

Stress Levels and High School Adolescents Coping Mechanism during the Covid-19 Pandemic

Mustika Sajida Maharani^{*1} ; Mustikasari Mustikasari² 

¹Faculty of Nursing, Universitas Indonesia, Depok, Indonesia

²Departement of Psychiatric Nursing, Faculty of Nursing, Universitas Indonesia, Depok, Indonesia

Abstract

Background: Adolescents are prone to psychological disorders due to their personal nature that they cannot accept changes. It is further exacerbated by the Covid-19 pandemic situation which requires all activities to be carried out online from home.

Purpose: This study aims to determine the relationship between stress levels and coping mechanism in high school adolescents during the Covid-19 pandemic in Halim Jakarta.

Methods: Research design is a cross sectional used for adolescents aged 15-19 years at SMA Negeri 67 Jakarta and SMA Angkasa 1. 342 samples were selected by using the quota sampling method. The measurement of stress levels is done by distributing the Perceived Stress Scale (PSS) questionnaire, while the coping mechanism uses the Brief Cope questionnaire. The research results include the results of univariate analysis and bivariate analysis with the Chi Square test.

Results: The results of this study showed that there was a relationship between stress levels and coping mechanism (p value 0.017), dysfunctional coping strategies (p value 0.000) in high school adolescents during the Covid-19 pandemic. Furthermore, there is no relationship between stress levels and Emotion Focused Strategies (p value 0.703), and Problem Focused Strategies (p value 0.816) in high school adolescents during the Covid-19 pandemic. The female adolescents are more dominant than male adolescents. More respondents from class XII majoring in science are from SMA Negeri 67 Jakarta. There are still teenagers with severe stress during the Covid-19 pandemic. There is a relationship between stress levels with coping mechanism and dysfunctional coping strategies. But the stress level has no relationship with Emotion Focused Strategies and Problem Focused Strategies.

Conclusion: The results of this study are expected to improve mental health services through routine mental health screening and providing counselling related to stress management in adolescents. Adolescents are also expected to solve problems by optimizing the use of coping mechanism (Emotion Focused Strategies, Problem Focused Strategies) appropriately and avoiding the use of dysfunctional coping strategies.

Keywords: adolescents; coping mechanism; covid-19; stress.

Introduction

The Corona virus has been declared a pandemic by the WHO (World Health Organization) since March 9, 2020, and this virus has spread widely to all parts of the world (WHO, 2020). This virus is new and this disease was not known before the outbreak in Wuhan, China, in December 2019. The Covid-19 pandemic also caused psychosocial problems. Based on the research conducted, the prevalence of stress was 29.6%. The anxiety level was 31.9% and depression was 33.7% (Salari et al., 2020). Based on the data above, stress is one of the health issues that should not be ignored.

Adolescence is a period of transition from childhood to adulthood

OPEN ACCESS

Jurnal Keperawatan Padjadjaran (JKP)

Volume 9(3), 240-246
© The Author(s) 2021
<https://doi.org/10.24198/jkp.v9i3.1678>

Article Info

Received : July 22, 2021
Revised : November 26, 2021
Accepted : November 29, 2021
Published : December 29, 2021

Corresponding author

Mustika Sajida Maharani
Faculty of Nursing, Universitas Indonesia, Depok, Indonesia, Postal address: 16425, phone: 62 87887042028, e-mail: mustika.sajida@ui.ac.id

Citation

Maharani, M.S., & Mustikasari. (2021). Stress Level and High School Adolescents Coping Mechanism during the Covid-19 Pandemic. *Jurnal Keperawatan Padjadjaran*, 9(3), 240–246. <https://doi.org/10.24198/jkp.v9i3.1678>

Website

<http://jkp.fkep.unpad.ac.id/index.php/jkp>

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E-ISSN: 2442-7276

P-ISSN: 2338-5324

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Table 1. Average Distribution of High School Respondents During the Covid-19 Pandemic at Halim Jakarta Based on Adolescent Age at Halim in 2021 (N=342)

Characteristics of Respondents	Mean Median Mode	SD	Min-Max	CI 95%
Age	16.40 16 17	0.906	15–19	16.30–16.50

Table 2. Frequency Distribution of Respondents Based on Gender, Class, Major, and School Origin of High School Teenagers During the Covid-19 Pandemic at Halim Jakarta Based on Adolescent Age at Halim 2021 (N=342).

