Original Article

Long-Term Mental Health Consequences of Child Maltreatment: A Result from Thai National Mental Health Survey 2013

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Background: Violence against children, a violation of basic human rights, is common. There are limited studies to date that examine the impact of child maltreatment, and mental health outcomes in adulthood.

Objective: To examine the association between child maltreatment (physical or sexual abuse, and witnessing of domestic violence [DV]), mental disorders, and re-victimization by intimate partner violence [IPV] in adulthood.

Materials and Methods: The authors used the data from the Thai National Mental Health Survey of 2013, which was a population-based cross-sectional national survey. A representative sample of 4,727 participants, aged over 18 years, completed the diagnostic interviews (the World Mental Health-Composite International Diagnostic Interview 3.0 [WMH-CIDI 3.0]).

Results: The individuals that experienced violence during childhood (physical, sexual abuse, and witnessing of DV), are at a higher risk of developing mental disorders in adulthood, and being re-victimized in the form of IPV. Women were more likely to be associated with common mental disorders [CMD] and suicide than men, but men were observed to be more associated with substance use disorders [SUD].

Conclusion: These results provide support for the need for early intervention in those children exposed to maltreatment. Educating these families on healthier conflict resolution, and treatment strategies for subsequent adverse mental health outcomes, including re-victimization by IPV, should be made easily available to these children.

Keywords: Child physical abuse [CPA], Witnessing of domestic violence [DV], Intimate partner violence [IPV], Child sexual abuse [CSA], Mental disorders

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Violence against children, a violation of basic human rights, is common. Violence viewed as a health problem, impacts on physical, and psychosocial health. It also impacts on the human being, as individual, as part of a family, and functioning in society. Globally, prevalence of reported child physical abuse [CPA] varies from 2% to 62% with some of these variations explained by methodology differences[1]. In high income countries, the annual prevalence of CPA ranges from 4% to 16%, and approximately 10% of children are neglected, or suffer emotional abuse[2].

Consequences of violence can vary widely from direct physical injury and psychological trauma to death[3]. The studies of adult health outcomes of child abuse and witnessing domestic violence [DV], reported that those who had experienced child abuse only, witnessing DV only, and the group exposed both types of maltreatment were all more likely to report a range of negative physical and mental health outcomes, as well as, higher utilization of health care services in adulthood than those who were not exposed to either type of abuse[1,4,5]. Persisting mental health problems are a common consequence of child abuse and neglect in adults. Mental health problems associated with histories of child abuse and neglect include personality disorders, depression, anxiety disorders, post-traumatic stress disorder [PTSD], dissociative disorders, eating disorders, substance use disorders [SUD], psychosis,

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and suicide[2,4,6-9]. Additionally, witnessing DV was found to have serious adverse effects on children's well-being, and their psychosocial outcomes were not significantly different from physically abused children[10,11].

Studies that examined gender differences in the long-term impact of child maltreatment have produced mix findings, some of these studies have focused on child sexual abuse [CSA][12], some on CPA, and some on maltreatment in general[1,13]. Overall, the findings suggest that females are more likely to be affected by child abuse and neglect, than males. Community surveys that have collected information about child maltreatment, and psychiatric morbidity, showed that females are more affected by child abuse than males, but few comparisons are possible[14].

There are limited studies to date in examining the impact of child maltreatment and mental health outcomes, as well as, the re-victimization of violence in adulthood in general population, especially in Thailand.

The purpose of the present study was to estimate the prevalence of child maltreatment (physical or sexual abuse and witnessing of DV during childhood), to examine gender differences in the association of child maltreatment and mental health outcomes and intimate partner violence [IPV], and to examine whether children experiencing violence were associated with mental disorders and re-victimization by IPV in adulthood, after adjusting for demographic variables.

