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Childhood Sexual Abuse and its Relationship with Psychosocial Outcomes Among Children Affected by HIV in Rural China

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Abstract

This study assessed the prevalence of childhood sexual abuse (CSA) and its association with psychosocial outcomes among children in high HIV-prevalence communities in rural China. Data were collected from HIV orphans ($n = 417$; children who had lost one or both parents to HIV), vulnerable children ($n = 326$; children living with HIV-infected parents), and comparison children ($n = 276$; children who had not experienced HIV-related familial illness or death). About 30% reported having experienced at least 1 form of CSA; more boys (37%) than girls (24%) reported CSA; 24% reported only non-physical CSA, 5% reported both physical and non-physical CSA; 2% reported only physical CSA. Multivariate analysis revealed that CSA was significantly associated with problem behaviors and quality of life independent of key demographic factors. Findings suggest that these children were vulnerable to CSA and highlight the need to address the issues of CSA in this population.

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Keywords

children; childhood sexual abuse; China; HIV; psychosocial outcomes

Numerous studies have shown that childhood sexual abuse (CSA) is a serious social and health problem, with a number of potential short- and long-term negative consequences. Global literature has documented that CSA was associated with a broad range of health problems such as genital infections, eating disorders, and chronic pain, emotional difficulties (e.g., anxiety, sadness, depression, post-traumatic stress disorder, and suicide attempts), and behavior problems including alcohol use, smoking, and sexualized behavior (Carey, Walker, Rossouw, Seedat, & Stein, 2008; Chen, Dunne, & Han, 2004; Chen, Dunne, & Han, 2006; Huang, Zhang, Momartin, Huang, & Zhao, 2008; Luo, Parish, & Laumann, 2008; Najman, Nguyen, & Boyle, 2007).

Compared to CSA literature in Western countries, relatively little data are available regarding CSA in China, especially the prevalence of CSA and its effects on children who live in poverty-dense communities and lack appropriate parental protection such as children affected by HIV. Existing literature suggests that negative family environment factors, such as impaired parent-child relationships, family instability, neglectful parenting, or lack of parental monitoring, are risk factors for the occurrence of CSA (Kenny & McEachern, 2000; Tyler, 2002; Yen et al., 2008). Previous studies have shown that HIV orphans and vulnerable children who were growing up without adequate parental care and support were at high risk of these negative family environment factors (Bicego, Rutstein, & Johnson, 2003; Case & Ardington, 2006; Mangoma, Chimbari, & Dhlomo, 2008; Monasch & Boerma, 2004; United Nations Children's Fund/United Nations Joint Programme on HIV/AIDS/World Health Organization [UNICEF/UNAIDS/WHO], 2006). In addition, these children may be isolated from support networks such as extended families, schools, and communities because of HIV-related stigma and social withdrawal (Zhao, Li, Kaljee, Zhang, et al., 2009). Therefore, children with HIV-related parental illness and death might be particularly vulnerable to the risk of CSA and its negative consequences. It is important to assess the CSA experience among these children and its impact on their psychosocial well-being, so health care providers and policy-makers can take necessary and appropriate prevention and protection measures and provide needed services and support to these children and their families.

In China, about 740,000 people were living with HIV in 2009 (China Daily, 2009). The China Ministry of Civil Affairs projected that, in the absence of aggressive and effective HIV prevention programs, the number of HIV orphans would swell to 260,000 by 2010 (He & Ji, 2007). Many of the HIV orphans and vulnerable children in China known to the public live in Henan Province, an agricultural province in central China with a population of 96.66 million (Li, Fang, et al., 2009). Since 2004, in response to the increased number of HIV orphans, the Chinese government has begun construction of HIV orphanages in areas hardest hit by HIV; the first HIV-dedicated orphanage was built in late 2004 in Henan Province. Some children who had lost both of their parents to HIV (double HIV orphans) were admitted to HIV orphanages and under the care of orphanage workers (Zhao, Li, Fang, Stanton, et al., 2009). Other double HIV orphans and almost all single HIV orphans (i.e., children who had lost only one parent to HIV) were under the care of the surviving father/mother or relatives.

To the best of our knowledge, no previously published studies have investigated CSA among children affected by HIV in China. Therefore, we designed this study to assess the prevalence of CSA and its association with psychosocial outcomes on children living in

communities of high HIV prevalence in rural China. Four main research questions were developed for this study. First, what is the prevalence of various forms of CSA among the study sample and does the experience of CSA differ by personal or family experience of HIV (i.e., parental death, parental illness, or HIV-free parents) and by type of care-giving arrangement for HIV orphans? Second, is the experience of CSA associated with psychosocial measures among these children? Third, does the experience of CSA contribute to child psychosocial problems over and beyond the HIV experience in the family? Finally, for HIV orphans, is the association between CSA and psychosocial measures moderated by type of care-giving arrangement?

