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The experience of abuse and mental health in the young Thai population:

A preliminary survey

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Abstract

Objectives—The aims of this study were to examine the prevalence of child abuse exposure among Thai people in a suburban community and to describe the association of abuse experiences with common mental disorders (CMD), alcohol use disorders and substance use.

Methods—A population-based cross-sectional survey was conducted in Northern Bangkok on a representative sample of 202 young residents, aged 16–25 years.

Results—Thirty eight percent of the respondents reported experiencing some form of abuse during childhood, with 5.8% having been subjected to sexual penetration, 11.7% having been physically abused and 31.8% emotionally abused. A graded relationship was found between the extent of exposure to abuse during childhood and mental problems. After controlling for potential confounders, CMD remained significantly associated with emotional abuse, and alcohol use disorders remained associated with sexual abuse. Strong but non-significant trends were present for associations between CMD and sexual abuse and all forms of abuse with substance use.

Conclusion—Child abuse experiences were common among the respondents. Childhood abuse, particularly sexual abuse, has a potentially devastating impact on adult mental health.

Keywords

child abuses; neurotic disorders; substance abuses; alcohol-related disorders; cross-sectional survey; Thailand; mental health; prevalence

Introduction

Although studies in the developed world have shown that child abuse problems are common, relatively few studies have explored the magnitude of this problem in developing world. Studies have been carried out in India [27], Malaysia [35], Singapore [5], Hong Kong [19] and Thailand [16] (see details in Table 1), focussing upon sexual and physical abuse among school or university students. There is only one community study, from Hong Kong, focussing on physical abuse alone [37]. These studies suggest that child abuse of various types is also a

significant problem in Asia. However, these studies may be biased with regard to the estimates of the extent of various forms of child abuse in the community.

Over two decades of research suggest with relative unanimity that childhood emotional, physical and sexual abuse are associated with a wide range of behavioural and psychological problems that persist into adulthood: anxiety, depression, drug abuse, alcoholism, and suicide attempts [1,11,12,24]. In addition, several authors have shown that the combination of multiple types of abuse can have more devastating effects on mental health than any single category of abuse [13,24]. Studies in Asia have also found poorer mental health and higher rates of smoking and drinking among students, who reported verbal, physical and sexual abuse [19,27]. In Thailand, mental and behavioural problems such as anxiety, depression, substance and alcohol use disorders are prevalent among young people [10,18] and are among the leading causes of morbidity and mortality in this age group [40]. Better understanding of the contribution of the experience of abuse to the development of these disorders will be of potential relevance to public policy, public health and health care planning.

Aims of the study

The aims of the study were to investigate the prevalence of self-reported multi-category childhood abuse in a community sample of young Thai people in a suburban area of Bangkok and to describe the associations between the experience of childhood sexual, physical and emotional abuse and common mental disorders (CMD), substance use and alcohol use disorders later in adolescence. This is a preliminary investigation preparing the way for a larger epidemiological survey of adolescent health in the same district.

Materials and methods

The study, which was approved by the Thammasat University Faculty of Medicine's and Institute of Psychiatry's Ethics Committees for Research, employed a whole population catchment area cross-sectional survey design.

Participants

A sample of 202 eligible residents, aged 16–25 years living in Jamorn Community, was recruited. The community was part of Khukot Municipality located on the north border of Bangkok, covered by a university medical centre. It was typical of many suburban metropolitan districts, consisting of predominately residential and mixed-use communities. We first enumerated the catchment area populations by knocking on the doors of all households, identifying young persons aged 16 to 25. In the event that there was more than one eligible resident in a given household, we selected one at random to be interviewed.

Procedures

Five trained interviewers arranged to interview the selected individuals in their own homes. The main survey instruments consisted of two parts: an interviewer-administered questionnaire and a self-administered questionnaire on abuse exposure and history of drug use. The self-report questionnaire was completed by respondents in private and returned in a sealed envelope to the interviewer. This approach was used to ensure respondent confidentiality. It was also feasible as the illiteracy rates among Thai adults aged 15 and above are very low, 2.8% for men and 6.1% for women [39].

Mental health outcomes

Common mental disorder was assessed by the structured, lay-administered Revised Clinical Interview Schedule (CIS-R) [20], which estimates prevalence for the 1-week period prior to

interview. The CIS-R has been used extensively in the UK [17], Chile [2], Zimbabwe [26], India [28], Taiwan [21], Sri Lanka [41], Thailand [34] and Tanzania [25]. Those meeting the ICD-10 diagnostic criteria for non-psychotic disorders or scoring 12 or above on the CIS-R were regarded as having a common mental disorder.