Materials and Methods

Sample

A four-stage selection of one adult respondent in each sampled household performed by using the grid method of Kish as described in Thai Mental Health Survey 2013, Rationales and Methodology[15]. Written informed consents were obtained from participants after the procedures and how the data would be used had been fully explained. Four thousand seven hundred twenty-seven participants from 6,360 eligible residents, aged over 18 years old, completed a face-to-face interview by field interviewers. Non-respondents included refusals, and failure to contact study subjects (three attempts were made to contact respondents by field interviewers) (Figure 1).

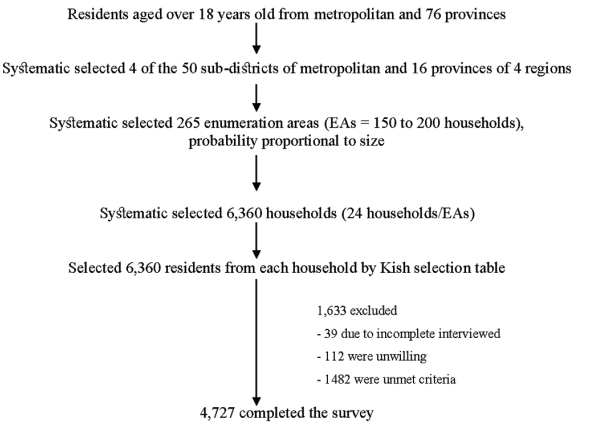

Figure 1. Identification of survey participants.

Measurement

Measure of child maltreatment: The experience of interpersonal violence was asked in the PTSD section. Respondents could endorse experiencing any of these types of violence during childhood and included CPA, CSA, or witnessing DV.

CPA was assessed as "As a child, were you ever badly beaten up by your parents, or the people who raised you?". Witnessing DV was assessed as "Did you ever see someone in your family fighting?". CSA was assessed by these two questions 1) "Did someone ever have intercourse with you or penetrate your body with a finger or object, when you did not want them to, either by threatening you, or by using force?". 2) "Were you ever sexually assaulted, or molested?". We also asked them about how old they were when their first experience of violence occurred.

Measure of mental health outcomes: Common mental disorders [CMD], SUD, and suicidal behaviors were the main mental health outcomes of the present study. Measures for mental health outcomes were investigated using the CIDI Thai version, which was developed from the World Mental Health-Composite International Diagnostic Interview version 3.0 [WMH-CIDI 3.0]. This instrument was also used in the study by Kittirattanapiboon et al (2016)[15]. The disorders were assessed using the definitions and criteria of the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition [DSM-IV] and the ICD-10 Classification of Mental and Behavioral Disorders, and the World Mental Health Survey Initiative[16]. Mental disorders considered in the present study included common psychiatric disorders which are affective disorders (depressive disorder and mania), anxiety disorders (panic disorder, agoraphobia, and generalized anxiety disorder), and psychosis screening, PTSD, SUD (alcohol use disorder and illegal drug use disorder), and suicidal behaviors. The questions for PTSD symptoms were asked only for the event that respondents' judged to have been the most severe.

Measure of re-victimization of violence: IPV was a main outcome of childhood experience of violence. These questions were asked in the interpersonal violence category of PTSD section. Physical abuse by an intimate partner was assessed by "Were you ever badly beaten up by spouse, or romantic partner?".

Statistical analysis

Statistical analyses were performed by R program version 3.3. The authors estimated the rate of each type of violence, CPA, CSA, and witnessing DV during childhood, in both male and female. In the bivariate analysis, we estimated the odds ratios [OR] for the associations between types of violence, the combination of the violence types, the adverse mental health outcomes, and re-victimization of violence (IPV), in adults. The confounding effects of other variables including age, gender, education, marital status, and household income were analyzed by multiple logistic regression. The criteria to register at a low socioeconomic level in Thailand were defined as anyone who was unemployed or earn less than 100,000 baht per year, or less than 5,000 baht per month in the present study[17]. In multivariate analysis, we examined the association between child maltreatment, and the potential for adverse mental health outcomes, as well as, the potential for re-victimization by IPV later in life. A *p*-value less than 0.05 was considered statistically significant.