Methods

Study Site and Participants

The sample in the current study consisted of participants in the third annual assessment of a longitudinal study of psychosocial needs of children affected by HIV in China (Li, Barnett, et al., 2009). The larger study was conducted in 2005–2009 in two rural counties in central China where many residents had been infected with HIV through unhygienic blood collection. The counties had the highest prevalence of HIV-infection in the area. Because of the space limitation of the assessment instrument and sensitivity of the CSA measure, the CSA items were only included in the third annual assessment. The participants ($n = 1,019$) in the third annual assessment included 417 HIV orphans, 326 vulnerable children, and 276 comparison children. Children 6 to 18 years of age at baseline were eligible to participate in the study. Age eligibility was verified through local community leaders, school records, or caregivers.

Sampling Procedure

The detailed sampling and consenting procedure for the larger study has been described elsewhere (Li, Barnett, et al., 2009). Briefly, the orphanage sample was recruited from four government-funded orphanages (2 orphanages in each county). To recruit orphans and vulnerable children from family or kinship sources, we worked with village leaders to generate lists of families caring for orphans or with confirmed diagnoses of HIV. Families on the lists were approached and one child per family was recruited to participate in the assessment. After the eligibility of a child was confirmed, interviewers provided him/her with a detailed description of the study design and potential benefits and risks (including confidentiality issues) and invited him/her to participate. Written assent or oral assent (in case of illiteracy) was used for children ages 13 to 18 years; oral assent was used for children ages 6 to 12 years. Written or oral permission (in case of illiteracy) was obtained from caregivers/legal guardians who were available to provide the consent for their children's participation.

Survey Procedure

Each child was administered an assessment inventory including school behavior, psychological problems (loneliness, depression, traumatic symptoms), quality of life, and problem behaviors. Most of the measures/scales in the inventory were culturally adapted from existing measures in literature through qualitative studies (Zhang et al., 2009; Zhao et al., 2007; Zhao, Li, Kaljee, Zhang, et al., 2009). During the survey, clarification and/or instruction were provided promptly when needed. Interviewers were well-trained education and psychology graduate students and faculty members from local universities. The entire assessment inventory typically took 75 to 90 minutes to complete, depending on the age of the child. Younger children (e.g., those younger than 8 years) were offered a 10–15 minute break after every 30 minutes during the assessment. Each child received a gift at completion of the assessment as a token of appreciation. The research protocol, including consenting

procedure, was approved by the institutional review boards at both Wayne State University in the United States and Beijing Normal University in China.

Measures

Demographic characteristics—The children were asked to provide a number of individual and family characteristics during the survey. These characteristics included ethnicity, age, gender, and type of caregivers for HIV orphans (i.e., orphanage workers, surviving father, surviving mother, grandparents, and other relatives). Four items were employed to assess the child's family socioeconomic status (SES): paternal and maternal education (no schooling, elementary school, middle school, or high school or higher) and main occupation (farmer, migrant worker, small business venter, or other). A composite score was created to provide an estimate of children's family SES by indexing those children whose parents (father and mother) had more than elementary school education and engaged in non-farming occupational activities. The SES composite score had a range of 0 to 4 with a higher score indicating a better family SES. Missing data on any of the four SES items were allowed during the calculation of the composite score.

Child sexual abuse—Children were asked to complete a modified version of the CSA Scale used in previous studies (Chen et al., 2006). The original scale, which was developed and validated for the Chinese population, asked respondents whether they had experienced, prior to 16 years of age, any of a list of 12 sexual abuse events (9 items for physical contact and 3 items for non-physical contact) when they did not want this to happen. The original scale was modified in the current study based on the considerations of rural setting and a balance between physical and non-physical contact CSA. The modified version consisted of 5 items of non-physical contact CSA (e.g., *an adult exposed their genitals to the child*, *an adult masturbated in front of the child*) and 5 items of physical contact CSA (e.g., *an adult touched the child's genitals*, *an adult had intercourse with the child*). The Cronbach's alpha for the revised scale was 0.71. Based on the children's reports, a dichotomous variable was created to identify respondents who had ever experienced any kind of CSA. Likewise, dichotomous scores for non-physical contact CSA and physical contact CSA (with or without non-contact CSA) were obtained.

Problem behaviors—The children's problem behaviors were measured using a revision of the children's problem behavior scale, used and validated in previous studies among Chinese children and adolescents (Li, Fang, & Stanton, 1999). Seven additional items (e.g., gambling, copy other people's homework) were added to the original 20-item children's problem behavior scale, resulting in a total of 27 items in the revised scale. Children were asked whether they had engaged in each of the 27 behaviors in the previous 6 months on a 4-point scale: (1 = *never*, 2 = *occasionally*, 3 = *sometimes*, 4 = *often*). A sum score was obtained as the composite score with a higher score indicating a higher level of problem behavior. The Cronbach's alpha of the 27 items was .84 for the sample in the current study.

