The association of depression and child maltreatments among Indonesian adolescents

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Abstract

Background Depression is one of the most prevalent emotional mental health problem among adolescents. Mental health problem might be contributed by child maltreatment. Prevalence of mental health problem and maltreatment among adolescent in Indonesia are increasing. This study aims at determining association between depression and history of maltreatment among adolescent Methods The analytic cross-sectional study was conducted to 786 junior high school students of Bandung City, West Java, Indonesia. Subject was selected by using two stage clustered method. The questionnaire of Children's Depression Inventory (CDI) and ISPCAN Child Abuse Screening Tool (ICAST) were used to assess depression and history of maltreatment respectively. Depression confirmation was diagnosed by psychiatry based on scored positive in CDI. Data were analyzed using chi-square and multiple regression test. Results History of child maltreatment is associated with depressive disorders in adolescents ($p = 0.03$). All dimension of child maltreatment had significant association with depression ($p < 0.05$). Psychological violence was the highest risk factor for the occurrence of depressive disorders (PR = 6.51), followed by violence exposure and physical violence. Sexual violence was not a common dimension of child maltreatment experienced by students. The history of psychological violence has the strongest association with depression, which three times more likely to have depression (POR = 3.302, $p = 0.004$) Conclusion The study showed association between a history of child maltreatment and depression in adolescents.

Background

Child maltreatment or child abuse is all forms of physical and mental child abuse, sexual abuse, neglect or negligent treatment, commercial or other exploitation, which has a high likelihood of resulting in actual or potential harm to the child health, survival, development, dignity, responsibility, belief or right[1 – 3]. The prevalence of child abuse is increasing[4]. Meta-analyses provided a series of overall estimations of 17.7%, 26.7%, 11.8% and 16.3% for physical abuse, psychological abuse, sexual abuse, and neglect, respectively[5 – 7]. The Indonesian Commission of Child Protection[8], reported increase in violence from 2.178 cases in 2011 to 6.006 in 2015. Moreover, data of nine provinces in Indonesia showed that children became victims of violence in the family (91%), school (87.6%) and the community at large (17.9%)[8].

A history of violence in children might lead to mental health disorders, such as depressive, psychotic, anxiety and post-traumatic disorders[9, 10] Depression is one of the mental health problems that occur in adolescents. Currently 2 to 3% of children and 8% of adolescents have experienced depression while a lifetime prevalence of depressive disorders in adolescents is estimated to be 17%[11].

Adolescents with depression may become a burden for the families and themselves. The impact of depression not only may be detrimental to the child and family but it can also be a national burden[12]. Adolescents with depression may have a higher risk of decline in academic performance, interpersonal relations, and suicide[13]. The history of child maltreatment at age 10 to 17 years is the strongest predictor

of depression, moreover the location of violence, violence in school has the highest risk of depressive disorder than that at or in the community at large[14 15]

West Java is one of thirty-four provinces in Indonesia which has 9.3% prevalence of mental emotional problems in adolescents above 15 years of age while Indonesia's national rate is 6%[15]. Accordingly, this research was aimed to analyse the relationship between a histories of child maltreatments with depression in adolescents in West Java, Indonesia

Methods

Study design

A cross-sectional study was conducted on junior high school students. A two-stage sample selection was done. Firstly, selected several school, secondly the adequate number of students was determined by simple random sampling method. A minimum sample size of 770 students was needed (99% power and 95% significance interval). The study was conducted from May to December 2016.

A letter of approval from the Provincial Directorate of National Education of the city where the research took place was obtained prior to the study.

Tools

Depression was assessed by using the Child Depression Inventory (CDI)[16, 17] as well as interviews for the enforcement of a diagnosis based on the criteria of the DSM V diagnostic criteria. The criterion for depression was fulfilled with students' filling the questionnaire. Afterwards, following the determination of the subsequent CDI score ≥19, the interviews were carried out by psychiatrist based on the diagnostic criteria according to the DSM V. The CDI instrument had been validated in Indonesian version[18].