Results

Six thousand three hundred sixty households for the Thai National Mental Health Survey, were approached. One eligible resident from each household was selected. Of the eligible persons selected (n = 6,360), 74.3% (n = 4,727) of those approached, made up the overall response rate for the present survey, 23.3% (n = 1,482) were those who could not be contacted, or did not meet criteria, 0.6% (n = 39) were missing information on the relevant variables, and 1.8% (n = 112) refused to participate, leaving 4,727 participants that completed the interview process.

The weighted distribution of demographic variables was as follow, female 51.7 %, mean age 50.2 (standard deviation: 15.3 years), graduate of primary education or less 48.1%, unemployed 4.3%, poor (income of 5,000 Baht/month or less) 52.3%, and married 67.6%. In the present study sample, the prevalence rates were estimated as 1.4% reported experiencing CPA, 4.5% reported witnessing DV, and 0.2% endorsed CSA. Males were more likely than females to experience CPA, but no differences were seen in gender among the witnessing DV group (p = 0.59). Of note, all of the respondents that endorsed CSA were female (Table 1).

Table 2 shows the bivariate associations between exposure to violence during childhood and the subsequent experience of adverse mental health outcomes, as well as, re-victimization of violence by IPV during adulthood. Results from bivariate analysis indicated the respondents who had experienced violence during childhood were significantly more likely than their non-abused counterparts to have mental illness, and to be re-victimized by episodes of IPV as an adult, except in those endorsed physical or sexual abuse in association with PTSD or SUD. There was a strong association between CSA and suicidal behaviors (OR 9.32, 95% CI 2.14 to 31.78), but CPA associated with suicide was not statistically significant. Concerning experiencing multiple types of violence, the association between adverse mental health outcomes, and re-victimization by IPV increased with the number of different types of violence by the OR, however, it was not observed in combination of three types of violence, because only one case experienced

Table 1. General information, mental health outcomes and types of violence

Characteristics	CPA (n = 63)		Child witness (n = 199)		CSA (n = 15)		Total (n = 4,727)	
	%	SE	%	SE	%	SE	%	SE
Gender								
Male	1.9*	0.4	4.3	0.7	0.0	0.0	48.3	1.1
Female	1.0	0.2	4.7	0.6	0.5*	0.1	51.7	1.1
Age group (year), average 50.2±15.3 years								
18 to 24	2.0	1.0	7.4	1.7	0.3	0.3	13.1	0.9
25 to 34	1.3	0.4	7.7	1.1	0.2	0.1	19.2	0.9
35 to 44	1.5	0.4	4.0	0.5	0.3	0.2	21.2	0.9
45 to 54	2.0	0.5	2.8	0.6	0.4	0.1	20.0	0.7
55 to 59	0.3	0.2	3.2	0.9	0.2	0.1	7.9	0.4
≥60	0.9	0.3	2.1	0.4	0.1	0.1	18.6	0.6
Education								
≤ primary	1.6	0.3	3.7	0.5	0.2	0.1	48.1	2.8
> primary	1.2	0.3	5.2	0.9	0.3	0.1	51.9	2.8
Marital status								
Married	1.2	0.3	3.5	0.5	0.2	0.1	67.6	1.7
Separate/divorced	2.5	1.0	11.7	0.3	0.3	0.2	5.6	0.5
Widowed	0.7	0.3	3.1	0.5	0.1	0.1	7.5	0.5
Single	2.0	0.7	6.3	1.2	0.3	0.2	19.3	1.6
Income (baht/month)								
≤5,000	1.5	0.3	4.9	0.5	0.1	0.1	52.3	1.7
>5,000	1.4	0.3	4.1	0.8	0.1	0.1	47.7	1.7

CPA = child physical abuse; CSA = child sexual abuse; Child witness = child witnessing of domestic violence

* Significant different by gender (p≤0.01)

Table 2. Adult mental health outcomes, and re-victimization of IPV by type and number of violence

