

Factors Associated with Knowledge

by C.2.a.3 Artha Budi

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Factors Associated with Knowledge on Covid-19 Prevention in West Nusa Tenggara

Artha Budi Susila Duarsa¹
¹ Al-Azhar Islamic University, Mataram, West Nusa Tenggara, Indonesia
Corresponding author: arthabudi@gmail.com

ABSTRACT

Background: Corona virus outbreak is still a big worldwide concern. In Indonesia, as of 12th August 2020, the number of Covid-19 cases reached 130,718. It is assumed necessary for the public to receive comprehensive and correct education about Covid-19, particularly with regard how to handle them. Therefore, data should be available, which discusses the level of knowledge of the various communities in each regions.

Purpose: To determine the factors associated with the level knowledge on Covid-19 in West Nusa Tenggara.

Methods: This was a cross-sectional survey study conducted in West Nusa Tenggara. There were 385 people who were included as a respondents. This study was using simple random sampling. Age, gender, education, occupation, and income were the independent variables. The variable dependent was the knowledge of Covid-19 prevention. Data were collected by using questionnaires. The data were analyzed by using Chi-Square.

Results: The results showed that the percentage of knowledge on the prevention of Covid-19 in West Nusa Tenggara was 6.75% low, 9.87% adequate, and 83.38% good. Education (OR = 4.23; $p = 0.040$) was statistically associated with knowledge on Covid-19 prevention. While gender, age, occupation and income were statistically not associated with knowledge on Covid-19 prevention ($p=0.099$; $p = 0.527$; $p = 0.409$; $p = 0.185$).

Conclusion: Knowledge in the prevention of Covid-19 is associate with the education level among citizens in West Nusa Tenggara.

Keywords: Age, gender, education, occupation, income, Covid-19

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BACKGROUND

Coronaviruses (CoVs) belong to the subfamily Orthocoronavirinae in the family Coronaviridae, Order Nidovirales. There are four generations within the subfamily Orthocoronavirinae, namely Alphacoronavirus (α -CoV), Betacoronavirus (β -CoV), Gammacoronavirus (γ -CoV) and Deltacoronavirus (δ -CoV) (Banerjee et al., 2019; Yang & Leibowitz, 2015).

On 31st December 2019, China notified the outbreak to the World Health Organization, and on 1st January the Huanan seafood market was closed. On 7th January the virus was identified as a coronavirus that had >95% homology with the bat coronavirus and > 70% similarity with the SARS - CoV. Environmental samples from the Huanan seafood market also tested positive, signifying that the virus originated from there (Singhal, 2020).

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The number of cases started increasing exponentially, some of which did not have exposure to the live animal market, suggestive of the fact that human-to-human transmission was occurring (Huang et al., 2020).

President Joko Widodo, as the president of Indonesia, has requested that the Covid-19 protocols be implemented nationally, so violations are subject to legal punishment. The guidelines laid down in Presidential Instruction (Inpres) No. 6/2020 aim to enhance public compliance with health protocols to minimize COVID-19 spread. All state heads are expected to devise and issue Covid-19 prevention policies and implement penalties for policy violations. The penalties can vary from a written notice and service to fines and immediate suspension of companies and organizations (WHO, 2020).

As of 12th August, the Government of Indonesia announced 130,718 confirmed cases of Covid-19, 5,903 deaths and 85,798 recovered cases from 481 districts across all 34 provinces. West Nusa Tenggara is in the rank 9 of the top 10 provinces in Indonesia that confirmed Covid-19 mortality per one million population (WHO, 2020). West Nusa Tenggara is a province of Indonesia that comprises the western portion of the Lesser Sunda Islands, with the exception of Bali which is its own province. Mataram, on Lombok, is the capital and the largest city of the province. The latest Indonesian Central Bureau of Statistics census recorded the population in West Nusa Tenggara is 5,125,622. The province's area is 39,708.79 km².

Community participation in the activities for the control and early recognition of the disease is essential to reduce the burden associated with the incidence and mortality from Covid-19 (Tran Tan Tram et al., 2003). There are also concerns around misinformation that may block public health responses. As the WHO Director-General Dr. Tedros Adhanom Ghebreyesus said, "we're not just fighting an epidemic; we're fighting an infodemic" (WHO, 2020a).

In this time of crisis, research on knowledge, attitude, and practice is vital for understanding the public's level of awareness about the knowledge, attitude, and practice toward COVID-19 (Zhong et al., 2020a). However, knowledge regarding dengue varies widely among endemic regions and countries (Ghani et al., 2019; Jeelani et al., 2015). This can condition the ability of a community to identify, treat and control these emerging and re-emerging diseases by knowing the knowledge level on Covid-19 prevention among the community.

SUBJECT AND METHOD

Study Design

This was a cross-sectional survey study conducted in West Nusa Tenggara. There were 385 people who included as respondents by using simple random sampling. In this cross-sectional survey, a self-administrated questionnaire was distributed randomly to the selected participants in 10 cities/regions in West Nusa Tenggara. The questionnaire was distributed by Google Form.

Study Variables

Age, gender, education, occupation, and income were the independent variables. The variable dependent was the knowledge on Covid-19 prevention.