Trauma symptoms—The trauma symptoms among HIV orphans and vulnerable children were measured using a Chinese version of the Trauma Symptom Checklist for Children (TSCC-CV; Li, Fang, et al., 2009). The TSCC is a multi-domain measure of responses to unspecified traumatic events in young children (Briere, 1996). The TSCC-CV has been validated among children affected by HIV in China (Li, Fang, et al., 2009). Following guidance from the test developer (Briere, 1996), eight critical items were used in the current study as an overall measure of trauma symptoms. Each critical TSCC item presented a statement, and children were asked to indicate how often (1 = *never*, 2 = *sometimes*, 3 = *lots of times*, 4 = *almost all of the time*) the statement was true of their own thoughts, feelings, or behaviors. A total score of eight critical items was obtained as the scale composite score,

with a higher score indicating a higher level of traumatic symptoms. The Cronbach's alpha of the 8 critical items was .68 for HIV orphans and vulnerable children in the current study.

Quality of life—The quality of life in the present study was measured using the Pediatric Quality of Life scale (PedsQL™; Varni, Seid, Knight, Uzark, & Szer, 2002). The 23-item PedsQL™ Scale includes four subscales: Physical Functioning, Emotional Functioning, Social Functioning, and School Functioning. This self-report scale has been utilized for children ages 8 to 18 years with a 5-point response option (0 = *never a problem*, 1 = *almost never a problem*, 2 = *sometimes a problem*, 3 = *often a problem*, 4 = *almost always a problem*). The PedsQL™ has been validated in children affected by HIV in China (Xu, Wu, Yan, Rou, & Duan, 2010). A sum score was obtained for each subscale with a higher score indicating a worse quality of life. The Cronbach's alpha ranged from .75 to .86 for the four subscales in the current study.

Statistical Analysis

To answer the first research question, the Chi-square test was employed to assess the associations of overall CSA (*yes/no*), non-contact CSA (*yes/no*), and contact CSA (*yes/no*) with demographic variables including child orphan status. To answer the second research question, analysis of variance was used to examine the relationship of overall CSA, non-contact CSA, and contact CSA with psychosocial measures. To answer the third research question, general linear model (GLM) analysis controlling for age, gender, child orphan status, and family SES, was conducted among the entire sample to assess differences by overall CSA experience. Gender and child orphan status were included in the GLM models as additional between-subjects factors; age and family SES were included in the model as covariates. Both problem behaviors and quality of life were included in GLM for the entire sample (the trauma symptom scale was not included in the model because it was not available from comparison children in this particular wave of assessment). Finally, to answer the fourth research question, similar GLM analysis was conducted among only HIV orphans to assess the moderation effect of type of caregiver on the association between psychosocial measures and CSA. The moderation effect is suggested if there is a significant interaction between type of caregiver and CSA experience. All statistical analyses were performed using SPSS for Windows 11.5.

Results

Sample Characteristics

As shown in Table 1, the sample in the current study consisted of 497 boys (48.8%) and 522 girls (51.2%). Most of the sample (98.7%) was of Han ethnicity. The mean age for the sample was 14.13 years ($SD = 2.03$), and the mean SES score for the sample was 2.04 ($SD = 1.22$). There were 417 (40.9%) HIV orphans, 326 (32.0%) vulnerable children, and 276 (27.1%) comparison children in the current study. A total of 118 (29.2%) HIV orphans reported that their caregivers were orphanage workers, 103 (25.5%) were grandparents or other relatives, 98 (24.3%) were surviving father, and 85 (21.0%) were surviving mother. Boys reported a significantly higher score of problem behaviors than girls (31.86 vs. 29.62, $p < .0001$).

CSA Experience

Based on responses to the CSA questions, 30.6% ($n = 312$) of the children reported at least one CSA experience: 23.7% ($n = 241$) with only non-contact CSA, 1.9% ($n = 19$) with only physical-contact CSA, and 5.1% ($n = 52$) with both contact and non-contact CSA. In combination, 293 (28.8%) children reported only non-contact CSA experiences and 71(7.0%) reported contact CSA (with or without non-contact CSA). The percentage of

participants who reported non-contact CSA ranged from 2.0% (*masturbated in front of the child*) to 22.6% (*tried to sexually arouse the child*). The percentage of participants who reported physical contact CSA ranged from 1.8% (*made child touch adult's genitals*) to 3.7% (*forcibly kissed or hugged the child*). A total of 2.6% of the children (3.6% boys, 1.7% girls) reported sexual intercourse with an adult(s) and 2.3% (2.6% boys, 1.9% girls) reported being the target of an attempt by an adult(s) to have sexual intercourse.