Types of violence	n	% (SE)	CMD without PTSD		PTSD		Suicide		SUD		IPV	
			Prevalence	OR (95% CI)	Prevalence	OR (95% CI)	Prevalence	OR (95% CI)	Prevalence	OR (95% CI)	Prevalence	OR (95% CI)
Child witness												
No	4,528	95.5 (0)	8.4		0.8		3.4		19.1		1.7	
Yes	199	4.5 (0.5)	19.8	2.78 (1.91 to 3.98)	2.8	8.24 (3.82 to 16.56)	5.9	2.66 (1.5 to 4.46)	29.5	1.78 (1.24 to 2.52)	7.0	4.41 (2.53 to 7.33)
CPA												
No	4,664	98.6 (0)	8.7		0.9		3.5		19.5		1.9	
Yes	63	1.4 (0.2)	24.7	4.43 (2.45 to 7.77)	0.3	1.62 (0.04 to 9.82)	6.6	2.7 (0.94 to 6.36)	27.1	1.51 (0.75 to 2.84)	7.1	5.33 (2.14 to 11.56)
CSA												
No	4,712	99.8 (0)	8.8		0.9		3.4		19.6		1.9	
Yes	15	0.2 (0)	41.1	4.64 (1.24 to 14.98)	3.2	7.25 (0.17 to 49.51)	34.9	9.32 (2.14 to 31.78)	17.2	0.41 (0.01 to 2.71)	17.4	8.88 (1.59 to 33.40)
No. of types of violence												
None	4,474		8.2		0.8		3.3		19.1		1.6	
1 type	230		18.5	2.58 (1.84 to 3.61)	2.2	5.77 (2.82 to 11.79)	5.4	2.62 (1.61 to 4.25)	28.9	1.57 (1.13 to 2.18)	7.0	4.62 (2.88 to 7.41)
2 types	22		45.8	10.04 (4.32 to 23.30)	3.0	12.69 (2.86 to 56.35)	20.3	6.11 (2.04 to 18.27)	27.6	2.23 (0.87 to 5.71)	11.0	9.25 (3.08 to 27.79)
3 types	1		0.0	N/A	0.0	N/A	0.0	N/A	0.0	N/A	0.0	N/A

n = number of participant; N/A = not applicable; CMD = common mental disorders; PTSD = posttraumatic stress disorder; SUD = alcohol/illegal drug use disorder; IPV = intimate partner physical violence

three types of violence (Table 2).

The authors further investigated gender differences in association among different types of violence and adverse mental health outcomes, including re-victimization by IPV. Adults who reported all three types of violence were significantly associated with CMD without PTSD, and women with history of witnessing DV were more affected than men. Those who witnessed DV were more likely to develop PTSD, with men having a slightly higher rate than women, but the gender difference was not statistically significant. Women with history of CSA and witnessing DV were more likely to have suicidal behaviors than those without such experiences. However, this was not observed in women with CPA. Men with history of witnessing DV were significantly associated with SUD compared to women (57.3% versus 6.1%). We also found that men were associated with a higher risk for SUD versus women in those without any form of childhood maltreatment. Women who reported all types of violence were more likely to be re-victimized by IPV. Men who witnessed DV were the only group who were re-victimized by IPV (Table 3).

The authors analyzed the data further to understand the relationship between experiencing violence during childhood, (CPA, CSA, witnessing DV, and number of types of violence), and adverse mental health outcomes, as well as, re-victimization by IPV in adulthood. In logistic regression analysis, the factors identified as being associated with, or potentially associated with an increased rate of adults impacted by mental illness, and IPV, were examined for their direct association with the adverse outcome variables (age, gender, education, income, and marital status), to identify potential for confounding. Women were more likely to be associated with CMD, and suicide than men, but men were observed to be associated with SUD. Age and educational levels failed to show a significant association with adverse outcomes. Those never being married were less likely to be re-victimization by IPV. Separated or divorced adults were associated with suicide, SUD, and re-victimization by IPV compared to married adults. Being widowed was associated with re-victimization by IPV, and PTSD. The low socioeconomic level of those who earn income less than 5,000 baht per month were more likely to develop CMD, but less likely to develop PTSD and SUD. Adults who had histories of CPA were significantly associated with CMD, and re-victimization by IPV. Adults who reported CSA showed a significant association with suicide, and re-victimization by IPV. Adults who had

