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## Psychosocial symptoms in very young children assessed for sexual abuse: A qualitative analysis from the ASAC study

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## Abstract

Child sexual abuse (CSA) is a worldwide problem with serious consequences. No recognizable symptom pattern for suspected CSA has yet been identified in very young children. We aim to investigate psychosocial symptoms in a sample of children with confirmed or strongly suspected CSA and the interpretations given to such symptoms by independent clinical experts. Secondly we examined whether experts were able to identify confirmed victims of severe CSA. A qualitative study including inductive content analysis of medical files and focus group discussions with independent experts on the interpretation of psychosocial symptoms was conducted. We included 125 children (76 boys, 60.8%, and 49 girls, 39.2%; median age 3.3 years; age range 0-11) who were involved in the Amsterdam Sexual Abuse Case (ASAC) and had been examined for strongly suspected CSA. We identified four themes among the psychosocial symptoms: problems concerning emotions, behavior, toilet training, and development, whether or not associated with the daycare center or the perpetrator. Clinical experts identified signs of post-traumatic stress disorder (PTSD), regression in continence skills (not otherwise explained), and problems triggered by exposure to the perpetrator or the abuse location as concerning symptoms for CSA. Less concerning symptoms were designated as worrisome if they were numerous and there was no clear explanation for these symptoms. A clear symptom pattern was lacking and about half of the confirmed severe victims of CSA did not display any psychosocial problems. Therefore, it is difficult for experts to identify confirmed CSA victims. Thus, the assessment of suspected CSA should be over time and multidisciplinary.

## Introduction

The worldwide prevalence of childhood sexual abuse (CSA) ranges from 3% to 31%<sup>1-3</sup>. Overall, girls appear to have higher probabilities of becoming CSA victims<sup>4</sup>. Prevalence studies of CSA in young children, below the age of six years, are limited in number<sup>3</sup>.

Short-term consequences of CSA in childhood and adolescence include fears of reabuse, serious post-traumatic stress symptoms (PTSS)<sup>5</sup>, attachment problems<sup>6</sup>, anxiety, depression, withdrawn behavior, physical health symptoms, aggression, and school problems<sup>7</sup>. Reviews on the long-term consequences of CSA in adulthood report a high prevalence of psychological symptoms and psychiatric disorders<sup>8</sup>. Research shows associations between CSA and lifetime diagnoses of anxiety, eating, sleep, conduct, and post-traumatic stress disorders (PTSD), depression, suicide attempts and other self-destructive behavior, sexually inappropriate behaviors, and functional somatic syndromes<sup>8-18</sup>.

Unfortunately, CSA often remains unrecognized, as reflected in the discrepancy between the prevalence rates of self-report and informant studies<sup>4,19</sup>. Most children do not disclose until adult life, let alone during preschool years<sup>20,21</sup>. Given the unlikelihood of early disclosures in children, clinicians look for other cues to diagnose CSA, such as physical and behavioral symptoms. However, physical indications specific to CSA are found at examination in just 4% to 5% of cases<sup>22-27</sup>. It is important to emphasize that the absence of physical (including anogenital) findings at examination never excludes CSA<sup>22,26,28</sup>. Sexual behavior problems are found in about one third of children after CSA<sup>7</sup>, but there is no one specific sexual behavior that is indicative of sexual abuse; other origins of the problems, such as physical abuse, family violence, and other types of maltreatment, are also possible<sup>29</sup>.

If a child does not disclose sexual abuse, and no physical evidence or sexual behavioral problems are apparent, then psychosocial symptoms are the only possible indications that remain<sup>7</sup>. Studies on the effects of sexual abuse in daycare settings often include children abused by different perpetrators, children who were ritually abused<sup>5,30,31</sup>, or female victims<sup>32</sup> which is logical considering the fact that girls are more likely of becoming CSA victims<sup>4</sup>. These studies show that preschool children abused in daycare settings display more fears, anxiety, problems in social functioning (e.g. social withdrawal), internalizing and externalizing behavioral problems and inappropriate sexual behavior<sup>5,30,31,33</sup>. Studies on CSA case series by one perpetrator often include small samples<sup>34</sup>.

Almost nothing is known about the impact of sexual trauma, symptoms and symptom patterns in infants and preschool children (often in a preverbal phase), male victims, and

children abused in daycare settings by one perpetrator. In general, the level of evidence for CSA is low as forensic evidence or perpetrators testimonies are often lacking. Whether the symptoms and symptom patterns of CSA can also be found in infants and preschool children is much less clear<sup>7,35</sup>, especially with regard to psychosocial symptoms other than sexual behavior and knowledge.

To improve our understanding of CSA, clinicians need to know more about psychosocial symptoms and patterns in children who are examined for confirmed or strongly suspected CSA, and how such symptoms should be clinically interpreted.

The purpose of this study is to investigate (1) the variety of psychosocial symptoms, other than sexual behavior and knowledge, in children assessed for confirmed or strongly suspected CSA; (2) how experts in the field of CSA would interpret such presenting psychosocial symptoms to identify subtle distinctions between symptoms more or less concerning for CSA; and (3) whether experts are able to identify confirmed victims of severe CSA.

## Methods

### Setting and population

In 2010, a daycare center employee in Amsterdam was suspected of having sexually abused dozens of young children. The case came to light through a child pornography investigation in the United States. Many very young children, most of them boys, were considered possible victims in what became known as the Amsterdam Sexual Abuse Case (ASAC)—the largest confirmed CSA case series by one perpetrator in history. The ASAC is a unique case, owing to its large scale, the predominance of young boys, the confessed and convicted perpetrator, the high level of evidence, and the detailed documentation available about the abuse. Child pornographic images were decrypted in police investigations, and the employee eventually admitted sexual abuse of 87 children. Parents of 20 children decided against pressing charges, and the daycare worker was convicted for abusing 67 children.

Immediately after discovery of the ASAC, the Emma Children's Hospital of the Academic Medical Center (AMC) in Amsterdam set up an emergency outpatient department (henceforth OPD) to examine the possible victims of CSA. Children involved were referred if CSA was strongly suspected or confirmed on at least one of the following grounds:

- a. The child currently or previously attended a daycare center where the perpetrator worked (strong suspicion of CSA).
- b. The perpetrator had worked as a babysitter at the child's home (strong suspicion of CSA).
- c. The child was identified in pornographic images decrypted by police (confirmed CSA).
- d. The perpetrator had confessed to CSA with the child (confirmed CSA).

In neither of the groups of children CSA could be excluded, for every child CSA was very likely. It is also possible that a child witnessed CSA in other children or in their siblings as most abuse took place at the daycare or at the children's homes. It was therefore decided to evaluate all children as one group instead of a comparative design. Children referred to the OPD were assessed by one of five multidisciplinary teams, each composed of a pediatrician, a social worker, and a child behavior specialist. At the time of OPD assessment, the perpetrator was still being questioned by police. For most parents and clinicians it was not yet certain which children would be confirmed as CSA victims and which would not.

The pediatricians performed a semi-structured medical interview with parents and children (combining the standard medical interview with an interview topic guide) and a physical examination. A child behavior specialist observed all children during the assessments. Children were additionally assessed in private, depending on parental consent and their age and language development (generally from age 2½ up).

### **Study design**

The present study is part of the larger ASAC study<sup>36</sup> and represents the initial assessment (T0) that took place shortly after disclosure of the abuse case in December, 2010. We qualitatively analyzed the psychosocial symptoms (other than sexual behavior and knowledge) reported in the OPD medical files of the children who were assessed as known or suspected CSA victims. Given the complex and varied nature of the cases, the unique data were best suited for a qualitative approach, allowing us to preserve details and obtain insights into the considerations of professionals. We decided on a qualitative method that included (1) inductive content analysis of the medical files and (2) focus group discussions (FGDs) with experts on the interpretation of symptoms. Our aim was to highlight the variety of psychosocial symptoms presenting in the children assessed for CSA displayed and to identify subtle distinctions between psychosocial symptoms more or less concerning for CSA.

