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The Association Of Education Level And Knowledge To The Adherence To Meningococcal Meningitis Vaccination In Umrah Pilgrims At Kendari Port Health Office

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Abstract Meningococcal meningitis is an acute disease of the lining of the brain caused by the bacterium *Neisseria meningitidis* on the protective membrane that surrounds by the brain, spinal cord, which as a whole is called meninges. Meningococcal meningitis vaccination is given to people who will travel to meningitis endemic countries given at least 30 days before departure. The purpose of this research was to know the relationship between education level and knowledge with adherence to the meningitis vaccination for Umrah pilgrims at KKP Kendari. This study was an analytical descriptive using the cross-sectional study approach. The samples were 69 people. The sampling technique used a purposive sampling technique. The variables studied were adherence to meningitis vaccination, the level of education and knowledge. The analysis used chi-square test. The results showed that there was no association between education (p value = 0.360) and there was a relationship of knowledge (p value = 0.005) with adherence to the meningococcal meningitis vaccination at the KKP Kendari. The conclusion of this study is the level of education does not guarantee adherence to meningitis vaccination. It is recommended to increase counseling about the dangers of not vaccinating before the pilgrimage.

INTRODUCTION

Meningococcal meningitis is an acute disease of the lining of the brain caused by the bacterium *Neisseria meningitidis* that occurs in a protective membrane that is veiled by the brain, the spinal cord called meninges(1). Every year the incidence of this disease increases, according to the World Health Organization (WHO), meningococcal meningitis has infected about 400 million people worldwide. Africa and Asia are the highest incidences of meningitis in the world. In 2015 a cerebrospinal meningitis outbreak with death (CFR 8%) occurred in

Nigeria with a total of 652 cases (2). In Indonesia, the number of cases of meningitis that occurred in men was 12,010 patients and in women were 7,371 and patients who died were 1,025 people (2).

Meningitis transmits quickly and becomes an epidemic. Considering meningitis is the most prevalent in the country of Saudi Arabia because it is the place of carrying out the pilgrimage and Umrah, then to protect the pilgrims affected by meningitis, the Saudi Ambassador in Jakarta requires every prospective pilgrims, workers, and Umrah to get

a meningitis vaccination as a condition to get a visa (3). Meningococcal meningitis vaccination is essential to prevent bacterial or viruses causing meningitis. Meningitis vaccination is not only used to prevent meningitis but also other communicable diseases such as HIV, TBC, Ebola. Therefore, meningitis vaccination program is mandatory (4).

Kendari Port Health Office is UPD or Technical Implementation Unit and Ministry under the Director of Disease Control and Environmental Health (Dirjen PP, PL) in line with Permenkes of the Republic of Indonesia No.356 / MENKES / PER / 2008 on April 14 2008 concerning Organization and Procedure Port Health Office Work (5). The number of Umrah pilgrims arises every year, approximately 10% of the world Umrah pilgrims are from Indonesia. In 2016, as many as 5,053 Umrah pilgrims from Southeast Sulawesi were recorded at KKP Kendari, increased to 9,306 people in 2017, and decreased to 6,967 people in 2018. Meanwhile, from January to March 2019, there were 2,455 people recorded (6).

As many as 538 out of 865 Umrah pilgrims in January, 321 out of 445 Umrah pilgrims in February, 133 out of 313 Umrah pilgrims in March, and 117 out of 225 Umrah pilgrims in April 2019 have received meningitis vaccination (6).

Efforts to increase the knowledge of Umrah pilgrims about the benefits of meningococcal meningitis vaccination can be done through the Umrah travel agency and through the Port Health Office by providing information to the Umrah travel agency to coordinate the timely implementation of the meningitis vaccination. Late vaccination is very dangerous because of the risk of increasing transmission of meningitis and causes disturbance of hearing, brain damage and even death (7).

The results of the interview on 5 Umrah pilgrims showed that 2 of them said that they did not know the benefits of receiving meningitis vaccination but only to acquire visa permit to the country of Saudi Arabia, while the rest who had a lower level of education did not receive meningitis infection ever postponed the vaccination.

Based on these backgrounds, we built this present study to understand the association

between educational level and knowledge to the adherence to meningococcal meningitis vaccination at KKP Kendari.

METHODS

This study was an analytical descriptive with cross-sectional study design. The samples were 69 people who were obtained through a purposive sampling technique. The dependent variable of this present study was adherence to meningitis vaccination and the independent variables were educational level and knowledge. The data were analyzed by the chi-square test.

RESULTS AND DISCUSSIONS

Table 1. Characteristics of respondents

Age (year)	n	%
20-35	8	11.6
36-50	17	24.6
51-70	44	63.8
Total	69	100
Sex		
Male	19	27.5
Female	50	72.5
Total	69	100
Level of education		
University	19	27.5
High School	25	36.2
Junior High School	14	20.3
Elementary School	11	15.9
Total	69	100
Occupation		
Civil Servants	18	26.1
Teachers	2	2.9
Entrepreneurs	15	21.7
House Wives	28	40.6
Farmers	3	4.3
Students	3	4.3
Total	69	100

Source : primary data, 2019

Table 1 shows that the majority of respondents aged between 51 – 70 years old as many as 44 people (63.8%), 50 respondents were female (72.5%), 25

respondents were senior high graduated (36.2%) and most of the respondents were housewives as many as 28 people (40.6%).

