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Knowledge and stigma of depression among adolescents in Indonesia: a cross-sectional study

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ABSTRACT

Depression is a prevalent mental health issue among Indonesian adolescents. Adolescents grappling with depression face various challenges, including exclusion, discrimination, educational difficulties, and violations of human rights. Limited knowledge about depression contributes to stigma, which impacts teenagers' reluctance to seek professional help. This study aimed to examine the correlation between adolescents' knowledge and the stigma of depression. Using a cross-sectional framework, this study involved 240 high school students from grades 10, 11, and 12. All participants completed and returned the requisite instruments. Knowledge about depression was assessed using the adolescent depression knowledge questionnaire (ADKQ), while the depression stigma scale (DSS) was used to gauge levels of stigma. The relationship between knowledge and stigma was analysed using the Spearman rank test. The findings indicate that the mean score for adolescents' knowledge about depression was 7.00 (SD=2.72), while the mean score for stigmatisation of depression was 42.02 (SD=8.43). A significant relationship between knowledge and stigma was observed ($p<0.0001$), characterised by moderate strength and a negative direction ($r=-0.45$). The study concludes that more excellent knowledge about depression among adolescents is inversely related to the level of the stigma they harbour. It is therefore recommended that mental health nurses in Community Health Centers enhance educational and counselling programs to inform adolescents about depression better. Collaboration between academic institutions and healthcare facilities, along with the development of school-based mental health programs, is imperative for reducing the stigma associated with depression among students.

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1. INTRODUCTION

The incidence in 2021, the world health organization (WHO) reported that one out of every seven individuals aged 10 to 19 around the world experiences a mental disorder. Furthermore, approximately 13% of the global disease burden is attributed to these mental health issues. The primary causes of illness and disability within this age group are depression, anxiety, and behavioural disorders [1]. In the context of

Indonesia, a survey conducted by the Center for Reproductive Health in 2022 found that one in every three adolescents, equivalent to 15.5 million individuals (34.9%), had encountered mental health difficulties during the preceding year. Moreover, one in every twenty adolescents, or 15.5 million individuals (34.9%), experienced mental health issues within the same time frame [2].

Depression is a common mental health issue among adolescents. Globally, approximately 1.1% of adolescents aged 10-14 years and 2.8% of those aged 15-19 years are affected by depression [1]. In Indonesia, the prevalence of depression among adolescents aged 15 years and older is approximately 6.1%, and slightly higher at 6.2% for those aged 15-24 years [3]. Research conducted in collaboration between Indonesian universities and international institutions, such as the University of Queensland in Australia and the Johns Hopkins Bloomberg School of Public Health in the United States, has shown that approximately 2.45 million Indonesian adolescents, or 5.5% of the population, meet the diagnostic criteria for depressive disorder outlined in the fifth edition of the diagnostic and statistical manual of mental disorders (DSM-V) [1].

West Sumatra, one of the Indonesian provinces, exhibits a notably elevated rate of depression at 8.2%, surpassing the national prevalence [3]. Within the West Sumatra Province, approximately 7.97% of the population in the city of Padang, West Sumatra Province, Indonesia, precisely those aged 15 to 24 years, grapple with depression [4]. Notably, the prevalence of depression is higher in the adolescent age group than in other age brackets, and it is also more prevalent in women compared to men, with rates of 7.4% for women and 4.7% for men [3].

Adolescents grappling with depression are highly susceptible to facing exclusion and discrimination, which, in turn, hinders their willingness to seek professional assistance [5]. This situation leads to educational challenges, risky behaviours, diminished physical well-being, and violations of their human rights [6]. Consequently, teenagers with depression must receive appropriate treatment. Regrettably, many cases remain unnoticed and untreated, as highlighted by the WHO [1]. Adolescents frequently refrain from seeking help for their mental health issues, as demonstrated by the mere 2.6% of adolescents receiving treatment for depression [2]. This percentage falls well short of both the national target set by the government (9%), West Sumatra's provincial target (8.57%), and Padang's municipal target (11.25%) [4]. Many adolescents cite stigma as a significant impediment to seeking professional assistance [7].

