

FACTORS RELATED TO KNOWLEDGE ABOUT THE IMPORTANCE OF MENINGITIS VACCINATION IN UMROH PILGRIMS IN HEALTH QUARANTINE CENTER CLASS I TERNATE

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ABSTRAK

Meningitis adalah penyakit yang menghancurkan dengan tingkat kematian yang tinggi, yang dapat menyebabkan komplikasi jangka panjang yang serius (gejala sisa). Meningitis masih menjadi tantangan kesehatan masyarakat global yang utama. Epidemi meningitis terlihat di seluruh dunia, terutama di sub-Sahara Afrika. Pentingnya pengetahuan tentang vaksin meningitis dengan pemberian vaksinasi agar antibodi setelah pemberian vaksin dapat terbentuk dengan sempurna dan aktif dalam melindungi dari penyakit Meningitis Meningokokus. Tujuan penelitian ini untuk menganalisis faktor-faktor yang berhubungan dengan pengetahuan tentang pentingnya vaksinasi meningitis pada jamaah umroh di Balai Kekarantina Kesehatan Kelas I Ternate. Jenis penelitian kuantitatif dengan desain *cross sectional*, menggunakan kuesioner. Sampel 100 jamaah umroh yang melakukan vaksinasi *meningitis meningokokus* di Balai Kekarantina Kesehatan Kelas I Ternate pada bulan Oktober 2024 data primer dan sekunder dengan analisis data univariat dan bivariat. Hasil faktor-faktor yang berhubungan bermakna dengan pengetahuan vaksinasi meningitis yaitu umur dengan nilai *p value* 0.008, OR 3.289; pendidikan nilai *p value* 0.019, OR 2.859; pekerjaan nilai *p value* 0.025, nilai OR 2.753; sumber informasi nilai *p value* 0.005, OR 3.600; frekuensi informasi nilai *p value* 0.018, OR 3.000. Kesimpulan >50% memiliki pengetahuan rendah tentang vaksinasi meningitis dan sebagian besar responden menyatakan tidak ada sumber informasi dan tidak pernah mendapatkan sumber informasi tentang vaksinasi meningitis. 7 variabel independen 6 variabel yang berhubungan yaitu usia, pendidikan, pekerjaan, pendapatan, sumber informasi, dan frekuensi informasi. Jenis kelamin tidak berhubungan.

Kata kunci : frekuensi sumber informasi, pekerjaan, pendapatan, pendidikan, vaksin meningitis

ABSTRACT

Meningitis is a devastating disease with a high mortality rate, which can lead to serious long-term complications (sequelae). Meningitis remains a major global public health challenge. Meningitis epidemics are seen worldwide, especially in sub-Saharan Africa. The importance of knowledge about the meningitis vaccine by administering vaccination so that antibodies after vaccine administration can be fully formed and active in protecting against Meningococcal Meningitis. The purpose of this study was to analyze the factors associated with knowledge about the importance of meningitis vaccination in Umrah pilgrims at the Ternate Class I Health Quarantine Center.. This type of quantitative research with a cross sectional design, uses a questionnaire. Sample of 100 Umrah pilgrims who were vaccinated against meningococcal meningitis at the Ternate Class I Health Quarantine Center in October 2024. Primary and secondary data using univariate and bivariate data analysis. The results of the factors that were significantly related to knowledge of meningitis vaccination were age with a value of 0.008, OR 3.289; education *p value* 0.019, OR 2.859; work *p value* 0.025, OR value 2.753; source of information *p value* 0.005, OR 3.600; frequency of information *p value* 0.018, OR 3,000. Conclusion >50% had low knowledge about meningitis vaccination and the majority of respondents stated that there was no source of information and had never received a source of information about meningitis vaccination. 7 independent variables, 6 related variables, namely age, education, employment, income, source of information, and frequency of information. Gender is unrelated.