Group Differences in CSA Experience

As shown in Table 2, more boys than girls reported an overall CSA experience (37.4% vs. 24.1%, $p < .0001$), non-contact CSA (35.6% vs. 22.2%, $p < .0001$), and contact CSA (8.0% vs. 5.9%). The child's age was approximately equally distributed by the experience of overall CSA and non-contact CSA. However, children reporting contact CSA were younger ($M = 13.41$ years) than those who reported no such experience ($M = 14.16$ years, $p < .01$). The family SES was also similar by experience of overall CSA, non-contact CSA, and contact CSA in the sample. HIV orphans and vulnerable children reported higher rates of physical contact CSA, and lower rates of non-physical contact CSA than comparison children, although none of these differences reached statistical significance. The rates of overall CSA varied among the HIV orphans under the care of surviving mother (40.0%), orphanage workers (29.7%), surviving father (26.5%), and grandparents/other relatives (20.4%).

CSA Experience and Psychosocial Measures

As shown in Table 3, there were significant associations between psychosocial measures and three kinds of CSA experiences. All measures of problem behaviors, trauma symptoms, and quality of life were significantly associated with overall CSA, non-contact CSA, and contact CSA among HIV orphans and vulnerable children. For comparison children, all measures of problem behaviors and quality of life were significantly associated with overall CSA and non-contact CSA, problem behaviors; two measures of quality of life (i.e., social and school functioning) were significantly associated with contact CSA.

Multivariate Analysis (Entire Sample)

The GLM analysis (see Table 4) revealed both multivariate ($F = 24.22$, $p < .0001$) and univariate significance with regard to the effect of overall CSA on the measures of problem behaviors ($p < .0001$) and four subscales of quality of life ($p < .0001$ for all subscales) while controlling for age, gender, family SES, and childhood status. All other factors and covariates (gender, childhood status, age) and two interaction terms (interaction between CSA and gender, interaction by CSA, gender, and childhood status) showed multivariate significance in GLM analysis. Gender was significantly associated with problem behaviors and emotional functioning with girls having better scores than boys. Orphan status also was significantly associated with problem behaviors, with children affected by HIV reporting more problem behaviors than comparison children. Older age was associated with lower social functioning and higher school functioning. Family SES was not a significant covariate in either multivariate or univariate analysis. Both the interaction term between CSA and gender and the interaction term by CSA, gender, and childhood status were significant for problem behaviors. Further examination of cell means revealed that both of these interactions resulted from the larger gender difference of problem behaviors among those who reported overall CSA (i.e., mean problem behavior scores = 33.27 for boys and 30.33 for girls) than among those who didn't report overall CSA (mean problem behavior scores = 31.01 for boys and 29.40 for girls).

Multivariate Analysis (HIV Orphans)

Table 5 shows the results of GLM analysis for HIV orphans. There were both multivariate ($F = 12.39, p < .0001$) and univariate significance for the effect of overall CSA on problem behaviors ($p < .0001$), trauma symptoms ($p < .0001$), and four subscales of quality of life ($p < .0001$ for all subscales) while controlling for age, gender, family SES, and type of caregiver. While the type of caregiver was significant in multivariate test ($F = 2.11, p < .01$) and univariate test for problem behaviors, emotion functioning, social functioning, and school functioning, the interaction between type of caregivers and CSA was not significant, nor were other interaction terms. Children living in HIV orphanages reported the highest scores of problem behaviors, traumatic symptoms, social functioning, and school functioning (data not shown). In addition, gender was significant in multivariate test ($F = 4.06, p < .001$) and univariate test for problem behaviors, physical functioning, and emotional functioning with girls reporting better scores on these measures than boys. Age was a significant covariate in multivariate test ($F = 6.44, p < .0001$) and older age was significantly associated with higher emotional and school functioning. SES was a significant covariate in neither multivariate nor univariate test.

Discussion

This study is one of the first efforts to explore the prevalence of CSA among children affected by HIV in rural areas of China. It provides several findings that may contribute to the understanding of issues related to CSA and its relationship to psychosocial outcomes among children affected by HIV in rural China.

First, the prevalence of non-contact CSA (28.8%) among children affected by HIV found in the current study was higher than the non-contact CSA prevalence reported in other studies in China, especially studies conducted in the same geographic region (i.e., Henan province). The rates of physical contact CSA (7.1%) in the current study were lower than or similar to other studies in Henan province. For example, one study conducted in rural Henan province among 123 adolescents found 16.3% for non-contact CSA and 12.2% for physical contact CSA (Lin, Li, Fan, & Fang, 2010). One study of 2,300 students in four schools in Henan, Hubei, Hebei, and Beijing found 10.9% for non-contact CSA and 7.0% for physical-contact CSA (Chen et al., 2004). Another survey of 351 female students in a medical school in Henan province found 17.4% for non-contact CSA, 14.0% for physical contact CSA (Chen et al., 2006). Although it is possible that children affected by HIV and those who were living in a poverty-dense community might experience more non-contact CSA than children living in communities with low prevalence of HIV, discrepancies between the current study and previous studies could be attributed to the measurement issues (e.g., more non-contact CSA measures and fewer physical contact CSA measures in the current study than in previous studies). Future study is needed to validate this speculation or explore other possible explanations for such discrepancies.