Stigmatisation among adolescents can significantly impact their willingness to seek professional help [8]. Additionally, a substantial majority of teenagers tend to cope with their issues by confiding in friends (98.7%), avoiding the problems altogether (94.1%), or turning to the internet for information (89.9%) [9]. The reluctance of adolescents to openly acknowledge and accept mental health issues often keeps them confined within their limited perspectives. Adolescents who are not well-versed in recognising the signs of depression may tend to stigmatise it, labelling it as a source of shame or even considering themselves as "crazy." This stigma places immense pressure on adolescents with mental health challenges and makes it difficult for them to be receptive to treatment [10]. As a result, promoting literacy about depression is essential to combat stigma, and providing access to mental health services is crucial to offer support and counselling for the emotional and behavioural problems experienced by adolescents [11].

Adolescents who experience depression are often burdened by their emotional state due to a lack of understanding, which tends to result in the stigmatisation of depression. This stigma significantly hampers their willingness to seek professional assistance. Stigma continues to be the primary barrier that prevents adolescents from seeking help, underscoring the need for educational efforts to reduce stigma and enhance adolescents' understanding of depression [12]. The limited knowledge that adolescents possess about depression often leads them to conceal and attempt to manage their mental health issues. A previous study has indicated that teenagers frequently fail to recognise depression, instead opting to seek support from close individuals like family and friends, all the while attaching a stigma to depression [13]. Many teenagers express their reluctance to disclose their depression to anyone. This trend underscores that adolescents often lack sufficient knowledge and harbour significant concerns about depression, perceiving it as a mental health issue that necessitates treatment and professional assistance [14].

Depression stands as the most significant contributing factor to the elevated rates of suicide among adolescents, as reported by the WHO [1]. When left untreated, depression can exacerbate an individual's mental state, potentially leading to suicidal tendencies. Females exhibited an elevated susceptibility to engaging in suicide attempts (OR 1.96, 95% CI 1.54–2.50), while males demonstrated a greater likelihood of succumbing to suicide-related fatalities (HR 2.50, 95% CI 1.8–3.6) [15]. Given its demographic bonus, this presents a considerable challenge for Indonesia, as approximately 20% of the nation's population falls within the age range of 10-19 years [2]. While there have been numerous studies exploring knowledge and stigma related to mental disorders, these studies have often had a broader focus on mental health in general and typically targeted the general population. In contrast, the current research zeroes in on adolescents, with a specific emphasis on their understanding of and attitudes towards depression. Therefore, the objective of this study was to examine the relationship between adolescents' knowledge and the stigma of depression.

2. METHOD

2.1. Study Design

In this study, a quantitative approach was employed, utilising a descriptive cross-sectional design to assess the knowledge and stigma associated with depression among adolescents. This research design is particularly well-suited for simultaneously examining multiple variables and is instrumental in providing a detailed description of the potential relationships among these variables [16].

2.2. Settings and samples

The study was carried out between March and June 2021, and it involved the observation of adolescents attending public vocational high school (PVHS) 4 in Padang. Regarding inclusion criteria, during the data collection, the study invited adolescents aged 18 years and above to enrol as students at PVHS 4 in Padang. Individuals with severe communication problems, such as a complete inability to comprehend Indonesian and Minang languages, were excluded from the study. To ascertain the suitable magnitude of the sample, we utilized the G*Power software (latest version 3.1.9.7; Heinrich-Heine-Universität Düsseldorf, Düsseldorf, Germany) [17]. The calculated sample size recommendation was derived from an effect size (p) of 0.25, a significance level (α) of 0.05, and a power of 0.99. This calculation indicated a minimum total sample size of 238. Eventually, 240 adolescents willingly volunteered to participate in this study as respondents. Participants were selected for this research through a simple random sampling from students in the 10th, 11th, and 12th grades. They were provided with a self-assessment tool to evaluate their knowledge of depression and the associated stigma. Each adolescent completed the instrument based on their circumstances and returned it to the researcher. It's important to note that participation in the study was entirely voluntary.

