

The Influence of health education about covid-19 on *posbindu* participants' knowledge levels at Puskesmas Gesi



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ABSTRACT

Background: Coronavirus (COVID-19) is an infectious disease caused by the Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV2) virus. This disease is transmitted from human to human, where most of (COVID-19) infected people experience mild to moderate respiratory disease and recover without requiring special care. Health education is a top priority and is one of the effective nursing interventions to improve knowledge level and public awareness about the importance of correct understanding regarding COVID-19. The researcher was aimed to analyze knowledge level differences of *Posbindu* (Integrated guided care) participants in Puskesmas (Community Health Center) Gesi regarding COVID-19 disease before and after the implementation of health education.

Methods: It was a queasy experimental quantitative research with a one-group pretest-post-test control design. There were 40 participants with ages ranging from 15 to 50 years old.

Result: The *Posbindu* participants' knowledge level about Covid-19 before receiving health education was categorized as poor. Meanwhile, *Posbindu* participants' knowledge level about Covid-19 before receiving health education was average. The Independent Sample T-Test showed that the sig. (2-tailed) value was 0.009 < 0.05, then Ho was rejected, and Ha was accepted. Therefore, it could be concluded that there are differences in *Posbindu* participants' knowledge level before and after being given the health education about Covid-19 in Puskesmas Gesi.

Conclusion: The health education given in Puskesmas Gesi affects *Posbindu* participants' knowledge level about Covid-19. It is hoped that the public health center regularly puts more consent to increase the community's knowledge about COVID-19.

Keywords: COVID-19, Health education, Knowledge level.

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INTRODUCTION

Coronavirus disease (COVID-19) is an infectious disease caused by Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV2). A person who transmits this disease to another person with most of the infected (COVID-19) will experience mild to moderate respiratory disease and recover without special treatment.¹

Coronavirus disease 2019 (COVID-19) pandemic is now a global problem. There are some problems caused by the pandemic, such as economic, education, social, and health problem. Based on data by WHO, on 18 May 2020, the confirmed COVID-19 cases was 4,589,526 with 310,391 deaths. United States is the most COVID-19 approved country with 2,018,467 cases. (World Health Organization, 2020). On the other hand, Indonesia, on 18 May 2020, recorded

18,010 total points with 1,191 deaths and 4,324 patients.¹

The increasing case was also found in Central Java. Data were taken on 13 September 2020 mentioned that Central Java recorded the increasing case at 52.7%. According to Sragen District Health Office, data taken from <https://www.sragenkab.go.id> on Saturday 21 November 2020, there were 372 suspects and 1,199 confirmed cases. The increase of the case prevalence is mainly caused by factors such as the unawareness in implementing the health protocol and the lack of received information or knowledge about COVID-19.

The symptoms of COVID-19 in older people with some health problems such as cardiovascular disease, diabetes, chronic respiratory disease, and cancer might be worse. One of the best ways to

prevent and halt the disease infection is by implementing health education about COVID-19.²⁻⁴ It includes the basic knowledge about COVID-19, such as the definition, signs, symptoms, transmission, prevention, and also the management.

Health education is also an independent nursing intervention that could be designed to improve the competence and knowledge in health care. Health education could also help individuals, groups, or communities to cope with their health problems assisted by a nurse as the educator nurse.

Health education is also a persuasive effort so that the community willingly maintains and improves their health level. The district could get information and knowledge about Coronavirus and prevent infection^{1,2,5} and avoid stigma through health education.^{6,7} The collectivist

community should develop empathic values and responsibility for the fellow in this Covid-19 pandemic case.^{8,9}

Based on the background above, the researcher aimed to go further with the Influence of health education about COVID-19 on *Posbindu* participants' knowledge levels at Puskesmas Gesi.