Substance abuse/dependence was assessed using five questions taken from the Diagnostic Interview Schedule [31]. The items asked included use of tranquillisers, cannabis, amphetamines, opiates, hallucinogens, ecstasy and solvents, which covered the majority of the illicit drug used in Thailand [40].

Alcohol problems were assessed by the Alcohol Use Disorder Identification Test (AUDIT) [33], a structured and standardized instrument, which provides valid and reliable detection of hazardous and harmful use of alcohol in a general population. A cut-point of eight or more indicates the likelihood of hazardous and harmful alcohol consumption and identifies that person as requiring further assessment.

Exposure variables and potential confounders

Sociodemographic factors includes (1) respondents' sex, age and level of education and (2) head of household's years of education.

Childhood adverse experiences were screened with anonymous self-administered questionnaires. These covered three categories of childhood abuse including emotional, physical and sexual abuse and witnessing of maternal battering. Questions on emotional and physical abuse and witnessing maternal battering were translated and adapted from the Conflict Tactic Scale [36], whereas questions on sexual abuse were adapted from a questionnaire developed by Wyatt [42]. The selected measure was translated and then adapted based upon qualitative studies (focus group discussions, key informant interviews) in an earlier stage of the project, which provided guidelines on domains (i.e. emotional, physical and sexual abuse, witnessing of maternal battering) to be included in the childhood adverse experience questionnaire and items to be included in each domain. The age of 16 or under was agreed as the critical childhood period for enquiry regarding abusive experiences occurred. The items used to define abusive experiences were:

1. Emotional abuse: "How often did a parent or other adults in the household insult, belittle, yell or publicly criticize you, consequently, making you feel bad, inferior or humiliated?"
2. Physical abuse: "How often did a parent or other adult in the household (1) shove, slap, kick, punch, throw things at you or pull your hair or (2) smack or hit you hard so as to cause wounds or bruises?"
3. Witnessing of maternal battering: the exposure was defined by witnessing violent treatment of their mother or stepmother by her partner. The violent acts included (1) shoving, slapping, throwing things at her or pulling her hair; (2) kicking, punching or hitting her with hard objects; (3) repetitive hitting; (4) threatening to assault her with knife or gun or indeed injuring her.

Exposures to these experiences were regarded as present if the respondent reported they had sometimes, often or very often experienced these events before the age of 16.

4. Sexual abuse: sexual abuse was considered present if the respondent reported at least one penetrative sexual abuse event (oral, anal or vaginal intercourse) before the age

of 16 with a person 5 or more years older, with or without consent. Data were also collected on the identity of the perpetrator(s) and the timing of the abuse.

Ethical consideration

Confidentiality and anonymity of participants were assured. Participation was voluntary and based on informed, signed consent. Careful attention was given to the risk of distress in participants. Participants were provided with a list of institutions and contact workers for specialised help.

Statistical methods

Statistical analyses were performed with STATA version 8. In univariate analysis, we estimated the prevalence of past abuse experiences and odds ratios (OR) for their association with the principal mental health outcomes. In multivariate analysis (logistic regression) we estimated the independent associations of the three forms of abuse with the principal mental health outcomes having controlled for the potential confounding effects of other variables including sex and the respondent's and head of household's education. All of the prevalence estimates, univariate and multivariate analyses were weighted back to take account of household composition.

Results

The household enumeration and response rate

The five interviewers visited 830 addresses of the Jamorn Community to identify private households with at least one person aged 16–25. Seven hundred and eighty-one occupied households were identified, of which residents could not be contacted or declined to provide information in 48 (6%) and 12 households (1.5%), respectively. In all, 721 of the occupied households (92%) provided household member information. Two hundred and thirty-six households had at least one eligible resident. One hundred and twenty-nine households (54.7%) had only one eligible person. Eighty-two households (34.7%) had two eligible persons, and 25 households (10.6%) had more than two eligible persons.