2.3. Research instruments and data collection

All participants in this study completed a socio-demographic form, adolescent depression knowledge questionnaire (ADKQ), and depression stigma scale (DSS). The socio-demographic form, including age, gender, a history of depression, and sources of information regarding depression. Additionally, the original author authorised the authors to translate the questionnaire.

2.3.1. Adolescent depression knowledge questionnaire (ADKQ)

The study utilised the ADKQ developed by Hess *et al.* [18] to assess participants' knowledge. This questionnaire is divided into three main components: knowledge, causes, and symptoms of depression. It encompasses 15 items presented in a true-or-false format, following the structure of the Guttman scale. A correct response was awarded a score of 1, while an incorrect response received a 0. A higher total score signified a more comprehensive grasp of depression.

Before commencing the study, the authors conducted translation, validity, and reliability assessments, as the published Indonesian version of this instrument was unavailable. The initial translation of the ADKQ from English to Bahasa Indonesia was carried out by two proficient translators fluent in both languages. The translated versions were then reviewed by researchers and consolidated to form the initial Indonesian version of the ADKQ. Subsequently, two independent translators, proficient in both English and Bahasa Indonesia, conducted a reverse translation of the initial Indonesian ADKQ version back into English. Following the translations, a panel of experts in relevant fields, including two psychologists, scrutinised the translated questionnaire and the reverse translation. After the translation process was completed, validity and reliability assessments were conducted. During the construct validity test using Pearson correlation, it was observed that all items had an r count value more significant than the r table value, affirming their validity. Furthermore, Cronbach's alpha testing was performed, demonstrating the questionnaire's reliability with a Cronbach's α value of 0.71. Consequently, the questionnaire was deemed suitable for use in this study. A description of adolescent depression knowledge questionnaire items can be seen in Table 1.

Table 1. Adolescent depression knowledge questionnaire item description

Items number	Content
1, 2, 7, 11, and 12	Fundamental knowledge about depression
3, 4, 5, 8, and 13	Causes of depression
6, 9, and 10, 14 and 15	Signs and symptoms of depression

2.3.2. Depression stigma scale (DSS)

The assessment of depression-related stigma in this study was conducted using the depression stigma scale (DSS), which was initially developed by Griffiths *et al.* [19]. This instrument incorporated 18

items related to personal stigma and nine items associated with perceived stigma, all of which were employed in the research. The overall scale scores ranged from 0 to 36, while the two nine-item subscales ranged from 0 to 18. In this questionnaire, a Likert scale was used as the measurement scale, featuring five response categories: "Strongly Agree" (scored as 5), "Agree" (scored as 4), "Do not Know" (scored as 3), "Disagree" (scored as 2), and "Strongly Disagree" (scored as 1).

Similar to the ADKQ, there was no published Indonesian version of the DSS instrument. The authors followed a procedure similar to the ADKQ, which involved translation, validity, and reliability testing. During the examination of construct validity through Pearson correlation, it was evident that all items exhibited an r value exceeding the required threshold, confirming their validity. Additionally, Cronbach's alpha testing was conducted, revealing a Cronbach's α coefficient of 0.70 for personal stigma and a Cronbach's α coefficient of 0.73 for perceived stigma within the DSS. This underlined the questionnaire's reliability and suitability for the study.

2.4. Statistical analysis

The data was analyzed using the IBM SPSS Statistics software version 25.0, developed by IBM Corporation located in Armonk, NY, USA. In this particular investigation, univariate data analysis techniques were employed. The data was presented using descriptive statistics, including frequency, percentage, mean, and standard deviation. To assess the normality of the data, the Kolmogorov-Smirnov test was conducted, revealing that the data was not distributed normally ($p<0.05$). Consequently, non-parametric tests, specifically the Spearman correlation, were utilized to investigate the connection between knowledge and stigma associated with depression. The significance level was set at $p<0.05$.

