

Original Research

The Providing Of Covid-19 Education On The Knowledge And Anxiety Levels Of High School Students

Nurul Devi Ardiani^{1*}, Maula Mar'atus Solikhah²

^{1,2} Nursing Study Program, Faculty of Health Sciences, University of Kusuma Husada Surakarta, Indonesia

ABSTRACT

Background: *The lack of knowledge about COVID-19 could lead to various types of speculation about the Coronavirus spread, causing anxiety in the public and diminishing the body's immune system. Education about COVID-19 is a method to enhance school students' knowledge because school clusters are one of the contributors to the increasing number of COVID-19 in Indonesia.*

Methods: *The research method adopted was quasi-experimental, with a pre-and post-test without control on 72 students. The students were selected randomly through the coordination of the student affairs teacher involved in this study. The online g-form was used twice to collect data. Pre-education data collection was conducted a day before the implementation of education, and then the evaluation of post-education was implemented several days after performing education. Pre- and post-education used two (2) questionnaires on knowledge and anxiety. Data were analyzed by using the Wilcoxon test*

Results: *The results of the Wilcoxon test on the pre- and post-education variables on students' knowledge presented a value of -4.938 ($p = 0.000$) with a p -value of <0.05 . Therefore, it was concluded that there was an effect of COVID-19 education on students' knowledge. The results of the Wilcoxon test on the pre-and post-education variables on student anxiety showed a value of -3.587 ($p = 0.000$) with a p -value of <0.05 .*

Conclusion: *There was an effect of COVID-19 education on the student's knowledge and anxiety levels. The results of this study are expected to provide benefits for respondents, especially in diminishing anxiety by increasing their knowledge of COVID.*

ARTICLE HISTORY

Received: October 24th, 2022

Accepted: December 6th, 2022

KEYWORDS

anxiety, covid-19, education, knowledge;

CONTACT

Nurul Devi Ardiani



nurul_devi@ukh.ac.id

Nursing Study Program, Faculty of Health Sciences, University of Kusuma Husada Surakarta. Jl. Jaya Wijaya No.11, Kadipiro, Kec. Banjarsari, Surakarta City, Central Java 57136

Cite this as: Ardiani, N. D., & Solikhah, M. M. . (2022). The Providing Of Covid-19 Education On The Knowledge And Anxiety Levels Of High School Students. *Interest : Jurnal Ilmu Kesehatan*, 182–189. <https://doi.org/10.37341/interest.v0i0.511>

INTRODUCTION

Coronaviruses (CoV) are part of the virus family that causes infections from the flu to severe diseases such as Middle East Respiratory Syndrome (MERS-CoV) and Severe Acute Respiratory Syndrome (SARS-CoV). The coronavirus disease (Covid-19)

is a new type of virus that was discovered in 2019 and did not identify itself as contaminating humans previously (Prihati et al., 2020). Coronavirus, or COVID-19, harms the human body's health. It starts when the spread of Covid-19 as a carrier to people who are infected by this virus will be transmitted to other humans through touched objects, the air, and people who have direct contact with Covid-19 sufferers (Rakhmanov et al., 2020).

In addition, the symptoms of people detected with this virus will experience the following symptoms: flu, cough, dizziness, fever, nausea, shortness of breath, weakness, exhaustion, colds, and pulmonary failure (Sari & 'Atiqoh, 2020). The World Health Organization (WHO) recommends prevention practices such as washing hands with soap under running water, keeping a distance when talking to other people, and not touching the face with dirty hands. Furthermore, they also suggest wearing a mask that covers the nose and mouth with a tissue or a bent elbow when coughing (Sugihantono, 2020).

The Indonesian Ministry of Health suggests COVID-19 prevention steps such as performing hand hygiene with hand sanitizer or washing hands using soap in running water and not touching the mouth, eyes, or nose. Then, take notice of coughing and sneezing etiquette, especially in public places, use masks outside the home, and apply the social distancing principle (at least 1 meter) (Trudell et al., 2021). The results of interviews with teachers of student affairs stated that learning was implemented online, and occasionally students came to school on certain occasions during the pandemic.

The teacher supervised the students' health protocols and obtained that the students do not wash their hands regularly, use masks imperfectly or only cover their chin and mouth, and have not kept their distance from mates. Covid-19 interpretation is essential to reduce the number of cases (Pragholapati, 2020). The absence of knowledge about the COVID-19 pandemic could lead to different assumptions about the virus's spread, cause anxiety that can lower a person's immune system, and increase blood pressure.