### **Ethics**

The Medical Ethics Committee of the AMC hospital approved the research protocol. At the initial assessment, parental permission was requested for the anonymized use of the medical files for research and for journal publication. After consultation with the AMC medical director, we requested this informed consent orally and recorded it in the medical file.

### **Data extraction**

#### ***Medical files***

The original OPD medical files were used in extracting data for the inductive content analysis. We obtained data on psychosocial symptoms and demographics. All statements on psychosocial problems, independent of the severity or the investigator's interpretation on the association with possible abuse were noted.

#### ***Police reports***

Details about the severity of the abuse were not known at the time of the OPD assessment. Information about the nature and frequency of the abuse was collected later from police reports. One investigator (EV) was authorized to read the perpetrator's statements. She documented for each child whether a confession was made by the perpetrator and/or whether pornographic photographs or videos were found by police (grounds c and/or d, see above). CSA could not be excluded for any of the children, since all had been in contact with the perpetrator (grounds a and/or b).

#### ***Experts' considerations***

To learn which psychosocial symptoms may be regarded as high concern and low concern for CSA and why, we consulted experts and then analyzed the considerations they

expressed in interpreting psychosocial symptoms and in differentiating those of high and low concern for CSA. Data was gathered in the following five steps:

**1. Preparation of case descriptions.** In preparation for the evaluation of the case descriptions by the experts, two independent investigators (TFVB, SNBK) summarized the children's OPD medical files. The summaries were anonymized and contained information on gender, age at time of OPD assessment, physical symptoms, psychosocial symptoms, the physical examination, and the child interview (if any). Any information on victim status was withheld to preclude bias.

**2. Focus group discussion (FGD) 1.** Five clinicians with expertise on CSA served as experts: two child behavior specialists (EV, SNBK) (10 and 25 years work experience), two pediatricians (AHT, LvdB) (23 and three years work experience), and one child psychiatrist (RJLL) (12 years work experience). All experts cooperated on voluntary basis.

During a FGD experts discussed on how to score the cases and agreed on the following categories to use for reviewing the included cases: (1) *Not worrisome*. Symptoms, if any, raise no concerns, and especially not for CSA; no further steps would be considered necessary to assess child for CSA; (2) *Somewhat worrisome*. Symptoms do not raise concerns for CSA; clinicians would monitor symptoms over time, but currently would not further investigate CSA; (3) *Worrisome*. Symptoms raise concerns for CSA; further CSA investigation would be advised, though other diagnoses are possible; and (4) *Highly worrisome*. Symptoms are alarming with regard to CSA; CSA would be the most likely diagnosis, and further assessment to exclude CSA is needed.

For each category, the experts could comment on their scorings in an open space on the standardized online form, though that was not mandatory. The scorings and notes were recorded and evaluated by the primary investigator (TFVB) for interrater differences in interpretation.

**3. Independent scoring of cases.** During a two-month period, the experts evaluated all cases in the sample (the medical file summaries, as described above) individually in their own workplaces using a standardized online form. Each expert independently scored the physical symptoms, the psychosocial symptoms, the physical examination, and the child interview separately and then reported an overall conclusion based on the separate categories. Characteristics were scored on the 1 to 4 scale as mentioned above.

**4. Comparing expert's scorings.** Scorings were evaluated in terms of consensus. Consensus was established if all five experts scored a case either as not worrisome to

somewhat worrisome (1-2) or as worrisome to highly worrisome (3-4). If one of the five experts diverged, no consensus was established and the cases were deferred for consideration in focus group discussions (FGDs).

**5. FGDs 2 & 3.** Two FGDs were then organized, attended by the five experts, to discuss the cases that lacked consensus. The aims were (1) to compile experts' reflections on assessing possible CSA, (2) to learn why certain problems were considered more concerning for CSA diagnosis than others, and (3) to establish what factors need to be taken into account in assessing CSA in known or suspected victims. The experts first reflected on which psychosocial symptoms were considered high concern or low concern for CSA. They then examined the cases that lacked consensus and discussed whether factors were present other than the symptoms themselves that might influence their interpretations. The FGDs were prepared with the help of an independent researcher specialized in qualitative research (YV). They were video-recorded, detailed minutes were taken (TFVB), and transcriptions of important elements were made (TFVB). We decided against transcribing the entire FGDs because the detailed minutes gave a clear enough account of the discussions.

**6. Grouping of cases.** For further subgroup analysis all cases were divided in the following groups: (1) not-worrisome – somewhat worrisome; (2) somewhat worrisome – worrisome; (3) worrisome – very worrisome; (4) very worrisome (unanimous). Subsequent subgroup analysis would enable us to study distinctions between psychosocial symptoms considered more or less concerning for CSA by experts. Additionally, we focused on those children with confirmed severe CSA (oral copulation and/or anal/vaginal penetration) and analyzed whether experts were able to identify these children.

## **Qualitative analysis**

### ***Medical files***

One investigator (TFVB) explored the medical files in terms of content and the completeness of the assessment. Qualitative analyses were performed both manually and with MAXQDA, version 11. The contents of the files were analyzed in 3 steps using inductive content analysis <sup>37</sup>:

**1. Independent open labeling of file data.** Two investigators with different professional perspectives: TFVB, a physician (medical perspective), and SNBK, a child behavior expert specialized in child abuse and neglect (psychosocial perspective) labeled the file data independently. This enabled analytic negotiation to gain a richer understanding of the data and reduce bias in the final analysis. Any disagreements about coding were resolved by consensus with other co-authors.

**2. Grouping of labels (TFVB and SNBK in consultation).** Descriptions that appeared to pertain to the same phenomena were grouped together; all groupings were derived from the file data. Groupings were allowed to emerge organically. At this point in the analysis we intentionally did not analyze results within the context of an existing theoretical framework.

**3. Condensation of data (TFVB and SNBK in consultation).** Groupings containing similar events or incidents were combined into categories, and categories were combined into themes. Themes were again allowed to emerge organically. The themes were described in terms of behavior and emotions, which, although quite general, do reflect clinical psychological thinking. Prominent themes were organized into hierarchies, and themes that emerged consistently across the sample were given emphasis. Subsequently the themes were presented for discussion to some co-authors (RJLL, YV, and GAMW). Psychosocial problems compliant to more than one theme were presented for discussion and categorized in the theme most appropriate.

### ***Experts' considerations***

The experts' considerations were employed by the investigators (TFVB, SNBK) in interpreting the psychosocial symptoms reported in the medical files. Both the comments on the standardized online forms from the experts' independent scorings and the results of the FGDs were taken into account. We first analyzed the experts' independent scorings in terms of the themes we had derived from our file analyses. We extracted data in relation to the experts' interpretations of psychosocial symptoms as reported for the children and on the experts' perceptions of symptoms as high concern and low concern for CSA. The same investigators next reviewed the two FGDs in terms of which psychosocial symptoms were considered highly concerning and less concerning for CSA and why. Data were extracted on expert reflections and other factors they took into consideration in assessing young children for CSA. The expert data were analyzed using the content analysis method described above.