Characteristics of Respondents	Total	Percentage (%)
Gender		
Boy	117	34.2
Girl	225	65.8
Class		
X	92	26.9
XI	104	30.4
XII	146	42.7
Major		
IPA	217	36.5
IPS	125	63.5
School Origin		
SMAN 67 Jakarta	202	59.1
SMA Angkasa 1	140	40.9

Table 3. Distribution of Frequency Based on Stress Levels of High School Adolescents during the Covid-19 Pandemic in Halim Jakarta by Adolescent Age in Halim 2021 (N=342).

Variable	Total	Percentage (%)
Stress Level		
Mild	20	5.8
Moderate	216	63.2
Severe	106	31
Total	342	100

Table 4. Distribution of Average Respondents by Level of High School Adolescent Coping Mechanisms during the Covid-19 Pandemic in Halim Jakarta by Adolescent Age in Halim 2021 (N=342).

Variable	Total	Percentage (%)
Coping Mechanism		
Less	36	10.5
Good	306	89.5
Emotion Focused Strategies		
Less	200	58.5
Good	142	41.5
Problem Focused Strategies		
Less	201	58.8
Good	141	41.2
Dysfunctional Coping Strategies		
Less	297	86.8
Good	45	13.2

Table 5. The Relationship Between Stress Levels and Coping Mechanisms for High School Adolescent during the Covid-19 Pandemic in Halim Jakarta based on Adolescent Age in Halim 2021 (N=342).

Independent Variable	Dependent Variable																							
	Coping Mechanism					Emotion				Problem				Dysfunctional										
	Good		Less		Total	P Value	Good		Less		Total	P Value	Good		Less		Total	P Value	Good		Less		Total	P Value
	n	%	n	%			n	%	n	%			n	%	n	%			n	%	n	%		
Stress Level																								
Mild	20	100	0	0	20	0.017	9	45	11	55	20	0.703	8	40	12	60	20	0.816	10	50	10	50	20	0.000
Moderate	198	91.7	18	8.3	216		86	39.8	110	60.2	21	6	87	40.3	129	59.7	216		34	15.7	182	84.3	216	
Severe	88	83	18	17	106		47	44.3	59	55.7	106		46	43.4	60	56.6	106		1	0.9	105	99.1	106	
Total	306	100	36	100	342		142	100	200	100	342		141	100	201	100	342		45	13.2	297	86.8	342	

(Hockenberry & Wilson, 2015). Adolescents are vulnerable to psychological disorders because they have not been able to accept changes easily. Some of the changes caused by Covid-19 have an impact on all aspects such as the start of online classes, not being able to meet and play with friends, the routine of parents working from home. These changes can make teenagers become stressed (Ananda & Apsari, 2020). Adolescents also experience several things that cause stress including changes in learning methods. At first they learned face-to-face, but with conditions like this, the learning turned into distance learning (Ananda & Apsari, 2020). Based on a survey conducted by KPAI (Indonesian Child Protection Commission), as many as 79.9% of children experienced increased stress due to lack of interaction with the teacher and the teacher only gave heavy tasks, and 20.1% still thought that there was interaction in the learning process. The stress experienced by teenagers during the Covid-19 pandemic is classified as academic stress (Muslim, 2020). One of the causes of adolescent stress levels during the Covid-19 pandemic is because studying at home is difficult and the online learning system is becoming less effective.

Based on the researcher's preliminary study of 10 high school teenagers in Jakarta, it showed that during the Covid-19 pandemic, teenagers felt stressed due to the Distance Learning method. To deal with stress, teenagers do several things such as playing games, chatting with friends using social media, and exercising. The way that teenagers do to relieve stress is by implementing commonly used coping.