Second, the current study showed that the prevalence of overall CSA was significantly higher among boys than girls. This pattern is consistent with findings from recent studies (Lin et al., 2010; Luo et al., 2008), although it differed from the typical pattern in the Western nations and some Chinese studies, which showed a higher rate of CSA for females than for males (Chen et al., 2004; Dunne, Purdie, Cook, Boyle, & Najman, 2003). One possible reason for the considerably higher rate of CSA among boys might be the cultural norm in rural China that does not always interpret some sexual behaviors as abusive for boys (Widom & Morris, 1997). For example, in Chinese culture, especially in rural areas, it is considered normal (or not abusive) to talk about sex or touch boys' genitals. Such cultural tolerance regarding sexual talking and sexual touching among young males might increase the rates of CSA among boys. Another plausible reason might be the underreporting of CSA

by girls. Chinese traditional culture emphasizes women's sexual propriety, and women experiencing CSA often have been pressured to conceal it so as to save the reputation for herself and her family (Luo et al., 2008; Tang, 2002).

Third, our study found that children directly affected by HIV did not report a significantly higher prevalence of overall CSA than comparison children. However, there was a reverse trend (although non-significant) in terms of physical contact CSA and non-contact CSA among the three groups of children. The HIV orphans and vulnerable children reported higher percentages of physical contact CSA (8.4% for HIV orphans, 7.4% for vulnerable children) than comparison children did (4.3%), but they reported lower percentages of non-contact CSA (26.9% for HIV orphans, 27.0% for vulnerable children) than comparison children (33.7%). There were possible explanations for the findings. On the one hand, HIV orphans and vulnerable children lost potential protection from their parents due to HIV-related parental death or illness and were subject to a higher risk of CSA (particularly physical contact CSA). On the other hand, these children suffered from social exclusion or purposeful social avoidance due to HIV-related stigma (Zhao et al., in press). Some HIV orphans might have also experienced social isolation when they were under the centralized care of HIV orphanages (Zhao, Li, Kaljee, Fang, et al., 2009). Social exclusion, social avoidance, and social isolation might somewhat reduce the exposure of these children to excessive risk of non-contact CSA. This finding might also suggest a bigger role of poverty in contributing to CSA experience. All children in the current study were recruited from areas of extreme poverty (which was also the main cause of the HIV epidemic in the area). Some previous studies have indicated that sexual abuse was likely to occur more frequently in lower socioeconomic status families (Finkelhor & Jones, 2004; Tyler, 2002). Therefore, children from poverty-dense communities might be at a higher risk of CSA, regardless of family HIV experience.

Fourth, HIV orphans under the care of a surviving mother reported the highest prevalence of overall CSA, followed by the children under the care of orphanage workers. The result indicated that HIV orphans who had lost a father and lived with a surviving mother were more vulnerable to CSA than children living with a surviving father. Because fathers may play a particular role in monitoring and protecting their children from potential male abusers (Hill et al., 2000), children who lost the protection of their father may have been particularly more vulnerable to CSA. Children under the care of grandparents reported the lowest prevalence of overall CSA, which might be because grandparents not only had more experience in raising and protecting children but also were believed to equally share the parents' affection for the children (Safman, 2004; Young & Ansell, 2003), so the children were more protected against the risk of CSA.

Fifth, this study observed that the children who had experienced CSA (both physical and non-physical contact) reported higher levels of trauma, problem behaviors, and lower quality of life than those who had no such experience. The relationship between CSA and psychosocial outcomes among children and adolescents was consistent with findings from Western nations and other studies in China (Carey et al., 2008; Chen et al., 2006; Huang et al., 2008; Luo et al., 2008; Young, Harford, Kinder, & Savell, 2007). In addition, the relationship between CSA and psychosocial measures was independent of child orphan status. This finding suggested that children might suffer the negative consequences of CSA above and beyond the effect of HIV in their families and/or their communities.