### ***Subgroup analysis***

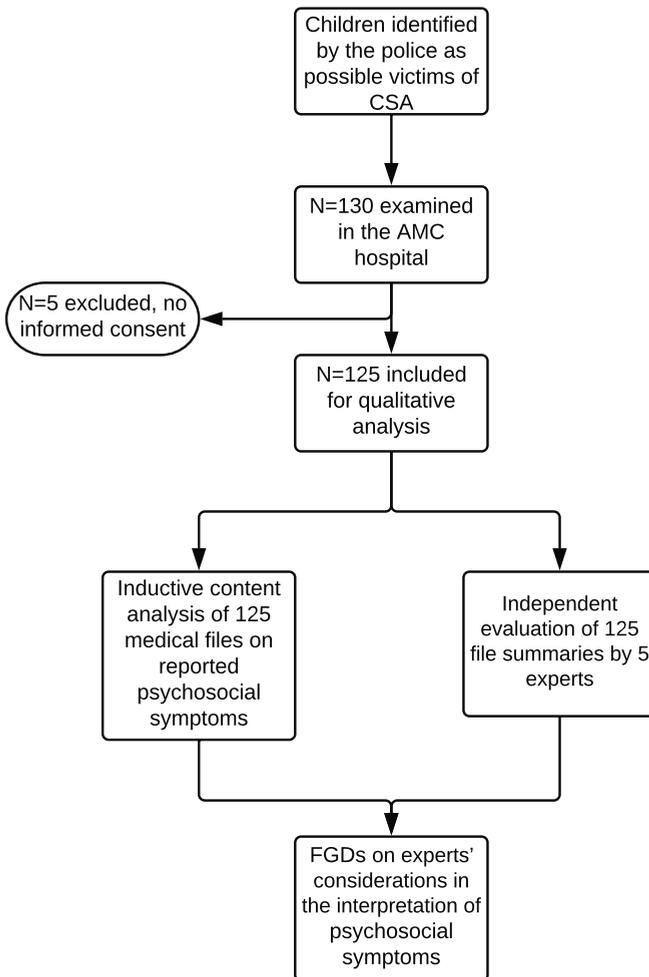
To study expert opinions on the distinctions between psychosocial symptoms more or less concerning for CSA we performed subgroup analyses. For each group (as described earlier) we analyzed the psychosocial problems reported, and if so, which themes were exhibited. Next, we searched for agreements and differences between groups.

## Results

### Demographic and abuse-specific information

A total of 125 children (76 boys, 60.8%, and 49 girls, 39.2%; median age 3.3 years; age range 0-11) from the initial sample of 130 were selected for the study sample after informed consent from their parents (Figure 1), including 54 confirmed victims of CSA (43 boys, 79.6%, and 11 girls, 20.4%; median age 3.2 years; age range 0-6). The nature of the CSA and other demographics are described in Table 1.

**Figure 1. Sample composition and qualitative analysis of psychosocial symptoms**



We will start by presenting the psychosocial symptoms identified in children assessed for strongly suspected CSA and the themes that emerged from the medical files. Subsequently, through a subgroup analysis we report on how experts interpreted such presenting psychosocial symptoms and whether they were able to differentiate confirmed victims of CSA from children with strong suspicions of CSA. Additionally, we will focus on the problems displayed in confirmed victims of severe CSA and how experts interpreted these cases.

### **Psychosocial symptoms in children assessed for confirmed or strongly suspected CSA**

Four main themes emerged from the medical files: emotional problems, behavioral problems, toilet training problems, and developmental problems, whether or not associated with the daycare center or perpetrator. Psychosocial problems with overlap between themes are reported in the theme most appropriate. The presenting symptoms are illustrated by citations from the children's OPD medical files.

Psychosocial problems were reported in 85 children (68%) (12 children 0-1 years, 51 children 2-4 years, 22 children 5 years and above; 33 confirmed victims).

#### ***Emotional problems***

Emotional problems were reported by parents of 37 boys and girls, 3 children 0-1 years, 24 children 2-4 years, and 10 children 5 years and above; 21 confirmed victims. Emotional problems were categorized as anxiety, anger management, panic, crying, withdrawal, depressive mood, and other emotional problems.

#### *Anxiety*

Anxiety was reported most often. Three types of anxiety were mentioned: general anxieties, sleep-, or perpetrator related anxieties,

Most anxieties and fears mentioned by parents involved *general anxieties*, such as age-appropriate fears of "monsters, crooks, and ghosts." Some anxieties were more severe or long-lasting—"[boy, 11, strong suspicion] had terrible fears from age 5-7; saw things, heard voices and felt somebody running their fingers through his hair."

The other types of anxieties were all related to specific topics or occasions. Examples of *sleep-related anxiety* ranged from less severe problems—"[boy, 4, confirmed victim] went through a spell of afraid in bed around age 3"—to more specific anxieties—"[boy, 4, confirmed victim] had anxiety attacks on the bed at daycare center, frantic protests right down to breaking out in sweat; made himself fall out of bed, and from then on wouldn't sleep any more while at daycare center. Bed at daycare center still fear-provoking." This boy's anxiety seemed related not just to sleeping, but more specifically to napping at the daycare center.

Some children's parents reported behaviors that could be signs of anxiety in young children—" [boy, 6½, strong suspicion] was reluctant to go to daycare center for some time; would never come inside with me when we picked up his younger brother there." One child's parents reported panic attacks that seemed clearly related to the perpetrator—" [boy, 2, strong suspicion] after a picture was shown of a suspect ('Who's that, Grandmother?'), had a panic attack the same night and three days later, squealing and screaming, was inconsolable, father not allowed to hold him, until father said 'Now that's enough!' "

### *Anger management*

Many parents reported problems with anger management. Severity ranged from more-rebellious-than-normal behaviors—" [girl, 5, confirmed victim] was hyperactive, and if she didn't get her way she could exhibit fierce reactions"—to disobedience and sometimes severe tantrums—" [boy, 4, confirmed victim] had intense attacks of anger in the period he was in the daycare center, whereby he would sometimes lose touch with the outside world, wanted to be left alone, held people off, and sometimes even hurt himself, but at the same time also sought support." Sometimes problems like these were reported in combination with other problems such as withdrawal—" [boy, 5, confirmed victim] behavioral problems in which he can be very withdrawn or hot-tempered, making it hard to make contact with him."

### *Panic attacks*

Others described behavioral problems that appeared to them to be panic attacks—" [girl, 1½, strong suspicion] can have fits of anger that sometimes seem like panic; can screech for 45 min and is inconsolable." A more severe example involved a panic attack related to rectal temperature measurements—" [boy, almost 4, confirmed victim] was totally panicked from age 1½ at insertion of suppositories or rectal thermometers ... the 'terrible twos' with frantic fits of rage."

### *Crying*

Crying was mentioned by many parents, who reported that crying was more frequent and/or more severe than normal, at times seemingly linked to the daycare center—" [boy, 3½, strong suspicion] had heart-rending bouts of weeping a few times in November when he went to the daycare." Some children showed resistance to go to the daycare center by crying—" [boy, 3, confirmed victims] ... and he also never liked going to the daycare, he cried, and up to now he still does not like to enter that street"—or appeared very distressed when parents came to pick them up—" [boy, 2, strong suspicion] when collected from the suspect's place, once came running to his father crying dramatically, and afterwards had a red, somewhat swollen anus." In one case, a child seemed distressed specifically toward the perpetrator—" [boy, 1½] started crying loudly when left behind at suspect's place; that's over now that suspect has left the daycare center."

*Depressive mood*

In a few children, depressive moods were reported—“[boy, 4, confirmed victim] had a kind of ‘toddler depression’ at age 3 and he was like a broken flower, but his little brother was also born in that period (premature and growth-retarded).”

*Other emotional problems*

Other emotional problems mentioned were *reduced behavioral resilience*—“[boy, 5, confirmed victim] less resilient and school says he needs lots of time to get used to new situations”—and *fluctuations in behavior*—“[girl, 4½, strong suspicion] changeable behavior, can suddenly swing back and forth, more in last two weeks.”

In summary, various types of anxieties were reported, both general anxieties (e.g. “fears of monsters, crooks, and ghosts”) and anxieties related to specific topics or occasions, such as sleep anxieties (e.g. panic attacks in bed, sometimes related to daycare nap room), and perpetrator-related anxieties (e.g. aversion to and/or fear of the perpetrator).. Parents additionally reported problems in anger management (e.g. disobedience, tantrums), withdrawal, panic attacks, crying, depressive moods, and other emotional problems (e.g. reduced resilience or behavioral fluctuations).

***Behavioral problems.***

Behavioral problems were reported by parents of 61 boys and girls, 10 children 0-1 years, 37 children 2-4 years, and 14 children 5 years and above; 26 confirmed victims. These were categorized as sleep, eating, attachment, and interaction problems.

*Sleep problems.*

Sleep-related problems, including behavioral problems around bedtime, were reported most often, in 44 children (20 confirmed victims), the majority of children was between 2-4 years of age ( $n:32$ ). We identified several types of sleep problems: nightmares, night-time waking, trouble falling asleep, and sleep-talking. We found an overlap for sleep related anxieties, these were discussed in the above Emotional Problems subsection.