Of those eligible persons selected ($n=236$), 13% could not be contacted ($n=30$), and a further 2% refused to participate ($n=4$), leaving 202 successfully completed interviews. The overall response rate was therefore 85.6%. Fifty-eight percent of interviewees were females. The majority of the sample (47%) were employed, 43.1% students, 5.9% finding job, 2.5% housewives and 1.5% unemployed. Of those who were not studying ($N=115$), 17 (14.8%) completed compulsory primary school education or below, 50 (43.5%) had junior high school education, 25 (21.7%) had high school education, 6 (5.2%) had advanced vocational diploma and 17 (14.8%) had a university or higher degree.

Prevalence of main mental health outcomes and childhood adverse experiences

Prevalences of the three main outcomes and child abuse are summarised in Table 2. Among the three negative mental outcomes, only substance use and alcohol problems were significantly higher in women than in men. The most common substance used by far was amphetamine and its derivatives. There were 37.6% of respondents in the interview sample who reported experiencing some form of abuse during childhood (the pattern of overlap between the three types of abuse is presented in Table 3). The physical and emotional abuse were all at the hand of adults living in the same household, but older friends accounted for the majority of sexual abuse cases. There were no differences in prevalence of adverse experiences of any kind between men and women.

Long term impact of abuse

Sexual abuse—Those reporting child penetrative sexual abuse in childhood tended to have poorer mental health. They were more likely to be identified as cases on the CIS-R (55.0 vs 18.0%, $\chi^2=3.77$, $p=0.05$) and showed non-significant trends towards greater likelihood of using substances (25.0 vs 12.1%, $\chi^2=1.19$, $p=0.28$) and of drinking at hazardous levels (50.0 vs 16.7%, $\chi^2=3.44$, $p=0.07$).

Physical abuse—Those recounting physical abuse showed a non-significant trend towards being more likely to be identified as a case of common mental disorder on the CIS-R (30.0 vs 18.8%, $\chi^2=1.52$, $p=0.22$) and had a greater likelihood of using substances (30.0 vs 10.6%, $\chi^2=5.14$, $p<0.05$). Physical abuse was not associated with alcohol problems (20.0 vs 18.5%, $\chi^2=0.03$, $p=0.87$).

Emotional abuse—Those with a history of emotional abuse were more likely to be identified as a psychiatric case on the CIS-R (33.0 vs 14.1%, $\chi^2=7.28$, $p<0.005$) and a non-significant trend to be more likely to use substances (20.2 vs 9.4%, $\chi^2=3.13$, $p=0.08$). The two groups did not differ in the prevalence of alcohol problems (22.0 vs 17.1%, $\chi^2=0.53$, $p=0.47$).

For ease of comparison between the types of abuse, the odds ratios for the principal outcomes measured are presented in Table 4.

Reporting more than one form of abuse

The impact of having suffered more than one form of abuse was examined. For each outcome there was a trend towards higher risk associated with multiple as opposed to single forms of abuse, although the numbers so exposed were small. The chances of being ascertained as a case on the CIS-R increased from 14.0% for no abuse, to 23.9% for any single type of abuse, to 41.2% for two types of abuse and to 100% for those reporting all three forms of abuse ($F(2,200)=4$, $p=0.02$). The prevalence of substance use increased from 8.4% for no abuse, to 16.3% for any single form of abuse, to 26.5% for two types of abuse and to 66.7% for all three types of abuse ($F(3,199)$, $p=0.09$). For alcohol use disorders, the prevalence was 16.4% for those with no abuse, rising to 19.6 and 26.5% for one and two forms of abuse, respectively, and 66.7% for those reporting all three types of abuse. The test for trend in this case was not statistically significant ($F(3,199)$, $p=0.38$).

Risk factors for abuse

Associations were examined between the reporting of sexual, physical and emotional abuse and a range of social factors that were known or could be assumed to predate the abuse (Table 5). Low levels of education for the head of the household were associated with reports of physical abuse and sexual abuse. Violent treatment to mother was also a risk as it was regarded as a persistent feature of the relationship between parents. Having witnessed maternal battering was strongly associated with the report of sexual (24.1 vs 4.1%, $\chi^2=5.2$, $p<0.05$), physical (44.8 vs 8.6%, $\chi^2=15.9$, $p<0.0001$) and emotional abuse (75.9 vs 27.7%, $\chi^2=13.0$, $p<0.0005$).

