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Submission date: 02-Apr-2024 11:16AM (UTC+0700)
Submission ID: 2337590678
File name: 11._Iwan_Abdi_86_-_96_edit_1.pdf (400.61K)
Word count: 6912
Character count: 35666

Jurnal Promkes: The Indonesian Journal of Health Promotion and Health Education
Vol. 12 Issue 1 SP, January 2024, *doi: 10.20473/jpk.V12.I1SP.2024.86-96*

Starting Life with Hidden Wound: Bullying and Self-Reported Depression Symptoms among Early Adolescent in 3 Cities of Indonesia

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ABSTRACT

Background: *Previous research revealed that bullying cause depression symptoms such as lack enthusiasm, anxious, being sensitive, and easily offended.* ***Objective:*** *This study aims to determine the relationship between bullying and self-reported depression in early adolescents using cross-sectional approach for Indonesia Global Early Adolescent Study data.* ***Method:*** *Depression symptom was collected using self-registered questionnaire about sadness, sleep disturbance, anxiety, and self-injury ideation from 4,684 students (2,207 boys and 2,477 girls). Logistic regressions were used to examine how bullying, and multilevel factors predict depression. Most adolescent aged 12-13 years old, living with complete parents, middle-up economic background, having hand-phone and using social media.* ***Results:*** *Adolescent reported experience at least 3 depression symptoms (60%), bullying (45%) and Adverse Childhood Experiences (ACEs; 70%). Result shows that boys (OR[CI];1.73[1.45,2.06]), having ≥5 ACEs (OR[CI];1.35[1.20,1.51]), living with relative (OR[CI];4.52[3.67,5.56]), spent more time with peers (OR[CI];1.52[1.33,1.73]), feeling unsafe (OR[CI];1.79[1.59,2.02]), having negative social-cohesion (OR[CI];1.50[1.34,1.67]) and high social-control (OR[CI];1.40[1.24,1.58]) are more likely to report depression.* ***Conclusion:*** *Multivariable analysis reveals significant association only on ACEs, time spent with peers, unsafe feeling, negative social-cohesion and high social-control. Bullying strongly predicts depression when adjusted by family and community variables only. Bullying prevention program should address other socialization agents such as peers, parents, teacher and community leader.*

Keywords: *Adolescent health, ACEs, Bullying, Depression*

INTRODUCTION

Adolescence (ages 10-19 years) is one of the most critical periods of human development because health and well-being at this age affect the health trajectory with lifetime consequences (Blum *et al.*, 2017). In the initial period (10-14 years), adolescents experience dramatic transitions due to interrelated changes and brain development or cognitive abilities, body/puberty, and their social and sexual interactions, and may be able to affect their well-being throughout their lives (Blum *et al.*, 2017). At this time also began to emerge very large physical, cognitive, emotional, and social developments (Chandra-Mouli *et al.*, 2017). Physical, cognitive, emotional, and social changes are also accompanied by changes in their social roles and functions from children to adults (Basu *et al.*, 2017).

Adolescents also often experience various kinds of problems in the surrounding environment which will certainly have an impact on their health and are also related to mental (behavioral) and social (environmental) all of which influence each other. One of the problems that often occurs in adolescence the phenomenon of abuse (bullying). Existing literature has shown that a significant proportion of adolescents

Received: 12-12-2023, Accepted: 14-01-2024, Published Online: 26-01-2024

between the ages of 12 and 18 years have experienced traditional bullying behaviors from their peers (Elgar *et al.*, 2014; Modecki *et al.*, 2014), yet multiple reports have identified that traditional bullying victimization typically occurs among 30% to 40% of adolescents (Elgar *et al.*, 2014; Modecki *et al.*, 2014).

Bullying is defined as any aggressive behavior that is not desired by other youth/youth groups that involve an imbalance of power, both which occurs once or repeatedly (Grinshteyn and Yang, 2017). Bullying among adolescents is an important problem worldwide with serious immediate and lifelong consequences. Extant research has demonstrated that victims of bullying have elevated rates of school absenteeism (Hutzell and Payne, 2012; Juvonen *et al.*, 2011), lower academic achievement (Nakamoto and Schwartz, 2010; Copeland *et al.*, 2013), and a range of adverse mental health and physical health outcomes (Due *et al.*, 2007; Gini *et al.*, 2014; Fisher *et al.*, 2016). Bullying including physical aggression, verbal taunting and ridicule, and relational or social aggression has been a focus of research for decades.

