de biologische relatie tussen kinderen en verzorgers in de jeugdzorg, wat kan leiden tot een verhoogd risico op mishandeling. Daarnaast hebben kinderen die uit huis worden geplaatst vaak al enige bagage. Veel kinderen zijn voor de uithuisplaatsing mishandeld of verwaarloosd door hun biologische ouders, wat kan leiden tot probleemgedrag (Ryan et al., 2008). Het risico op kindermishandeling kan groter worden wanneer pleegouders of begeleiders niet de juiste ondersteuning en training krijgen om met dit soort gedrag om te gaan. Dit is met name van belang in de residentiële zorg, waar grotere aantallen "probleemjongeren" in dezelfde groep leven en zo elkaars probleemgedrag kunnen verergeren (Dishion & Tipsord, 2011). Daarnaast waren de daders van zowel lichamelijke als seksuele mishandeling in de residentiële zorg vaak leeftijdsgenoten die in dezelfde instelling verbleven. Verder bleek uit de resultaten beschreven in Hoofdstuk 6 van dit proefschrift dat begeleiders in de residentiële zorg ook zelf regelmatig slachtoffer waren van mishandeling; 81% van alle informanten gaf

aan wel eens te zijn bedreigd of mishandeld door één van de kinderen of jongeren in de instelling waar zij werken. Hieruit kan worden geconcludeerd dat er een gewelddadig klimaat heerst in de residentiële zorg. Dit kan samen met de onregelmatige aanwezigheid van vaste begeleiders en de regelmatig wisselende groepen in de residentiële zorg bijdragen aan een verhoogd risico op kindermishandeling, zowel door begeleiders als door leeftijdsgenoten.

Implicaties voor onderzoek en praktijk

In de verschillende hoofdstukken bleken prevalentieschattingen op basis van zelfrapportage aanzienlijk hoger dan schattingen op basis van informantenmeldingen. Zoals eerder genoemd hebben de drie methoden zowel voor- als nadelen en kunnen ze daardoor leiden tot zowel over- als onderschattingen van de werkelijke prevalentie. Daarom kan één exacte prevalentie van kindermishandeling niet worden geven. Maar omdat er gebruik is gemaakt van verschillende methoden, kunnen we wel een gebied aanduiden waarbinnen de werkelijke prevalentieschatting waarschijnlijk zal liggen. Daarnaast leidden de verschillende methoden tot resultaten die een vergelijking over tijd en een vergelijking van risicofactoren mogelijk maken. Daardoor kan met meer zekerheid worden geconcludeerd dat de prevalentie van kindermishandeling in Nederland tussen 2005 en 2010 niet is afgenomen en dat factoren als lage opleiding, werkloosheid, en residentiële jeugdzorg het risico op kindermishandeling vergroten. Naar aanleiding van de resultaten van de NPM-2005 is er in de media en door de politiek veel aandacht besteed aan (het signaleren van) kindermishandeling. Uit de NPM-2010 is gebleken dat dit aangescherpte beleid en de verhoogde media-aandacht na vijf jaar nog niet hebben geleid tot minder gevallen van kindermishandeling. Volgende Nederlandse prevalentiestudies en vergelijkbare studies in andere landen zijn nodig om het effect van verschillend beleid op de prevalentie van kindermishandeling te onderzoeken, ook op de lange termijn. Tot slot zijn de risicofactoren voor kindermishandeling die zijn aangeduid in dit proefschrift belangrijke aanknopingspunten voor toekomstig beleid met betrekking tot de preventie van kindermishandeling. Allereerst vormen plaatsing in residentiële zorg voor kinderen zonder beperking en in de jeugdzorg voor kinderen met een lichte verstandelijke beperking het grootste risico voor kindermishandeling. Residentiële zorg zou daarom alleen als laatste optie moeten worden gebruikt, wanneer opvang in een gezinssituatie niet meer mogelijk is. Maar ook pleegzorg blijkt geen afdoende bescherming te bieden tegen seksueel misbruik en mishandeling. Daarom is het van belang dat zowel pleegouders als groepsleiders uit de residentiële zorg voldoende ondersteuning en training krijgen, zodat kindermishandeling in de jeugdzorg volledig kan worden teruggedrongen. Daarnaast zijn gezinskenmerken die leiden tot een verhoogd risico op kindermishandeling, zoals een lage opleiding, werkloosheid, eenoudergezinnen en stiefgezinnen van belang bij het ontwikkelen van nieuwe preventie en interventieprogramma's gericht op kindermishandeling. Dit soort programma's zou met name gericht moeten zijn op gezinnen die een hoog risico lopen op kindermishandeling. Maar kindermishandeling komt ook voor bij gezinnen die geen van de genoemde risicofactoren hebben (Alink, 2013). Om alle gevallen van kindermishandeling te signaleren en om toekomstige