2.5. Ethical clearance

This study received ethical approval from the Health Research Ethics Committee affiliated with the Faculty of Nursing at Universitas Andalas (No: 015. laiketik/KEPKFKEPUNAND). Data were collected by distributing questionnaires to respondents. The researcher gave informed consent to the research participant before completing the questionnaire. Confidentiality of all information retrieved was ensured at every stage of the study. All respondents were informed about the research objectives, nature, and procedures. Respondents were additionally apprised of their entitlement to discontinue participation in the research at any juncture without incurring any repercussions. None of the study participants endured any harm throughout the investigation.

3. RESULTS AND DISCUSSION

3.1. Characteristics of the respondents

Table 2 shows that most participants fall within the 17-20 age group (59.2%). Additionally, more than half of the respondents are female (52.9%). Nearly one-fifth of the participants have a prior history of depression (18.8%). Furthermore, most participants indicated a preference for obtaining information about depression from the internet (51.3%).

Table 2. Characteristics of respondents (n=240)

Characteristic	Frequency (f)	Percentage (%)
Age, in years		
Early adolescents (10-13)	0	0
Middle adolescents (14-16)	98	40.8
Late adolescents (17-20)	142	59.2
Gender		
Male	113	47.1
Female	127	52.9
History of depression		
Never	195	81.3
Ever	45	18.8
Sources of information regarding depression		
Health professional	10	4.2
Family	15	3.6
Friend	21	8.8
School	13	5.4
Social media	49	20.4
Internet	123	51.3
Television	6	2.5
Others	3	1.3

3.2. Description of adolescents' knowledge of depression

Table 3 provides a summary of the respondent's knowledge regarding depression. The mean score of the respondent's knowledge was 7.64, with SD 2.72. The majority of participants correctly answered questions regarding depression in teenagers. Specifically, 89.6% knew that 5% of teenagers would suffer from major depression, 90% knew that depression could run in families, 78.3% recognized that a change in behaviour could be a symptom of depression, and 82.5% knew that major depression is a treatable medical illness. Additionally, 84.2% identified that substance abuse can be a sign of depression, and 50.8% knew that bipolar disorder is more common than major depression.

While one question was answered incorrectly by primary respondents, it is essential to note that including major depression as a regular part of adolescence is a common misconception (61.7%). It is also important to note that depression cannot be controlled through willpower alone (91.7%) and that the cause of Major Depression is not yet fully understood (61.7%). Additionally, there is no evidence to suggest that certain groups of people are immune to depression (58%). According to the survey, 82.5% of people with depression report feeling sad. Additionally, 77.5% of those with major depression find that it is a curable illness. Contrary to popular belief, significant stress, such as that caused by parents getting a divorce, does not always lead to a depressive illness (82.9%). The survey also identified five symptoms of depressive illness (71.3%) and two symptoms of mania (90.8%).

Table 3. Knowledge of depression among respondents

Number	Questions	Correct n (%)	Incorrect n (%)
1	Five per cent of all teenagers will suffer a Major Depression	215 (89.6)	25 (10.4)
2	Major depression is a normal part of adolescence	92 (38.3)	148 (61.7)
3	Depression runs in some families	216 (90.0)	24 (10.0)
4	Depression can be controlled through willpower	20 (8.3)	220 (91.7)
5	The cause of Major Depression is well-known	92 (38.3)	148 (61.7)
6	A change in behaviour is a symptom of depression	188 (78.3)	52 (21.7)
7	Certain groups of people are immune to depression	99 (41.2)	141 (58.8)
8	Major depression is a treatable medical illness	198 (82.5)	42 (17.5)
9	A person with depression always feels sad	42 (17.5)	198 (82.5)
10	The abuse of alcohol and drugs can be a sign of depression	202 (84.2)	38 (15.8)
11	Bipolar Disorder is more common than Major Depression	122 (50.8)	118 (49.2)
12	Major depression is a curable illness	54 (22.5)	186 (77.5)
13	Someone who has major stress (like having parents get a divorce) always develops a depressive illness	41 (17.1)	199 (82.9)
14	List five symptoms of depressive illness	69 (28.7)	171 (71.3)
15	List two symptoms of mania	22 (9.2)	218 (90.8)
	Knowledge total		Mean ± SD 7.64 ± 2.72