The emergence of mental and behavioral problems has a relationship with their involvement in doing things related to self-harm ideation (Karanikola *et al.*, 2018). Victims of bullying in relation to mental health in individuals, can be viewed from psychological distress and depression as a negative effect on oneself. Based on WHO data (2012) globally, one of the main causes of death among adolescents is interpersonal violence to suicide. Depression and suicide have been recognized as one of the main causes of the loss of adolescent productive years among 10-19 years old (World Health Organization, 2012). Worldwide, the three main causes of Years Lived with Disability (YLDs) for children aged 10-24 years are neuropsychiatric disorders (45%), accidental injuries (12%), and infectious and parasitic diseases (10%) (Gore *et al.*, 2011).

Research relating to the experience of bullying and its impact on depression in early adolescents, is still quite limited, especially in developing countries. Though the study of this matter is very necessary because early adolescence period will determine the quality of life in the future. Therefore researchers interested in conducting further research related to the relationship between victims of bullying and depression in 3 regions in Indonesia.

METHODS

Research Design

This is a cross-sectional design using Indonesia Global Early Adolescent Study (GEAS) baseline data in 3 regions, namely Bandar Lampung, Semarang and Denpasar. GEAS aims to explore gender norms and healthy sexuality in adolescents and evaluate the impact of comprehensive sexual education (CSE) program interventions in schools.

Population and Sample

In each region selected purposively 6 junior high schools (SMP) consisting of 3 intervention schools and 3 control schools. The GEAS participants were recruited from three cities with different sociocultural backgrounds namely Bandar Lampung (n = 1,414), Denpasar (n = 1,753), Semarang (n = 1,517). It aims to analyze the various local contexts that influence norms and behavior, identify how the context influences the implementation of CSE and also want to see the difference of cultural and religious influences (more Islamic conservative in Sumatra compared to Java, more open Hindu culture in Bali and the influence of globalization and tourism). Data was collected using tablets that filled in by teenagers.

There were 4,684 students (2,207 boys and 2,477 girls) who agreed to participate in GEAS and complete the interview. Student at intervention school received CSE known as "SETARA" namely the "Semangat Dunia Remaja" while students in control schools are selected based on characteristics similarity with the intervention schools. The SETARA (Spirit of the Adolescent's World) intervention was developed by Rutgers using the UNESCO International Technical Guidelines on Sexuality Education. The SETARA intervention is delivered to 7th and 8th grade students (over 2 years) using the SETARA modules and facilitated by pre-trained teacher facilitators. The SETARA module consists of 23 chapters organized sequentially, covering topics such as puberty, gender, decision-making, relationships, violence, mental health,

Received: 12-12-2023, Accepted: 14-01-2024, Published Online: 26-01-2024

and sexual and reproductive health. The SETARA curriculum uses interactive methods such as group discussions, value clarification, role plays, essays, and exhibition activities. Students receiving SEmangaT duniA RemajA demonstrated significantly greater increase in competencies, including greater pregnancy knowledge, more gender equal attitudes, bullying prevention, and communication about sexual and reproductive health and rights, compared to controls (Pinandari *et al.*, 2023). Before collecting data from adolescents, field data collectors must ask parents for prior approval then collecting student assent to participate. The inclusion criteria in this study are 1) adolescent 7th grade students in selected schools 2) both of adolescents and their parents are willing to participate in this research.

Variable

Respondents were presented with several statements about their mental health and responded it with rated 5 (strongly agree), 4 (agree), 3 (normal), 2 (disagree), or 1 (strongly disagree) for each statement. Total scores were summarized and categorized into binary data, 0 for the median below and 1 for the median above. A higher score indicates a higher experience in reporting depression symptoms. Bullying is a physical or verbal experience of violence committed by peers and has been a victim of bullying in the past 6 months and is categorized as 1 (yes) 0 (no).

Another predictor for the individual level is gender, that is, the sex of the respondent biologically, and is categorized as 0 (male) and 1 (female). Age, is the age based on the last birthday given a score of 0 (10 years), 1 (11 years), 2 (12 years), 3 (13 years), or 4 (14 years). ACEs (Adverse Childhood Experience), explore violence experienced by adolescents in their childhood which categorized into 3 (> 5 or more ACEs experiences), 2 (3-4 times ACEs experience), 1 (1-2 times ACEs experience) and 0 (no experience). Time spent using social media, is how long teenagers use their time for social media and get a score of 2 (> = 2 hours / day), 1 (<2 hours / day), and 0 (not using social media).