The association between risk factors for abuse and adverse mental health outcomes

The factors identified as being associated with or potentially associated with increased rates of one or more of the forms of child abuse were examined for their direct association with mental health outcome variables to identify potential for confounding (see Table 6). Females tended to have suffered from common mental disorders [OR 1.5, 95% confidence interval (CI) 0.6–3.5], but significantly less likely to have histories of substance abuse (OR 0.2, 95% CI

0.1–0.7) and alcohol problems (OR 0.1, 95% CI 0.0–0.2). Witnessing of maternal battering was associated with common mental disorders (OR 3.7, 95% CI 1.1–12.6).

Logistic regression

Logistic regression was performed in an attempt to unravel the influence of abuse on the adult mental health outcomes from the effects of the potential confounders which were themselves associated with both increased levels of abuse and many of the same negative outcomes in adult life (Table 7). Further multivariable analyses attempted to disentangle the effects of each form of abuse from those of the other two forms of abuse and witnessing of maternal battering with which abuse on occasion coexisted.

Logistic regression was carried out in three steps below—At step I, controlling for sex and education level of respondent and head of household, emotional abuse was significantly associated with CMD, and sexual abuse was significantly associated with alcohol problems. There were strong but not statistically significant trends for positive associations between sexual abuse and CMD and all forms of abuse and substance use. Further controlling for other forms of abuse (in step II) and witnessing of maternal battering (Step III) did not materially alter this pattern of findings, with no evident confounding, other than that the association between physical abuse and both CMD and substance use was attenuated when controlling for other forms of abuse.

Discussion

Prevalence of common mental disorders, substance abuse and alcohol use disorders

CMD was common among young Thai people in the present study, with about one fifth of the sample being affected. A comparable household survey in the UK [17], using the same measure and outcome definition, suggested a slightly lower rate of 15% for those aged 16–24. Previous community studies in Taiwan and Chile have suggested slightly higher rates for those aged 16 or above, approximately ranging between 21 and 25% [2,8].

Hazardous and harmful drinking was common in the present study, with 38.2 and 4.5% in males and females, respectively, which were much higher than those obtained in a previous local study [4]. The previous study found that the age-adjusted prevalences of hazardous–harmful drinkers aged ≥ 35 were 27% in males and 1% in females. The considerable differences in prevalence between the two studies were perhaps due to the fact that young adults are more likely to drink in a hazardous and harmful way than older people [3]. However, our rates were much lower than those found in a comparable AUDIT study in the UK, which suggested prevalences of between 45 and 63% among males aged 16–24, and of between 29 and 33% among females of the same age range [9]. The findings are consistent with the global estimates and pattern of alcohol drinking, suggesting that average volume of drinking and the proportion of heavy drinkers in Europe and America were much higher than those in Asian regions [30].

About 13% of our sample had a history of illicit substance use over the past year, with men much more likely to be affected than women (22.9 vs 5.5%). Amphetamine was the most widely used drug in the sample, as expected. Its high prevalence is also in line with what previously reported on amphetamine use among Thai schoolchildren [32]. Previous studies in other countries have revealed huge differences in 2-year prevalence of illicit drug use. The UK National Survey suggest prevalences of between 32 and 37% for males aged 16–24 and of between 22 and 29% for females of the same age group [9], whereas a National Survey in China found a prevalence of 1.2% among those aged 15 or above, 1.8% in males and 0.5% in females [15], with opiates being the main drugs used. Discussion of these huge differences in

prevalence across countries needs to be taken with caution and is beyond the scope of this paper.

Prevalence of childhood abuse

Sexual abuse—Definitions of child sexual abuse vary across studies in context of sexual abuse regarding, for example, contact or non-contact type, consent, age of consent and age of perpetrator (in relation to the age of the victim). Although a greater number of Thai adolescents might have a history of abusive sexual experience prior to the age of 16, we have only sought to ascertain the most severely intrusive abuse (penetrative sexual abuse) by someone 5 or more years older and have recorded a prevalence of 5.8% (4.9% in males, 6.5% in females). Considerable differences in prevalence between our study and those conducted in other settings (Table 1) might reflect either real differences between these populations, differences in age–sex structures, or differences in the defining criteria for sexual abuse. For instance, the lifetime prevalence of penetrative sexual abuse occurring to children less than 18 years of age was 0.8% among Malaysian paramedical students [35]. In Singapore, the rate was 4.5% among female university students who had experienced sexual intercourse before age 18 [5]. In India a study by Patel et al. [28] reported a 12-month prevalence for coercive sexual intercourse (defined as an experience of being forced to have sex with someone) of 6% among higher secondary schoolchildren (7% in males, 6% in females).

