

THE RELATIONSHIP OF STUDENT'S KNOWLEDGE LEVEL WITH ANXIETY AND PRECAUTIONS THE SPREAD COVID19 IN WEST NUSA TENGGARA

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Abstract

Introduction: The level of knowledge of college students about Coronavirus-19 (Covid19) will affect to precaution the spread of this disease. Students as intellectuals can be at the forefront of breaking the chain of the spread of Covid19. The purpose of this study was to determine the relationship between the knowledge of Mandalika University of Science (UNDIKMA) college students about the spread of Covid19 and the level of anxiety and precaution the spread of Covid19. **Method:** This study used a cross-sectional survey with a questionnaire. The questionnaire was distributed to 38 of 325 UNDIKMA college students registered in PDDikti with the purposive sampling method. The modified questionnaire instrument from the WHO Survey Tool and Guidance was sent via email and Whatsapp from May to June 2020. Data on the level of college student's knowledge about the spread of Covid19, anxiety and precautions the spread of Covid19 will be analyzed using the chi-square test. **Result and Discussion:** The level of college student's knowledge with a high category about the spread of Covid19 was 52.6%, the level of college student's anxiety with a high category was 57.9%, and the level of precaution the spread of Covid19 for college students with a good category was 55.3% from 38 students. The results of the bivariate analysis on the relationship between the level of college student's knowledge about the spread of Covid19 and the level of anxiety were not significant with $p > 0.05$ ($p\text{-value} = 0.064$), the relationship between the level of college student's knowledge about the spread of Covid19 and the precaution of the spread of Covid19 not significant with $p > 0.05$ ($p\text{-value} = 0.064$). **Conclusion:** The high level of college student's knowledge of Mandalika University of Science (UNDIKMA) about the spread of Covid19 showed no a significant relationship with anxiety and precautions the spread Covid19 in West Nusa Tenggara at pandemic situation so learning models that can reduce anxiety and raise awareness to take precaution the spread of Covid19 are needed in a disease pandemic situation.

INTRODUCTION

Coronavirus Disease-19 (Covid19) is a zoonotic disease that can be transmitted from animals to humans. Covid19 is caused by Severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) which belongs to the family Coronaviridae, order Nidovirales (1). Since the status of the World Health Organization (WHO) Covid19 pandemic was established by WHO on March 11, 2020. The virus has caused a casualty of over 16,600 people worldwide with more than 380,000 people confirmed as infected by it on March 24, 2020 (2). This pandemic proves that the spread of the Covid19 is very fast throughout the world. The effect of the pandemic Covid19 situation predicted significantly over a longer time in Indonesia because of Indonesia is the fourth most populous in the world (3). The spread of Covid19 depends on the level of public knowledge about the spread of this disease which is related to anxiety and behavior to prevent the spread of the disease.

West Nusa Tenggara Province is one of the tourist destination is susceptible toward the spreading of Coronavirus Disease-19 (Covid19). The Government of West Nusa Tenggara (NTB) on May 26, 2020 has announced the increase of Covid19 cases reach 49 peoples. The Covid19 surge case in NTB is certainly related to the level of public knowledge about the spread of this disease because anxiety and community movements will affect the spread of the disease. Learning from the Covid19 case from Wuhan, that the new Coronavirus that emerged from Wuhan, China at the end of December 2019 very quickly spread to other provinces in mainland China and international destinations in East Asia (4). On May 31, 2020, Covid19 cases had been infecting various continents with 367,255 deaths from 5,939,234 confirmed cases worldwide (5). High mortality due to Covid19 can also be caused by a decrease in body defense caused by anxiety due to stressors. Stress will induce pro-inflammatory cytokines which have implications for health problems (6).

The Indonesian Government has announced the state of emergency since Feb 29th 2020 until May 29th 2020, with the social distancing movement. The Ministry of Home Affairs also provides procedures for actions taken during interactions in the community by wearing masks, washing with soap, cough ethics, or sneezing by covering the nose and mouth. Students as intellectuals, especially students who study in health faculty who have learned about Coronavirus Disease-19 (Covid19) can be the spearhead in precaution the spread of this disease because students in lockdown situations live in their hometown. The transmission of Covid19 will be reduced if college students can precaution the spread

of this disease an understanding that start on his family. The families who understand the precautions the spread of Covid19 will reduce the transmission of Covid19 between humans as it is currently happening.