Another predictor for the family level is parent-child relationship that is the closeness of adolescents with their parents and then categorized into 1 (yes), and 0 (no). Parent-child communication that is communication between parent-child related to how often to communicate, what is often discussed and communicate related to general matters that are categorized into 1 (yes), and 0 (no). Parental awareness, is the level of concern of parents related to monitoring their children related to where they are, what their activities are and who their friends are and are categorized into 1 (yes), and 0 (no). The level of the family economy, is the level of economic condition of parents, and is categorized into a score of 4 (very rich), 3 (rich), 2 (middle), 1 (poor), and 0 (very poor). Family structure, is a statement about the lives of adolescents with whom they live and is categorized into 2 (grandfather / grandmother / others), 1 (only mother / father), or 0 (both parents).

At peer level socialization time, is the level of frequency of adolescents socializing with friends and is categorized into a score of 3 (very often / almost every day), 2 (often / 3-4 days a week), 1 (not too often / 1- 2 days a week), and 0 (never / never a week). While at neighborhood level information about unsafe feeling, which is felt by adolescents in their environment both at school, neighborhood, or peers, was categorized into 1 (yes), and 0 (no). Positive environmental perception, is the level of environmental perception about adolescent attitudes and is given a score of 1 (positive) and 0 (negative). Perceptions of social control, created by their perceptions about their neighbors will do if something happens in their environment and are given a score of 1 (high social control), and 0 (low social control).

Statistical Analysis

Descriptive statistics using cross-tabulations was performed to determine the distribution of data by looking at the proportions of each group in each predictor based on the dependent variable. The results are presented in the form of graphs and frequency tables. Inferential analysis using the Chi-square test was used in bivariable analysis while simple and multiple logistic regression tests were used to examine how various variables at the individual, family, peer and community levels predicted and influenced the relationship of bullying and

Received: 12-12-2023, Accepted: 14-01-2024, Published Online: 26-01-2024

depression. The magnitude of the relationship is measured using Odds Ratio (OR). Don't know answers and missing responses were excluded from the analysis. All tests were use in STATA 15 and used 95% confidence intervals and significance p <0.05.

RESULTS AND DISCUSSION

Results

Descriptive analysis (Table 1) showed that almost half of adolescents have experienced bullying (44.6%). The distribution of bullied experiences didn't differ much in the group of adolescents who reported higher depression symptoms and the reverse group. At the individual level, aggregation of depression according to sex shows that male adolescents report more depression symptoms compared to adolescent girls (upper median 50.7% vs 49.3%). The majority of adolescent groups who reported more depression symptoms were 12 years age group (71%) compared to other age groups. In addition, adolescents who reported symptoms of greater depression were adolescents who had experienced ACEs, which was almost around (70%) compared to those who had never experienced ACEs. Adolescents who use social media more than 2 hours a day also tend to report greater symptoms of depression compared to adolescents who have never accessed social media (upper median 38% vs 5%).

Table 1. Frequency distribution of bullying and contextual variable based on depression symptoms

Independent variable	Depression					
	Below median (no)		Upper median (yes)		Total	
	N	%	N	%	n	%
Individual variables						
Bullying experience						
No	1248	55.1	1678	55.6	2926	55.4
Yes	1015	44.9	1342	44.4	2357	44.6
Type of Sex						
Boy	980	43.3	1227	50.7	2207	47.1
Girl	1283	56.7	1194	49.3	2477	52.9
Age						
10	2	0.1	1	0.0	3	0.1
11	133	5.9	122	5.0	255	5.4
12	1653	73.0	1722	71.1	3375	72.1
13	447	19.8	528	21.8	975	20.8
14	28	1.2	48	2.0	76	1.6
ACEs						
No Experiences	604	26.7	1017	33.7	1621	30.7
History of 1-2 ACES	902	39.9	636	21.1	1538	29.1
History of 3-4 ACES	508	22.4	643	21.3	1151	21.8
History of 5 or more ACES	249	11.0	724	24.0	973	18.4
Time spend for social media						
Don't use social media	115	5.1	125	5.3	240	5.2
<2 hours/day	808	36.0	895	37.8	1703	36.9
>=2 hours/day	1321	58.9	1346	56.9	2667	57.9
Family variables						
Connectedness						
Yes	1469	64.9	1470	48.7	2939	55.6
No	794	35.1	1550	51.3	2344	44.4
Communication						
Yes	1163	51.4	1184	39.2	2347	44.4
No	1100	48.6	1836	60.8	2936	55.6
Awareness						
Yes	1426	63.0	1469	48.6	2895	54.8
No	837	37.0	1551	51.4	2388	45.2
Wealth index						
Very poor	427	19.5	560	22.7	987	21.2
Poor	399	18.2	516	20.9	915	19.6
Middle	436	19.9	473	19.2	909	19.5
Rich	515	23.5	527	21.4	1042	22.4
Very rich	413	18.9	391	15.8	804	17.3
Family structure						