Finally, data in the current study demonstrated a moderation effect of child gender in the relationship of CSA experience with psychological problems, especially with problem behaviors. Such a moderation effect suggested that future prevention intervention approaches for children who suffered from CSA and its possible negative consequences

need to be gender appropriate. However, data in the current study did not support a moderation effect of care-giving arrangement on the relationship between CSA experience and psychological problems among HIV orphans. While the care-giving arrangement (i.e., type of caregivers) was significantly correlated to psychological problems among HIV orphans, this relationship appeared independent of the effect of CSA on children's psychological problems. This finding suggested that HIV orphans under the care of different caregivers might equally suffer from the negative consequences of CSA and deserve equal attention, protection, and support from the community regarding their psychological wellbeing.

Study Limitations

This study has several limitations. First, all of the data were self-reported and some (e.g., CSA experiences) were retrospective, which were subject to self-reporting bias (e.g., underreporting). This issue is particularly relevant with CSA measures as topics of sex are sensitive in Chinese culture. Second, the measures of non-physical contact CSA were expanded from three items in the original scale to five items in the current study, which might contribute to the higher rates of non-physical contact CSA as well as overall CSA in the current study. Future study is needed to validate the CSA measure in order to provide culturally and developmentally appropriate CSA assessment among rural children in China and other developing countries. Third, the composite family SES score used in the current study has not been validated for rural Chinese children, although the development of such a score followed general recommendations in the global literature on measuring SES in health disparities research (Shavers, 2007). Finally, some important information related to CSA was not available for analysis (e.g., age at onset of the abuse, timing of CSA in relation to parental HIV, relationship with perpetrator). Future study including such information may provide greater insight about the contexts of CSA and inform appropriate and effective child protection and psychosocial support to HIV orphans in China.

Despite potential limitations, findings in the current study have important clinical and research implications. First, the high prevalence of CSA among children living in communities of high HIV prevalence and the role of CSA in contributing to the risk of psychosocial problems among these children suggest a need for increasing public awareness of CSA, especially for boys in rural areas. The findings also underscore the need for governments and local communities to recognize the traumatic nature of CSA among children affected by HIV and to provide effective child protection and CSA prevention services to these already at-risk children. Finally, the public health workers and health care providers (including nurses) need to provide developmental- and gender-appropriate psychological interventions and supports to mitigate the negative impact of CSA on these children, their caregivers, and communities, especially communities with a high level of HIV mortality.

Clinical Considerations

Nurses can improve the care of children orphaned by HIV by:

- Understanding the prevalence of various forms of childhood sexual abuse (CSA) among HIV-affected children.
- Understanding whether the experience of CSA is associated with psychosocial symptoms among HIV-affected children.
- Encouraging government, communities, and health care providers to pay attention to the issues of CSA among these children and provide effective child

protection, CSA prevention, and appropriate psychosocial support to the children, their caregivers, and communities.

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Table 1

Demographic Characteristics and CSA Experience of Study Sample

	Total	Boy	Girl
<i>n</i> (%)	1019 (100)	497 (48.8)	522 (51.2)
Age <i>M</i>(<i>SD</i>)	14.11 (2.03)	14.13 (2.00)	14.09 (2.06)
SES <i>M</i>(<i>SD</i>)	2.05 (1.20)	2.05 (1.19)	2.04 (1.21)
Han ethnicity <i>n</i> (%)	951 (98.7)	467 (98.3)	484 (99.0)
Child group <i>n</i> (%)			
HIV orphans	417 (40.9)	217 (43.7)	200 (38.3)
Vulnerable children	326 (32.0)	149 (30.0)	117 (33.9)
Compare children	276 (27.1)	131 (26.4)	145 (27.8)
Type of caregiver^I <i>n</i> (%)			
Orphanage Worker	118 (29.2)	72 (34.0)	46 (24.0)
Grandparent/other relative	103 (25.5)	47 (22.2)	56 (29.2)
Surviving father	98 (24.3)	49 (23.1)	49 (25.5)
Surviving mother	85 (21.0)	45 (20.8)	40 (21.4)
Problem behaviors <i>M</i>(<i>SD</i>)	30.71 (4.15)	31.86 (5.00)	29.62 (2.73)**
Experience of CSA <i>n</i> (%)			
Overall	312 (30.6)	186 (37.4)	126 (24.1)**
Only Non-contact CSA	241 (23.7)	146 (29.4)	95 (18.2)**
Only contact CSA	19 (1.9)	9 (1.8)	10 (1.9)
Both non-contact and contact CSA	52 (5.1)	31 (6.2)	21 (4.0)
Non-contact experiences (“an adult ...”)			
Told erotic jokes to the child	125 (12.3)	87 (17.5)	38 (7.3)**
Tried to sexually arouse the child	230 (22.6)	136 (27.4)	94 (10.1)**
Invited child to watch erotic DVD or magazine/book	44 (4.3)	30 (6.1)	14 (2.7)**
Exposed genitals to the child	21 (2.1)	12 (2.4)	9 (1.7)
Masturbated in front of the child	20 (2.0)	13 (2.6)	7 (1.3)
Physical contact CSA (“an adult ...”)			
Forcedly kiss or hug the child	38 (3.7)	23 (4.7)	15 (2.9)
Made child touch adult’s genitals	18 (1.8)	12 (2.4)	6 (1.2)
Touched or fondled child’s breast or genitals	28 (2.8)	15 (3.0)	13 (2.5)
Tried to have intercourse with child	23 (2.3)	13 (2.6)	10 (1.9)
Had intercourse with child	27 (2.6)	18 (3.6)	9 (1.7)*