Keywords : frequency of information sources, education, employment, income, meningitis vaccine

INTRODUCTION

Umrah is a religious activity carried out by all Muslims in the world, including in Indonesia. Indonesia is one of the countries with the most Umrah pilgrims and visitors, according to official Saudi statistics. In 2023, the Kingdom of Saudi Arabia received around 13.5 million Umrah pilgrims and visitors from Indonesia. The Ministry of Religion recorded a total of 13,550,000 Indonesian Umrah pilgrims (Kemenag RI, 2023). The gathering of various people from all over the world during the Umrah pilgrimage can increase the risk of disease, one of which is meningococcal meningitis. (Kemenkes, 2018)

Meningitis is a devastating disease with a high mortality rate, which can lead to serious long-term complications (sequelae). Meningitis remains a major global public health challenge. Epidemics of meningitis are seen worldwide, especially in sub-Saharan Africa. Many organisms can cause meningitis, including bacteria, viruses, fungi and parasites. Bacterial meningitis is of particular concern. About 1 in 6 people who get this type of meningitis die and 1 in 5 people develop severe complications. Meningitis can affect people of all ages. There are effective treatments and vaccines against some of the major bacteria that cause meningitis. However, meningitis remains a significant threat worldwide. A safe and affordable vaccine is the most effective way to provide long-term protection. (WHO, 2024).

WHO recorded a total of 7,260 cases reported in 2022 until week 51 from 4 countries (Democratic Republic of Congo, South Sudan, Ethiopia, and Niger) which included 86 confirmed cases with 349 deaths (CFR of total cases: 4.81%). In Mexico, Durango saw 79 cases of Meningitis with 35 deaths. In the UK, Meningitis cases have increased from 80 cases in July 2020 to July 2021 to 205 cases in July 2021 to July 2022 (WHO, 2022). Based on country, the largest number of Umrah pilgrims came from Pakistan with 319,494 pilgrims or 23.85% of the total Umrah pilgrims, while Indonesia was second with 306,461 pilgrims or 22.88%. India, Malaysia and Türkiye are in third to fifth place respectively, namely India with 195,345 pilgrims, Malaysia with 50,841 pilgrims, and Turkey with 50,775 pilgrims. (Saudi Arabia, 2024)

Regulation of the Minister of Health Number 12 of 2019 concerning the Issuance of International Vaccination Certificates. That in order to provide public health protection for international travelers, vaccinations must be provided as evidenced by an International Vaccination Certificate. Every person who will travel to a country affected by and/or endemic to certain infectious diseases and at the request of the destination country must be given certain vaccinations in accordance with the provisions of laws and regulations. (Permenkes, 2019) The Ternate Class I Health Quarantine Center's meningitis vaccine report for January - September 2024 revealed that the number of Umrah pilgrims vaccinated against meningitis was 1610 people, but there were some that were invalid, due to the low level of knowledge of Umrah pilgrims and travel agents regarding the importance of meningitis vaccination. From the results of interviews conducted by several Umrah pilgrims at the Ternate Class I Health Quarantine Center, there were several pilgrims who did not know about the meningitis vaccine and they stated that meningitis vaccination was one of the requirements for obtaining a Hajj visa. Some Umrah pilgrims do not know the importance of meningitis vaccination to protect Umrah pilgrims from contracting meningitis and to prevent transmission of meningitis to families in the country.

From the results of the examination conducted by BKK (Health Quarantine Center) officers to pilgrims who were proven to use invalid ICV (International Certificate Of Vaccination), most said that the reason for using invalid ICV was Meningitis Vaccination containing pork fat and vaccination is not an obligation but only as an administrative requirement to obtain a visa from the Kingdom of Saudi Arabia. From the results of interviews conducted by several pilgrims, it was found that some of their Umrah pilgrims did not know

about meningitis vaccination. This is because the level of knowledge of Umrah pilgrims regarding the importance of meningococcal meningitis vaccination is still low, namely >50% have low knowledge about meningococcal meningitis vaccination (Ministry of Health of the Republic of Indonesia, 2018). The role of doctors and nurses in meningococcal meningitis vaccination is to socialize about meningococcal meningitis vaccination to the community, umrah bureaus or travel and facilitate the implementation of immunization, conduct screening for contraindications in immunization targets (Ministry of Health of the Republic of Indonesia, 2017).