Abbreviation: SD=standard deviation

3.3. Description of adolescents' stigma of depression

Table 4 provides a summary of the respondent's stigma regarding depression. The mean score of the respondent's stigma was 21.00 with SD 4.51, the respondent's perceived stigma was 21.00 with SD 4.65, and the mean score of the respondent's total stigma score was 42.00 with SD 8.43. 47.1% of the participants believe that people with depression can snap out of it if they want to. Additionally, 53.8% of the participants think that depression is a sign of personal weakness, and 33.3% believe that depression is not an actual medical illness. Furthermore, 30.8% of the participants believe that people with depression are dangerous. It is concerning that 37.2% of the participants would not tell anyone if they had depression, and 38.8% of the participants believe that most people would not employ someone who has been depressed. Similarly, 38.8% of the participants believe that most people would not vote for a politician if they knew they had been depressed. Moreover, 37.5% of the participants were unaware that individuals with depression can be unpredictable. Additionally, 35.4% of the respondents disagreed with the notion that avoiding people with depression is the best way to prevent becoming depressed themselves.

3.4. Relationships between Adolescents' knowledge and the stigma of depression

Table 5 illustrates that the total stigma score has a p-value of <0.001, signifying a significant relationship between adolescents' knowledge and stigma. Concurrently, the correlation coefficient (r) is -0.45, indicating a moderate and negative relationship. This discovery leads to the conclusion that as knowledge decreases, stigma regarding depression increases. Furthermore, the coefficient of determination (r^2) is 0.27, signifying that knowledge contributes to adolescent stigma related to depression by 27%.

Table 4. Stigma of depression among respondents

Stigma of depression	Strongly agree	Agree	Do not know	Disagree	Strongly disagree
	n (%)	n (%)	n (%)	n (%)	n (%)
Personal stigma (Mean±SD: 21.00±4.51)					
People with depression could snap out of it if they wanted	113 (47.1)	105 (43.8)	15 (6.3)	2 (0.8)	5 (2.1)
Depression is a sign of personal weakness	17 (7.1)	129 (53.8)	49 (20.4)	42 (17.5)	3 (1.3)
Depression is not a real medical illness	17 (7.1)	80 (33.3)	76 (31.7)	52 (21.7)	15 (6.3)
People with depression are dangerous	24 (10.0)	74 (30.8)	63 (26.3)	61 (25.4)	18 (7.5)
It is best to avoid people with depression so you don't become depressed yourself	16 (6.7)	69 (28.8)	27 (11.3)	85 (35.4)	43 (17.9)
People with depression are unpredictable	10 (4.2)	88 (36.7)	90 (37.5)	40 (16.7)	12 (5.0)
If I had depression, I would not tell anyone	29 (12.1)	89 (37.1)	32 (13.3)	63 (26.3)	27 (11.3)
I would not employ someone if I knew they had been depressed	24 (10.0)	93 (38.8)	57 (23.8)	52 (21.7)	14 (5.8)
I would not vote for a politician if I knew they had been depressed	40 (16.7)	93 (38.8)	46 (19.2)	45 (18.8)	16 (6.7)
Perceived stigma (Mean±SD: 21.00±4.65)					
Most people believe that people with depression could snap out of it if they wanted	106 (44.2)	106 (44.2)	19 (7.9)	3 (1.3)	6 (2.5)
Most people believe that depression is a sign of personal weakness	16 (6.7)	110 (45.8)	60 (25.0)	43 (17.9)	11 (4.6)
Most people believe that depression is not a real medical illness	14 (5.8)	83 (34.6)	86 (35.8)	44 (18.3)	13 (5.4)
Most people believe that people with depression are dangerous	15 (6.3)	90 (37.5)	51 (21.3)	69 (28.8)	15 (6.3)
Most people believe that it is best to avoid people with depression so you don't become depressed yourself	20 (8.3)	76 (31.7)	39 (16.0)	78 (32.5)	27 (11.3)
Most people believe that people with depression are unpredictable	7 (2.9)	85 (35.4)	91 (37.9)	44 (18.3)	13 (5.4)
If they had depression, most people would not tell anyone	31 (12.9)	111 (46.3)	51 (21.3)	35 (14.6)	12 (5.0)
Most people would not employ someone they knew had been depressed	16 (6.7)	113 (47.1)	65 (27.1)	37 (15.4)	9 (3.8)
Most people would not vote for a politician they knew had been depressed	36 (15.0)	109 (45.4)	51 (21.3)	33 (13.8)	11 (4.6)
Stigma of depression total (Mean±SD: 42.00±8.43)					