Received: 12-12-2023, Accepted: 14-01-2024, Published Online: 26-01-2024

Independent variable	Depression					
	Below median (no)		Upper median (yes)		Total	
	N	%	N	%	n	%
Both parents	1985	87.8	2231	73.9	4216	79.8
Mom/dad only	161	7.1	199	6.6	360	6.8
Grandparents/other	116	5.1	589	19.5	705	13.3
Peer and neighborhood variables						
Socialization time						
Never (no times per week)	204	9.3	187	7.9	391	8.6
Not very often (1 or 2 times a week)	1080	49.4	988	42.0	2068	45.6
Often (3-4 times a week)	226	10.3	241	10.2	467	10.3
Very often (nearly every day)	676	30.9	937	39.8	1613	35.5
Unsafe feeling						
Yes	986	45.3	1379	59.8	2365	52.7
No	1191	54.7	928	40.2	2119	47.3
Positive neighborhood perception						
Negative	938	41.4	1554	51.5	2492	47.2
Positive	1325	58.6	1466	48.5	2791	52.8
Perceive of social control						
Low social control	780	35.5	1011	43.6	1791	39.7
High social control	1415	64.5	1309	56.4	2724	60.3

At the family level, adolescents who do not have a close relationship with their parents report depression symptoms that are not much different from adolescents who have a good close relationship with their parents (upper median 51% vs. 49%). Adolescents who did not have good communication with their parents also reported symptoms of depression greater than adolescents who had good communication with their parents (upper median 61% vs 39%). Adolescents who felt their parents did not care about their activities, whereabouts and who their friends were did not differ much reported depression symptoms compared to the opposite group (upper median 51% vs 49%).

Table 2: Analysis multivariable of bullying and depression

Independent variable	Unadjusted OR (CI)	Adjusted OR (CI)			
		Individual model	Family model	Community model	All model
Bullying					
No	1	1	1	1	1
Yes	0.98 [0.88,1.10]	1.08 [0.95,1.23]	1.35 [1.20,1.52]***	1.42 [1.25,1.61]***	1.09 [0.95,1.26]
Type of sex					
Boy	1.35 [1.20,1.51]***	1.18 [1.04,1.33]**			1.02 [0.89,1.17]
Girl	1	1			1
Age					
10	1	1			1
11	1.83 [0.16,20.5]	1.79 [0.16,20.2]			1.00 [0.058,17.2]
12	2.08 [0.19,23.0]	2.00 [0.18,22.3]			1.06 [0.062,18.1]
13	2.36 [0.21,26.1]	2.12 [0.19,23.7]			1.09 [0.064,18.5]
14	3.43 [0.30,39.5]	2.55 [0.22,29.8]			1.21 [0.068,21.7]
ACEs					
No Experiences	1	1			1
History of 1-2	0.42 [0.36,0.48]***	1.00 [0.85,1.18]			1.01 [0.84,1.22]
History of 3-4	0.75 [0.64,0.88]***	1.77 [1.48,2.12]***			1.78 [1.46,2.18]***
History of 5+	1.73	3.90			3.63