Students' knowledge about the precautions the spread of Coronavirus Disease-19 (Covid19) especially for physical distancing, wearing masks, and how to wash hands will be able to foster awareness in their family and community. Analysis of the level of knowledge of college students with the precautions the spread of Covid19 in West Nusa Tenggara is very much needed as basic data for the development of learning and research on Covid19.

METHOD

The design of this study used a cross-sectional survey with descriptive analysis and primary data collection was carried out by a survey using a modified questionnaire instrument from the Survey Tool and Guidance from the World Health Organization (7). The questionnaire was sent via email and WhatsApp because it was in pandemic situation. Students only provide initials and semesters without mentioning names. Retrieval of secondary data to support the problem is done via the internet if needed. This research was conducted at Mandalika University of Science (UNDIKMA) in the situation of Pandemic Coronavirus Disease-19 (Covid19), so that students who were respondents were in their home area, so this research could be said to cover the area of West Nusa Tenggara Province because students were scattered in the island area Lombok and Sumbawa Island. This research was conducted from May until June 2020.

The population in this study were all students of Mandalika University of Science (UNDIKMA). The target population in this study were students in the health group which included students of the Faculty of Veterinary Medicine and the Public Health Study Program. According to the Dikti Database, it is noted that the Faculty of Veterinary Medicine had 229 students and the Public Health Study Program had 96 students. Based on this, the target population for participants in this study amounted to 325 students. The method of the sample size used a basis of taking 10-15% or 20-25% of the total population if the population is greater than 100 people. Based on this basis, the number of participants required at least 33 students as respondents, to avoid a lack of participants, the respondent was added to 38 students as participants who became respondents.

The procedure of taking samples by purposive non-random sampling of students who have taken virology, epidemiology, and zoonotic lectures which

are scattered in various semesters. The questionnaires had been sent by email and WhatsApp depends on easy access because it is in a lockdown situation. Data collection is carried out for 24 hours as long as internet access is possible. Data tabulation is based on the date of the respondent's answer. Secondary data can also be obtained based on information from respondents.

The research variables were the characteristics of respondents (age, gender, and semester), the level of student's knowledge about the spread of Coronavirus Disease-19 (Covid19), the level of anxiety, and the level of precautions the spread of Covid19. The level of student's knowledge spread about the spread of Covid19 includes the zoonotic etiology of Covid19 and the mode of transmission. The level of anxiety includes loss of a loved one, worries about his health, loss of contact with friends. the level of precautions the spread of Covid19 based on government recommendations for Covid19 such as physical distancing, wearing masks, and how to wash hands and disinfect as stated in the Survey Tool and Guidance from the World Health Organization (7).

The univariate and bivariate analysis had been used for data analysis. Univariate analysis was used to determine the characteristics of respondents (age, gender, and semester). Bivariate analysis has used the relationship of student's knowledge level with semester level, anxiety, and prevention measures to spread Covid19. Bivariate analysis using chi-square test with p-value = 0,000 <0.05.

RESULT

The results of univariate analysis of the characteristics of Universitas Pendidikan Mandalika (Mandalika University of Science) college students in gender and semester level of students can be seen in Table 1 and Table 2. The level of college student's knowledge about the spread of zoonotic Covid19 can be seen in Table 3. The level of anxiety and level of precaution the spread of Covid19 of college students can be seen in Table 4 and Table 5.

Table 1. Frequency Distribution of College Students as Respondents by Gender

Gender	Frequency	Percentage (%)
Male	17	44.7
Female	21	55.3
n	38	100

Table 1 showed that the frequency distribution of college students as respondents by gender found that 44.7% of men and 55.3% of women from a total of 38 college students who responded to the questionnaire that had been distributed. Descriptive results indicate

that the distribution of responses from each gender is almost evenly distributed.

Table 2. Frequency Distribution of College students as Respondents by Semester

Semester	Frequency	Percentage (%)
Upper	21	55.3
Lower	17	44.7
n	38	100

Table 2 showed that the frequency distribution of college students as respondents based on semester found that 53.3% of the upper semester and 44,7 % of the lower semester. The results showed that students' respondents between the upper semester and lower semester were almost the same, with a difference of 4 students taking up the upper semester.