*Nightmares* were reported numerous times. Mostly these were not disturbing and were deemed age-related. Some were accompanied by other problems such as bed-wetting—“[boy, 5, strong suspicion] recently had a spell with nightmares, accompanied by bed-wetting.” A few times, very specific nightmares were reported that seemed associated with the perpetrator or the daycare center—“[boy, 3, confirmed victim] he’s been having nightmares for at least a year now, 2-3 times a week, in which he doesn’t speak clearly but points at the daycare center.”

Many parents of children under three years of age reported that their child *woke up during the night*, varying from once or twice to seven times a night. In some cases that had occurred since birth and no specific period in life was identified. In a few cases the sleep problems seemed related to babysitter visits or to the daycare center—“[boy, 2, strong suspicion] problems sleeping the last three months, increasing to 2-3 times a week, waking up, staring gaze, parents do or don't manage to make contact, sometimes consolable and goes back to sleep after a while, doesn't talk, doesn't cry, doesn't want food or drink, duration 10 min or longer.”

When parents reported that their child had *trouble falling asleep*, they often described refusing to sleep without a parent in the room. In a few cases, the problems were severe and were combined with other problems—“[boy, 2, confirmed victim] considerable problems falling asleep and staying asleep, M stays with him for hours, when he wakes up he cries loudly, and ultimately even self-induced vomiting, continuing till the 2010 summer vacation.” Only in a few cases was this linked to the period children were attending the daycare center—“[boy, almost 4, confirmed victim] slept very well from the age of 10 months, but in the daycare period in question he would only sleep near mother.” There were also children who showed resistance to *entering the nap room there*—“[girl, 6] went through period of refusing to go to the daycare, and around age 2½ she didn't want to enter the nap room in particular.”

Some parents mentioned *sleep-talking*—“[boy, 3, strong suspicion] sleeps in between parents for the past three months and regularly wakes up shouting 'Stay with me!' ”

#### *Eating problems*

Other behavioral problems reported by many parents were eating problems. Parents described periods in life in which their child had difficulties eating, mainly concerning warm meals, vegetables, and other nourishing foods. These problems did not specifically relate to the perpetrator or the daycare center—“[girl, 2, strong suspicion] for the last six months she's been eating quite poorly in the evenings.”

#### *Attachment problems*

We identified two types of attachment problems: *clingier behavior*—“[girl, 2½, strong suspicion] has gotten clingier and more demanding the past six months, with more negative attention-seeking”—and *separation problems*, which could involve crying, fear, or anger when being separated from a parent—“[boy, 1½, strong suspicion] difficulty right from the beginning in saying goodbye, went on crying for a long time, lately not quite as long.”

*Interaction problems*

Some parents reported interaction problems. These involved either *difficulties making contact* with other children or adults—“[boy, 6, strong suspicion] since starting school he’s more inattentive and dreamy, and it’s said to be harder to make contact with him since then”—or *the overstepping of boundaries*—“[boy, 5, strong suspicion] he still keeps coming up and standing too close to you in an intimidating fashion.”

Summarizing the behavioral problems, several types of sleep-related problems were reported. Nightmares, nighttime waking, and trouble falling asleep seemed mostly age-appropriate. Some worrisome aspects were reported, such as bed-wetting or possible links to the daycare center or babysitter visits. Sleep-talking was mentioned only occasionally. Other behavioral problems were eating, attachment, and interaction and boundary problems.

**Toilet training problems**

Problems related to toilet training were reported by parents of 43 boys and girls, 6 children 0-1 years, 26 children 3-4 years, and 11 children 5 years and above; 13 confirmed victims. We categorized toilet training problems as follows: diaper-changing problems, toilet-related utterances, and others. Overlap was found for regression in continence skills which will be discussed in the Developmental Problems subsection.

*Diaper-changing problems*

Problems concerning diaper changing were clearly an issue with many children. These could be minor, seemingly temporary problems—“[boy, 2, confirmed victim] suddenly went through a spell in which he didn’t want his diapers changed in a supine position”—or more serious problems (also noticed by other people than the child’s parents alone)—“[girl, 2, strong suspicion] parents were summoned by head of daycare center due to serious difficulties in changing diapers; she had to be held down by two people to change them, and there are still a lot of problems with diaper changing—turning her head away, blinking her eyes, tensing up, both parents have to firmly hold her legs to spread them.”

Resistance to *using the daycare toilet* was also reported—“[boy, 5] suddenly, from one day to the next, he no longer would pee or have a BM at the daycare, and when parents came to pick him up, he ran outside and peed up against a tree”.

*Other toilet-related problems*

Several parents mentioned other toilet training–related problems, such as fears of parents inserting suppositories or taking a rectal temperature—“[boy, 4, confirmed victim]

is always disgusted to have a thermometer inserted." An exceptional observation was noted by one child's parents: "[boy, almost 4, confirmed victim] obsessed with feces and buttocks, and also wants to rub feces onto his penis. In the period when he had contact with the chief suspect, the boy threw dirty diapers around and smeared feces in his bed, and he did that at the daycare center too."

Summarizing, a number of problems were reported that involved diaper changing, receiving rectal temperature measurements or suppositories, and playing with and smearing feces.

### ***Developmental problems***

Developmental problems were reported by parents of 19 boys and girls, one child 0-1 years, 11 children 2-4 years, and seven children 5 years and above; 8 confirmed victims. We categorized them as continence skills, speech, motor, and behavioral development.

#### *Continence skills*

Developmental problems relating to continence skills always concerned regression. Sometimes this was specifically connected to a period in children's lives that involved other stressful life events—" [girl, 4, strong suspicion] relapse in continence skills in the period that mother had two miscarriages, and also around the start of the school year, Santa Claus time, and birthdays." In other cases, no specific underlying cause could be identified—" [boy, 4½, confirmed victim] was initially continent, but started wetting his pants again; is now continent again."

#### *Speech development*

Delays in speech development were reported, often in bilingually raised children—" [boy, 4½] sent to speech therapist by the school, which said his speech was lagging behind." Actual regression in speech development was noted only once—" [boy, 3, strong suspicion] in the summer of 2009 he suddenly stopped eating and the same summer his speech clearly regressed all of a sudden."

#### *Behavioral development*

Problems in behavioral development all concerned children who were acting more childish than would be expected for their age—" [boy, 5, confirmed victim] plays like he's a baby, makes baby noises, climbs into mother's lap."

#### *Motor development*

Problems in motor development involved delays or even regression in physical abilities—" [-girl, 3, strong suspicion] lags in motor development, regressed last winter in period when the chief suspect worked in daycare center."

In sum, the developmental problems identified were continence skills regression, behavioral regression (acting more childish), motor development regression, and delays in speech development (in bilingual children).

Overall, we identified four main themes from the medical files: emotional problems, behavioral problems, toilet training problems and developmental problems. In all themes we found examples of a possible association with the daycare center or perpetrator. In the following subgroup analyses we examined how experts interpreted the psychosocial symptoms. Subsequently we will elaborate more on confirmed victims of severe CSA.

### **Expert interpretation of psychosocial symptoms**

As mentioned in the methods, experts were blinded for which cases were confirmed victims and which were highly suspected for CSA. After independent expert scorings there were 16 cases without consensus. These cases were examined in two focus group discussions (FGDs), during which all experts came to agreement on all cases. The following subgroups were analyzed: not worrisome – somewhat worrisome ( $n:42$ ), somewhat worrisome – worrisome ( $n:35$ ), worrisome – very worrisome ( $n:44$ ) and very worrisome (unanimous) ( $n:4$ ) (Table 2). In the following sections we will discuss the subgroup analysis, based on expert scorings. We examine how experts interpreted psychosocial symptoms and display subtle distinctions between symptoms more or less concerning for CSA.