The results of the research conducted on high school students on the use of coping mechanism showed that 55.2% of respondents used adaptive coping mechanism and 44.8% of respondents used maladaptive coping mechanism. The maladaptive coping mechanism that has been used are consuming alcohol, smoking, fighting, and playing games. The adaptive coping mechanism used by adolescents, for example talking to other people, trying to solve existing problems, and also relaxation techniques (Mulyana, 2013). Diverting thoughts and doing other activities are some examples of ways to reduce stress. Reducing stress levels in

online learning will also result in decreased coping mechanism (Fitriasari, Septianingrum, Budury, & Khamida, 2020). Based on this, the purpose of this study was to determine the relationship between stress levels and the coping mechanism of high school adolescents during the Covid-19 pandemic in Halim Jakarta.

Method

The design of this research is a cross sectional (Notoatmodjo, 2010). The sample criteria are students between the ages of 15-19 years, and willing to become research respondents. Respondent selected by quota sampling with a sample of 342 respondents held on January 16-22 2021 in SMA Negeri 67 and SMA Angkasa 1 Halim Jakarta Timur. The questionnaire used: 1) the characteristics of the respondents, namely age, gender, school origin, major, and class made by the researcher himself, 2) the stress level (Perceived Stress Scale from Cohen (Cohen, 1983) consisting of 10 questions, and 3) the coping mechanism (Brief COPE from Carver (1997)) consisting of 28 questions. This questionnaire was originally in English, then the researcher translated this questionnaire into Indonesian with the help from a sworn translator. Data were collected through online media (Google Form). The analysis in this study used univariate analysis and bivariate analysis with chi-square test. This research has passed the ethics test Faculty of Nursing, Universitas Indonesia with Nomor: SK-03/UN2.F12.D1.2.1/ETHIC 2021.

Results

The results of this study include 1) respondent characteristics including age, gender, school origin, major, and class, 2) stress level, and 3) coping mechanism.

1) Characteristics of respondents

Next are the characteristics of other respondents as in table 1.

The average age obtained is 16.40 years, with the youngest age of 15 years and the oldest age of 19 years.

Table 2 shows the number of female respondents

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consisting of 225 adolescents. The number of respondents in class XII consists of 146 teenagers. The number of teenagers from the science department consists of 217 teenagers. The number of teenagers from SMA Negeri 67 Jakarta consists of 202 teenagers.

2) Stress Level

Table 3 shows that there are still teenagers who are under severe stress, with 31%.

3) Coping Mechanism

Table 4 shows that adolescents are good at using coping mechanisms (89.5%), emotion focused strategies (41.5%), and problem focused strategies (41.2%). Only 13.2% of teenagers are not good at using Dysfunctional Coping Strategies.

4) Coping Mechanism

Table 5 shows that there is a relationship between stress levels and coping mechanisms (p value = 0.017), Dysfunctional Coping Strategies (p value = 0.000) for high school adolescents during the Covid-19 pandemic. There is no relationship between stress levels and Emotion Focused Strategies (p value = 0.703), Problem Focused Strategies (p value = 0.816) for high school adolescents during the Covid-19 pandemic.

Discussion

1) Characteristics of respondents

Characteristics of the respondents consist of age, gender, school origin, major, and class. The age of the respondents is the average age of 16.4 years old. The respondent's age ranges from 15-19 years. Based on WHO, this age range is included in the category of middle (14-16 years old) and late teens (16-19 years old). Adolescence is a transition from childhood to adulthood. Adolescents have unstable emotions causing them to be unable to solve the problems they are facing, adolescents also do not have mature thoughts about the future (Rahmawati, Rohaedi, & Sumartini, 2019). Skills in dealing with stressors and the use of coping mechanisms are related to a person's age (Fitriasari et al., 2020). A person's ability to manage stress is accompanied by the development of the age (Suwartika, Nurdin, & Ruhmadi, 2014). Teenagers still have difficulty on accepting reality so they are easier to experience stress because they are not used to changes.