Table 3. Frequency Distribution of Respondents Based on Level of College Student's Knowledge about The Spread of Zoonotic Covid19

Level of student's knowledge about the spreading of Covid19	Frequency	Percentage (%)
High	20	52.6
Moderate	13	34.2
Low	5	13.2
n	38	100

Table 3 showed that the frequency distribution of respondents based on the level of student's knowledge about the spreading of Covid19 found that high level of student's knowledge about the spreading of Covid19 was 52.6%, the moderate level of knowledge was 34.2%, and the low level of student's knowledge about the spreading of Covid19 students who have low knowledge was 13.2%. The level of knowledge about Covid19 is high if the student has known the method of transmission and can be zoonotic, which can be transmitted by reservoir animals such as bats, a moderate level of knowledge when students only know zoonosis or transmission through droplets, whereas a low level of knowledge when students did not know about the spread of Covid19.

Table 4. Frequency Distribution of Respondents Based on Level of Anxiety

Level of Anxiety	Frequency	Percentage (%)
Hight	22	57.9
Moderate	13	34.2
Low	3	7.9
n	38	100

Table 4 showed that college students who became respondents showed a high level of anxiety was 57.9%, moderate was 34.9%, and low was 7.9%. A high level of anxiety is indicated by the loss of a loved one, worries about his health, loss of contact with relatives and friends. The level of anxiety that is being indicated

by health concerns and contact with relatives, while low anxiety did not have a response to worry about Covid19 only loses access to meet friends. The level of anxiety is sourced from the World Health Organization Survey Tool and Guidance (7).

Table 5. Frequency Distribution of Respondents Based on Precaution the Spread of Covid19

Level of Preventive Measures	Frequency	Percentage (%)
Good	21	55.3
Not Good	17	34.7
n	38	100

Table 5 showed that the level of precaution the spread of Covid19 for college students with a good category was 55.3% from 38 students. The precaution the spread of Covid19 was considered good if taking actions to break the spread of Covid19 such as washing hands, disinfection, wearing masks, and doing physical distancing as recommended by the government of the Republic of Indonesia. The results of the bivariate analysis using the chi-square test on the relationship between semester of college students with the level of college student's knowledge about the spreading of Coronavirus Diseases-19 about can be seen in Table 6.

Table 6. Relationship of Semester and College Student's Knowledge about The Spread of Zoonotic Covid19

Semester	Student Knowledge about the Spread of Zoonotic Covid19			n	p-value
	High	Medium	Low		
Upper (>semester IV)	14	6	1	21	0.095
Lower (<semester IV)	6	7	4	17	
n	20	13	5	38	

Table 6 showed that the college students of the upper semester with high knowledge about the spread of zoonotic Covid19 were 14, moderate was 6, and low was 3 out of 21 students who became respondents. The college students of the lower semester with low knowledge about the spread of zoonotic Covid19 were 6, moderate was 7 and low was 4 out of 17 students who are respondents. These results indicate that the students in the upper semester were more knowledgeable about Covid19 and how it is spread, but in the chi-square analysis, the relationship between student position in the semester and the level of student knowledge about Covid19 distribution does not show a meaningful relationship because $p > 0.05$ (p -value = 0.095).

The Relationship of student's knowledge about the spread of zoonotic Covid19 and Student Anxiety can be seen in Table 7.

Table 7. Relationship of College Student's Knowledge about The Spread of Zoonotic Covid19 and College Student's Anxiety

Level of student knowledge about the spread of zoonotic Covid19	Level of Anxiety			n	p-value
	Hight	Medium	Low		
High	11	8	1	20	0.064
Moderate	9	4	0	13	
Low	2	1	2	5	
n	22	13	3	38	

Table 7 shows that college students with high knowledge about Coronavirus Disease-19 (Covid19) and its spread have a high anxiety level were 11, moderate was 8, and low was 1 college student of 20 college students. The college students with moderate knowledge about Covid19 and its spread had a high anxiety level was 9, moderate was 4 of 13 students. The college students with low knowledge about Covid19 and its spread have a high anxiety level was 2, moderate was 1, and low was 2 of 5 college students. These results indicate that students with high knowledge about Covid19 and its spreading had higher anxiety than those with low knowledge, but the chi-square analysis did not show a meaningful relationship because $p > 0.05$ (p -value = 0.064).