The inaccurate timing of vaccination threatens that Umrah pilgrims remain at risk of contracting Meningococcal Meningitis. Apart from the feared immunity that has not been well formed, the effectiveness of polysaccharide vaccination for this disease itself has only reached 65%-83.7% (de Oliveira et al., 2017). This is certainly very worrying, because until now Meningitis is still one of the leading causes of morbidity and mortality worldwide with a case fatality rate of more than 50% (RI., 2017). This is the background to raise this issue in the study. The author wants to know more about the level of knowledge of Umrah pilgrims regarding the importance of meningococcal meningitis vaccination.

The purpose of this study was to explain the relationship between individual characteristics and information exposure with the level of knowledge about meningococcal meningitis vaccine among Umrah pilgrims at the Ternate Class I Health Quarantine Center.

METHOD

This type of research is quantitative with a cross sectional design, using a questionnaire. The population was all Umrah pilgrims who performed meningococcal meningitis vaccinations and a sample of 100 people at the Ternate Class I Health Quarantine Center, and the research time was in October 2024. Data collection using primary and secondary data with univariate and bivariate data processing.

RESULTS AND DISCUSSION

The results of the study on 100 respondents obtained a description of the characteristics of the level of knowledge of Umrah pilgrims at the Ternate Class I Health Quarantine Center, presented in two stages, namely the presentation of the results of univariate and bivariate analysis. In the presentation, univariate analysis is presented in the form of frequency distribution and percentage and interpreted.

Table 1. Univariate Analysis Results

No.	Variables	Measurement Results	Amount	Percentage (%)
1	Level of Knowledge	Tall	44	44%
		Low	56	56%
2	Age	Young	40	40%
		Old	60	60%
3	Gender	Man	45	45%
		Woman	55	55%
4	Education	Tall	47	47%
		Low	53	53%
5	Work	Work	41	41%
		Doesn't work	59	59%
6	Income	> 3,000,000	52	52%

		< 3,000,000	48	48%
7	Resources	Print/electronic media	44	44%
		No source of information	56	56%
8	Information Frequency	Often	42	42%
		Never	58	58%

Level of Knowledge

Based on the results of univariate analysis, it is known that the level of knowledge of Umrah pilgrims with a good category is 44 people (44%) and the level of knowledge with a less good category is 56 people (56%). Factors that may affect the level of knowledge about meningococcal meningitis vaccination that will be analyzed in this study are age, gender, education, occupation, income, sources of information and frequency of information on Umrah pilgrims at the Ternate Class I Health Quarantine Center.

Table 2. Results of Bivariate Analysis of the Level of Knowledge of Meningococcal Meningitis Vaccine of Umrah Pilgrims at the Ternate Class I Health Quarantine Center in 2024

No.	Variables		Meningococcal Meningitis Vaccine Knowledge Level		Total	OR	p value
			Low	Tall			
1	Age	Young	16	25	100%	3,289	0.008
		Old	40	19			
2	Gender	Man	25	23	100%	1,358	0.578
		Woman	31	21			
3	Education	Tall	20	27	100%	2,859	0.019
		Low	36	17			
4	Work	Work	17	24	100%	2,753	0.025
		Doesn't work	39	20			
5	Income	>3,000,000	22	29	100%	2,988	0.015
		<3,000,000	34	15			
6	Resources	Print / Electronic media	14	24	100%	3,600	0.005
		No source of information	42	20			
7	Information Frequency	Often	14	22	100%	3,000	0.018
		Never	42	22			

Relationship Between Age and Meningococcal Meningitis Vaccine Knowledge of Umrah Pilgrims

From table 2, the results of the bivariate analysis state that age greatly affects the level of respondent knowledge with a statistical test obtained a p value of 0.008 with an OR value = 3.289 which means that respondents with old age have a 3.289 times greater chance of having knowledge of meningitis than respondents with a young age category. This shows that the older a person is, the more likely they are to have good knowledge of meningococcal meningitis vaccine knowledge.

Relationship Between Gender and Meningococcal Meningitis Vaccine Knowledge of Umrah Pilgrims

Based on gender, there is no significant relationship between gender and the level of knowledge of respondents where the results of the statistical test obtained a p value of 0.578.