kindermishandeling zoveel mogelijk te voorkomen moeten we ons bij de screening op kindermishandeling dus niet blind staren op de reeds bekende risicofactoren. Universele preventie gericht op alle jonge gezinnen blijft als eerste stap in de aanpak van kindermishandeling noodzakelijk.

Conclusie

In dit proefschrift is de prevalentie van kindermishandeling in verschillende Nederlandse populaties onderzocht. Op basis van informanten en AMK-meldingen bleken in 2010 33,8 per 1.000 kinderen tussen de 0 en 17 jaar slachtoffer te zijn geweest van kindermishandeling. Op basis van zelfrapportage waren dit zelfs 99,4 per 1.000 jongeren tussen de 12 en 17 jaar. Belangrijke risicofactoren voor kindermishandeling bleken jeugdzorg voor kinderen met een lichte verstandelijke beperking, residentiële zorg voor kinderen zonder beperking, lage opleiding en werkloosheid van de ouders, eenoudergezinnen, grote gezinnen, allochtone gezinnen, stiefgezinnen, vrouwelijk geslacht (vooral voor seksueel misbruik) en laag intellectueel vermogen van het kind. De jaarprevalentieschattingen en risicofactoren gepresenteerd in dit proefschrift kunnen hopelijk bijdragen aan de toekomstige preventie van kindermishandeling en bescherming van alle kinderen die thuis of in een instelling wonen.

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Curriculum Vitae

Saskia Euser werd geboren op 4 september 1988 in Woerden. In 2006 behaalde zij haar Gymnasiumdiploma aan het Minkema College te Woerden. In hetzelfde jaar begon zij aan de opleiding Pedagogische Wetenschappen aan de Universiteit Leiden. In 2010 begon zij aan de research master Developmental Psychopathology in Education and Child Studies die zij in 2012 met genoegen afrondde. Tijdens haar masteropleiding werkte Saskia als onderzoeksassistent op het gebied van prevalentiestudies naar kindermishandeling bij de afdeling Algemene en Gezinspedagogiek (AGP) van de Universiteit Leiden. Na haar afstuderen heeft Saskia als promovenda gewerkt bij dezelfde afdeling en deed zij onderzoek naar de prevalentie van kindermishandeling in verschillende populaties in Nederland. Deze studies werden uitgevoerd in opdracht van het Ministerie voor Volksgezondheid, Welzijn en Sport en het Ministerie van Justitie. De resultaten van deze studies zijn beschreven in dit proefschrift. Naast haar aanstelling als promovenda is Saskia ook voor een dag per week aangesteld als docent bij AGP.

List of publications

Euser, S., Alink. L.R.A., Pannebakker, F., Vogels, T., Van IJzendoorn, M.H., Bakermans-Kranenburg, M.J. (2013). The Prevalence of Child Maltreatment in the Netherlands across a 5-Year Period. *Child Abuse & Neglect.* Advance online publication. doi: 10.1016/j.chiabu.2013.07.004

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