# The Relationship Of Knowledge Level And Attitudes Of Prospective Umrah Pilgrims With The Compliance Of Meningitis Vaccination

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**Abstract**

The meningococcus vaccine is a vaccine that must be given to all people traveling to Saudi Arabia. This vaccine was needed in 2006 due to the meningococcus disease outbreak in Saudi Arabia from 1987-2003 and the disease infected pilgrims. Saudi Arabia reported an increase in the incidence of meningitis as many as 225 cases with 56 deaths, and it was reported that the number of Indonesian pilgrims was 14 cases of meningitis, with six died in Saudi Arabia. There are three people suspected of contracting meningitis during the Hajj season 2017 in West Sumatra. The Port Health Office (KKP) reported that out of 1228 total meningitis vaccination visits, 245 people (19.95%) were vaccinated less than 30 days before departure. This study aims to analyze the relationship between the level of knowledge and attitudes of prospective Umrah pilgrims with meningitis vaccination compliance. Quantitative method research with a cross-sectional research design with accidental sampling technique with a sample of 37 people at the Padang Port Health Office (KKP) in August 2019. The research instrument used a questionnaire through interviews and computerized processing techniques. The results showed that 70.3% of the Umrah pilgrims had a low level of knowledge, 54.1% of the pilgrims had negative attitudes, and 56.8% of the congregation respondents did not comply with the meningitis vaccination. It is hoped that the Padang City Port Health Office will increase the provision of information or socialization related to the timeliness of the meningitis vaccination for prospective Umrah pilgrims.

**Keywords:** Attitudes, Hajj pilgrims, Knowledge, Meningococcus vaccine, Meningitis, Umrah

## Introduction

The risk of meningococcal meningitis often attacks Hajj and Umrah pilgrims. Microorganisms, viruses, or bacteria cause meningococcal meningitis disease. The spread of disease through the blood and causes inflammation of the brain's lining, which can result in damage to movement or mind control and death (Elchirri, 2015). Prevention of meningococcal meningitis in high-risk groups is done by minimizing contact between the sick and family members at home. A person who is exposed to the patient's oral secretions can be given antibiotic chemoprophylaxis, preferably within 24 hours after the diagnosis is made. This disease is dangerous and contagious (Rustika et al., 2018).

The Port Health Office is a technical implementation unit within the Ministry of Health of the Republic of Indonesia, which is under and responsible to the Directorate General of Disease Control and Environmental Health (Ditjen PP-PL). The Port Health Office has the task of preventing the entry and exit of quarantine and infectious diseases with potential epidemics, quarantine, limited health services in the working area of ports/airports and across borders, and control of environmental health impacts. One of the ways to prevent the entry and exit of potential infectious diseases is by vaccinating someone who is going to travel abroad (Mutiarani, 2017).

Meningococcus Meningitis Vaccination of ACYW-135 is given to prevent potential infectious diseases (meningitis) in pilgrims and families in particular and Indonesian people in general (Apriyandi et al., 2017). The injection of the Meningococcus Meningitis vaccine of ACYW-135 must be carried out at the Port Health Office (KKP) or the appointed Government Hospital (Rustika et al., 2018).

Meningitis vaccination for prospective Hajj/Umrah pilgrims is done at least 10-14 days before departure because the immune system/immunity of meningitis vaccination is formed in a period of ± 14 days. Umrah services are carried out for a minimum of 9 days, and if vaccination is carried out <14 days of departure, the immune system has not been formed (Lewaherilla et al., 2017).

The meningitis vaccination interval of <14 days can be overcome with the group that has done meningitis vaccination because vaccination/immunization has herd immunity. The herd immunity will be achieved if the population's level of immunity reaches 70% (Mardiana, 2018). If the level of group immunity is high, vulnerable people's ability to contact people who are sick is minimal so that disease transmission can be stopped (Hikmarida, 2014).