Received: 12-12-2023, Accepted: 14-01-2024, Published Online: 26-01-2024

Independent variable	Unadjusted OR (CI)	Adjusted OR (CI)			
		Individual model	Family model	Community model	All model
	[1.45,2.06]***	[3.19,4.78]***			[2.90,4.55]***
Connectedness					
Yes	1		1		1
No	1.95 [1.74,2.18]***		1.31 [1.16,1.48]***		1.05 [0.92,1.21]
Communication					
Yes	1		1		1
No	1.64 [1.47,1.83]***		1.14 [1.01,1.29]*		0.98 [0.86,1.12]
Awareness					
Yes	1		1		1
No	1.80 [1.61,2.01]***		1.19 [1.05,1.34]**		1.00 [0.87,1.16]
Family wealth index					
Very poor	1.39 [1.15,1.67]***		1.38 [1.14,1.66]***		1.15 [0.93,1.43]
Poor	1.37 [1.13,1.65]**		1.35 [1.11,1.64]**		1.16 [0.93,1.44]
Middle	1.15 [0.95,1.39]		1.16 [0.96,1.40]		1.05 [0.85,1.29]
Rich	1.08 [0.90,1.30]		1.07 [0.89,1.29]		0.97 [0.79,1.19]
Very rich	1		1		1
Family structure					
Both parents	1		1		1
Mom/dad only	1.10 [0.89,1.37]		1.05 [0.84,1.30]		1.00 [0.78,1.27]
Grandparents/other	4.52 [3.67,5.56]***		0.71 [0.45,1.12]		0.79 [0.47,1.32]
Socialization					
Never	1.00 [0.81,1.24]			0.92 [0.72,1.17]	1.00 [0.78,1.28]
Not very often (1-2 times/week)	1			1	1
Often (3-4 times/week)	1.17 [0.95,1.43]			1.19 [0.97,1.47]	1.22 [0.98,1.52]
Very often (nearly every day)	1.52 [1.33,1.73]***			1.42 [1.24,1.63]***	1.34 [1.15,1.55]***
Unsafe feeling					
Yes	1.79 [1.59,2.02]***			1.62 [1.43,1.85]***	1.40 [1.22,1.60]***
No	1			1	1
Social cohesion					
Negative	1.50 [1.34,1.67]***			0.91 [0.80,1.03]	0.85 [0.74,0.98]*
Positive	1			1	1
Social control					
Low social control	1.40 [1.24,1.58]***			1.40 [1.23,1.59]***	1.37 [1.20,1.57]***
High social control	1			1	1
Time spend for social media					
Don't use social media	1.07 [0.82,1.39]			1.04 [0.78,1.39]	0.93 [0.69,1.28]
<2 hours/day	1.09 [0.96,1.23]			1.07 [0.93,1.21]	1.06 [0.93,1.22]
>=2 hours/day	1			1	1
Pseudo R^2		0.053	0.014	0.032	0.070
AIC		6162.6	6366.0	5667.1	5280.4
df_m		9	10	9	26
Observations		4684	4655	4209	4055

Received: 12-12-2023, Accepted: 14-01-2024, Published Online: 26-01-2024

Note: Exponentiated coefficients; 95% confidence intervals in brackets; Likelihood Ratio (LR) from Akaiki; df_m= Degree of freedom of the model; Data source: Indonesia PRUV; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

At the level of peers, adolescents who often communicate with peers are not too different from teenagers who rarely and never socialize with peers in reporting depression symptoms (50% vs 50%). Adolescents who felt they were insecure both in the school environment and in the neighborhood also tended to report more depression symptoms than adolescents who felt safe in the school or residential environment (upper median 60% vs 40%). And adolescents who had high social control perceptions of the surrounding environment were found to be more depressed than those who had lower social perception of control (upper median 56.4% vs. 43.6%). In addition, adolescents who had low or high social cohesion had no difference in reporting depression symptoms (upper median 51.5% vs 48.5%).

Based on Table 2, bivariable analysis shows that bullying does not have a significant relationship with depression, but in a multivariable analysis that is, after inclusion of other variables, bullying is significantly related to depression at the family level (OR (Cl) 1.35 [1.20,1.52]) and community (OR (Cl) 1.42 [1.25,1.61]). This means that adolescents who have experience of bullying have a 1.35 times greater chance at the family level and have a 1.42 times greater chance at the community and peer level in reporting depression symptoms compared to teens who rarely have bullying experience but bullying has no significant relationship by reporting symptoms of depression at the individual level and on all models. In terms of unpleasant childhood experiences (ACEs) showed that the bivariable analysis (OR (Cl) 1.73 [1.45.2.06]) and multivariate in all models (OR (Cl) 3.63 [2.90.4.55]) adolescents who had experienced ACEs had significant relationship with depression and adolescents who have experienced ACEs> 5 times as likely 3.63 times more likely to experience depression than adolescents who have never experienced ACEs or have less experience. Poor closeness and communication with parents in bivariable or multivariable analyze at the family level also have a significant relationship in reporting symptoms of depression but after including other variables in multivariable analysis in all models showed no significant relationship with depression. Concern and awareness of parents towards their children on bivariable analysis (OR (Cl) 1.80 [1.61,2.01]) and multivariable at the family level (OR (Cl) 1.19 [1.05.1.34]) also showed a significant relationship in reporting depression symptoms but after other variables included did not have a significant relationship in all models (OR (Cl) 1.00 [0.87,1.16]). Adolescents who often feel unsafe and often socialize with their peers on bivariable or multivariable analyzes at the community level and all models show a significant relationship in reporting depression symptoms. In addition, adolescents who have low social cohesion and social control also in the bivariable and multivariable analysis show that there is a significant relationship in reporting symptoms of depression in adolescents.