Table 3. Relationship between childhood experience of violence, mental health outcomes, and re-victimization of IPV, by gender

	No child abuse male (n = 1,690), female (n = 2,960)	Child physical abuse male (n = 28), female (n = 35)		Child sexual abuse male (n = 0), female (n = 15)		Child witness male (n = 66), female (n = 133)	
	%	%	OR (95% CI)	%	OR (95% CI)	%	OR (95% CI)
CMD							
Men	6.6	17.2	3.99 (1.41 to 9.99)	0.0	-	9.4	2.14 (0.95 to 4.37)
Women	10.5**	37.9	5.02 (2.30 to 10.53)	41.1	4.16 (1.11 to 13.5)	28.5**	3.04 (1.96 to 4.62)
Total	8.6	24.7	4.60 (2.68 to 7.92)	41.1	4.16 (1.41 to 12.3)	19.8	2.77 (1.95 to 3.93)
PTSD							
Men	0.7	0.0	-	0.0	-	3.0	9.75 (1.63 to 41.9)
Women	1.1	0.8	2.47 (0.06 to 15.60)	3.2	6.03 (0.14 to 41.8)	2.7	7.65 (3.10 to 17.2)
Total	0.9	0.3	1.70 (0.23 to 12.50)	3.2	6.04 (0.77 to 47.2)	2.8	8.10 (4.13 to 15.9)
Suicide							
Men	2.7	5.3	2.69 (0.30 to 11.28)	0.0	-	2.2	1.07 (0.12 to 4.24)
Women	4.0*	8.9	2.87 (0.72 to 8.29)	34.9	8.13 (1.86 to 27.9)	9.0	3.25 (1.74 to 5.73)
Total	3.4	6.6	2.81 (1.19 to 6.61)	34.9	8.14 (2.56 to 25.9)	5.9	2.64 (1.59 to 4.40)
SUD							
Men	35.5***	35.7	1.12 (0.46 to 2.58)	0.0	-	57.3***	2.36 (1.39 to 4.00)
Women	4.7	12.1	2.12 (0.41 to 6.91)	17.2	1.60 (0.04 to 10.7)	6.1	2.11 (0.99 to 4.04)
Total	19.5	27.1	1.31 (0.67 to 2.54)	17.2	1.60 (0.21 to 12.3)	29.5	2.27 (1.54 to 3.37)
IPV							
Men	0.3	0.0	-	0.0	-	5.6	51.1 (2.63 to 2,971.76)
Women	3.3***	19.6*	6.98 (2.68 to 16.20)	17.4	5.68 (1.02 to 21.4)	8.2	3.90 (2.15 to 6.72)
Total	1.8	7.1	6.69 (2.99 to 14.90)	17.4	5.69 (1.59 to 20.4)	7.0	4.31 (2.59 to 7.17)

CMD = common mental disorders; PTSD = posttraumatic stress disorder; SUD = alcohol/illegal drug use disorder; IPV = intimate partner physical violence

* p-value <0.05, ** p-value <0.01, *** p-value <0.001

witnessed DV during childhood, were two times more likely to develop CMD, SUD, and suicidal behaviors, and nine times more likely to develop PTSD (OR 9.59, 95% CI 4.69 to 19.6). Experiencing multiple types of maltreatment during childhood, increased the risk for poorer mental health outcomes (excepting SUD), and re-victimization by IPV, when compared to experiencing just one type of violence (Table 4).

Discussion

The present data showed strong associations among witnessing DV with PTSD, CSA with suicide, and re-victimization by IPV. There were moderate associations between witnessing DV with CMD, suicide, re-victimization by IPV, CPA with CMD, and re-victimization by IPV (Table 4). It is interesting that the present data did not show significant associations between CSA with PTSD, CMD, and SUD (actually an inverse relationship), as other studies have suggested[6,18-20].