Temperature and humidity in Middle Eastern countries such as Saudi Arabia are suitable for the 'meningococcal' viruses and bacteria, which rapidly develop at high and low temperatures, making this area an endemic area for meningococcal meningitis. In 2001, it was found that meningococcal meningitis serogroup W135 was found in pilgrims in Indonesia, possibly related to the increase in meningococcal meningitis serogroup cases the same in several other countries. The meningococcal meningitis epidemic in Saudi Arabia showed that 64% were serogroup W135 and 37% were serogroup A and were the first largest outbreak in the world caused by serogroup W135 (Hafshoh et al., 2019).

Every year during the pilgrimage, about 2 million people from 1,140 countries worldwide gather in the holy city. Meningitis disease quickly spreads to pilgrims from various countries (Kholilirrohman, 2017). The character of meningitis bacteria transmission occurs for a long time. Interactions with thousands of people that occur for two weeks to a month in the holy land increase the potential for contracting meningitis. The potential for contracting meningitis is not only for pilgrims, but the pilgrimage that allows contact with residents of the meningitis belt countries is very high. The mandatory meningitis vaccine policy is not limited to pilgrims only (Yitnaningrum et al., 2015).

The increase in the number of Hajj and Umrah pilgrims in Indonesia resulted in special monitoring of the Haj and Umrah pilgrims. Monitoring is carried out at the time of the meningococcal meningitis vaccination to prevent delays in vaccination. Prevention of delayed vaccination aims to minimize the transmission of meningitis. One of the vaccinations for meningococcal meningitis is

carried out at the Class II Port Health Office (KKP) of Padang City. This study aims to analyze the relationship between the level of knowledge and attitudes of prospective Umrah pilgrims with meningitis vaccination compliance.

## Research Method

This research is quantitative research with a cross-sectional study approach. The research was conducted at the Port Health Office (KKP) in Padang City. Data collection for the research was conducted from April to August 2019. The study population was all applicants who carried out the meningitis vaccination with a sample size of 37 people. The research instrument used a questionnaire with interview techniques. The questionnaire contains questions about the respondent's identity, compliance, knowledge, and attitude towards meningitis vaccination. Before filling out the questionnaire, respondents filled out Informed Consent by applying research ethics of anonymity, autonomy, and confidentiality.

## Results Research

The research was conducted, a health service located at all ports and airports, one of which is the place for meningitis vaccine to be given to Umrah and Haj pilgrims who will perform worship.

## Univariate Analysis

**Table 1. Distribution of Respondents Based on Knowledge, Attitudes and Compliance**

| No | Variable | f | % |
|---|---|---|---|
| 1 | Knowledge | | |
| | Low | 26 | 70.3 |
| | High | 11 | 29.7 |
| 2 | Attitude | | |
| | Negative | 20 | 54.1 |
| | Positive | 17 | 45.9 |
| 3 | Compliance | | |
| | Not compliant | 21 | 56.8 |
| | Compliant | 16 | 43.2 |

Table 1 shows that more than half of the respondents (70.3%) had low knowledge, more than half of the respondents (54.1%) had a negative attitude, more than half of the respondents (56.8%) did not comply with meningitis injection before the time at Class II Port Health Office of Padang City

## Bivariate Analysis

Bivariate analysis was performed using a chi-square test with a 95% degree of confidence, using a computerized system. The relationship between the dependent and independent variables is significant if the p-value obtained is $\leq 0.05$.

**Table 2. Relationship between Knowledge and Attitude with Meningitis Vaccination Compliance**

| Variable | Compliance | | | | | | P-Value |
|---|---|---|---|---|---|---|---|
| | Not Compliance | | Compliant | | Total | | |
| | f | % | f | % | f | % | |
| **Knowledge** | | | | | | | |
| Low | 20 | 54.1 | 6 | 16.2 | 26 | 70.3 | 0,000 |
| High | 1 | 2.7 | 10 | 27.0 | 11 | 29.7 | |
| **Attitude** | | | | | | | |
| Negative | 17 | 45.9 | 3 | 8.1 | 20 | 54.1 | 0,000 |
| Positive | 4 | 10.8 | 13 | 35.1 | 17 | 45.9 | |

Based on table 2, it can be seen that the results of the analysis of the relationship between knowledge and compliance in implementing the meningitis vaccine obtained a value of p = 0.000, for the results of the analysis of the relationship between attitude and compliance with implementing the meningitis vaccine obtained a value of p = 0.000. So it can be concluded that there is a relationship between knowledge, attitude, and compliance in implementing the meningitis vaccine at the Class II Port Health Office of Padang City.