Abbreviation: SD=standard deviation

Table 5. Relationships between knowledge and stigma of depression

Variables	n	R	r2	P
Knowledge * Stigma total	240	-0.45	0.27	<0.001*
Knowledge * Perceived stigma	240	-0,47	0,31	<0.001*
Knowledge * Personal stigma	240	-0,36	0,16	<0.001*

Note: Spearman rank test was performed, *significant at p<0.05

3.5. Discussion

This study examines knowledge and stigma (personal and perceived) about depression among adolescents and investigates the relationship between their level of knowledge and the stigma attached to depression. The analysis revealed a statistically significant correlation coefficient (R) of -0.45, indicating a strong correlation between knowledge and stigma. The median score for adolescents' knowledge of depression is 7.00 (with a standard deviation of 2.71), indicating a relatively low level of knowledge about depression, amounting to 38.2%. This finding is consistent with a study conducted in China, which similarly found that the average knowledge level among adolescents regarding depression was 10.86 [12]. Furthermore, this study's findings are consistent with a prior study conducted in the United States, which investigated 710 adolescents and revealed that their average knowledge concerning depression was 11.7 [20].

An individual's knowledge of depression contains positive and negative aspects [21] asserts that the more positive a person's aspect of knowledge and an object, the more positive his attitude; conversely, the more damaging a person's aspect of knowledge and an object, the more positive his attitude. Based on the description above, the researchers assume that the more negative aspects of adolescents' knowledge of depression, the more negative their attitudes. Adolescence refers to a period vulnerable to mental health growth and development [22].

The results of the study indicate a negative and moderate correlation between knowledge and stigma. This means that higher knowledge is associated with a lower stigma of depression. This finding is

consistent with a previous study that also found a link between higher knowledge and lower stigma among depressed teenagers [23], [24]. This may be based on the concept that a person's attitude tends to align with their knowledge about a subject [25]. Negative knowledge can contribute to stigma and other negative perceptions [26].

The ADKQ, consisting of true or false questions, was used in the study. The analysis showed that the majority of adolescents answered accurately regarding the prevalence of major depression and family history (89.6% and 90% accuracy, respectively). However, a significant proportion of respondents incorrectly believed that depression can be controlled through willpower (8.3% accuracy). These results align with a previous study [27], which found that many Maryland adolescents misconceive that willpower alone can treat depression. This suggests a need for education and medical support to address this misconception.