The present study used data from a large national sample, and found the prevalence of child maltreatment was lower than other studies. Review of western studies on violence in random community samples, suggest a prevalence of CPA, and witnessing DV in the US as 20.6%, and 14.0% respectively[3]. A study of the general population in Germany found the prevalence for severe physical abuse at 2.8%, severe sexual abuse at 1.9%, and that female gender was a predictor of sexual abuse. Furthermore, belonging to lower or middle social strata was a predictor for severe physical abuse and neglect[21]. The present data showed all of the sexual abuse victims were women. Consistent with Thompson et al (2004)[14], the authors found CPA was more prevalent among men than women.

The meta-analysis of Stoltenbourgh et al[22], suggested the highest prevalence rates of child abuse were found in studies using a broad definition of child abuse, measurements studied over longer periods of time, and using more questions in their instruments. The present study lower prevalence estimates, and association rates may be due to fewer questions in the instruments, and cultural factors (see limitation section).

Concerning the association between childhood exposure to physical abuse, and psychopathology varying by gender (women stronger than men), Culter & Nolen-Hoeksema[23] suggested that women may be more likely to blame themselves for the abuse, or might have a type of emotion regulation that increased their vulnerability to negative circumstances. These areas merit further investigation, since understanding differences in risk may assist in developing effective, and different treatments for men and women.

Table 4. Adjusted odds ratios for the association between childhood experience of violence, and mental health outcomes/re-victimization by IPV, adjusting for age, gender, education, marital status, and income

	Adjusted odds ratios (95% CI)				
	CMD without PTSD	PTSD	Suicide	SUD	IPV
Gender					
Male					
Female	1.28 (1.03 to 1.59)	1.58 (0.78 to 3.23)	1.51 (1.07 to 2.13)	0.09 (0.08 to 0.11)	21.3 (6.72 to 67.56)
Age					
18 to 24 years					
>24 years	1.32 (0.77 to 2.27)	0.84 (0.17 to 4.19)	1.03 (0.45 to 2.38)	1.12 (0.75 to 1.69)	0.64 (0.19 to 2.19)
Marital status					
Married					
Separated/divorced	1.11 (0.78 to 1.57)	0.25 (0.03 to 1.87)	1.89 (1.22 to 2.92)	2.12 (1.56 to 2.89)	3.09 (1.94 to 4.91)
Widowed	1.18 (0.9 to 1.56)	3.4 (1.72 to 6.74)	1.03 (0.65 to 1.63)	0.57 (0.38 to 0.85)	1.63 (1.05 to 2.54)
Never married	1.04 (0.74 to 1.46)	1.2 (0.42 to 3.46)	0.87 (0.5 to 1.51)	1.25 (0.95 to 1.65)	0.08 (0.01 to 0.62)
Education					
Primary					
> primary education	0.81 (0.65 to 1.02)	0.43 (0.2 to 0.92)	0.77 (0.55 to 1.08)	1.19 (0.98 to 1.44)	0.45 (0.28 to 0.72)
Income					
≤5,000 baht/month					
>5,000 baht/month	0.74 (0.6 to 0.91)	2.07 (1.11 to 3.88)	1.33 (0.97 to 1.82)	1.2 (1 to 1.45)	0.97 (0.66 to 1.43)
Child witness					
No					
Yes	2.43 (1.68 to 3.52)	9.59 (4.69 to 19.6)	2.21 (1.28 to 3.81)	2.05 (1.37 to 3.07)	3.89 (2.22 to 6.82)
Child physical abuse					
No					
Yes	3.47 (1.96 to 6.12)	0.69 (0.09 to 5.58)	1.94 (0.79 to 4.79)	1.09 (0.54 to 2.19)	3.66 (1.51 to 8.84)
Child sexual abuse					
No					
Yes	3.04 (0.98 to 9.4)	4.27 (0.49 to 37.51)	6.29 (1.87 to 21.11)	0.98 (0.12 to 7.83)	5.44 (1.4 to 21.13)
No. of types of violence					
None					
1 type	2.65 (1.88 to 3.72)	6.51 (3.13 to 13.53)	2.59 (1.59 to 4.24)	1.72 (1.18 to 2.51)	5 (3.03 to 8.26)
2 types	10.09 (4.3 to 23.64)	17.68 (3.75 to 83.37)	5.46 (1.79 to 16.62)	2.65 (0.88 to 7.99)	9.1 (2.75 to 30.13)
3 types	N/A	N/A	N/A	N/A	N/A