Review of western studies on penetrative sexual abuse by older people during childhood among community samples suggested prevalences of 5, 6 and 6.9% in random community samples in England [6], New Zealand [23] and the US [14], respectively. The present study indicates a slightly lower prevalence for this most severe form of child sexual abuse, lending some support to previous cross-cultural studies that found that Asian children generally suffered less from physical forms of sexual abuse [29].

The low socio-economic status of the population under study (about half of the heads of household in our survey did not progress beyond primary school) may explain why the rates of penetrative sexual abuse in both sexes were relatively high, compared with those reported in other Asian regions. Low educational level of the head of the household was strongly associated with a history of sexual abuse (OR=7.9). However, it should be noted that a majority of sexual abuse incidents in the present study involved people outside the victims' family, consistent with previous findings in Asian countries [27,35,38].

Physical abuse—Similar to sexual abuse, differences in previously reported prevalence of physical abuse across studies may be due to the use of different definitions, contexts of abuse, severity, period, timing and frequency of exposure. In the present study it was only young adults who reported a clear battery of unacceptable physical harm or beatings during childhood of sufficient severity to produce bruising or other tissue damage who were included in the physical abuse category. Physical abuse was a common and significant problem in this sample, with a prevalence of 15.3%. In Asian studies, prevalences vary from 6.6% over a 3-month period to 76.7% during childhood [5,16,19,37]. In North America, community-based prevalences range between 20.6 and 25.7%, whereas a prevalence of 7.8% was reported in New Zealand [7,13,22,24].

Emotional abuse—Emotional abuse in the present study was identified with behaviours potentially causing negative psychological impact such as belittling or insulting the child. We found that about one third of the sample had experienced emotional abuse to a considerable extent during childhood. A previous local study conducted in primary school [16] found that 95% of children perceived emotional violence by their parents. The very high percentage

reported in the previous study was probably due to a wide range of practice used to define emotional violence, and the abuse was regarded as present if it had occurred only once. Previous community studies on emotional abuse have only been found in the Western world and generally showed much lower rates than ours. A study in the US by Felitti et al. [14] revealed that 11.1% of the respondents had experienced emotional abuse, assessed by the Conflict Tactic Scale. Mullen et al. [24] found that 11.5% of New Zealand women experienced emotional abuse, assessed by the Parental Bonding Instrument (PBI).

Associations with mental health problems

Multiple abuse—As might be expected, those reporting more than one form of abuse in childhood fared worse than those reporting single types of abuse. The findings are consistent with previous studies [13,14,24], which reported that the rates of various psychiatric disorders increase with the number of types of childhood maltreatment and adversity.

Sexual abuse—The current data suggest the possibility of strong associations between sexual abuse and each of the adverse mental health outcomes in the young Thai population. While only the association with alcohol problems is statistically significant, the central estimate in each case suggests a large effect size, not at all attenuated after controlling for a variety of socio-demographic variables as well as the other forms of childhood abuse and witnessing maternal battering. These data are consistent with the majority of the literature on mental health sequelae of childhood sexual abuse in both Asian and western countries [5,7,13,22,27]. Importantly, the sizes of the relationships between sexual abuse and the three negative mental health outcomes are large, and the sexual abuse experience was rather prevalent in the sample, indicating that the impact of child sexual abuse is potentially huge and has substantial clinical and public health implications. Larger studies are required to estimate the size of the effect and the public health impact with more precision.

Physical abuse—The associations of physical abuse with CMD and substance use were no longer significant after controlling for the other forms of abuse, indicating that the effects of physical abuse were partly confounded. However, these findings need to be interpreted with caution as a small sample size contributing to the lack of statistical power. The finding was in line with what reported in a community sample of women in New Zealand [24], which found that physical abuse was no longer associated with history of mental illness, suicide attempt and heavy drinking, after controlling for potential confounders including sexual and emotional abuse. However, studies in North America [7,22] have suggested independent associations of physical abuse with several mental health outcomes, although the strengths of the associations were much weaker than those of sexual abuse.

Emotional abuse—Those with history of emotional abuse were more likely to have mental disorders, even after controlling for other confounding factors. Although the association with substance use became insignificant after adjustment, with a slight reduction in the size, indicating that this could simply be due to insufficient sample size. Still, our result is consistent with the finding obtained by Mullen et al. [24], who found that emotional abuse remained associated with history of mental disorders, even after controlling for sexual and physical abuse.