Table 2. Distribution of Study Variables

Adherence to vaccination	n	%
Complied	44	63.8
Did not comply	25	36.2
Total	69	100
Level of education		
High	44	63.8
Low	25	36.2
Total	69	100
Knowledge		
Good	45	65.2
Less	24	34.8
Total	69	100

Source: Primary data, 2019

Table 2 shows that most of the respondents complied with the vaccination as many as 44 people (63.8%), 44 respondents (63.8%) had a high level of education, and the majority of respondents (65.2%) had good knowledge.

Table 3. The Association Between The Level of Education and The Adherence on Meningococcal Meningitis Vaccination in Umrah Pilgrims at Port Health Office Kendari

Level of education	Adherence to vaccination				Total	
	complied		Did not comply			
	n	%	n	%	n	%
High	22	31.9	22	31.9	44	63.8
Low	22	31.9	23	4.3	25	36.2
Total	44	63.8	25	36.2	69	100.0

p value = 0.360

Source: Primary data, 2019

Table 3 shows that of 42 respondents (60.9%) with high a level of education, 25 respondents (36.2%) complied on meningococcal meningitis vaccination, and the other 17 respondents (24.6%) did not comply the vaccination. Meanwhile, of 27 respondents (39.1%) with low education level, 19 respondents (27.5%) complied on meningococcal meningitis vaccination and the other 8 respondents (11.6%) did not comply.

The chi square test result shows that p value = 0.445 indicating no association between

level of education and the adherence to meningococcal meningitis vaccination in Umrah pilgrims at KKP Kendari. This indicates that the respondents with a high level of education do not guarantee the adherence to the meningitis vaccination as they do not understand the benefits of vaccination and the health risks attributed to the absence of meningitis vaccination.

A study by Syara Oktaviana (2018) showed a chi-square test $p=0.827$ indicating no association between level of education and meningitis vaccination. Most respondents with a low level of education (25%) did not adhere to the meningitis vaccination, in contrast, respondents with the high level of education (21.2%) tended to adhere to the vaccination (8).

Education is a process of behavioral change, the higher the level of education, the more selective they are on selecting the health service. Education is a factor affecting someone's behavior, maturity and attitude, thus he can select and decide appropriately. Education influences the learning process, the higher a person's education is, the easier it is for the person to receive information. With higher education, a person will tend to get information from others and the mass media. The more information that comes in the more knowledge gained, also includes knowledge about health (9). We assumed that, in this present study, high education cannot guarantee adherence to the meningococcal meningitis vaccination in Umrah pilgrims.

Table 4 The Association between knowledge and the adherence to meningococcal meningitis vaccination in Umrah pilgrims at Port Health Office Kendari

Knowledge	Adherence to vaccination				Total	
	complied		Did not comply			
	n	%	n	%	n	%
Good	34	49,3	11	15,9	45	65,2
Less	10	14,5	14	20,3	24	34,80
Total	44	63,8	25	36,2	69	100

p value = 0.005

Source: Primary data, 2019

Table 4 shows that of 45 (65.2%) respondents with good knowledge, 34

respondents (49.3%) complied the meningococcal meningitis vaccination and the other 11 respondents (15.9%) did not comply the vaccination. Meanwhile, of 24 respondents (34.8%) with less knowledge, 10 respondents (14.5%) complied the meningitis vaccination and the other 14 respondents (20.3%) did not comply the meningitis vaccination.

The chi-square test shows p value = 0.005, indicating an association between knowledge and the adherence to meningococcal meningitis vaccination in Umrah pilgrims at KKP Kendari. This is because of the better the knowledge, the better the adherence to the meningococcal meningitis vaccination.

This present study is in line with a study by Roza (2013) that showed an association between knowledge and the adherence to vaccination. However, Roza only studied the vaccination coverage, hence only respondents who adhered to the vaccination that had been studied for their compliance with the vaccination time (10).

Theoretically, knowledge or cognitive is an important domain in shaping someone's behavior or action (overt behavior). If behavioral change is based on positive knowledge and attitude, then the change will be lasted (long-lasting). This theory reveals that when one's behavior is not based on knowledge and awareness, it will tend to create a temporary behavior (11).

We assumed that the better the knowledge about the benefits of vaccination and the impact of not having meningitis vaccination, the better the compliance to the vaccination.

CONCLUSION AND SUGGESTIONS

This study concludes that one's level of education does not guarantee compliance with meningitis vaccination. It is recommended to increase counseling about the dangers if not doing vaccination before Umrah.

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