International Journal of Nursing and Health Services (IJNHS)
http://ijnhs.net/index.php/ijnhs/home
Volume 4 Issue 2, date, month 2020, pp 223-230
e-ISSN: 2654-6310

The Analysis of Students Health Behavior Factors to Prevent Covid-19

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Artikel info

***Article history*:**

Received; 08 Maret 2021
Revised: April 10th, 2021
Accepted: April 20th, 2021

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DOI:
http://doi.org.10.35654/ijnhs.v4i2.439

Abstract. The covid-19 pandemic is rapidly spreading in countries outside China. All societies must understand and practice the steps for self-protection and prevention of infection transmission to others. Strategies to prevent Covid-19 infection can be applied by self-isolation or quarantine, promoting public health behaviors, such as washing hands with soap or hand sanitizer, using proper cough and sneezing ethics maintaining social distancing. This study aimed to determine the factors that influence Covid-19 prevention behavior among students in Banyuwangi Regency, East Java, Indonesia. This study was an observational analytic study and used a cross-sectional design. The sampling used purposive sampling; respondents who returned the online questionnaire were 138 people. Pearson chi-square test was conducted to determine the correlation among the variables of gender, age, type of college, and knowledge. The Pearson chi-square test results showed an effect between the type of college (p = 0.000) and knowledge (p = 0.000) in the efforts to handle, prevent, and care for Covid-19 patients. From the results of multivariate analysis, knowledge was the most influential (r = 0.721; CI = 3.466 – 7. 680), which means that knowledge has an effect of 72.1% on student health behavior in efforts to prevent Covid-19. Governments and the dissemination of relevant information on social media will influence the ability of health behavior.

Keywords: student; covid-19 prevention; health behaviour,

INTRODUCTION

In February 2020 *World Health Organization* (WHO) reported 34,886 confirmed COVID-19 cases globally. The instances found 34,589 in China (including 6101 severe cases and 723 deaths). Two hundred eighty-eight other confirmed cases have been reported in 24 countries, including Japan, Australia, Germany, and the United States [1]. On March 31st, 2020, there were 1,528 confirmed cases of Covid-19 in Indonesia, which were spread across 32 provinces. Eighty-one people recovered, and 136 deaths due to Covid-19 [2]. On March 31st, East Java Provincial Government informed 93 confirmed cases of Covid-19, recovered: 17 people and died: 8 people [3], whereas in Banyuwangi Regency, there was one person authorized Covid-19 on March 30th, 2020 [4].

The covid-19 pandemic is rapidly spreading in countries outside China, and all societies are required to understand and practice the steps for self-protection and prevention of infection transmission to others [5]. The prevention of Covid-19 infection transmission in several countries can be done by combining detention and mitigation activities to delay the people getting sick. Strategies for preventing Covid-19 infection can be applied by self-isolation or quarantine, promoting public health behaviors, such as washing hands with soap or hand sanitizer, using proper cough and sneezing ethics maintaining social distancing [1,6].

Various governments and health authorities have advised society to reduce traveling and stay at home as fundamental means of limiting exposure to the virus [1]. All people need to be provided with information and understanding regarding the transmission of Covid-19. Late adolescents aged 18-25 years need to be given proper education because they are a unique and critical period of human development and affect physical, social, and psychological changes in someone's health. The psychological response of late adolescents when receiving correct information about healthy behavior during the Covid-19 pandemic would change their behavior directly [7]. Healthy living behavior is a form of direct prevention against Covid-19 and is essential to apply in life during the Covid-19 pandemic.

Although behavior was a crucial aspect to prevent the Covid-19 from spreading, however still not yet many studies explored this issue, therefore, this study would focus on determining the factors that influence Covid-19 prevention behavior among students in Banyuwangi Regency, East Java, Indonesia.

OBJECTIVE

The study aimed to determine the factors that influence Covid-19 prevention behavior among students in Banyuwangi Regency, East Java, Indonesia.

METHOD

The observational analysis with the cross-sectional design was applied in this study. The variables were the students' prevention behavior to Covid-19 as a dependent variable, and the independent variables were age, gender, the level of grade currently being taken, and type of college.

The population was students of the University in Banyuwangi Regency. Determination of the sampling technique used purposive sampling. One hundred thirty-eight students returned the online questionnaire, which was taken randomly at each university in Banyuwangi. Therefore, we selected 138 respondents who were willing to be sampled in this study. The inclusion criteria for selecting samples include active students who graduated in Higher Education in Banyuwangi Regency.

Before conducting the study, we required all respondents to sign the informed consent. This research has been approved by STIKES Banyuwangi Ethics Committee Number 456/KEPK / STIKES-BWI and considers the principles in the research process.