Note. CSA = childhood sexual abuse; *M* = mean; *SD* = standard deviation;

^I Data available only for HIV orphans

* *p* < .05;

** *p* < .0001

Table 2

Demographic Correlates of CSA, Non-Contact CSA and Contact CSA Among Rural Chinese Children

Demographic characteristics	Overall CSA		Non-Contact CSA		Contact CSA	
	Yes	No	Yes	No	Yes	No
n (%)	312 (30.6)	707 (69.4)	293 (28.8)	726 (71.2)	71 (7.0)	948 (93.0)
Gender						
Boy	186 (37.4)	311 (62.6)**	177 (35.6)	320 (64.4)**	40 (8.0)	457 (92.0)
Girl	126 (24.1)	396 (75.9)	116 (22.2)	406 (77.8)	31 (5.9)	491 (94.1)
Age M(SD)	14.13 (2.03)	14.10 (2.06)		14.05 (2.08)	13.41 (2.07)	14.16 (2.01)**
SES M(SD)	2.04 (1.22)	2.05 (1.19)	2.05 (1.22)	2.05 (1.20)	2.15 (1.29)	2.04 (1.19)
Child group n (%)						
HIV orphans	120 (28.8)	297 (71.2)	112 (26.9)	305 (73.1)	35 (8.4)	382 (91.6)
Vulnerable children	97 (29.8)	229 (70.2)	88 (27.0)	238 (73.0)	24 (7.4)	302 (92.6)
Comparison children	95 (34.4)	181 (65.5)	93 (33.7)	183 (66.3)	12 (4.3)	264 (95.7)
Type of Caregiver^I n (%)						
Surviving mother	34 (40.0)	51 (60.0)*	33 (38.8)	52 (61.2)*	9 (10.6)	76 (89.4)
Orphanage worker	35 (29.7)	83 (70.3)	32 (27.1)	86 (72.9)	15 (12.7)	103 (87.3)
Surviving father	26 (26.5)	72 (73.5)	25 (25.5)	73 (74.5)	4 (4.1)	94 (95.9)
Grandparent/other relative	21 (20.4)	82 (79.6)	19 (18.4)	84 (81.6)	6 (5.8)	97 (94.2)

Note. CSA = childhood sexual abuse; M = mean; SD = standard deviation; SES = socioeconomic status;

^I Data available only for HIV orphans* $p < .05$;** $p < .0001$

Table 3
Psychological Correlates of CSA, Non-Contact CSA and Contact CSA Among Children Affected by HIV in China