The analysis of the ADKQ used an essay-filling method for depressive and bipolar symptoms. Less than half of the students correctly listed four or five depressive symptoms, and most couldn't accurately record two bipolar symptoms. This research supports a previous study [18] findings, highlighting the importance of adolescents knowing depressive symptoms to identify the condition. Diagnosis of depression requires experiencing symptoms and meeting specific criteria for two weeks, while bipolar disorder diagnosis involves three symptoms over one week, according to DSM-V [28]. Hence, adolescents need to recognise depression symptoms for early detection.

The study found that the average stigma of depression among adolescents is 42.02 (with a standard deviation of 8.432), indicating a high level of stigma, amounting to 58.3%. The study assessed stigma in two subcategories: personal stigma, which measures respondents' attitudes towards depression, and perceived stigma, which gauges respondents' perceptions of how others view depression. The average perceived stigma was 21.30 (SD=4.647), while personal stigma was 20.72 (SD=4.510), demonstrating that perceived stigma was higher than personal stigma. This finding aligns with Dardas *et al.* [29] study on Jordanian adolescents, which also found higher perceived stigma (18.5) compared to personal stigma (17.5). Similarly, previous research supported this result, indicating that perceived stigma scores exceeded personal stigma scores. This suggests that adolescents may be judged based on their behaviours associated with depression rather than their beliefs [8]

The research findings reveal that most adolescents (59.2%) fall within the 17-20 age group, categorising them as late adolescents. The analysis further indicates that the average stigma of depression in late adolescents is 42.25 (with a standard deviation of 8.710), which is higher than that observed in mid-teenagers, where it averaged 41.68 (with a standard deviation of 8.044). Late adolescents typically exhibit emotional maturity and possess the ability to think objectively [30]. Their interactions in heterosexual social relationships can influence their perception of the surrounding environment. This aligns with the findings of the previous study, which highlight age as a significant factor related to stigma, personal stigma, and perceived stigma in adolescents [29]. Specifically, stigma tends to be more pronounced in adolescents aged 16 and above. Based on this, it is suggested that as teenagers grow older, they become more attuned to public stigma, understand issues comprehensively, and become aware of negative attitudes.

Perceived stigma in this study reflects how adolescents perceive others' attitudes toward depression, measured through their opinions on nine statements about depression. The research reveals that males exhibit the highest perceived stigma, with an average score of 21.92 (with a standard deviation of 4.670). This is attributed to masculine norms that view depression as a sign of weakness and a lack of independence or self-control. Consequently, males often do not perceive depression as a mental illness but rather as a personal weakness, leading to misconceptions and biases against depression [31]. Adolescents without a history of depression also show higher perceived stigma, averaging 21.46 (with a standard deviation of 4.826), likely due to their limited knowledge about depression, causing them to align with societal stigma against individuals with depression.

Personal stigma, which measures adolescents' attitudes towards depression based on their agreement with nine statements about depression, is observed to be highest in late adolescence. This finding is in line with studies by Sarfika that show that late adolescents have a higher stigma than middle adolescents and early adolescents [8]. This trend arises because older teenagers become more sensitive and aware of the consequences of their actions [32]. On the other hand, females exhibit the lowest personal stigma, with an average score of 20.34 (with a standard deviation of 4.460). This can be attributed to women's stronger connections within the social system, making them more conscious of the stigma they may perpetuate. This observation is supported by a previous study [33], who assert that women possess higher empathy and the ability to understand and consider others' perspectives more than men, making them more attentive to different viewpoints. Additionally, the prevalence of depression among women contributes to their greater exposure, knowledge, and awareness of the condition compared to men [34].

Adolescents with a history of depression display lower personal stigma, averaging 19.93 (with a standard deviation of 4.550), likely due to their increased knowledge about depression stemming from their

own experiences. These adolescents can better empathise with individuals suffering from depression. This observation is consistent with the findings of a previous study, which suggests that experiencing depression can enhance depression literacy and reduce negative beliefs about it [31]. The average stigma among adolescents who have experience with depression sufferers is 41.95 (with a standard deviation of 7.690), while the average stigma among those who haven't had such experiences is 42.16 (with a standard deviation of 9.927). This indicates that adolescents who lack experience with depression sufferers tend to have slightly higher stigma levels, although the difference is not statistically significant.