Limitations—Several potential limitations need to be considered when interpreting the results of this study. This is a preliminary study to the substantive survey underway, its small sample size gave rise to high imprecision in some estimates. This would be minimised with a larger sample size, which is being employed by our current larger-scale study.

Although we found that the method used for ascertaining histories of abuse with self-report administration proved to be generally acceptable for young Thai people, as for Asian people in previous studies [5,19,27,35,38], this study was based on self-report, retrospective data; consequently, the relationship between childhood abuse and adult problems cannot be assumed to be causal. The data can only demonstrate associations between childhood abuse exposures and mental health problems in adulthood. In addition, as in all self-report studies which are often subject to recall bias, this is a study of those who gave a history of having been abused in childhood. This cannot be assumed to accurately reflect all of those in the study population who were actually abused as children.

Limitations on the generalizability of these data also do exist. The current sample comprised young people living in part of a suburban community and thus may not be representative of young Thai people in the whole community or a larger population. The generalizability of the findings would be better established with a larger sample appropriately analysed, taking account of the survey design.

In conclusion, our study provides population-based estimates of the prevalences of multi-category abuse and psychological consequences among young Thai people in a community setting. The findings reinforce the notion that child abuse is common and also support an association between giving a history of such abuse and an increased vulnerability to a range of mental health problems in adult life. Increased awareness of the frequency and long-term consequences of adverse childhood abuse experiences may also lead to improvements in mental health promotion and prevention programs.

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Table 1

Studies reporting the prevalence of child abuse in Asia

Author	Country	Participants	No. of participants	Definition	Sexual (%)	Physical (%)	Emotional (%)
Asia							
Isaranurug et al. [16]	Thailand	Primary school students	212	Violence by biological parents	–	76.7	95.0
Back et al. [5]	Singapore	Female university students	88	Child abuse before age 18	15.9	62.5	–
Lau et al. [19]	Hong Kong	Secondary school students	3,355	1. Corporal punishment 2. Beaten by parents for no reason 3. Beaten by family members 4. Any of the above (all within the past 3 months)	–	4.9	–
Tang [38]	Hong Kong	College students	2,147	Various forms of sexual abuse before age 17	6.2	–	–
Tang [37]	Hong Kong	Parents of children at or under 16 years of age	1,019	1. Minor violence	–	52.6	–
Patel et al. [28]	India	Higher secondary school students	811	2. Severe violence	6	46.1	–
Singh et al. [35]	Malaysia	Paramedical students	616	Coercive sex in the past 12 months	6.8	–	–
Western (community studies only)							
Edwards et al. [13]	US	Community (age 19–97)	8,667	Contact and non-contact sexual abuse before 18	21.6	20.6	29.4
Briere and Elliott [7]	US	General population (age 18–90)	935	Abuse before age 18	23.4	20.9	–
MacMillan et al. [22]	Canada	General population (age ≥15)	9,953	Abuse when “growing up”	8.9 (unwanted)	25.7	–
Mullen et al. [24]	New Zealand	Community women (age ≥18)	497	Emotional and physical abuse in childhood	10.7 (unwanted)	7.8	11.5
Baker and Duncan [6]	England	General population (age ≥15)	2,019	Sexual abuse before age 16	10.0	–	–

Table 2
Prevalence of mental health outcomes and adverse experiences by gender

	Prevalence (%) (95% CI)			Prevalence ratio (95% CI)
	Men (N=144)	Women (N=199)	Total (N=343)	
Mental health outcomes				
CMD	16.7 (8.8–29.2)	22.6 (15.3–32.2)	20.1 (14.1–27.3)	1.4 (0.7–2.5)*
Substance use	22.9 (14.1–34.9)	5.5 (2.0–14.4)	12.8 (8.2–19.5)	0.2 (0.1–0.7)**
Alcohol-related disorders	38.2 (27.3–50.5)	4.5 (2.0–9.7)	18.7 (13.1–25.6)	0.1 (0.0–0.3)**
Adverse experiences				
Sexual abuse	4.9 (1.1–18.4)	6.5 (2.1–18.4)	5.8 (2.4–13.5)	1.3 (0.2–6.5)
Physical abuse	15.3 (8.2–26.6)	9.0 (5.2–15.4)	11.7 (7.6–17.4)	0.6 (0.2–1.3)
Emotional abuse	34.0 (23.6–46.3)	30.2 (21.4–40.6)	31.8 (24.9–39.6)	0.9 (0.5–1.4)
Any abuse	41.0 (29.8–51.1)	35.2 (25.5–46.3)	37.6 (30.1–45.8)	0.9 (0.5–1.3)
Witnessing maternal battering	9.7 (4.0–21.7)	7.5 (4.0–13.8)	8.5 (4.9–14.1)	0.8 (0.3–2.1)

