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## Students' Knowledge Regarding Basic Immunization For Infants

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### Abstract

*This study examines students' knowledge of basic immunization for infants, a crucial issue given the high infant and toddler mortality rate due to vaccine-preventable diseases. The research method used was quantitative with a cross-sectional approach. The sample size of this study was 42 students who met the inclusion criteria, with the majority of respondents being female (90.5%), 19 years old (59.5%), and in their fourth semester (85.7%). The results showed that the majority of respondents (95.2%) had received information about basic immunization for infants, with the main sources of information coming from college/academics (26.2%) and family/friends (23.8%). The level of knowledge of respondents regarding basic immunization for infants was mostly in the good category (71.4%), although a small number had insufficient knowledge (28.6%). This good level of knowledge is important for increasing awareness and coverage of immunization. Therefore, it is important to continue educating students so that they can contribute to efforts to improve public health, especially regarding infant immunization.*

**Keywords:** Knowledge, Basic Immunization, Students, Public Health.

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## INTRODUCTION

Immunization is a crucial step to boost immunity against disease, ensuring every infant and child has the right to receive complete immunizations. Immunization is an effective way to reduce infant and toddler mortality and positively contributes to maternal and child health. This effort stimulates the immune system to produce specific antibodies that protect the body from vaccine-preventable diseases (VPD3I).

The high infant and toddler mortality rate in Indonesia is a serious concern, leading the government to continuously promote immunization programs. Global data shows that millions of children die each year from PD3I, and concerns about the spread of these diseases are growing if immunization is not provided. In Indonesia, various diseases such as tuberculosis, polio, diphtheria, tetanus, hepatitis B, pertussis, measles, rubella, pneumonia, and meningitis can be prevented by immunization. The country also faces challenges in immunization coverage, despite improvements in recent years. Providing basic immunization is a public health effort that has proven effective and efficient, and has a positive impact on improving maternal and child health. Immunization not only protects individuals but also communities through herd immunity.

At the national level, the immunization program's performance shows a positive trend, but it's not yet perfect. According to data from the Indonesian Ministry of Health, complete basic immunization coverage reached 94.9% in 2022. Despite this high figure, approximately 5%, equivalent to 240,000 children in Indonesia, still do not receive optimal immunization protection. This situation was exacerbated by the impact of the COVID-19 pandemic, which significantly reduced access to healthcare services, particularly in Southeast Asia.

Conditions in Jambi Province, particularly Jambi City, also reflect similar dynamics. In 2022, the city's complete basic immunization coverage reached 96.47%, meeting the Strategic Plan target of 90%. This increase occurred in line with the implementation of new habits after the pandemic. However, the reality on the ground shows disparities in achievement across health facilities. Data from 2023 shows that the immunization target was set at 95%. Of all existing community health centers (Puskesmas), some have achieved the target, even reaching 100%, but others still lag far behind.

The success of an immunization program depends heavily on public knowledge and understanding. A sound understanding of the benefits, types, and schedules of immunizations is a key

factor in developing positive health behaviors. Students, as educated individuals and agents of social change, play a crucial role in disseminating accurate health information to the wider community. Students' knowledge of basic immunizations is a crucial indicator, given that they are future parents and leaders who are expected to adopt healthy lifestyles and educate others.

Based on the Health Law, every child has the right to receive complete basic immunizations, which are mandatory for the government. Immunizations are classified into program immunizations and optional immunizations, with program immunizations encompassing routine, supplemental, and special immunizations. Basic immunizations themselves include various vaccines given before the age of one to prevent serious diseases. The provision of basic immunizations is influenced by health behavior, which, according to Lawrence Green's theory, is influenced by predisposing factors (knowledge, attitudes), enabling factors (availability of facilities, access), and reinforcing factors (family support, health workers). This study focuses on various factors that influence this knowledge, including access to information, sources of information, and demographic characteristics of respondents.

Based on the characteristics of the respondents in this study, the majority of the study subjects were female students (90.5%), with an average age of 19 years, and were in their fourth semester. This indicates that the respondents were at a stage in their studies where they were beginning to delve deeper into health topics. However, reality shows that despite relatively high access to information (95.2%), some students still had inadequate knowledge about immunization.

## RESEARCH METHODS

This study employed a quantitative method with a cross-sectional approach. This approach allowed researchers to examine the relationship between the independent variable (knowledge) and the dependent variable (basic immunization behavior) within a single measurement period. The sample consisted of university students selected using simple random sampling, a subset of the probability sampling method. Data collection was conducted through an online questionnaire, followed by data analysis using univariate statistics to determine the relationship between variables.

## RESULTS AND DISCUSSION

The study was conducted on 42 university students who met the inclusion criteria. Data collection was conducted online via Google Forms from March 10-12, 2026. Univariate analysis was conducted in this study to display a picture of the data distribution of the independent and dependent variables, namely the level of student knowledge regarding the provision of basic immunizations to infants.

**Table 1. Gender**

|       |       | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|-----------|---------|---------------|--------------------|
| Valid | Man   | 4         | 9.5     | 9.5           | 9.5                |
|       | Woman | 38        | 90.5    | 90.5          | 100.0              |
|       | Total | 42        | 100.0   | 100.0         |                    |

Table 4.1 shows that, in terms of gender, the majority of respondents were female, at 38, or 90.5%, while only four respondents, or 9.5%, were male. This indicates that the population studied was predominantly female.