#### ***Expert scorings: not-worrisome-somewhat worrisome***

Experts scored 42 children (33.6%) as not-worrisome to somewhat worrisome (23 boys, 21 girls, mean age at assessment 3.0 year (0-7)). Twenty-four children (57%) were confirmed victims ( $n:5 >5$  times,  $n:7 >10$  times; mean estimated age ending CSA 1.7 year (0-3), mean estimated delay 1.1 year (0-3)). In 11 of the 42 children (26%), one or two psychosocial themes were reported in their medical files (mean 1.2). All main themes appeared in these medical files. If there were psychosocial problems reported, the problems were limited in number, seemed to be age appropriate or another clear explanation was reported. Associations with the daycare center or perpetrator were not clearly reported.

#### ***Expert scorings: somewhat worrisomeworrisome***

Experts scored 33 children as somewhat worrisome to worrisome (21 boys, 12 girls, mean age at assessment 2.9 year (0-7)). Twenty-three children (70%) were confirmed victims ( $n:3 >5$  times,  $n:2 >10$  times, mean estimated ending CSA 2.3 year (1-5), mean estimated delay 0.9 year (0-3)).

Psychosocial problems were reported in 27 of the 33 children (82%), the number of themes varied between one and three (mean 1.6). All main themes appeared in these

medical files. Psychosocial problems were reported more often in comparison to the children with an expert conclusion not-somewhat worrisome (24%). Additionally, the number of problems per child was higher. Most often the reported problems could be interpreted as age appropriate or seemed to have another clear explanation. The severity of the problems seems more serious, though non-specific for CSA. More often parents reported an association with the daycare center or perpetrator.

***Expert scorings: worrisome-very worrisome***

Experts scored 44 children as worrisome to very worrisome (29 boys, 15 girls, mean age at assessment 3.9 year (0-11)). Fifteen children (34%) were confirmed victims ( $n:3 >5$  times, mean estimated age stop CSA 2.1 year (1-3), mean estimated delay 1.4 (0-3)).

Psychosocial problems were reported in 43 children (98%), the number of themes varied between one and four (mean 2.1). All main themes appeared in these medical files. The number of problems reported seems higher as well as the number of different themes reported, in most children problems concerning various themes are present. Nightmares and problems concerning diaper changing were reported more often in comparison to cases scored as less worrisome. Furthermore, problems related to sexuality or the child interview are reported more frequently. These are addressed however in another article<sup>38</sup>. The severity of problems increases, problems do not seem to be related to normal development and more often parents mention an association with the daycare/perpetrator.

***Expert scorings: very worrisome***

Four children were scored unanimous as very worrisome (3 boys, 1 girl, mean age at assessment 3.5 (3-4)). Two children (50%) were confirmed victims ( $n:2$  1-2 times, mean estimated age ending CSA 2.0 year, mean estimated delay 1.5 year (1-2)).

Psychosocial problems were reported in all four children, the number of themes varied between 2-4 (mean 3), all main themes were reported. In all 4 cases multiple psychosocial problems were reported, the problems were severe or numerous and in all cases the problems were combined with deviant sexual behavior or utterances and a deviant child-interview (these subjects are discussed separately in our second paper<sup>38</sup>. In three cases the problems had an association to the daycare center or the perpetrator was mentioned by their parents. The problems reported were severe or numerous.

In sum, the number and the severity of psychosocial problems seem to influence expert's scorings. In cases less worrisome, the number of problems were limited and considered age and developmentally appropriate. As the number and severity of problems increase more worrisome cases were scored. Additionally, problems concerning nightmares, diaper

changing and associations with the daycare center or perpetrator were more prevalent among the more worrisome cases. The subgroup analysis was done independent of victim status. All four subgroups (not worrisome to very worrisome (unanimous)) contained both confirmed victims and children with strong suspicion for CSA. This suggests that experts were not completely able to identify the confirmed victims.

### **Expert reflections**

The cases without consensus were examined in two focus group discussions (FGDs), during which all experts came to agreement on all cases. In the sections to follow, we highlight their considerations in differentiating between symptoms more concerning for CSA and less concerning for, and we discuss their views on the implications for clinical practice and the dilemmas they face there.

### ***Symptoms more concerning for CSA***

The psychosocial symptoms considered to be more concerning for CSA were indications of PTSD and continence skills regression. Both nightmares and toilet-related problems—such as panic attacks before rectal temperature measurements, fears surrounding diaper changing, and specific fears of toilet settings—were designated as *intrusion symptoms*. Experts believed these problems may indicate the reliving of experiences, sometimes triggered by certain events. “Take a child that has nightmares, then I think that’s a concerning symptom; if the child has trouble sleeping, I’d call that a nonspecific symptom. One belongs to PTSD, and the other would or could be more consistent with ....” (The other experts agreed.) Young children exhibiting intrusion symptoms should raise clinicians’ concerns for traumas such as CSA.

Other PTSD symptoms recognized in our sample were *avoidance symptoms*. Young children are dependent on their caregivers and are therefore not really capable of avoiding situations. That makes interpretation more difficult. For example, children cannot decide for themselves to no longer attend a daycare center, but they can put up resistance. In our specific case, when children showed resistance to entering the daycare center (which we now know was the abuse site), that was identified by experts as a sign of avoidance and considered a high concern for CSA.

Hyperarousal, as an isolated symptom, was considered less concerning. “I myself would limit the PTSD symptoms to re-experiencing and avoidance, because to me hyperarousal is actually nonspecific.” (The other experts agreed.) In young children, hyperarousal is not just seen in PTSD but in many other mental disorders as well, such as attention deficit hyperactivity disorder.

In addition to PTSD symptoms, regression in continence skills was also viewed as a possible indicator for CSA, though other stressors need to be excluded first. “Look, kids that start to school can also experience a regression in their development, so you get really hesitant and think ‘Isn’t this something that’s consistent with the child’s age, and is it justifiable to interpret it as a concerning signs of abuse?’ ”

Experts concurred that children who exhibit one or two symptoms more concerning for CSA (PTSD symptoms or continence skills regression without other clear stressors) should be assessed for possible CSA or other traumatic experiences.

### ***Symptoms less concerning for CSA***

Many psychosocial symptoms less concerning for CSA were reported in our sample. “I encountered relatively few children with specific indications, while there were a lot of children with nonspecific indications.” Basically, all psychosocial symptoms other than signs of PTSD and continence skills regression were considered by experts to be less concerning for CSA—especially when the problems manifested themselves in isolation, had been present since birth, or can be regarded as part of normal child development (for example, sleep-related problems, other than nightmares, or eating problems; see Table 3). “When do you consider a case description not suspicious with regard to sexual abuse? If there are psychosocial symptoms, less concerning for CSA, that could also be consistent with the child’s age—like sleep problems, eating problems, or a concentration problem—if those are isolated things, so to speak.”

### ***Can symptoms less concerning for CSA become worrisome?***

Several factors—symptoms in reaction to specific triggers, presence of many symptoms, absence of clear explanations—were considered relevant for the further interpretation of psychosocial symptoms. Such factors may heighten concerns, even about symptoms seen as non-concerning.

First, psychosocial symptoms triggered by exposure to the daycare center or the perpetrator raised more concerns than symptoms without that specific trigger. Examples are behavioral changes since the perpetrator began babysitting, specific anxieties associated with the daycare center, or crying only when entering the street where the daycare center was located. In such cases, the daycare center or the perpetrator appeared to trigger certain behaviors or emotions, which may hence be interpreted as intrusion symptoms. Intrusion symptoms (unique to PTSD) were considered by the experts to more concerning symptoms for CSA. “I found it very striking indeed when children were scared to go to the daycare center, or if the street itself triggered fear, that they started crying and that kind of thing.”

Separation anxiety is an example of a problem that was deemed generally less concerning for CSA, as it is prevalent in many children and is to some extent part of normal child development. However, in cases where separation anxiety was triggered at the daycare center alone and not in other situations, it was considered more alarming. “And what about separation anxiety.” S: “But separation anxiety is just normal in itself, isn’t it?” L: “If it only happens at the daycare center and nowhere else, then that does make it concerning.”