* $p < 0.005$

** $p < 0.0001$

Table 3
Rates of sexual, physical and emotional abuse in the interview sample

Type of abuse	Men		Women	
	(n)	(%)	(n)	(%)
No abuse	85	59.0	129	64.8
Sexual only	2	1.4	9	4.5
Physical only	8	5.6	1	0.5
Emotional only	30	20.8	42	21.1
Sexual and physical	0	0	0	0
Sexual and emotional	5	3.5	1	0.5
Physical and emotional	14	9.7	14	7.0
Physical, emotional and sexual	0	0	3	1.5
Total	144		199	

Table 4
The unadjusted odds ratios for negative mental health outcomes in those with histories of abuse

Negative outcome	Sexual abuse	Physical abuse	Emotional abuse
CMD	5.6 (0.8–38.2)	1.8 (0.7–5.0)	3.0 (1.3–6.8)
Substance use	2.4 (0.5–12.6)	3.6 (1.1–11.8)	2.4 (0.9–6.7)
Alcohol abuse/dependence	5.0 (0.8–32.0)	1.1 (0.4–3.4)	1.4 (0.6–3.2)

Table 5
The associations expressed as odds ratios between putative risk factors and reported abuse

Risk factors	Sexual abuse	Physical abuse	Emotional abuse
Sex (female)	1.4 (0.2–9.1)	0.6 (0.2–1.4)	0.8 (0.4–1.7)
Respondent's education (≤primary school education)	1.0 (0.1–9.8)	2.2 (0.6–7.8)	0.8 (0.2–2.4)
Head of household's education (≤primary school education)	7.9 (1.4–45.2)	2.7 (1.0–7.3)	1.4 (0.7–2.8)
Maternal battering	7.4(1.0–53.1)	8.6 (2.5–29.3)	8.2 (2.2–30.6)

Table 6
Correlates of negative mental health outcomes

Risk factors	CMD	Substance abuse	Alcohol use disorders
Sex (female)	1.5 (0.6–3.5)	0.2 (0.1–0.7)	0.1 (0.0–0.2)
Respondent's education (≤primary school education)	1.0 (0.3–3.6)	1.9 (0.5–6.9)	2.3 (0.7–7.4)
Head of household's education (≤primary school education)	1.3 (0.6–3.0)	1.1 (0.4–2.9)	1.2 (0.6–2.7)
Witnessing of maternal battering	3.7 (1.1–12.6)	1.5 (0.4–5.6)	2.1 (0.5–8.7)

Table 7

The odds ratios following logistic regression for negative mental health outcomes in those with history of abuse

Negative outcomes	Sexual abuse	Physical abuse	Emotional abuse
Step I: controlling for sex, education of the respondents and head of household			
CMD	5.2 (0.7–40.4)	1.9 (0.7–5.1)	3.0 (1.3–7.0)
Substance use	3.8 (0.5–30.1)	3.5 (1.0–12.2)	2.5 (0.9–7.5)
Alcohol problems	21.3 (4.6–98.3)	0.8 (0.2–3.0)	1.4 (0.5–3.6)
Step II: controlling for sex, education of the respondents and head of household and the other forms of abuse			
CMD	5.1 (0.9–28.8)	1.1 (0.4–3.2)	2.9 (1.2–7.3)
Substance use	3.5 (0.5–26.0)	2.8 (0.8–10.1)	1.8 (0.6–5.7)
Alcohol problems	20.9 (4.4–99.6)	0.7 (0.2–2.7)	1.2 (0.4–3.2)
Step III: controlling for sex, education of the respondents and head of household, the other forms of abuse and witnessing of maternal battering			
CMD	4.3 (0.8–23.0)	0.9 (0.3–3.0)	2.7 (1.1–6.8)
Substance use	4.5 (0.7–27.3)	2.9 (0.8–11.0)	2.0 (0.6–6.3)
Alcohol problems	19.9 (4.1–97.5)	0.7 (0.2–2.6)	1.2 (0.4–3.3)