To assess any history of child maltreatment, the study used the ICAST-C questionnaire[19, 20] had been validated in Indonesian version[21]. Scores were then given: 1 = if there is a history of violence and 0 = if there is no history of violence. The test validity correlation values showed the item with the total value obtained compared with the reference value from the table by taking a = 5% with the number of respondents, based on which there were 45 persons who were involved, namely 0.294. of 0.294. The results showed that all items had adequate validity. Based on Kuder-Richarson reliability test method, the ICAST-C instrument showed a strong reliability (KR20 = 0.92 and KR21 = 0.87).

A cut-off point was made using the average value (mean) of the history of child maltreatment data. Subjects with a total score of child maltreatment dimensions below the cut-off point were not categorized as experiencing child maltreatment.

Data analysis

Descriptive tests were used to analyze the results of CDI and I-CAST, presented in numeric and percentage value. Analytic Chi-square test was used to analyze the difference of socio-demographic characteristics of students among depression subjects and association between scores from both instruments. Bivariate analysis between the history of child maltreatment with depression was tested with Prevalence Ratio (PR). Multivariate test was proceeded to analyzed which type of maltreatment most correlated to depression. Results were considered significant if p value < 0.05. Data management and analysis were done using SPSS (Statistical Package for Social Science) 15.0.

Results

The 845 students of 23 junior high school provided consent, only 835 filled a questionnaire. After cleaning the questionnaire, 786 students participated in this study (Fig. 1). Students were 7th grade (34.86%), 8th grade (36.51%), and 9th grade (28.63%) of junior high school. Both male and female students had almost equal of presentation 56.11 and 43.89 respectively. The age range of subject was 12–16 years old, with mean age of 13 years old. A 43 (5.47%) subject with CDI score ≥19, had subsequently interviewed by psychiatrist were met the DSM-V criteria of depression There were no significant differences of socio-demographic characteristic of students among depression subjects (Table 1).

Table 1
The difference of socio-demographic characteristics among depression subjects

	Depression N (786)		
Characteristics	Yes 43	No 743	p*
Age Mean SD Median Range	13.56 0.881 13.0 12–15	13.36 0.926 13.0 12–16	0.168
Sex			
Male (N = 441)	21(4.8)	420(95.2)	0.323
Female (N = 345)	22(6.4)	323(93.6)	
Grade			
7th (N = 274)	11(4.0)	263(96.0)	
8th (N = 287)	17(5.9)	270(94.1)	0.395
9th (N = 225)	15(6.7)	210((3.3)	
Father's Education			
Primary School (74)	4(5.4)	70(94.6)	
Junior High School (82)	3(3.7)	79(96.3)	
Senior High School (300)	15(5.0)	285(95.0)	0.802
College and higher (324)	21(6.5)	303(93.5)	
Illiterate (6)	0	6(100.0)	
Mother's Education			
Primary School (75)	2(2.7)	73(97.3)	
Junior High School(102)	2(2.0)	100(98.0)	
Senior High School (329)	19(5.8)	310(94.2)	0.202
College and higher (272)	20(7.4)	252(92.6)	
Illiterate (8)	0	8(100.0)	

• P value using Chi-square –Test

	Depression N (786)		
Father's Occupation			
Public Servant (295)	16(5.4)	279(94.6)	
Entrepreneur (337)	16(4.7)	321(95.3)	0.556
Labors/Farmers/Others (154)	11(7.1)	143(92.9)	
Mother's Occupation			
Public Servant (116)	9(7.8)	107(92.2)	
Entrepreneur (145)	12(8.1)	137(91.9)	0.181
Labors/Farmers/Others (54)	3(5.6)	51(94.4)	
Housewife (467)	19(4.1)	448(95.9)	
• P value using Chi-square –Test			

The history of child maltreatment was determined by statistical mean rate of the child maltreatment score. A subject with scores above the mean value was categorized as having a history of child maltreatment. Subjects with history of child maltreatment were 367 (46.7%). The percentage subject with history of psychological victimization violence exposure, physical victimization, neglect and sexual victimization were 45.4, 40.84, 39.82 and 46.31, respectively.