The health behavior was measured using a health behavior questionnaire. The questioner consisted of 15 question items and tested for the validity and reliability of 43 respondents. Based on the validity and reliability tests carried out on 43 respondents, the item validity test results with the coefficient value of R Count> R Table = Valid, R-table N 43 was 0.301. Question items 1,2,3,4,6,7,8,9,10,11,12,13 with R-count> 0.301, while for items 5,14, and 15 r-count <0.301. the 12 valid health behavior questionnaires were used to collect Covid-19 prevention behavior during the Covid-19 pandemic. The reliability test used Nunality criteria. The questionnaire is declared reliable with Cronbach's Alpha> 60%. In this questionnaire, the value of Cronbach's Alpha is 64.2%. The Covid-19 prevention behavior questionnaire can be concluded as valid and reliable as a data collection tool from the description of the validity and reliability tests above.

The process of data collection was conducted using the online questionnaires, namely, google form. The google form was divided into four parts; the first part was consent to be research respondents. The second part was demographic data. The third part was a questionnaire on knowledge of Covid-19 prevention, and the fourth part was a questionnaire on student health behavior to prevent Covid-19. This research was conducted in April 2020 (4 weeks) to determine the correlation among the variables of age, gender, level of study, type of college, student's prevention behavior in Covid-19 used bivariate Pearson chi-square analysis.

Meanwhile, the multivariate analysis used ordinal logistic regression to see which variables most influence Covid-19 prevention behavior. R Square was calculated to assess the relative risk of independent variable influence with a significance value of an independent variable with a significance value <0.05 was considered significant. Data analysis was performed by using statistical software SPSS version 16.0.

RESULTS

Based on Figure 1, student health behavior in efforts to prevent Covid-19 showed that less than 50% of students have good health behavior as many as 55 respondents (48%).

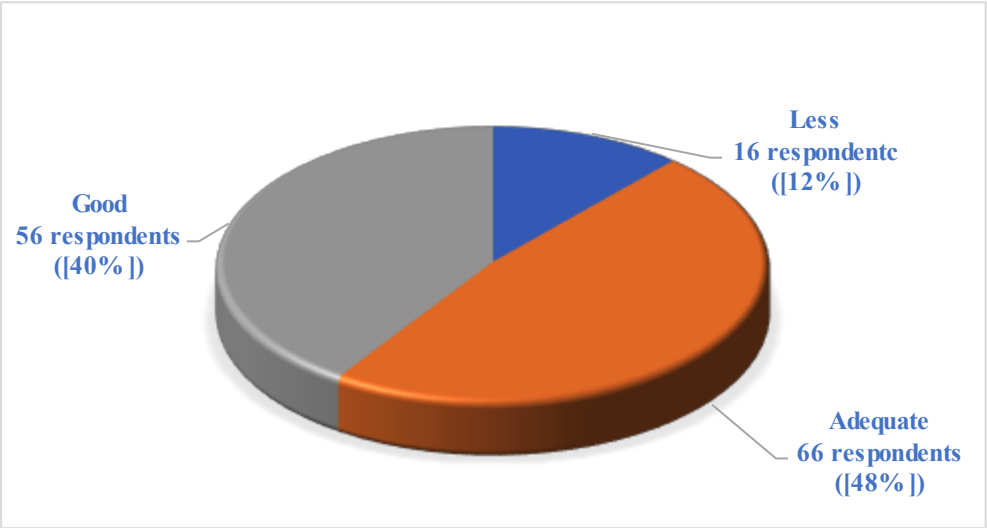

Figure 1
Characteristics of respondents and its factors on preventing Covid-19

Table 1 described the characteristics of respondents and its factors on preventing Covid-19. More than 40% of the respondents in this study were a woman (46%) with adequate health behavior due to majority of respondents in this study were women. the majority of student age characteristics were the vulnerable group with 18-24 range of age (74%) and 48 respondents (35%) had sufficient health behavior. More than half of respondents from health colleges (57%) and 44 respondents (33%) had good health behavior regarding the type of institution. Most of the respondents are from the first level for the level of education, as many as 63 respondents (46%). In comparison, the respondents have good knowledge to prevent Covid-19 which is supported by good health behavior as many as 55 respondents (40%).

From the Pearson Chi-square test results, there was a correlation between the type of college (p = 0.000) and knowledge (p = 0.000) in efforts to handle, prevent, and care for Covid-19 patients.