In the second place, the aggregate number of psychosocial symptoms reported also influenced how the symptoms were interpreted. Often a few less concerning symptoms, such as problems with sleeping, eating, or concentration, would not be considered worrisome, especially if consistent with age. “... If that’s isolated, so to speak—that is, if other problems are absent—and it’s not concerning, then I think well of course it *could* be sexual abuse, but it could also just be part of the child’s development, like if you ask parents a few months later, then there’s nothing wrong then.”

The more less concerning psychosocial symptoms reported, however, the more concerns raised. In the following case description, for example, experts regarded all problems separately as less concerning, yet the multiple less concerning problems altogether as worrisome: “[boy, 3½] fits of inconsolable anger, 15-30 min’ duration. Uncooperative in changing clothes and diapers. Trouble falling asleep. At age of 1½, interest in father’s penis. Doesn’t play with other children, but does play with sister and little brother. Cries a lot.” (Certain details were altered or omitted to preserve anonymity.)

A third factor that may increase concerns for CSA is the absence of another clear explanation for presenting psychosocial symptoms. Such explanations might include the child’s age, developmental stage, background and family (mode of childrearing), the point in time and speed of onset, or other life events.

Younger children may exhibit fewer signs of morbidity simply because they lack the ways to express their problems. Where a certain symptom might raise many concerns in a one-year-old, the same symptom would not be alarming in an older child. “A young age sometimes gives me reason to judge it differently. If a child is two years old and already has a lot of indications, then that’s different than if a child is four. So you kind-of have to put it in an age context.” The older the child, the more behavioral problems a child can exhibit. Older children have more abilities to express themselves, and there are more possibilities for examining them. Hence, in young children one depends more on behavioral observations than in older children.

The conclusion is that even less concerning psychosocial symptoms may become worrisome if (1) symptoms are triggered by exposure to a perpetrator or (in our case) the daycare center, (2) there are multiple presenting symptoms, or (3) there is no other clear explanation for the psychosocial symptoms.

### ***Dilemmas in clinical practice***

In clinical practice, information about a perpetrator and/or a location where possible CSA took place is often lacking, and children may present with unexplained symptoms. For cases like these, a rating system for psychosocial symptoms more concerning or less concerning to CSA could be helpful.

The experts agreed that, even in the relatively clear-cut ASAC, many abused children may have been overlooked due to an absence of symptoms. Looking at the experts conclusions in correlation with the victim status (confirmed vs. highly suspected abuse) this is also confirmed (Table 2) as 23 confirmed victims were rated as "not worrisome – somewhat worrisome". In the group of children with strong suspicions but no proof for CSA 25 children were rated as "worrisome – very worrisome".

With this in mind, clinicians need to monitor a child who is a probable victim of CSA over time, as CSA cannot be excluded without follow-up assessments. "I do think that you would, of course, preferably keep monitoring such a group of children that have been exposed to somebody who you know has abused children." An overlooked case of CSA is just as undesirable as wrongly diagnosed CSA. Experts may therefore tend to err on the side of caution, thus resulting in unnecessary monitoring of children for possible CSA. Our experts therefore recommended that multidisciplinary consultations always take place in cases where CSA is suspected. A multidisciplinary team should include at least a pediatrician specialized in abuse and a child behavior specialist (a child psychologist or psychiatrist). Combining different perspectives reduces bias and creates better insights. We noticed that, once experts started discussing the cases, they all agreed on whether or not further assessment for CSA was necessary, even though that was not the aim of the FGDs. "If we discuss things together, we still come to the same conclusion. It's important to consult with a team whenever CSA is suspected."

### ***Summary of expert considerations***

In cases of suspected child sexual abuse, the interpretation of psychosocial symptoms is difficult, because signs of PTSD and of continence skills regression, in the absence of other explaining stressors, are the only symptoms considered more concerning for CSA. Less concerning psychosocial symptoms may become worrisome if (1) symptoms are triggered by exposure to a perpetrator or a location of suspected abuse, (2) there are

multiple presenting symptoms, or (3) there is no other explanation for the symptoms. Children with symptoms more concerning for CSA should always be assessed further. In cases of known or strongly suspected CSA, decisions on the interpretation of psychosocial symptoms should always be taken after multidisciplinary evaluation.

### **Are experts able to identify confirmed victims of severe CSA?**

Of the 54 confirmed victims, 32 children were considered as the most severe victims as they experienced oral copulation and/or anal/vaginal penetration ( $n$ :26 boys,  $n$ :6 girls, mean age at assessment 2.6 year (0-5), mean estimated age ending CSA 1.7 year (0-3), mean estimated delay 0.8 year (0-3)) (Table 1). We further examined expert scorings and the psychosocial problems reported in these victims. The results are discussed in the sections to follow.

Experts scored 15 children as not-worrisome to somewhat worrisome, eight as somewhat worrisome to worrisome, eight as worrisome to very worrisome and one as very worrisome (unanimous) (Table 2). In 20 out of 32 (62.5%) severe-victims psychosocial problems were reported, the number of themes reported varied between one and four.

#### ***Not-worrisome-somewhat worrisome***

Experts scored 15 out of the 32 (46.9%) confirmed severe-victims as not worrisome-somewhat worrisome (12 boys, 3 girls; mean age at assessment 2.6 years (0-5), mean estimated age ending CSA 1.6 year (0-3), mean estimated delay 0.8 year (0-3),  $n$ :4 abused >5 times,  $n$ :7 abused >10 times).

In 12 confirmed severe victims no psychosocial problems were reported. The psychosocial problems reported in the remaining three cases were about general behavioral problems, eating or sleeping problems. All of the reported problems were considered age and developmentally appropriate.

#### ***Somewhat worrisome-worrisome***

Experts scored eight confirmed severe victims (25%) as somewhat worrisome to worrisome (6 boys, 2 girls; mean age at assessment 2.2 year (1-4), mean estimated age ending CSA 1.7 year (0-3), mean estimated delay 0.5 year (0-2), 3 children abused >5 times, 2 children abused >10 times).

In all eight children where psychosocial problems were reported, the number of themes varied between one to three. Emotional problems reported were about anxieties, crying and problems in anger management without a specific trigger. For example, in two cases parents reported some kind of panic attack after the perpetrator worked as a babysitter.

Behavioral problems all concerned sleep related problems (nightmares, troubles sleeping alone or nighttime waking). Toilet related problems concerned diaper changing problems, anxiety for suppositories or a special interest in feces. In three children the psychosocial problems were combined with deviant sexual behavior.

### ***Worrisome-very worrisome***

Experts scored eight confirmed severe victims (25%) as worrisome – very worrisome (7 boys, 1 girl, mean age at assessment 2.8 years (1-4), mean estimated age ending CSA 1.8 (1-3), mean estimated delay 1.1 year (03), 3 children abused >5 times).

In all eight children where psychosocial problems were reported, number of themes varied between 2-4. In these children more psychosocial problems were reported and often in more than one area. Emotional problems related to general anxieties, anger management problems and crying. In two cases there appeared to be a relationship with the perpetrator/day care. Behavioral problems reported all concerned sleep problems, nighttime waking, nightmares, and sleep-talking (or screaming). The toilet related problems were about resistance to taking a rectal temperature and diaper changing. Developmental delay in speech development and regression for continence or general behavior were also reported. The psychosocial problems were combined with a deviant child interview in five children and atypical sexual behavior in two children.

### ***Very worrisome (unanimous)***

In one case experts unanimous scored very worrisome. This case concerned a three year old boy, who had been abused 1-2 times between the ages of one-two years. Multiple psychosocial problems on various areas were reported combined with deviant sexual behavior at child interview.

Summarizing, among the 32 confirmed and most severe victims about half presented without (or only a limited number of) psychosocial problems. These children were scored as not worrisome – somewhat worrisome by experts. At the same time there were children with numerous and severe problems accompanied by atypical sexual behavior and/or child interviews<sup>38</sup>. We were not able to recognize a symptom pattern in these confirmed victims.