Table 8. Relationship of College Student's Knowledge about the Spread of Zoonotic Covid19 with the Level of Precaution the Spread of Covid19 of College Student

Level of Student's Knowledge about the Spread of Zoonotic Covid19	The Level of Awareness of Student Actions to Prevent the Spread		n	p-value
	Good	Not Good		
High	10	10	20	0.064
Medium	8	5	13	
Low	3	2	5	
n	21	17	38	

Table 8 showed that college students with high knowledge about the spread of zoonotic Covid19 had a good level of precaution spread of Covid19 was 10 of 20 students. The college students with moderate knowledge about the spread of zoonotic Covid19 had a good level of precaution spread of Covid19 was 8 of 13 college students, and the college students with low knowledge about the spread of zoonotic Covid19 had a good level of precaution spread of Covid19 was 3 of 5 college students. These results indicate that students with high

knowledge about the spread of Covid19 had good level of precaution the spread of this virus, but the chi-square analysis did not show a meaningful relationship because it obtained a value of $p > 0.05$ (p -value = 0.064).

DISCUSSION

The high level of college student's knowledge about the spread of zoonotic Covid19 had a high percentage because students live in an academic environment that can directly ask lecturers or via webinars which are mostly held at lockdown. The students also get information from Regulation of West Nusa Tenggara Governor No. 22 year 2020 of General Guidelines for Handling Covid19 in West Nusa Tenggara Province.

The results showed that college students tend to have high anxiety, this can be caused by the news that is too intense on social media about Covid19 and its impact, even everyday students will be exposed to Covid19 news which can be a factor for anxiety. It explained that overload information of Covid19 is related to the poor mental health of peoples (8). It also stated that various fake news and hoaxes were also a problem that affected social problems and economic stability in several countries (9). Social problems will certainly increase anxiety even though students are educated. The consistent information from health authorities and the government were needed to reduce this problem. It explained that the importance of consistent messaging from health authorities and the government as well as the need for tailored health education programs to improve levels of knowledge, attitudes and practices (10).

The results show that the frequency of precaution spread of Coronavirus Disease-19 (Covid19) such as washing hands, disinfection, wearing masks, and doing physical distancing was higher in upper semester college students because upper college students take more lectures on the concept of prevention and control of viruses in their various classes. The good knowledge associated with attitude toward handwashing post ebola virus diseases outbreak in Nigeria (24). The result of chi-square analysis which is not meaningful between upper and lower semester of college students on the level of knowledge about the spread of Coronavirus Disease-19 (Covid19) can be caused by the rich media information circulating so that students with a health basis will easily adopt information about the mechanism of the spread of Covid19. Also, students have professional interest study groups such as the Pet and Wild group who often discuss online for Covid19. The Mandalika University of Science (UNDIKMA) has also conducted socialization

about the threat of Covid19 at the 2019 educational festival at Epicentrum Mall before the Covid19 pandemic occurred.

The relationship between the level of college student's knowledge about spread of Coronavirus Disease-19 (Covid19) with anxiety of college students was not significant. High levels of anxiety in college students due to Covid19 caused by students having lectured about the Middle East respiratory syndrome (MERS) and severe acute respiratory syndrome (SARS) that had similar spreading with Covid19. SARS-CoV-2 which has been declared infectious through aerosol droplets and contamination of the surface, hands, and human transmission has occurred similar to the virus that causes SARS or MERS and has the same pathogenesis (12).

The results state that college students with a high level of knowledge about the spread of Coronavirus Disease-19 (Covid19) have a good level of precaution spread of Covid19 but did not have a meaningful relationship because precaution spread of Covid19 dependent on individual awareness. Awareness is the condition of knowing, wanting, and understanding with oneself and others. It reported that had lack of knowledge and awareness about coronavirus were 56.6% of 226 participants claimed that coronavirus is the most dangerous virus in the world (13). Status of knowledge and desirable practices were not sufficient to combat spreading of Covid19 (14). The high level of awareness of precautions spread of diseases were needed long experience (15). The maturity of students also depends on the culture and journey of each life that will be expressed in wisdom in acting. Individuals who reflect on themselves will support the acquisition of wisdom in the individual (16).

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CONCLUSION

The high level of college student's knowledge of Mandalika University of Science (UNDIKMA) about the spread of Covid19 showed no a significant relationship with anxiety and precaution to spread Covid19 in West Nusa Tenggara at pandemic situation so Learning

models that can reduce anxiety and raise awareness to take precaution the spread of Covid19 are needed in a disease pandemic situation.

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