METHODS

It was a queasy experimental quantitative research with a one-group pretest-post-test control design. The result would then be compared between before and after the implementation of health education to find out the Influence of health education. The research was conducted from December 2020 to March 2021. The research population was 40 respondents with total sampling such as the *Posbindu* participant who is willing to be the research respondents whether it is male or female, age ranged from 15 to 50 years old, and able to communicate well. On the other hand, the exclusion criteria were male or female with a body temperature above 37.3°C, suffering from infectious disease, and was unable to present during the research. Researchers visited respondents at home because of the pandemic with health protocols.

The media used were booklets and flip charts. The instrument used for the data collection was a questionnaire with closed questions so that the respondents were only required to choose the available answer. The questionnaire was about COVID-19, related to the previous research by Ni Putu Emy Darma Yanti.¹⁰ Most of this population reported obtaining their information through traditional media sources, such as television and radio, instead of social media,¹¹ so the researcher decided on health education with booklets and flip charts.

STATISTICAL ANALYSIS

The data were compiled in Microsoft Excel 2010 and then transferred to SPSS ver 16.0 All data were evaluated and analyzed descriptively to assess the proportion and percentage of each variable. Then, the normality test was performed using the Shapiro Wilk test before proceeding to independent sample T test analysis.

P-value 0,009 < 0.05 was considered significant.

RESULTS

The finding of the research is shown in the following table with frequency distribution and narration as follows:

Based on the table above, it could be concluded that the respondents' criteria are adult female, the elementary school educated, and employees of any private office.

Based on the table above, it could be seen that the assessment of the respondents' knowledge before and after the implementation of health education is significantly different. Before the health education, none of the respondents were categorized as good. Meanwhile, after implementing health education, two respondents were classified as good. Initially, there were 18 respondents in the average knowledge category, which was

later improved to 24 respondents. On the other hand, in the poor class, there were 22 respondents, which were then reduced to 14 respondents.

Based on the output above, the result of Independent Sample T-Test showed that the sig. (2-tailed) value was 0.009 < 0.05. Therefore, it could be concluded that there are differences in *Posbindu* participants' knowledge level before and after being given the health education about Covid-19 in Puskesmas Gesi.

Based on the table and figure, the respondent knew the risk of death from COVID-19 is higher than from chronic diseases.

DISCUSSION

Based on the completed research, the research consists of three groups: respondents with good knowledge, average knowledge, and poor knowledge. Before implementing health education,

Table 1. Characteristics of Participants at Puskesmas Gesi.

Respondents' characteristic	N (Total 40)	Percentage (%)
Gender		
Male	7	17.5
Female	33	82.5
Age		
11-25 (young adult)	4	27.5
26-50 (adult)	29	72.5
Education		
Elementary School	15	37.5
Junior High School	13	32.5
Senior High School	9	22.5
University	3	7.5
Occupation		
Civil Servant/Army/Police officer	3	7.5
Housewives	9	22.5
Employee	22	39.55
Student	6	15.0

Table 2. *Posbindu* Participants' Knowledge Levels before and after being given health education at Puskesmas Gesi.

Knowledge	Research Group			
	Before the health education		After the health education	
	N (Total 40)	Percentage (%)	N (Total 40)	Percentage (%)
Good	0	0	2	5.0
Average	18	45.0	24	57.5
Poor	22	55.0	14	40

the respondents categorized in the average knowledge group were 18 respondents or 45%, and 22 respondents or 55% were classified in the poor knowledge group. After implementing health education, there were two respondents or 2.5% categorized in the good knowledge group, 24 respondents or 57.5% in the average knowledge group, and 14 respondents or 40% in the poor knowledge group. Therefore, it could be concluded that health education makes differences in the respondents' knowledge before and after the implementation of health education. Reliable health information was needed to improve public awareness.^{12,13}

It is in line with research done by Jaji,¹⁴ which stated that before implementing health education about COVID-19 by using leaflets, 56.27 respondents' were categorized as having poor knowledge. Meanwhile, the post-test showed that all of the respondents were categorized as having good knowledge about the prevention of COVID-19 infection. The education to prevent COVID-19 infection includes: what to do after going out, implementing