Discussion

The results of this study are that there are 44.4% of respondents who have experienced victims of bullying. bullying has a relationship with depression at the family and community level (neighborhood and peers) but does not have a relationship on all models. This means that the chance of depression symptoms is higher in those who experience bullying, which is accompanied by low closeness, communication and caring from parents, plus the adolescents comes from economically disadvantaged families. In addition, high depression symptoms also have the opportunity to be found in adolescents who experience bullying as well as those who feel unsafe and who have a low perception of social control in their community. But with comprehensive sexual education (CSE) using the SETARA module, students are better able to know bullying prevention, maintaining mental health, and increasing knowledge related to gender roles compared to controls (Pinandari *et al.*, 2023). The results of this study are also in line with several similar studies in Indonesia. A study in high school adolescents in Banda Aceh

Received: 12-12-2023, Accepted: 14-01-2024, Published Online: 26-01-2024

which states that there is a negative and significant correlation between bullying and mental health (Firsta and Zaujatul, 2017). This is because the act of bullying done by peers usually causes more pressure, insults, acts of physical abuse to victims of bullying which results in a feeling of discomfort from victims of bullying. Some other studies also report that bullying is related to individual mental health, including research that suggests that victims of bullying have mental health problems such as having high levels of depression (Due *et al.*, 2007; Gini *et al.*, 2014; Rittakerttu *et al.*, 2000).

Other research also showed victims of bullying had a 1.5 times greater chance of experiencing depression compared to adolescents who didn't experience bullying (Marchira *et al.* 2017). Other research conducted on students in grades 7 through 9 also shows the results that subjects who experience bullying are more likely to report symptoms of depression (Fleming and Jacobsen, 2010). The symptoms of depression such as the emergence of feelings of sadness and despair are increasing along with the increasing number of days when they experience bullying.

Adolescents who have experienced ACEs in a family environment are also significantly associated with depression (self-reported). This study shows that adolescents who have experienced> 5 times ACEs experience also have a 3.63 times greater chance of experiencing depression than other variables. This means that the more often adolescents get ACEs experience, it will cause stress to result in depression in adolescents. An unpleasant childhood experience can usually be obtained from older people and peers. Victims of ACEs are usually more prone to depression. One study found that ACEs can predict worsening mental health during one semester, in addition to the presence of stressors or current sources of stress as a mediator of the correlation between ACEs and mental health (Dewi, 2012). This study is also supported by previous studies which shows a significant correlation between recurrent ACEs and depression in the elderly group. All forms of harassment, repeated physical abuse and forced sexual relations are significantly correlated with depression late in life (Margaret *et al.*, 2016).

At the individual level, bullying is not related to depression, whereas ACEs variable is still associated with depression symptoms. But if the ACEs variable is eliminated as is done at the family and community level, it turns out that there is an immediate relationship between the depression and bullying variables. In addition, when the ACEs variable is re-included in the analysis in all models, the relationship between the two variables is lost again. Based on this, it can be concluded that there is a possibility that the ACEs variable is a potential confounding. This means that adolescents who have symptoms of depression, may not necessarily be associated with bullying incidents that he experienced, but most likely due to the bad experiences of childhood they experienced. Based on that, for further research, it is highly recommended to control the ACEs variable, if you want to test the pure influence of the experience of being a bullying victim for depression symptoms reported by adolescents.