**Tabel 2 Usia**

|       |       | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|-----------|---------|---------------|--------------------|
| Valid | 10    | 1         | 2,4     | 2,4           | 2,4                |
|       | 19    | 25        | 59,5    | 59,5          | 61,9               |
|       | 20    | 9         | 21,4    | 21,4          | 83,3               |
|       | 21    | 1         | 2,4     | 2,4           | 85,7               |
|       | 22    | 3         | 7,1     | 7,1           | 92,9               |
|       | 23    | 1         | 2,4     | 2,4           | 95,2               |
|       | 24    | 2         | 4,8     | 4,8           | 100,0              |
|       | Total | 42        | 100,0   | 100,0         |                    |

Table 4.2 shows that the respondents' ages ranged from 10 to 24 years. The most common age group was 19 years old, representing 25 respondents (59.5%), followed by 20 years old, representing 9 respondents (21.4%). Other ages, such as 10, 21, and 23 years old, each had only one respondent (2.4%), 22 years old had three respondents (7.1%), and 24 years old had two respondents (4.8%). This indicates that most of the respondents were aged 19 years, which is likely the age of a freshman university student.

**Tabel 3. Semester**

|       |       | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|-----------|---------|---------------|--------------------|
| Valid | 2     | 1         | 2,4     | 2,4           | 2,4                |
|       | 3     | 1         | 2,4     | 2,4           | 4,8                |
|       | 4     | 36        | 85,7    | 85,7          | 90,5               |
|       | 6     | 1         | 2,4     | 2,4           | 92,9               |
|       | 8     | 3         | 7,1     | 7,1           | 100,0              |
|       | Total | 42        | 100,0   | 100,0         |                    |

Table 4.3 shows that the majority of respondents, 36 people (85.7%), were in their fourth semester. Furthermore, there were three respondents in the eighth semester (7.1%), while only one respondent each (2.4%) was in semesters 2, 3, and 6. This indicates that most respondents were students in the middle semester of their studies.

**Table 4. Information**

|       |              | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|--------------|-----------|---------|---------------|--------------------|
| Valid | Once         | 40        | 95,2    | 95,2          | 95,2               |
|       | Not yet Once | 2         | 4,8     | 4,8           | 100,0              |
|       | Total        | 42        | 100,0   | 100,0         |                    |

Table 4.4, based on research data from 42 respondents, shows that the majority (40 respondents, or 95.2%) had received information about immunization, while only a small proportion (2 respondents, or 4.8%) had not. This indicates a high level of awareness and access to immunization information among the study population.

**Table 5. Sources**

|       |   | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|---|-----------|---------|---------------|--------------------|
| Valid | Family / friends  | 10        | 23.8    | 23.8          | 23.8               |
|       | Lectures / academics  | 11        | 26.2    | 26.2          | 50.0               |
|       | College / academic , Family2 / friends  |           | 4.8     | 4.8           | 54.8               |
|       | College / academic , Health9 workers ( doctors / midwives ), Family / friends |           | 21.4    | 21.4          | 76.2               |
|       | Health workers ( doctors /6 midwives )  |           | 14.3    | 14.3          | 90.5               |
|       | Health workers ( doctors /4 midwives ), family / friends                      |           | 9.5     | 9.5           | 100.0              |
|       | Total   | 42        | 100.0   | 100.0         |                    |

Regarding the sources of information obtained, respondents had the option to choose more than one source. The most frequently chosen source of information was through lectures or academic environments, with 11 respondents (26.2%) choosing this source. Furthermore, sources from family or friends were also quite dominant, with 10 respondents (23.8%) choosing them. In addition, there were combinations of information sources also chosen by respondents, such as a combination of lectures/academics and family/friends (9 respondents or 21.4%), a combination of family/friends and health workers (doctors/midwives) with 6 respondents (14.3%), and health workers alone with 4 respondents (9.5%). There were also 2 respondents (4.8%) who chose a combination of lectures/academics and health workers. Overall.

**Table 4. Knowledge**

|       |            | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|------------|-----------|---------|---------------|--------------------|
| Valid | Not enough | 12        | 28.6    | 28.6          | 28.6               |
|       | Good       | 30        | 71.4    | 71.4          | 100.0              |
|       | Total      | 42        | 100.0   | 100.0         |                    |

Based on research data from 42 respondents, it can be seen that the majority of respondents, 30 (71.4%), had a good level of knowledge. The remaining 12 (28.6%) had poor knowledge. This indicates that the majority of the study population had a fairly good understanding of the topic, although a small percentage still had inadequate knowledge.

## CONCLUSION

This study concluded that the majority of respondents were female, aged 19 years, and in their fourth semester, indicating a predominance of female undergraduate students. Most respondents (95.2%) had received information about basic immunizations for infants, with the primary sources being college/academics and family/friends. The level of knowledge of respondents regarding basic immunizations for infants was mostly good (71.4%), although a small number had insufficient knowledge. Based on these findings, it is recommended that students continue to improve their understanding of immunization through education, and for the community, the results of this study can be an important consideration regarding knowledge about immunization to increase immunization coverage in infants.

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