A 27 (3.43%) subjects with depression had experience of child maltreatment. Significant association was found between depression and child maltreatment history (p = 0.03) (see Table 2).

Table 2
Association between depression and child maltreatment history

	Depression				p
	No (743)		Yes (43)		
Child maltreatment history	n	%	n	%	
Yes	340	43.26	27	3.43	0.030*
No	403	51.27	16	2.04	
Chi-square p < 0.05					

All dimensions of child maltreatment history were associated with depression. A subjects with psychological victimization history were 6.51 times more likely to experience depression. (Table 3).

Table 3

Association between depression and dimensions of child maltreatment

Dimension	No Depression (N = 743)		Depression (N = 43)		p-value		Prevalence Ratio	
	N	%	N	%			PR	95% CI
Violence exposure								
no	421	53.56	11	1.40	0.00	**	3.80	1.88
yes	322	40.97	32	4.07				7.66
Psychological Victimization								
no	415	52.80	7	0.89	0.000	**	6.51	2.85814.8106
yes	438	55.73	36	4.58				
Physical Victimization								
no	452	57.51	13	1.65	0.000	**	3.58	1.8392
yes	291	37.02	30	3.82				6.9858
Neglect								
no	458	58.27	15	1.91	0.001	**	3.00	1.5749
yes	285	36.26	28	3.56				5.7137
Sexual Victimization								
no	589	74.94	25	3.18	0.002	**	2.75	1.4647
yes	154	19.59	18	2.29				5.1772
Note: * Chi-square test; PR: Prevalence Risk								

To analyze which type of child maltreatment with the strongest association of depression, logistic regression test was done. The result showed that psychological violence is the type of child maltreatment, which has the strongest association. The history of psychological violence, was three times more likely to have depression (POR = 3.302, p = 0.004)

Table 4
Multivariate regression between depression and child maltreatment dimensions

Variable	coeff B	SE (B)	p value	POR_{adj} (95% CI)
First model :	0.854	0.453	0.060	2.348 (0.966–5.708)
Psychological	0.463	0.391	0.237	1.589 (0.738–3.421)
Physical	0.902	0.427	0.035	2.464 (1.068–5.684)
Violence exposure	0.242	0.337	0.472	1.274 (0.658–2.466)
Neglect	0.437	0.342	0.202	1.548 (0.792–3.027)
Sexual	1.195	0.414	0.004	3.302 (1.466–7.438)
Last model :	1.096	0.415	0.008	2.993 (1.328–6.747)
Psychological				
Violence exposure				

Discussion

This study found most of the junior high school students in Bandung, West Java, Indonesia had a history of child maltreatment. Indonesia has no definite data of child maltreatment or child abuse. However, this current study showed the history of victimization in psychological dimensions was the most widely experienced by the students (46.31%), followed by violence exposure (45.04%), and physical victimization (40.84%). Sexual victimization was a rare dimension (21.88%). Epidemiological data from a study in India showed that the highest prevalence of violence experienced was psychological (61.9%), physical (21.43%) and sexual violence (16.67%). Meanwhile data from the United States showed 686.000 cases of children violence was neglect (78.6%), physical abuse (18.3%) and sexual violence (9.3%)[22]. But, several studies showed the cumulative prevalence based on a survey of communities about 15–30% in girls and 5–15% in boys to sexual violence, 5–35% physical violence, 4–9% psychological violence and 6–12% neglect[23].

Most of the subjects were seventh grade students who were in early adolescent phase (ages 11 to14 years) that typically very egocentric with poor self-regulation[24]. The young adolescents were most often emotionally victimized at school. School violence is a high risk for depression[12,25] Conduct disorder was of the highest prevalence in adolescents, namely 7% in adolescents aged 12 to 16 years[26].