WHO handwashing technique using soap and water, wearing a mask, physical distancing, also coughing and sneezing etiquette. The statistical analysis found a p -value = 0.001, which means significant differences in respondents' knowledge before and after the implementation of health education by using leaflets. Purnamasari & Raharyani¹⁵ also stated that the leaflet made a difference in improving the knowledge and behavior of street vendors at Temanggung Car Free Day. It was supported by the result of statistical test mentioning the contrast of the knowledge level before and after the implementation of health education by using leaflet at $Z=1.957$, $p < 0.05$ meanwhile, the difference of the behavior level before and after the implementation of health education by using leaflet was at $Z=-2.283$, $p < 0.05$). Besides, the mean/SD value also showed a significant difference. The knowledge level changed from 14.5 to 15.3, and the behavior level changed from 21.7 to 19.57.

The related research was also conveyed by Moudy & Syakurah,¹⁶ which stated

that there were different variations of Indonesian knowledge level about COVID-19. The knowledge level about COVID-19 in Indonesia ranged from 26.9%-96.6%. This research underlined the significant correlation between knowledge and behavior ($p=0.000$) and the correlation between knowledge and individual action ($p=0.000$). The community's knowledge influences the effort to prevent COVID-19 infection in Indonesia. The specific, valid, and targeted education could improve the community's steps in preventing COVID -19 infection. It was in line with research by Zhong¹⁷ in China, and Alsan¹⁸, which found that community knowledge is correlated to the activities related to COVID-19 (OR: 0.75, $p<0.001$), the improved knowledge could be a protective factor toward the self-esteem in coping with COVID-19. Based on the social-psychological sciences, behavior is significantly correlated to someone's knowledge level. Someone's behavior on a certain object indicates knowledge about the thing.^{19,20}

This research was conducted to determine the status of the teaching of science in the high schools of Province A as perceived by the teachers and students in science classes during the school year 1989-1990. the aspects looked into were the qualifications of health educators, their methods and strategies, facilities during the implementation of health education.

Table 3. The Influence of health education about COVID-19 on Posbindu participants' knowledge levels at Puskesmas Gesi.

Health Education	Frequency	Mean Rank	SD	Max	p-value
Pre HE	40	14.85	1.499	18	0.009
Post HE	40	17.60	1.968	20	
Total	40				

Table 4. Posbindu Participants' Knowledge Levels before and after health education based on question item.

No	Statement	Before		After	
		N	Percentage (%)	N	Percentage (%)
1	COVID-19 is a non-dangerous disease just like the common flu	10	25	36	90
2	Corona Virus could live for some hours outside the human body	8	20	23	57.5
3	Corona Virus could not be transmitted by simply speaking	6	15	7	17.5
4	COVID-19 could only be transmitted by someone with the symptoms	33	82.5	31	77.5
5	A healthy person would not need to wear a mask in public places	27	67.5	39	97.5
6	The symptoms of COVID-19 in older people commonly more severe than in younger people	15	37.5	33	82.5
7	The risk of death from COVID-19 is higher than from chronic diseases	13	32.5	38	95
8	Children are at low risk from COVID-19	11	27.5	30	75
9	New normal means back to the normal habit before the pandemic	26	65	25	62.5
10	Self-isolation is not needed for a person with COVID-19 but does not have symptoms	20	50	37	92.5

The limitation of the research is that the health educator may not adequately train the respondents.

CONCLUSION

In this study, We showed that the knowledge level was improved to the average category before and after the implementation of health education. Therefore, it could be concluded that there are differences in Posbindu participants' knowledge level before and after being given the health education about Covid-19 in Puskesmas Gesi. For the next researcher, it is recommended to do more comprehensive research about COVID-19 education for the community, including children and older people in a rural area, as the community in the rural area is likely to have less knowledge about COVID-19.

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CONFLICT OF INTEREST

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ETHICAL STATEMENT

This material is the authors' original work, which has not been previously published elsewhere and is based on the ICMJE form for disclosure of potential conflict of interest. All sources used are correctly disclosed (correct citation).

AUTHORS CONTRIBUTION

All authors contributing equally regarding conducting research and writing manuscript.

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