Spearman's correlation test revealed a significant relationship (p-value=0.000) between knowledge and the stigma of depression in adolescents. This finding aligns with previous research in China, which also identified a significant link between knowledge and depression stigma [12]. Furthermore, a study in Tokyo also reported a significant relationship between knowledge and depression stigma. The correlation coefficient (r) was found to be -0.446, indicating a moderate strength of the relationship with a negative direction. This result suggests that as knowledge decreases, stigma about depression tends to increase [35]. This observation is in line with a previous study, which emphasised that stigma acts as a primary barrier for adolescents seeking help, underscoring the importance of reducing perceived stigma [12].

Finally, adolescents with limited knowledge about depression tend to perceive more stigma, and this relationship is negatively correlated. Personal stigma, in turn, affects their willingness to seek help [34]. Previous research indicates the relationship between knowledge, perceived stigma, and personal stigma is quite similar. Hence, adolescents with better knowledge of depression tend to have lower stigma about it. It's worth noting that stigma remains a significant barrier to seeking help, and because knowledge about depression is negatively correlated with stigma, efforts should focus on reducing perceived stigma. To address this, it's crucial to enhance adolescents' understanding of depression by providing them with accurate and trustworthy information [11]. Notably, the internet is a major source of information for adolescents, but not all online sources are reliable. Therefore, it's essential to educate them about credible information sources. Schools can play a vital role in disseminating knowledge about depression and serving as a trusted source of information for adolescents. Furthermore, schools can contribute to mental health programs for children and adolescents, offering support and promoting mental well-being among adolescents [36].

3.5.1. Study limitation

The study's limitation lies in its failure to differentiate between adolescents who had friends with a history of depression and those who did not. It's essential to recognise that adolescents with friends who have experienced depression may have a more empathetic and informed perspective. In contrast, those without such friends may lack personal exposure to the condition, potentially leading to different attitudes and levels of stigma. Furthermore, adolescents have diverse life experiences and personal histories. Some may have encountered depression in their own families or within their close circle of friends, while others may have had no direct exposure to it. Moreover, adolescents may possess distinct viewpoints on depression, which a range of factors, including culture, education, media exposure, and personal beliefs, can influence. Some adolescents may regard depression as a treatable medical condition, while others might hold stigmatising or misinformed views, perceiving it as a sign of weakness or moral failing.

3.5.2. Implication for nursing practices

This study proves that good-knowledge adolescents have a low stigma about depression. Thus, this research has implications that there is a need for innovative interventions to increase adolescent knowledge to reduce the stigma about depression among adolescents. Also, conducting more research to see how appropriate interventions can reduce the stigma of depression is possible. The results of this study found that there is a similarity between personal stigma and perceived stigma.

4. CONCLUSION

The study findings indicate that most adolescents have insufficient knowledge and demonstrate a significant level of stigma towards depression. It's evident that there exists a significant correlation between an adolescent's level of knowledge and the degree of stigma they hold; specifically, the less knowledgeable adolescents are about depression, the more likely they are to stigmatise it. Efforts should focus on increasing awareness of potential barriers that might deter adolescents from seeking assistance and equipping school counsellors with appropriate training to fulfil their roles as competent advocates for mental health and educators. Furthermore, it is critical that these interventions focus on dispelling the stigma associated with depression. This can be achieved by enhancing adolescents' understanding of mental health issues and working to eradicate negative attitudes surrounding them.

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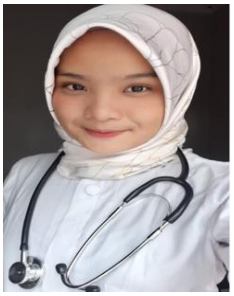

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