This study found all dimensions of child maltreatment had significant association with depression. This is similar to previous studies that asserted the existence of the relationship between the histories of violence in children with depression[27, 28]. Subjects with a history of psychological child maltreatment had 6.51 times higher risk of depression. This finding is similar to a meta-analysis that “abuse or maltreatment and neglect were most strongly associated between child abuse histories with depressive disorder in adolescence[25]. Moreover, Pirdehgan’s study in Iran showed a correlation between mental disorder and violence (Spearman rho:0.2;p-value < 0.001)[29].

Practitioners should be aware that violence during childhood might result in bad consequences in adolescents. Therefore, a good understanding is needed to prevent violence acts against children that might increase effective intervention on the problem of violence in adolescents[30].

Conclusions

A history of child abuse has a correlation with depressive disorder in adolescents. Psychological child abuse was the highest risk factor for the onset of disorders of depression compared to other violent dimensions.

Limitations

Limitations of this research was in the process of filling the questionnaires. Since some students found difficulties in answering the questions, the authors accompaniment was required.

Abbreviations

CDI: Child Depression Inventory

DSM: Diagnostic and Statistical Manual of Mental Disorder

ICAST-C: ISPCAN Child Abuse Screening Tool for Children

ISPCAN: International Society for Child Abuse and Neglect

Declarations

Ethics approval and consent to participate

An ethical approval was issued by the Health Research Ethics Committee Faculty of Medicine, Universitas Padjadjaran 29/UN6.C1.3.2/KEPK/PN/2016. Written informed consent was obtained from the subjects and parents or guardians.

Consent for publication

Not applicable.

Availability of data and materials

All data and materials of this study are available at Faculty of Medicine, Universitas Padjadjaran, Bandung, Indonesia, by contacting the corresponding author Meita Dhamayanti, email meita.dhamayanti@unpad.ac.id

Competing interests

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Authors' contributions:

MD, NM and VP were responsible for the conception and design of the study, acquisition of data, analysis, and interpretation of data writing and revising the manuscript. AN contributed to the analysis and interpretation of data as well as writing and revising the manuscript. NS contributed to the conception and design of the study, acquisition of data, analysis of data, interpretation of data, and writing the manuscript. All authors read and approved this manuscript.

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Figures

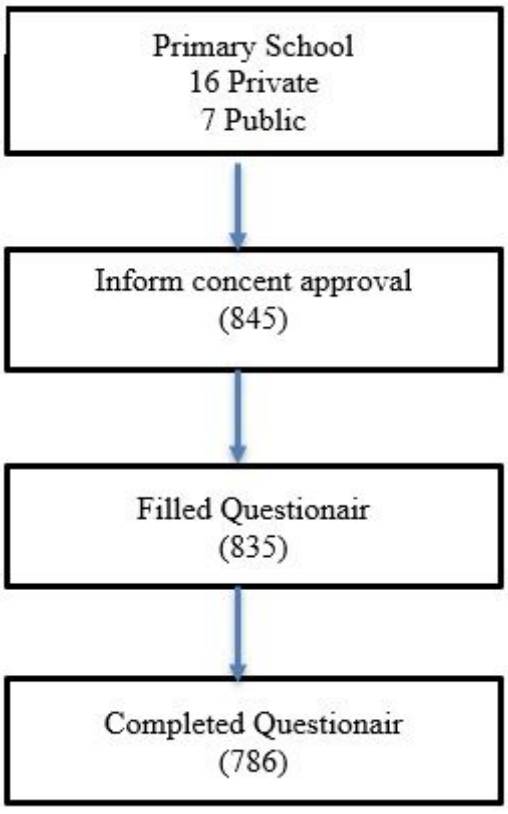

Figure 1

Sample selection

Supplementary Files

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