Closeness and communication with parents is also significantly related to depression (self- reported) at the family level. This indicates that adolescents who do not have closeness and good communication with their parents are more vulnerable to depression than adolescents who have good closeness and communication with their parents. This shows that adolescents who do not get the attention of parents, for example, parents who have never said related to the condition of their children, will more easily get depressed. Research conducted on high school students in Yogyakarta in 2016 explained that the odds of teens experiencing depression were 3.7 times greater in adolescents who were not familiar with their parents compared to adolescents who were familiar with their parents (Emilda *et al.*, 2015). This is also supported by a study conducted in Semarang City in 2013 of vocational students, showing that there is a correlation between parenting (authoritarian, permissive, democratic and mixed) with the level of depression in adolescents (Safitri and Hidayati, 2013). This research is also supported by previous study which states that there is a very significant negative correlation between communication between mother and child with depression in adolescents

Received: 12-12-2023, Accepted: 14-01-2024, Published Online: 26-01-2024

SMK 2 Depok, the better communication is done by mothers in children, the smaller the occurrence of depression in students, conversely the less the mother's communication to the child, the greater the occurrence of depression in students (Nora *et al*., 2017).

Adolescents who have unsafe feelings while at school, as well as the neighborhood also have a statistically significant correlation with depression. This is because adolescent who do not have a good correlation with peers will be more prone to depression because they will feel anxious and threatened if they have insecure feelings wherever they are. Feelings of insecurity in adolescents arise as a result of reduced social support and unfulfilled needs received from peer environments. Adolescents who often spend time with peers are also statistically related to the level of depression in adolescents. This means that the more often teens interact with their peers, they have a greater chance of experiencing harassment from their peers. This is supported by previous study which states that the more frequent interactions with peers, the more vulnerable they become victims of bullying to cause depression in adolescents (Setyowati *et al*., 2009).

Adolescents who have low social perception of cohesion and social control are also significantly associated with depression in adolescents. This is because if their neighborhood does not respond positively when adolescents are present or experience problems in their neighborhood, adolescents assume they have no one to protect them. This is what makes them depressed and even depressed. Adolescents who have a negative living environment are also likely to experience depression. This is supported by previous study which states family cohesion and social self-concept are significant moderators of the incidence of depression in children and adolescents. More specifically, better family support and peer correlation can weaken the correlation between depression and thoughts or suicidal thoughts. The lack of support from the neighborhood and family makes teens depressed and doesn't even have anyone to protect them (Apple *et al*., 2009). Those findings again remind us regarding the importance of socialization of the impact of bullying behavior, that could be started from the young adolescents.

Since this study used secondary data from GEAS-Indonesia survey, so there are some limitation especially in term of variables. For instance, this study was only able to analyze correlation bullying and depression symtoms, but not its real practices among adolescents, due there was no availability of that particular variable. This research can be used as input that there is a need for a bullying prevention program must address not only adolescents but also other socialization agents such as peers, parents, teachers and community leaders.

CONCLUSION

Around 44.4% of adolescents who have been victims of bullying admit to being depressed and statistically there is a relationship between victims of bullying and depression at the community and family level but not at all levels. In addition, depression is also caused by the experience of ACEs, often teenagers interact with peers, feel unsafe, and have low social and social control. The most related to the incidence of depression in adolescents (10-14 years) is the experience of ACEs (unpleasant childhood experiences) which can be obtained from peers or older people. Therefore, bullying prevention programs must address not only adolescents but also other socialization agents such as peers, parents, teachers and community leaders. A counseling program for early adolescents is needed because bullying, depression and ACEs are found among this age group.

ACKNOWLEDGEMENT

We want to thank all the early adolescent who participated in the GEAS-Indonesia survey, as well as the funder that supported the entire study

CONFLICT OF INTEREST

All Authors declare no conflict of interest

AUTHOR CONTRIBUTION

IAS: Conceptualization, Methodology, Data curation, statistical

Received: 12-12-2023, Accepted: 14-01-2024, Published Online: 26-01-2024

analysis, writing – original draft. **AWP**: Conceptualization, Methodology, Data curation, analysis, writing – review & editing the draft. **SAW**: Conceptualization, review & editing the draft.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

The GEAS-Indonesia study was approved by the Institutional Review Board at Bloomberg School of Public Health, Johns Hopkins University, Maryland-United Stated of America and Faculty of Medicine, Public Health and Nursing of Universitas Gadjah Mada, Daerah Istimewa Yogyakarta-Indonesia grant no. KE/FK/0242/EC/2018

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Received: 12-12-2023, Accepted: 14-01-2024, Published Online: 26-01-2024

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