n = number of participant; N/A = not applicable; CMD = common mental disorders; PTSD = posttraumatic stress disorder; SUD = alcohol/illegal drug use disorder; IPV = intimate partner physical violence

Compared to the studies with similar design, community, and national studies, the present study found that adults with a history of CPA, showed significantly higher lifetime rates of CMD than their non-abused counterparts, similar to the studies of MacMillan et al[24], Libby et al[20], Levitan et al[25], Hoven et al[19], and Spinger et al[9]. The present study found that adults with history of CPA were not associated with SUD, in contrast with other studies[26-28]. It is possible that there were higher prevalence rates of SUD in the Thai general population, as found in the Kiatrattanpiboon et al, 2017 study[29]. Consistent with previous studies[28,30-33], the authors found that adults with all three types of violence had a higher rate for suicidal behaviors, but not statically significant for CPA. The present data showed only adults reporting CSA were female, and they were associated with only suicidal behaviors. Gladstone et al[34] suggested that deliberate self-harm in women with CSA cannot be explained in term of depression severity. This higher rate constitutes evidence for the key relationship between CSA and subsequent self-harm. Thus, when self-harm accompanies depression, it could be viewed as a potential indicator of CSA. It is noteworthy that both deliberate self-harm, and SUD may be perceived as short circuit emotional strategies for diverting painful emotions.

There have been several studies investigating PTSD as a consequence of child maltreatment. Many of them were clinical trial groups versus a general population sample, which may have over estimated the prevalence. Three studies have shown the association

between adults reporting child abuse, and PTSD[18,26,35]. The Schneider et al study[35] in 2007 found that exposure to all three types of violence was linked to a 23-fold increase in the risk of probable PTSD. The present study found those who witnessed DV were more associated with PTSD by approximately nine times, and those exposed to two types of violence associated with PTSD by 18 times (Table 3). However, there was no association with CPA or CSA (Table 2). Other than experiencing DV, a child may be exposed to other factors. Meltzer et al (2007) found that factors such as several children in the family, divorced parents, mother's emotional state, and family dysfunction were independently associated with a greater likelihood of a child witnessing DV[10]. Children witnessing family violence can become terrified, and develop disruptive behaviors. Some researchers have begun to consider exposure to DV to be a form of psychological maltreatment[36]. Moreover, Adverse Childhood Experience [ACE] studies found that childhood adversities including experience of violence, related to psychopathology in adulthood[2,3,37,38].

In addition, the authors' findings showed adults who witnessed DV during childhood, were at a greater risk to develop psychiatric illness especially CMD, and re-victimization by IPV. The exposure to violence between parents may teach youth that violence is an acceptable, or an effective means of resolving conflicts[39]. Attachment theory holds that those who experience maltreatment have problems in trusting, and decreased ability for closeness later in life[40]. Moreover, a child who witnessed DV can be affected by developing an insecure and traumatic attachments. These reasons may explain why adults with history of child maltreatment are more likely to be re-victimized by IPV.

Exposure to CPA and CSA were associated with an increased risk for lifetime re-victimization[4,41,42]. The findings, overall, suggest that CSA is associated with a greater risk for IPV, and found most consistently in women compared to men. The risk of re-victimization in adult life was highest when exposed to both types of CPA, and witnessing DV in those exposed before age 15 in Thailand[43]. Similar to other studies, the authors found that either type of child maltreatment was linked to re-victimization by four to five times, and combined types of child maltreatment were associated with re-victimization by IPV by nine times.