Relationship Between Education Level and Meningococcal Meningitis Vaccine Knowledge of Umrah Pilgrims

There is a significant relationship between education and level of knowledge with the results of statistical tests obtained a p value of 0.019 with an OR value of 2.859 meaning that respondents with low levels of education have a 2.859 times greater chance of being at risk of meningitis compared to respondents with higher education. The lower a person's level of education, the higher their risk of experiencing Meningitis. This can be caused by various factors, including lack of knowledge about preventing Meningitis, limited access to Health services, or other socio-economic factors that are often associated with Education Level.

Relationship Between Work and Meningococcal Meningitis Vaccine Knowledge of Umrah Pilgrims

There is a significant relationship between work and level of knowledge, from the results of statistical tests obtained a p value of 0.025 with an OR value of 2.753 meaning that respondents who do not work are 2.753 times more likely to have less or no knowledge of meningitis than respondents who work. Respondents who do not work seem to be more susceptible to lack of knowledge about the meningococcal meningitis vaccine compared to those who work. This can be caused by various factors, such as access to information, education or involvement in the health community.

Relationship Between Income and Meningococcal Meningitis Vaccine Knowledge of Umrah Pilgrims

There is a significant relationship between income and level of knowledge from the results of statistical tests obtained that the p value is 0.015 with an OR value of 2.988 which means that respondents with lower incomes have a 2.988 times greater chance of not knowing about meningitis compared to respondents with higher incomes, in other words, the lower a person's income, the more likely they are not to know important information about meningococcal meningitis vaccine knowledge. This can be caused by various factors, including limited access to meningococcal meningitis vaccine knowledge and information resources.

Relationship Between Information Sources and Meningococcal Meningitis Vaccine Knowledge of Umrah Pilgrims

There is a significant relationship between information sources and knowledge levels, from the results of statistical tests obtained a p value of 0.005 with an OR value of 3,600, meaning that respondents who do not have information sources have a 3,600 times greater chance of not knowing about meningitis compared to respondents who get information sources from electronic or print media, in other words, the more information sources a person has, the more likely they are to know about meningococcal meningitis vaccine knowledge.

Relationship Between Information Frequency and Meningococcal Meningitis Vaccine Knowledge of Umrah Pilgrims

There is a significant relationship between the frequency of information and the level of knowledge of respondents from the results of statistical tests obtained a p value of 0.018 with an OR value of 3,000, meaning that respondents who have never received a source of information about meningitis have a 3,000 times greater risk of getting meningitis than respondents who often receive information about meningitis vaccination. Respondents who rarely or never receive information about meningitis vaccine knowledge tend to have lower knowledge. Lack of information that is directly related to an increased risk of getting meningitis, so that individuals in this group are more susceptible to meningitis. The results of this study are in line with previous research (Fitranto, R. I., & Hernawan, 2020) which states

that there is a significant relationship between information exposure and the timing of injection of Meningococcal Meningitis vaccination in prospective Umrah pilgrims. Health communication has a real role in efforts to change health-related behavior, especially in the field of disease control and behavior in various cultural settings (conditions) in the world, external factors, namely information exposure which can be obtained from other sources other than travel agents such as electronic mass media and social media. Information sources help change health behavior by providing correct information (Agustin, 2019).

CONCLUSION

The results of the univariate analysis stated that more than half of the respondents had low knowledge about meningitis vaccination at the Ternate Class I Health Quarantine Center and most respondents stated that there were no sources of information and had never received sources of information about meningitis vaccination. The results of the bivariate analysis stated that of the 7 independent variables, there were 6 variables that were significantly related to knowledge about meningitis vaccination, namely age, education, occupation, income, source of information, and frequency of information, while gender had no significant relationship with respondents' knowledge about meningitis vaccination.

From the results of the study it is known that the variable that greatly influences the level of respondent knowledge is the source of information from the results of the statistical test obtained p value 0.005 this shows that the level of respondent knowledge is low due to the lack of information obtained by respondents, to overcome this, the Ternate Class I Health Quarantine Center should conduct socialization and dissemination of information to Umrah pilgrims about the importance of meningitis vaccination. And it is necessary to improve cross-sectoral cooperation in an effort to increase the knowledge of Umrah pilgrims, especially regarding the right time to carry out Meningitis vaccination.

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