Psychological characteristics	Overall CSA			Non-Contact CSA			Contact CSA		
	Yes	No		Yes	No		Yes	No	
HIV orphans									
N (%)	120 (28.8%)	297 (71.2%)		112 (26.9%)	305 (73.1%)		35 (8.4%)	382 (91.6%)	
Problem behaviors	32.57 (4.44)	29.99 (2.78)	****	32.58 (4.34)	30.05 (2.92)	****	33.69 (5.31)	30.46 (3.20)	****
Trauma symptoms	9.71 (2.47)	8.64 (1.36)	****	9.76 (2.53)	8.65 (1.35)	****	11.11 (3.12)	8.75 (1.50)	****
Quality of life									
Physical	4.08 (4.07)	2.58 (3.62)	****	4.08 (4.08)	2.62 (3.64)	****	5.60 (4.28)	2.77 (3.68)	****
Emotional	4.00 (3.02)	2.26(2.94)	****	4.06 (3.03)	2.28 (2.94)	****	4.37 (2.96)	2.61 (3.04)	****
Social	2.44 (3.10)	1.01 (1.90)	****	2.37 (3.00)	1.07 (2.03)	****	3.97 (3.96)	1.19 (2.05)	****
School	4.20 (3.22)	2.31 (2.46)	****	4.29 (3.25)	2.33 (2.47)	****	4.51 (3.29)	2.70 (2.74)	****
Vulnerable children									
N (%)	97 (29.8%)	229 (70.2%)		88 (27.0%)	238 (73.0%)		24 (7.4%)	302 (92.6%)	
Problem behaviors	32.44 (8.04)	30.41 (3.17)	***	32.40 (8.32)	30.51(3.26)	**	33.50 (5.44)	30.82 (5.14)	*
Trauma symptoms	9.41 (2.18)	8.57 (1.18)	****	9.21 (1.79)	8.68 (1.48)	**	10.33 (3.06)	8.70 (1.34)	****
Quality of life									
Physical	4.47 (4.88)	2.40 (3.28)	****	4.38(4.92)	2.51 (3.38)	****	5.79 (5.92)	2.79 (3.66)	****
Emotional	4.06 (3.93)	2.10 (3.16)	****	3.82(3.77)	2.26 (3.33)	****	5.17 (4.33)	2.49 (3.37)	****
Social	2.88 (3.57)	1.07 (2.69)	****	2.68(3.48)	1.21 (2.83)	****	4.63 (4.61)	1.37 (2.81)	****
School	3.65 (2.83)	2.24 (2.73)	****	3.66(2.80)	2.29 (2.76)	****	3.88 (3.21)	2.56 (2.78)	*
Comparison children¹									
N (%)	95 (34.4%)	181 (65.6%)		93(33.7%)	183 (66.3%)		12 (4.3%)	264 (95.7%)	
Problem behaviors	31.12 (3.94)	29.92 (3.31)	**	31.14 (3.96)	29.92 (3.30)	**	32.83 (4.84)	30.22 (3.48)	*
Quality of life									
Physical	4.35 (4.50)	2.57 (3.13)	****	4.30 (4.43)	2.62(3.21)	****	5.17 (5.34)	3.09 (3.65)	
Emotional	3.67 (2.85)	2.11 (2.64)	****	3.72 (2.85)	2.10 (2.63)	****	3.50 (2.97)	2.61 (2.80)	
Social	2.11 (2.66)	0.75 (1.60)	****	2.08 (2.65)	0.78 (1.64)	****	4.08 (3.50)	1.09 (1.95)	****

Psychological characteristics	Overall CSA		Non-Contact CSA		Contact CSA	
	Yes	No	Yes	No	Yes	No
School	3.47 (2.51)	2.07 (2.26) ****	3.47 (2.53)	2.09 (2.26) ****	4.08 (3.34)	2.48 (2.37) *

Note. CSA = childhood sexual abuse;

I Data on trauma symptoms not available for comparison children

* p < .05;
** p < .01;
*** p < .001;
**** p < .0001

Table 4
GLM Analysis of Effect of CSA on Psychosocial Symptoms Among Children Affected by HIV

	<i>Main effects</i>			<i>Interaction²</i>		<i>Covariates</i>	
	Overall CSA	Gender	Child group ¹	CSA by gender	CSA by gender by child group	Age	SES
Multivariate test ³	24.22 ****	17.75 ****	1.87 *	2.68 *	2.07 *	10.90 ****	< 1
Problem behaviors	36.07 ****	74.05 ****	4.78 **	5.97 *	3.48 *	< 1	< 1
Quality of life							
Physical	47.55 ****	< 1	< 1	< 1	< 1	< 1	< 1
Emotional	68.78 ****	4.29 *	< 1	1.77	2.77	9.69 **	< 1
Social	78.87 ****	< 1	2.44	< 1	< 1	< 1	< 1
School	72.88 ****	< 1	2.09	1.14	1.14	30.70 ****	< 1

Note. CSA = childhood sexual abuse; SES = socioeconomic status; GLM = general linear modeling;

¹ Three children group (i.e., HIV orphans, vulnerable children, comparison children)

² The other interaction terms not presented in the table because of absence of significance

³ Trauma scale excluded from the analysis because data for trauma scale were not available for comparison children

* $p < .05$;

** $p < .01$;

*** $p < .001$;

**** $p < .0001$

Table 5
GLM Analysis of Effect of CSA on Psychosocial Symptoms Among HIV Orphans

	Main effects			Covariates	
	Overall CSA	Gender	Type of caregiver ¹	Age	SES
Multivariate test ²	12.39****	4.06***	2.11**	6.44****	< 1
Problem behaviors	35.85****	7.60**	3.42*	< 1	< 1
Trauma symptoms	37.15****	3.37	3.06*	< 1	< 1
Quality of life					
Physical	16.52****	5.09*	1.84	< 1	< 1
Emotional	31.03****	7.31**	2.55	8.20**	< 1
Social	33.22****	1.73	4.69**	1.94	< 1
School	37.60****	3.99*	3.08*	14.93****	< 1

Note. CSA = childhood sexual abuse; SES = socioeconomic status; GLM = general linear modeling;

¹Type of caregiver (i.e., orphanage worker, grandparent & other relative, surviving father, and surviving mother)

²The interaction terms among factor variables excluded from this table because of absence of statistical significance.

*
 $p < .05$;

**
 $p < .01$;

 $p < .001$;

 $p < .0001$