## Discussion

The ASAC study <sup>36</sup> represents a unique case of CSA (a large sample, predominantly male, infant or preschool children abused by one convicted perpetrator and confirmed CSA in 54 children), the likes of which are seldom encountered. The children we studied in our sample were either confirmed or strongly suspected victims of CSA. We documented the psychosocial symptoms that emerged in the medical examinations of those children, we analyzed how these were interpreted by experts on the subject of CSA and whether experts were able to identify confirmed victims of severe CSA. Four themes emerged from the medical files: emotional problems, behavioral problems, toilet training problems and developmental problems. In all themes we found examples of a possible association with the daycare center or perpetrator. As cases were scored more worrisome the number and severity of psychosocial problems increased. Additionally, the types of problems reported differed, for example diaper changing problems and nightmares were exhibited more often in the more worrisome cases. Experts agreed that signs of PTSD or of regression in continence skills, in the absence of other explaining stressors, are more concerning symptoms for CSA. Interpretation of other psychosocial symptoms as potential CSA symptoms was considered dependent on whether they are triggered by exposure to a possible perpetrator or abuse location, whether multiple psychosocial symptoms are present, or whether other possible explanations for the symptoms are apparent. Due to the lack of a clear symptom pattern experts were not able to identify all confirmed victims of severe CSA.

### **Symptoms more concerning for CSA**

We found few symptoms that were considered more concerning for CSA. According to our experts, signs of intrusion or avoidance (both symptoms of PTSD) were more concerning for CSA, while hyperarousal was not. Experts interpreted nightmares and fears of diaper changing in young children as signs of intrusion, and they interpreted resistance to certain situations or locations as a signs of avoidance. Yet there is a strong case to argue that any sign of PTSD, including hyperarousal, is an indication of previous trauma and could therefore suggest sexual trauma.

We expected to find signs of PTSD in our sample, as Alisic and colleagues (2014) who reviewed the literature in a meta-analysis, had found that approximately one quarter of children develop PTSD after interpersonal traumas such as CSA (girls more often than boys) <sup>39</sup>. However, only one of their 43 included samples involved preschool children younger than four years of age. PTSD manifests itself differently in young children than in older children and adults <sup>40</sup>. A child's developmental stage must therefore be taken into account when evaluating possible PTSD <sup>40-42</sup>. In general, the rates of PTSD in pre-

school children appear to be lower than those in older children exposed to trauma<sup>42</sup>. This may be because young children are relatively protected by cognitive and perceptual immaturity or because the criteria themselves are not developmentally sensitive enough<sup>42</sup>. Literature on the prevalence of PTSD after CSA in very young children, such as those in our sample, is lacking.

Regression in continence skills, in the absence of another explaining stressor, was an additional symptom more concerning for CSA. Studies have shown that children with PTSD show significantly more developmental regression, such as continence skills regression, than children without PTSD who experienced the same trauma<sup>43,44</sup>. Perhaps signs of such regression in young children could also be interpreted as signs of PTSD.

### **Symptoms less concerning for CSA**

About one third of our cases were scored as “not-worrisome – somewhat worrisome” of whom 24 were confirmed victims. Within this group many children did not report any psychosocial problems. If psychosocial problems were reported they were limited in number and in severity.

Most psychosocial symptoms reported for our sample were considered less concerning for CSA. Several previous studies have likewise found that children exhibit many different, and widely varying, symptoms. We were not able to identify a specific pattern of psychosocial symptoms in confirmed victims of severe CSA. So far, no specific pattern of psychosocial symptoms that indicates CSA has been identified in young children<sup>7,35,45</sup>. A number of factors appear to be associated with increased distress after CSA: specific aspects of the abuse (nature, frequency, duration, severity, and relationship with perpetrator), environmental factors (how safe is the child?), and the child’s character<sup>45</sup>. These could be explanations for why certain children manifest problems and others do not.

Numerous studies have reported associations between CSA and psychological and psychiatric disorders in adults<sup>8-14,16-18</sup>. In adults, both sleep and eating disorders appear linked to CSA<sup>17,46-50</sup>. In young children, however, sleep-related problems (other than nightmares) and eating problems were both considered by our experts to be less concerning symptoms for CSA. Since some CSA-related symptoms may take time to develop, it would be wise to monitor such problems in children over time.

The absence of a clear pattern in symptoms makes the interpretation of psychosocial symptoms difficult. When evaluating psychosocial symptoms less concerning for CSA in young children, we need to take into account possible triggers (such as exposure to a perpetrator), the total number of reported problems, and whether there are other possible

explanations. A combination of multiple less concerning psychosocial symptoms can raise concerns if there is no other plausible cause.

When we evaluate the expert's opinions in association with the presence or absence of proof for CSA, we noticed that for many confirmed victims the experts had no to low concerns for CSA. We believe strongly that this is not a reflection of poor judgment by the experts, but a reflection of the fact that many of the children who are abused do not show psychological problems, neither physical injuries<sup>22-25,51-54</sup>. Our data showed that out of the 32 children who experienced oral copulation and/or anal/vaginal penetration, 12 of the 15 children who were scored as "not-worrisome – somewhat worrisome" did not show any psychosocial problems in their medical files.

At the same time, many children without confirmed CSA still showed problems leading to concerns for CSA among the experts. Of the children with strong suspicion for CSA, 29 were scored as worrisome – very worrisome and two as very worrisome (unanimous) (Table 2). It is very likely that there were victims of CSA among these children, or that they witnessed CSA in other children as most of the abuse took place at the daycare center or at home in the presence of other children or siblings.

### **Strengths and limitations**

This study presents unique data from a sample of 125 young, predominantly preschool children, mostly boys, who were assessed after known or strongly suspected CSA. For the 54 confirmed victims, a high level of evidence was available (police reports including perpetrators' statements and detected pornographic images). Because the sample includes both confirmed and strongly suspected victims of CSA, it originates from a naturalistic setting and thus reflects dilemmas in clinical practice. Research on signs and symptoms of sexual abuse in this specific group, predominantly consisting of young boys, is valuable because knowledge in that area is still scarce. Our results show wide variance in psychosocial symptoms presenting in these children with known or suspected CSA, and that, according to our experts, most symptoms were not clearly indicative of CSA. PTSD symptoms and continence skills regression were designated as symptoms of high concern for CSA. This is valuable information for diagnosing CSA, for a wide discrepancy still exists between the numbers of CSA cases known to child protective services and the actual prevalence of CSA<sup>4,19</sup>.

Nonetheless, we must acknowledge some substantial limitations. First, potential bias existed on the part of both the responding parents and the clinicians who performed the assessments. All parents were informed only shortly before their child's examination at the OPD that their child was a possible victim of CSA. They were therefore

likely to have been distressed. As time went by, more and more information about the perpetrator and his actions became publicly known. It is likely that parents either underestimated or overestimated problems in their child when interviewed. They may have highlighted behaviors that would otherwise be considered normal or, conversely, they may not, as a result of the commotion, have been complete in their reports of signs and symptoms. The medical files were built on retrospective reporting and thus could introduce recall bias.

The clinicians involved in the evaluations were all experienced in evaluating known or suspected CSA, but none had ever experienced a sexual abuse case on this scale. The extent of the abuse was not known when the case first came to light. Understandably, no one was prepared for a case of this magnitude, and no research protocol had been created in advance.

There was a potential selection bias as the FGDs were held after confession evidence of the perpetrator. All experts knew that all evaluated the cases were either confirmed or non-confirmed victims of the ASAC. We tried to reduce selection bias as much as possible by withholding the victims' status for the experts.

The acute setting at time of the initial assessment resulted in missing data on some important confounders such as the history of other types of maltreatment, other life events, and parental experiences of CSA. Thus, we were not able to control for these issues.

The study is based on a large sample of actual or possible CSA victims. Nevertheless, one should be cautious in applying the outcomes to the general population, because our sample represents a nonrandomly selected group of children from Amsterdam and neighboring communities in the Netherlands.