Data Analysis

Data were analyzed by using univariate and bivariate with Chi-square test. The levels of knowledge were categorized as good (the percentage of 76%–100%), adequate (the percentage of 56%–75%), and low (percentage of < 56%).

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Research Ethics

Research ethics includes the approval sheet, anonymity, confidentiality, and ethical eligibility. Ethical feasibility in this study comes from the Ethics Committee of the Faculty of Medicine, Al-Azhar Islamic University, Mataram, number: 18 / EC / FK-06 / UNIZAR / V / 2020.

RESULTS

The total number of subjects were 385. Most of the subjects were older than 48 years old (77.40%). The majority were male as many as 210 people (54.55%). As many as 331 people (85.97%) were Muslim, had more than or equal high school education as many as 251 people (65.19%), had a job/ working as many as 276 people (71.69%), and income higher than 1,000,000 (53.36%) (Table 1).

Table 1. Study Subject Characteristics

Characteristics	n	%
Age		
49-64 years	298	77.4
15-48 years	87	22.6
Gender		
Female	175	45.45
Male	210	54.55
Education		
Senior High School	134	34.81
≥Senior High School	251	65.19
Occupation		
Not working	109	28.31
Working	276	71.69
Income		
Rp 1,000,000	168	42.64
≥Rp1.000.000	217	53.36
Knowledge		
Low	26	6.75
Adequate	38	9.87
Good	321	83.38

The results showed that the majority of respondents (83.38%) had a good knowledge level about the prevention of Covid-19. While another had 75% low, 9.87% adequate level of knowledge about the prevention of Covid-19.

Table 2. The Results of Bivariate Analysis

Variables	Category	Knowledge				OR	p-value
		Adequate		Good			
		n	%	n	%		
Age	15-48 years	2	15.38	85	22.85	0.40	0.527
	49-64 years	11	84.64	287	77.15		
Gender	Female	3	23.08	172	46.24	2.71	0.099
	Male	10	76.92	210	53.76		
Education	High School	8	61.54	126	33.87	4.23	0.04
	≥ High School	5	38.46	246	66.13		
Occupation	Not working	5	38.46	104	27.96	0.68	0.409
	Working	8	61.54	268	72.04		
Income	Rp 1.000,000	5	38.46	212	56.99	1.75	0.185
	≥Rp1.000.000	8	61.54	160	43.01		

The results of the Chi-square test (Table 2) showed a significant relationship between the level of education towards knowledge on the prevention of Covid-19 with p-value < 0.05. While gender, age, occupation and income were statistically not associated with knowledge on Covid-19 prevention (p=0.099; p = 0.527; p = 0.409; p = 0.185).

DISCUSSION

This study analyzed five variables to know where they associated or not with the Covid-19 knowledge in West Nusa Tenggara. From the Chi-Square results, the researcher found that only level of knowledge that had an association with the Covid-19 knowledge, while gender, age, occupation and income were statistically not associated.

Education improves individuals' knowledge, skills, reasoning, effectiveness, and a broad range of other abilities, which can be utilized to produce health (Mirowsky & Ross, 2003). Education has been documented to be highly relevant to knowledge (Zhong et al., 2020).

The influence of age was not statistically associated with knowledge on Covid-19 preventive (OR= 0.40; p=0.527). Though those 48 years old and above appeared to be more knowledgeable about Covid-19 than those under 48 years old. Okeke (2012) reported the same results on his study, that were 30 years and above appeared to be more aware of various ways of preventing the spread of the virus (e.g. HIV/AIDS) than those under the age of 30 years, though there was no statistical difference (Okeke et al., 2012).

This study reported that gender was not statistically associated with the knowledge on Covid-19 (OR=2.71; p= 0.099). In Kenya, there was a direct relationship between levels of education and good knowledge; but not across genders. In addition, participants with good knowledge of diabetes had good practices (Kassahun & Mekonen, 2017).

In the other hand, researchers had found that older, female and more educated respondents are more knowledgeable about emerging communicable diseases (Al-Mohrej et al., 2016; Bawazir et al., 2018). Findings on this research and related factors can be varying widely because of the different on geographical study location or region, study subjects, and sampling technique. McLeod (2019) stated that a statistically significant outcome could not show the validity of a research hypothesis (as this implies 100% certainty). Rather, it may state that our results "provide support for" or "prove evidence for" our research hypothesis.

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Authors recognize certain limitations of this study. Since this was an online survey study, this study had to rely on self-reported behaviors rather than measurable ones. It cannot verify if this test was affected by social desirability bias. While it would be useful to replicate this survey during this heightened time of the virus outbreak, surveying this population online is not feasible due to their limited access to internet access devices. In-person follow-up surveys are impossible because of physical distancing regulation.

CONCLUSION

Knowledge in Covid-19 prevention is correlated with the level of education among West Nusa Tenggara citizens. In addition to the above, recognizing the determinants of the Covid-19 knowledge is essential to guide control strategies. In this sense, the educational level could be an essential factor for both knowledge acquisition and the implementation of preventive measures.

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CONFLICTS OF INTEREST

There is no conflict of interest in this study.

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