The present data suggested a dose-response like relationship for mental health outcomes (excepting SUD), and re-victimization by IPV. As the number of violence types increased, the OR of a mental disorder or adverse outcome increased. This seemed to support the findings from a meta-analysis of 124 studies where they found a dose-response relationship for emotional abuse and depression, as well as, physical abuse for anxiety[1].

Overall, the present study results were similar to, and support Chen's 2010 study in China, and Fang's 2014 East Asia and Pacific region meta-analysis[44], in respect to outcome estimates of lifetime IPV associated with CSA (17.4% versus 9% to 43%), and witnessing DV (7% versus 4% to 10%) (Table 2). However, the present study prevalence estimates were significantly lower with CPA 1.0% to 1.9%, CSA 0.2% to 0.5%, and witnessing DV 4.3% to 4.7% (Table 1), versus their prevalence estimates of CPA 17% to 35%, CSA 3% to 22%, and witnessing DV 12% to 32%. The authors believed the lower prevalence estimates were the result from the instrument used, and this explained further in the limitation section.

The Thai National Mental Health Survey relied on retrospective reports to assess the prevalence of physical or sexual abuse, and witnessing of family violence during childhood. Since Thai National Mental Health Survey was a cross-sectional survey, the authors cannot draw any conclusions about the causal role of childhood maltreatment in the development of mental illness and re-victimizing by IPV from these findings.

Limitation

The present study had several limitations that need to be considered before implementation of specific strategies targeting the prevention and treatment of violence upon children, and the subsequent sequelae they may face growing into adulthood.

First, the present study was based on retrospective reports of physical abuse, witnessing of family violence, sexual abuse, mental health symptoms and diagnosis, and re-victimizing by IPV. The unwillingness of an individual to report embarrassing events, or disclose painful memories may have resulted in the under-reporting of symptoms, leading to inaccurate prevalence estimates. One study suggested, it may take up to 10 years for men to disclose CSA to others[45]. Men might be reluctant to report CSA for feelings of weakness, and failure of societal view of men[46]. In the present survey, these psychological factors may account for no men endorsing sexual abuse during their childhood. The differences in groups must also be taken into account as in the Asian culture, the need of the group is more important the need for the

individual[47], and this must be considered concerning the sexual culture, restraint, and willingness to disclose sexual abuse[48]. In addition, as in other studies, the present study did not control for anger, or its expression, as possible confounding factors[49].

Second, the present study finding much lower prevalence, and association estimates were primarily based on using the WMH-CIDI 3.0, which measured violence as part of the PTSD question section. It contained very few items, thus, may have led to underreporting. Therefore, these rates must be viewed with caution.

Further study in Thailand is needed to confirm these findings using a nationally representative sample with a prospective cohort study. Other forms of abuse such as psychological abuse are also deserving further study. However, prospective studies alone are not completely representative of the population, as a high proportion of child abuse and neglect goes undetected, and those experiencing abuse and neglect are less likely to participate or remain in a longitudinal study[50].

What is already known on this topic?

Childhood maltreatment (child abuse and neglect), is an adverse life experience, yielding both short term and long-term impact on mental health, and potential for being re-victimization in one's adult life. In Thailand, to date, there is only one study examining a younger age group (aged 16 to 25), who lived in Rangsit district area, which was not a national study. They found an association between exposure to each form of violence (physical abuse, and exposure to DV), and all adverse mental health outcomes (CMD, suicide, and SUD). The younger adults who were exposed to multiple types of violence, were more likely to report adverse outcomes, than the older age groups.

What this study adds?

The main findings of the present study are as follows: 1) Past experiences of physical abuse, witnessing of family violence, and sexual abuse during childhood were found to be strongly associated with lifetime mental illness. 2) Experience of multiple types of maltreatment during childhood increased the risk for poorer mental health outcomes (excepting SUD), and re-victimization by IPV, when compared to experiencing either type alone. 3) There were gender differences, and a statistically significant relationship between having a history of childhood maltreatment associated with common mental illnesses, and re-victimization by IPV.

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Potential conflicts of interest

The authors declare no conflict of interest.

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