### **Clinical implications**

Children with signs of PTSD or regression in continence skills (without other clear stressors), or with psychosocial problems possibly triggered by perpetrator exposure, should always be assessed and monitored further. One needs to keep in mind that an absence of symptoms more concerning for CSA never excludes CSA.

Since diagnosing CSA is so difficult, especially in young children, multidisciplinary assessment is strongly advised. Wallace and colleagues have shown that a multidisciplinary approach can be effective in evaluating child abuse<sup>55</sup>. The American Academy of Pediatrics recommends that pediatricians "seek a second expert opinion in cases of CSA when the child's anal or genital examination is thought to be abnormal"<sup>56</sup>. We would prefer

to extend this advice to include multidisciplinary consultations in all cases of confirmed or suspected CSA.

To our knowledge, there is not yet any generally accepted, scientifically valid way to diagnose or exclude CSA in young children<sup>7,35,57</sup>. Whereas knowledge is increasing in the interpretation of anogenital findings in association with CSA<sup>26,27</sup>, broader systematic research about the patterns of psychological and physical symptoms in children after CSA is urgently needed, using standardized questionnaires and preferably including prospective follow-up studies. It should focus on young children (boys in particular) and on symptoms of PTSD and developmental regression. Such research would provide information to enable early detection of CSA, early recognition of its consequences, and the prompt provision of support.

Our conclusions should contribute to the development of a sexual abuse case protocol that would enable clinicians to improve CSA assessments and to simultaneously collect standardized data on CSA assessment for research purposes. The knowledge gained from such research could additionally be helpful in creating a rating system for psychosocial symptoms that are more concerning or less concerning for CSA. We therefore intend to study whether symptoms more concerning for were more prevalent among the confirmed CSA victims in our sample in comparison with healthy, non-abused controls.

## Conclusions

Only PTSD symptoms and regressions in continence and other cleanliness skills were designated by experts as symptoms more concerning for CSA, unless other explaining stressors are present. All other psychosocial symptoms may raise concerns for CSA if they are numerous and unexplained. Assessment of children confirmed or suspected to have experienced CSA should be performed over time and in a multidisciplinary context.

## Abbreviations

AMC	Academic Medical Center, Amsterdam
ASAC	Amsterdam Sexual Abuse Case
CSA	Child sexual abuse
OPD	Emma Children's Hospital outpatient department
PTSD	Post-traumatic stress disorder
FGDs	Focus group discussions

**Table 1. Demographics and abuse-specific information**

		<b>N Total</b>	<b>N Proven CSA</b>	<b>N High suspicion CSA</b>
Number	Total	125	54 (43.2%)	71 (56.8%)
	Males	76 (60.8%)	43 (79.6%)	33 (46.5%)
Median age, min-max*		3.3, 0-11~	3.0, 0-6	3.0, 0-11~
<b>Family composition<sup>1</sup></b>				
Parents married or cohabiting		93 (74.4%)	43 (79.6%)	50 (70.4%)
Parents separated (shared care)		5 (4.0%)	3 (5.5%)	2 (2.8%)
Parents separated (one-parent care)		11 (8.8%)	3 (5.5%)	8 (11.2%)
Blended family		8 (6.4%)	1 (1.8%)	7 (9.8%)
Mean number of siblings (biological)		0.85 (0-2)	0.90 (0-2)	0.82 (0-2)
<b>Life events<sup>2</sup></b>				
None reported		24 (19.2%)	35 (64.8%)	53 (74.6%)
Yes	Any	74 (59.2%)	39 (72.2%)	45 (63.4%)
	Birth sibling	7 (5.6%)	4 (7.4%)	3 (4.2%)
	Moving house	4 (3.2%)	0	4 (5.6%)
	Pregnancy /fertility problems parents	8 (6.4%)	5 (9.3%)	3 (4.2%)
	Relational problems parents	3 (2.4%)	2 (3.7%)	1 (1.4%)
	Physical or psychosocial illness parent	12 (9.6%)	6 (11.1%)	6 (8.5%)
	Loss of relative	8 (6.4%)	5 (9.3%)	3 (4.2%)
	Physical illness child	3 (2.4%)	1 (1.8%)	2 (2.8%)
	Work related problems parents	3 (2.4%)	2 (3.7%)	1 (1.4%)
	Other	9 (4%)	7 (12.9%)	2 (2.8%)
	Combination	20 (16%)	9 (16.7%)	11 (15.5%)
	<b>Parental experience of CSA<sup>3</sup></b>			
No		32 (25.6%)	23 (42.6%)	9 (12.7%)
Yes	Mother	17 (13.6%)	9 (16.7%)	8 (11.3%)
	Father	1 (0.8%)	1 (1.8%)	0
	Both	1 (0.8%)	0	1 (1.4%)
<b>CSA specific information</b>				
Nature of CSA <sup>#</sup>	Exposure of genitals to child	-	49 (80%)	-
	Ejaculation onto child	-	38 (82%)	-
	Fondling	-	53 (79%)	-
	Oral copulation	-	29 (83%)	-
	Penetration of anus or vagina with finger, penis, or sex toy	-	17 (88%)	-

**Table 1. Continued**

		<b>N Total</b>	<b>N Proven CSA</b>	<b>N High suspicion CSA</b>
Frequency of CSA <sup>a</sup>	1-2 times	-	18 (33.3%)	-
	>2 times	-	12 (22.2%)	-
	>5 times	-	11 (20.4%)	-
	>10 times	-	9 (16.7%)	-
	unclear	-	4 (7.4%)	-
CSA proven based on perpetrator testimony only		-	27 (74%)	-
CSA proven based on perpetrator testimony and pornographic material		-	27 (85%)	-
Estimated median age start CSA, min-max <sup>a4</sup>		-	1.0, 0-3	-
Estimated median age stop CSA, min-max <sup>a5</sup>		-	2.0, 0-5	-
Mean delay (years) between last abuse and primary assessment, min-max <sup>a5</sup>		-	1.2, (0-3)	-
<sup>a</sup> At time of the primary evaluation at the outpatient department			<sup>1</sup> missing data = 8	
<sup>b</sup> One child of the age of 11 included			<sup>2</sup> missing data = 27	
<sup>c</sup> Some children victims of multiple types of CSA			<sup>3</sup> missing data = 52	
<sup>d</sup> Based on the perpetrator's testimony			<sup>4</sup> missing data = 1	
			<sup>5</sup> missing data = 6	

**Table 2. Expert scorings**

<b>Expert considerations</b>	<b>Total N</b>	<b>N Strong suspicions</b>	<b>N total confirmed CSA victims</b>	<b>N confirmed severe CSA<sup>a</sup></b>
Total	125	71 (57%)	54 (43%)	32 (25.6%)
Not-worrisome – somewhat worrisome	42 (33.6%)	20 (16%)	24 (44%)	15 (47%)
Somewhat worrisome – worrisome	35 (28%)	20 (16%)	13 (24%)	8 (25%)
Worrisome – very worrisome	44 (35.2%)	29 (23%)	15 (28%)	8 (25%)
Very worrisome (unanimous)	4 (3.2%)	2 (2%)	2 (4%)	1 (3%)

<sup>a</sup> Only confirmed victims of oral copulation and/or vaginal/anal penetration based on perpetrator's testimony included

**Table 3. Psychosocial symptoms of high and low concern for CSA based on expert considerations**

<b>High concern</b>		<b>Low concern<sup>a</sup></b>	
Signs of PTSD	Re-experiencing (nightmares), signs of avoidance	Hyper arousal	
Toilet-related problems	Anxieties, diaper-changing problems, regression in continence skills	Emotional problems	Anger / aggression, crying, withdrawal, clingy behavior
Daycare center– or perpetrator–related problems	Anxieties, panic attacks, sleep problems, resistance to daycare center, toilet or nap room, distressed reactions with respect to perpetrator	Behavioral problems	Problems with sleeping (other than nightmares), eating, attachment, interaction, boundaries
		Developmental problems other than continence skills regression	Speech, motor, behavioral development

<sup>a</sup> Interpretation depends on possible associations with a perpetrator, the presence of multiple psychosocial symptoms, and the context in which problems manifest themselves.

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