Female adolescent respondents are more dominant than boys. This is supported by the research that adolescent girls are more susceptible to stress than adolescent boys. This is because boys are easier to feel confident, independent, and able to become leaders, while girls are more emotionally oriented (Sharma & Kaur, 2011). Teenage girls are more prone to experiencing high levels of stress because girls experience puberty earlier than boys (Budiarti, 2013). The results of the study are in accordance with (Dapodikbud,

2020) which shows that there are more female students than male students. The respondents from science major are more dominant than social studies respondents. This is comparable to research conducted by Wulandari (2014) which obtained data that adolescents from the science department were more dominant than the social studies major. There is a significant difference in the level of anxiety between the science majors and the social studies majors (Krisnawati, 2011). The results of the study also stated that although there was a perception that the science department gave higher pressure than the social studies major, there was actually no significant difference in the level of stress between the two majors (Allred, Granger, & Hogstrom, 2013). The level of stress experienced by adolescents from the science department is caused by pressure to follow all lessons and difficulties in understanding lessons.

The majority of the respondents are from class XII, followed by class XI, and lastly is class X. According to a study, the characteristics of class XI students are able to adapt to the school environment and learning activities well and have plenty of time for self-exploration (Setiono, 2013). The majorities of class XI students already have good self-understanding, have a good sense of enthusiasm for learning, and have good relationships with their friends (Lestari, Sofah, & Putri, 2019). According to a study, class XII students have a higher risk of experiencing psychosocial problems because the higher a person's education level causes the stress received from the burden of learning to increase also (Putri, 2014). The researcher assumes that the stress level experienced by teenagers is highest in class XII due to the high burden of learning to continue to college level.

The results showed that the majority of adolescent respondents came from SMA Negeri 67 Jakarta rather than from SMA Angkasa 1 Jakarta (Dapodikbud, 2020). This result is in accordance with the data held by Dapodikbud which shows that the number of students attending SMA Negeri 67 Jakarta is more than students attending SMA Angkasa 1 Jakarta. Public schools are schools run by the government, while private schools are usually run by a foundation. For the number of students, there are usually more students from public schools than students from private schools because the capacity of public schools is bigger than the capacity of private schools.

2) Stress Level

The data from the results of this study indicate that there are still teenagers who belong to the category of severe stress. Adolescents also experience several things that cause stress, including changes in learning methods. At first they learn with face-to-face learning, but this current condition has made the learning process turn into distance learning (Ananda & Apsari, 2020). Teenagers experience increased stress due to social restrictions that cause teens not

to be able to spend time playing with their friends (Houston, 2020). The average teenagers experience moderate levels of stress during the pandemic due to difficulties on understanding online material and fears of being infected (Purba, 2020). Severe stress lasts several weeks to years, this stress begins to affect a person's mental and physical. The causes of stress experienced by adolescents include academic, individual relationships, peer problems, and life changes (Apriningtyas Budiyati & Oktavianto, 2020). Some of the difficulties experienced by adolescents are caused by the additional cost of the internet and a lack of understanding of technology (Purwanto et al., 2020). The level of stress experienced by adolescents can be caused by several things, including teenagers who have not been able to accept changes, some of the changes experienced by adolescents include changes in the way of learning to distance learning.

3) Coping Mechanism

The results of the study found that adolescents were able to use coping mechanisms but there were still some adolescents who had not been able to use coping mechanisms optimally. More than 50% of teenagers still use the Dysfunctional Coping Strategies mechanism. Teenagers are more dominant in using coping mechanisms of Emotion-focused strategy. The use of Dysfunctional Coping Strategies is caused by the severity of a stressor experienced. To overcome this, guidance and counselling services are needed for adolescents to tell about their feelings during learning and can use the focus group discussion method (Sary, 2011). The usual coping mechanism for adolescents is adaptive coping mechanisms, but there are some adolescents who use maladaptive coping mechanisms.

Effective problem solving requires the use of both functions of coping mechanisms to deal with the stress (Fitriasari et al., 2020). Most people use adaptive coping mechanisms such as watching television or watching movies, cleaning and tidying things up, keeping in touch with friends and family during a pandemic (Taylor et al., 2020). Teenagers are more likely to use problem-focused coping mechanisms to deal with stress (Raheel, 2014). Adolescents have begun to be able to determine the appropriate coping mechanisms to deal with the stressors they experience.