## Discussions

### Relationship between Knowledge of Candidates for Umrah Pilgrims and Compliance of Meningitis Vaccination

Chi-Square test results obtained a value of 14,491 with p-value (0,000) <α (0.05). These results indicate a relationship between the knowledge of the Umrah pilgrims and the level of compliance of meningitis vaccination. This study's results are under research (Poerwanti et al., 2015), which states a relationship between knowledge and compliance with menigitis vaccination at the Semarang Port Health Office. This study's results are also supported by Isnaini's research (2012) which states that the level of respondent's knowledge of compliance with basic immunization in the adequate category. The knowledge level results from knowing from humans, information, or edict that someone knows or is aware of. Factors of formal education influence knowledge theory itself. Knowledge is closely related to education, where it is hoped that with high education, the person will have broader knowledge. However, it needs to be emphasized; it does not mean that someone with low education is low-knowledgeable. It is because increasing knowledge is not obtained from formal education but can be obtained through non-formal education. Although the level of knowledge is related to one's compliance, people with a high level of knowledge are not compliant. Likewise, on the other hand, some people are compliant even though they have a low level of knowledge. It is similar to the prospective Umrah pilgrims who were studied and became respondents in this study. One respondent had a high level of knowledge but did not comply with the implementation of the meningitis vaccination. It is due to the busyness of the prospective Umrah pilgrims themselves who had not taken the time to vaccinate on the exact date of their departure. There are also prospective Umrah pilgrims who had a low level of knowledge but were compliant with implementing meningitis vaccination. It turns out that this is the influence of the travel services or Umrah travel agency they use. Most of the prospective Umrah pilgrims who had low knowledge only followed the Umrah travel agency's direction regarding the timing of the meningitis vaccination.

### Relationship between the Attitudes of the Umrah Pilgrims and Compliance of Meningitis Vaccination

Chi-Square test results obtained a value of 14.147 with p-value (0.000) <α (0.05). It shows a relationship between the attitude of the prospective Umrah pilgrims with the level of compliance with meningitis vaccination. Attitude is a factor of compliance with meningitis vaccination, although basically

meningitis can be controlled so that it is not infected by always maintaining health and a healthy lifestyle. Attitude is the most powerful thing in the individual himself. The desire to maintain their health is very influential on patient's behavior in controlling the disease. Based on Poerwanti (2016) research, there is a relationship between attitude and compliance with meningitis vaccination at the Semarang Port Health Office. Someone who has a positive attitude will also have a good level of compliance, and vice versa, someone who has a negative attitude will also have a low level of compliance. However, several things make someone who has a negative attitude have good compliance, and there is also someone who has a positive attitude who has poor compliance.

As many as four people (19.0%) had a positive attitude but did not comply with the meningitis vaccination. Due to some respondents' thoughts that vaccination is not the only way to maintain health, it can also be done through good nutrition and maintaining a healthy lifestyle while in Saudi Arabia.

## Conclusions

This study concludes that several factors of respondents did meningitis vaccination, one of which is knowledge and attitude. From the research results, it can be concluded that knowledge and attitudes are related to prospective Umrah pilgrims' compliance in implementing the meningitis vaccine. The lack of knowledge and negative attitudes towards meningitis vaccines, one of which is due to the lack of understanding of Umrah pilgrims about the benefits of meningitis vaccines so that Umrah pilgrims are found who do not comply with the implementation of the meningitis vaccine. As a nursing staff, they provide health education regarding the importance of meningitis vaccines for Umrah pilgrims by coordinating with the Umrah travel agency

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