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

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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		

¹Specialized in the evaluation and response to child maltreatment

²The 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 above-mentioned 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, step-parenthood, 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 (Lammers-Winkelmann 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,

Chapter 2

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

$$X = \frac{C * 4.43}{Tot_s} * Tot_{pop} \quad (2.1)$$

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.

$$X = C + C * 0.75 + C * 0.75^2 + C * 0.75^3 \quad (2.2)$$

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-Winkelmann 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

¹Prevalence 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.

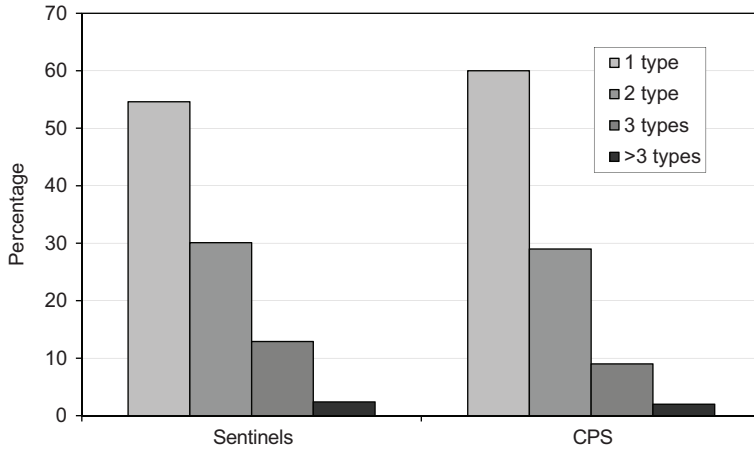


Figure 1. Percentages of victims who experienced one, two, three, or more than three types of maltreatment in the Netherlands in 2010, based on sentinel and CPS reports

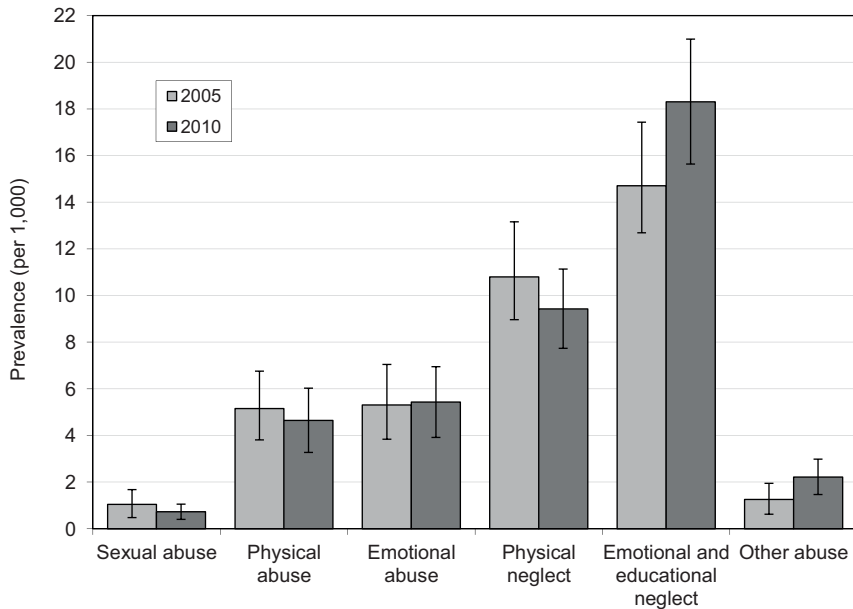


Figure 2. Prevalence estimates (%) of separate types of child maltreatment in the Netherlands in 2005 and 2010, based on sentinel reports.

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

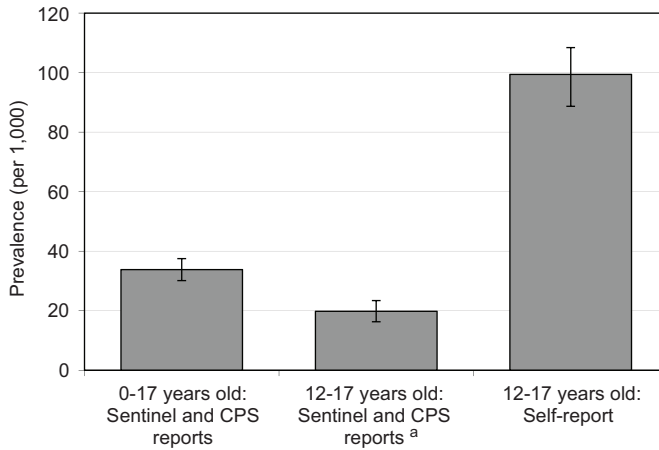


Figure 3. Prevalence estimates (%) of child maltreatment based on sentinel and CPS reports and based on self-report.

^aThis 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

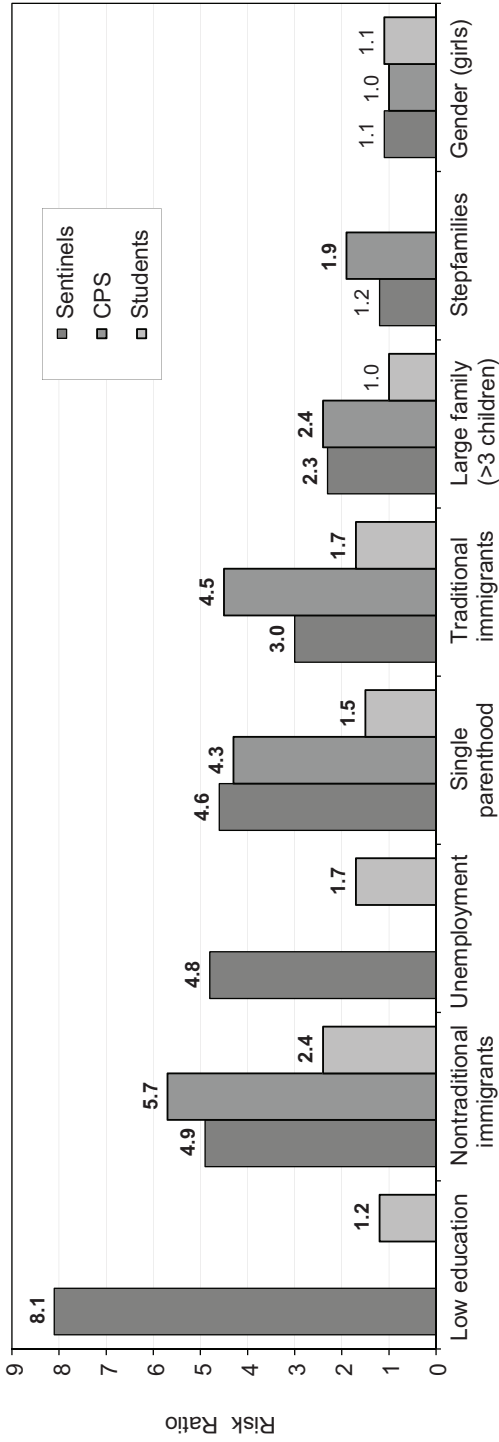


Figure 4. Risk ratios for child maltreatment based on Sentinel reports, CPS reports, and Self-report. Missing bars indicate that the effect of the risk factor was not tested. Significant risk factors are shown in boldface.

^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 (Trocmé 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.