The coping mechanisms they use are very diverse. Adolescents usually use problem-focused coping mechanisms. Problem-focused coping is a strategy by making a change and taking action to deal with a situation. Emotion-focused coping focuses on actions to reduce emotional distress, commonly known as a defense mechanism, an attempt to eliminate feelings of anxiety (Lazarus & Folkman, 1984; Stuart, 2013). Dysfunctional coping strategies refer more to maladaptive coping and do not resolve the stress. Based on the researcher's analysis, the coping mechanism needs to be improved, namely the use of Problem-focused strategies and Emotion-

focused strategies. Teenagers begin to find out about coping mechanisms from several online media sources, and reference sources. The use of dysfunctional coping strategies is not recommended because it tends to not solve the problem because the coping used is maladaptive.

4) The Relationship between Stress Level and Coping Mechanism

Based on the results of the study, there are still teenagers experiencing severe stress who have not used coping mechanisms optimally and use Dysfunctional Coping Strategies coping mechanisms. The results showed that there was a relation between stress levels with coping mechanisms and dysfunctional coping strategies. Stress level has no relationship with Emotion Focused Strategies and Problem Focused Strategies.

The results of this study are in accordance with the research and the data shows that respondents with high levels of stress have tried various coping mechanisms, including adaptive coping mechanisms such as using the internet to keep in touch with others through text messages, and creating routines (Taylor et al., 2020). Some ways to reduce stress are by doing other activities or sleeping. The decrease in stress levels in online learning will also be followed by the decrease in coping mechanisms (Fitriasari et al., 2020).

The level of stress experienced by adolescents can be overcome if adolescents maximize the use of coping mechanisms. The use of coping mechanisms must be appropriate because there are coping mechanisms that do not cope with the stress experienced.

Conclusion

The characteristics of the respondents are mostly in the middle age category, with female adolescents more dominant than male adolescents. More respondents from class XII majoring in science are from SMA Negeri 67 Jakarta. There are still teenagers with severe stress during the Covid-19 pandemic. The number is not too large but it needs attention. Teenagers are able to use coping mechanism (Emotion Focused Strategies, Problem Focused Strategies) well but still not optimal and there are still some teenagers who use Dysfunctional Coping Strategies. There is a relationship between stress levels with coping mechanism and dysfunctional coping strategies. However, the stress level has no relationship with Emotion Focused Strategies and Problem Focused Strategies. Adolescents are also able to use coping mechanism optimally but there are still some teenagers who have not maximized the use of coping mechanism.

It is hoped that through this research, the government will make regulations that emphasize policies on the community to care about mental health, especially the mental health of children and

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adolescents as well as creating guidebooks and optimizing the maximum use of coping mechanism (Emotion Focused Strategies, Problem Focused Strategies) in overcoming stress during the pandemic and avoiding the use of Dysfunctional Coping Strategies through the creation of educational content in social media. The government can also create a complaint post in each region to receive complaints from teenagers related to stress problems they experience and provide lessons related to optimizing coping mechanism.

Schools can conduct health promotions regarding stress management and optimize the use of coping mechanism for Problem Focused Strategies and Emotion Focused Strategies optimally during the pandemic through online seminars, and health promotion related to stress levels and use coping mechanism for Problem Focused Strategies and Emotion Focused Strategies optimally by using social media.

Nurses can provide health promotion in the form of counselling related to the selection of coping mechanism and stress management as well as conducting counselling related to the adolescent development process that can affect stress levels and how to optimize the use of pandemic coping mechanism (Emotion Focused Strategies, Problem Focused Strategies) and avoiding the use of Dysfunctional Coping Strategies which can be done by providing education to students as much as possible. Nurse can also educate the adolescents that these coping mechanisms are not recommended and help adolescents choose other coping mechanism such as by trying to share their thoughts. Nurses can also provide guidance and counselling to adolescents in accordance with the development of age who experience severe stress.

Teachers are expected to be a place for teenagers to share their thought and help the students during distance learning, so that teenagers who are experiencing stress can be given counselling and assistance. Teenagers begin to find out what activities they like to deal with stress. It is hoped that teenagers can also do stress management so that they can reduce stress levels.

The Researchers hope that the results of this study can be used for the development of nursing science, especially psychiatric nursing and can provide information about interventions related to stress levels experienced by adolescents during the Covid-19 pandemic and the selection of the use of appropriate coping mechanism and also maximizing the use of coping mechanism (Problem Focused Strategies dan Emotion Focused Strategies).

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