The anxiety factor about the pandemic is due to inaccurate information about this disease (Sirait, 2020). The results of Mahfud and Gumantan's, (2020) revealed that the student's anxiety levels during the COVID-19 pandemic were very not anxious at 9%, not anxious (20.5%), anxiety at 34.1%, and severe anxiety at 36.4%. The research from Pratiwi and Surakarta, (2020) stated that the anxiety level of students was in the mild category at 0%, moderate at 2%, severe at 23.5%, and panicked at 74.5%.

The health protocol actions set by WHO and the Indonesian Ministry of Health will not run until the community has good knowledge, attitudes, and skills in its implementation (Moudy & Syakurah, 2020). Socialization and intensive health promotion efforts are required to achieve community transformations in cognitive, affective, and psychomotor in preventing Covid-19 (Saqlain et al., 2020). Education is also necessary to increase knowledge as a provision to face the pandemic period to reduce anxiety.

MATERIALS AND METHOD

The study was experimental in nature, with a quasi-experiment and pre-post test without a control design. The sampling technique used was purposive sampling. The sample involved 72 students at SMA Al Islam 1, Surakarta. The respondents were students of classes X and XI who were present during data collection from start to finish and were willing to be respondents.

The research instrument used a questionnaire about COVID-19 knowledge and anxiety based on the standard Hamilton Rating Scale for Anxiety (HARS) questionnaire and modified for research needs. The validity and reliability test of the questionnaire was conducted before collecting data. Respondents provided informed consent prior to data collection. Its data was collected twice, once before and once after education, using two (2) questionnaires on knowledge and anxiety.

During the post-data collection phase, the data was analyzed using SPSS. The knowledge variable categories were low, medium, and high. The anxiety variable was categorized into no anxiety, mild anxiety, moderate anxiety, severe anxiety, and very heavy anxiety. The analysis of the research data consisted of univariate analysis and bivariate analysis.

A univariate analysis of frequency distribution and bivariate analysis using the Wilcoxon test were used to determine the effect of COVID-19 education on students' knowledge and anxiety levels. The ethical clearance was registered at the UKH Surakarta Ethics Commission with Certificate Number 018/UKH.L.02/EC/IX/2020.

RESULTS

The Characteristics of Respondents

Table 1. Characteristics of Respondents By Age

Characteristics	Minimum	Maximum	Mean	Std. Deviation
Age	14	17	15.68	.976

Table 1 shows the students' age from 14 to 17 years old with a standard deviation of 0,97.

Table 2. Characteristics of Respondents By Gender, Students' Knowledge level about Covid-19 and Students' Anxiety Levels

Variable	n	%
Gender		
Male	27	37.5
Female	45	62.5
Knowledge Level Before Education		
Good	1	1.4
Medium	18	25.0
Low	53	73.6
Total	72	100
After Education		
Good	4	5.6
Medium	49	68.1
Low	19	26.4
Total	72	100
Anxiety level Before Education	n	%
Not Anxious	16	22.2
Mild Anxiety	24	33.3

Variable	n	%
Moderate Anxiety	22	30.6
Severe Anxiety	8	11.1
Very Heavy Anxiety	2	2.8
Total	72	100
After Education		
Not Anxious	38	52.8
Mild Anxiety	19	26.4
Moderate Anxiety	11	15.3
Severe Anxiety	3	4.2
Very Heavy Anxiety	1	1.4
Total	72	100

Table 2 shows male respondents (37.5%) and female respondents (62.5%). The student's knowledge level in pre-education was in the low category at 53 students (73.6%). In post-education, the category of students' knowledge level was mostly the medium category for 49 students (68.1%). The students' anxiety level in pre-education was mild for 24 students (33.3%). In post-education, the category of students' anxiety level was mostly no anxiety for 38 students (52.8%).

The results of data analysis using the Wilcoxon test on the pre- and post-education variables on students' knowledge showed a value of -4.938 ($p = 0.000$) with a p -value < 0.05 . It was inferred that there was an effect of COVID-19 education on the student's knowledge of Al Islam 1 Surakarta. The results of the data analysis on the pre- and post-educational variables on student anxiety showed a value of -3.587 ($p = 0.000$) with a p -value of < 0.05 . It was concluded that there was an effect of COVID-19 education on the students' anxiety at Al Islam 1 Surakarta.

DISCUSSION

Globally, 10–20% of adolescents experienced mental health problems during this pandemic. It was probably influenced by adolescents' susceptibility and emotional stress during the COVID-19 pandemic. In Indonesia, the anxiety rate continued to expand to around 20% of the world's population, and 47.7% of adolescents perceive anxiety (Hasibuan & Rian, 2019). It demanded strategies to prevent worse mental health conditions such as anxiety and depression.