Table 1
The characteristics of respondents and its factors on preventing Covid-19 (n = 138)

Variable	Health Behaviour (n,%)						Total		*p
	Less		Adequate		Good		N	%	
Gender									
Male	1	1%	2	1%	0	0%	3	2%	0.256
Female	16	12%	64	46%	56	40%	135	98%	
Age									
18-24 years	10	7%	48	35%	44	32%	102	74%	0.415
≥ 25 years	6	4%	18	13%	12	9%	36	26%	
Health Collages									
Non- Health	0	0%	33	24%	46	33%	79	57%	0.000
Collages	16	12%	33	24%	10	7%	59	43%	
Level									
First	9	7%	30	22%	24	17%	63	46%	
Second	2	1%	7	5%	11	8%	20	14%	0.168
Third	2	1%	16	12%	18	13%	36	26%	
Fourth	3	2%	13	9%	3	2%	19	14%	
Knowledge									
Less	6	4%	0	0%	0	0%	6	4%	0.000
Adequate	52	38%	10	7%	1	1%	63	46%	
Good	0	0%	14	10%	55	40%	69	50%	

The results of multivariate logistic to examine the effect of student health behavior factors on preventing Covid-19. Based on multivariate analysis with ordinal logistic regression test on the dependent variable of health behavior in table 2 showed that type of college variable (0.010) and knowledge (p = 0.000) has a significant effect on health behavior to prevent Covid-19. The r square value results showed that the most influential independent variable was knowledge (r = 0.721), which means that knowledge has an effect of 72.1% on health behavior to prevent Covid-19, the type of college influences 27.9%.

Table 2. The results of multivariate logistic to examine the effect of student health behavior factors on preventing Covid-19 (n = 138)

Variable	R-square	95% CI	*p-value*
Gender Male Female	0.22	-5.887 – -0.447	0.022
Age 18-24 years ≥ 25 years	0.13	-0.864 – 1.490	0.602
Health Collages Non- Health Collages	0.279	-2.507 – -0.333	0.010
Level First Second Third Fourth	0.063	-0.161 – 0.743	0.207
Knowledge Less Adequate Good	0.721	3.466 – 7.680	0.000

DISCUSSION

This study's data showed that 66 respondents (48%) had adequate health behavior to prevent Covid-19.

Based on the analysis of gender factors, there is no significant correlation with health behavior to prevent Covid-19. The gender was not significantly correlated because the majority of those who returned the online questionnaire were female. Gender is still doubtful about linking with Covid-19 prevention behavior [8]. Females have better Covid-19 prevention behavior than males because women have a greater psychological vulnerability to fear and have high preventive behaviors such as avoiding public transportation and washing their hands frequently [9–11]. Contrast with research conducted on high school adolescents that gender does not require any difference in Covid-19 prevention behavior in the use of masks [12].

Age did not significantly correlate in this study because it was conducted on homogeneous respondents, namely students. Most respondents are students vulnerable to late adolescence. As many as 102 respondents (74%) do not care about health behavior to prevent Covid-19. Age has a significant influence in implementing Covid-19 prevention behavior. High prevention behavior is in people aged> 70 years. In contrast, prevention behavior is low in young adults 18-34 years. This is because the age> 70 years understands the high susceptibility of infection transmission due to decreased immune function in the elderly [8,11,13]. Research on teenage motivation, adolescents carry out social distancing to prevent Covid-19 because there are indeed rules and sanctions from the government, parental controls, and self-motivation to avoid disease. There are congenital diseases from adolescents [14].

The level of grade does not affect healthy behavior to prevent Covid-19. The level of semester students cannot influence behavior because healthy behavior can be applied. Evaluation processes and attitudes that can influence health behavior [15]. However, level of grade is reported to affect behavior because the level of classroom education creates

opportunities to view and access information related to Covid-19 and helps to assess this information rationally [16]

The analysis results showed a significant correlation between the type of college and student health behavior to prevent Covid-19. In this study, the types of universities were divided into health colleges and non-health colleges. Prevention behavior was higher in respondents who studied at health colleges because more than 50% of respondents were from health colleges which were 79 respondents (57%). Health collages students are provided with the process of spreading infection, respond to health crises. Students have been taught universal precautions and infection control related to courses so that they understand in facing a health crisis during the current Covid-19 pandemic [15]

Student health behavior to prevent Covid-19 is related to respondent knowledge. In this study, respondents with sound knowledge also have good Covid prevention behavior. The respondents' knowledge shows the dominant role of the government in educating the society to form a positive attitude in preventing Covid-19 [17]. The use of social media influences the understanding of society to the prevention of Covid-19. During the Covid-19 pandemic, social media plays a role in providing acquisition information to influence affective responses, perceptions, and changes in people's behavior towards Covid-19 prevention [18–20]. Based on reports and observations at six universities, students have a high tolerance for wearing masks and maintaining social distance when entering the campus area. However, when they are indoors, the use of mask and social distancing is less applied due to the lack of supervision from the campus, and there are no strict sanctions to be given to students when they do not comply with Covid-19 prevention procedures [21]

CONCLUSION

Student health behavior to prevent Covid-19 is influenced by the type of college they study and their knowledge. Students who study at health colleges are provided with the process of spreading disease. The students' knowledge regarding the prevention of Covid-19 cannot be separated from government and social media, including exposure to relevant information.

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