During the adaptation era, the limited positive coping skills among adolescents were directed toward achieving some exposure to tough and healthy mental environments during the COVID-19 pandemic. In Indonesia, the anxiety rate continued to expand to around 20% of the world's population, and 47.7% of adolescents perceive anxiety (Hasibuan & Rian, 2019). It demanded strategies to prevent worse mental health conditions such as anxiety and depression.

During the adaptation era, the limited positive coping skills among adolescents were directed toward achieving some exposure to tough and healthy mental environments. Disclosure, positive practices, and coping skills may result in mentally healthy and manageable rapid transitions (Trudell et al., 2021). The study Fitria1 & Ifdil Ifdil2, (2021) with 139 adolescent subjects revealed a teenager's anxiety level of 54% in the high category.

It was probably caused by the limited information obtained by teenagers regarding the COVID-19 pandemic. Adolescents believed the coronavirus was extremely

dangerous, and people with the infected virus were hardly cured; many cases led to death. Another reason for anxiety during the COVID-19 pandemic was the exposure to news in the mass media or social media, as well as a lack of reading literacy related to the spread and anticipation of coronavirus transmission (Saqlain et al., 2020).

COVID-19 threatened the physical, psychological, and daily lives of adolescents. Listening to various news sources continuously, thinking about ways to protect against the virus, and focusing on studying at home could be factors that result in being unfocused and having difficulty concentrating on lessons. It required a focused mind and adequate rest to raise concentration during this pandemic. Prolonged anxiety will affect memory (Hill & Fitzgerald, 2020).

Social media is a significant aspect of disseminating information because of its manageable access. It requires comprehending and understanding the validity of the information wisely. Incorrect information (hoaxes) also contributed to the anxiety factor. Information related to COVID-19 that rapidly circulated on social media (infodemic) was negative about fear and anxiety. When receiving or looking for COVID-19 information, it was necessary to spend close attention to the truth and clarity, especially if you wanted to distribute information. Distributed false information could cause panic (Joseph, 2021).

The delivery of adolescents' knowledge should be appropriate to avoid increased anxiety and stress. Health education wants to enhance adolescent knowledge about COVID-19. Therefore, they could reduce anxiety levels and decide correct attitude to maintain health and follow health protocols during the pandemic. Education is provided through a theoretical approach to the health belief model. It is a theoretical model to guide health promotion and disease prevention programs.

This theory also explains and predicts individual changes in health behavior. The health belief model theory contains three essential terms: individual perception, moderating factors, and the likelihood of action (Bhavya Bhasin et al., 2021). Knowledge is the result of learning after people perceive a particular object. Sensing occurs through the five senses: sight, hearing, smell, taste, and touch. Knowledge, or cognition, is an essential domain in creating one's actions.

A person's knowledge is influenced by the information factor, with new information about a matter providing a new cognitive foundation for attitudes toward the new thing. Adequate knowledge of information will affect a person's health condition positively too (Ramadania et al., 2021). Being well-informed through various media could improve one's knowledge. The ease of obtaining information can assist someone in acquiring new knowledge.

Information will influence one's understanding. Although one has low education, adequate information from various media could enhance one's insight (Saleh et al., 2021). The study results were similar to previous research on providing online education that can increase knowledge of COVID-19 prevention. The study was conducted on individuals who were confirmed positive for COVID-19. Individual factors that influence interpretation are personal characteristics in understanding material.

The ability to understand each individual varied depending on their interest in the presented material and the method used. They should be adjusted to the respondent to achieve the expected outcome (Sabarudin et al., 2020). The desired outcome of health education was an individual mindset and attitude shift toward incorporating healthy perspectives and principles into daily life and achieving optimal health degrees. To

achieve educational goals, the methods and media used to provide education must also be adapted to the target.

Current developing technology, such as audio-visual video media or flipbook applications, could be used as educational tools. The media are easily accessed with an attractive appearance to accelerate the absorption of the material by high school student respondents. The study Syamson et al., (2021) revealed a significant difference in the frequency of anxiety about COVID-19 in pre- and post-health education interventions.

Respondents are supposed to feel more comfortable after receiving education because they have better knowledge about COVID-19. In line with the results of the research, Rahmayanti, Y.N. et al., (2022) stated that there was the effectiveness of providing health education about COVID prevention in reducing anxiety levels with a p-value (0.001 with a P value <0.05).

CONCLUSION

The study revealed the effect of COVID-19 education on students' knowledge and anxiety. Education could enhance understanding and reduce students' apprehensions related to COVID-19. It could reduce mental health problems during a pandemic if people maintained the appropriate attitude to maintain health and adhered to health protocols during the pandemic. Future researchers could create applications for health behavior and adherence to health protocols during the COVID-19 pandemic.

ACKNOWLEDGEMENT

The author gratefully acknowledges the University of Kusuma Husada Surakarta, the participant, and all of those who have contributed to this research.

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