

## Factors Affecting Mothers on Basic Immunization Status in Infants Aged 12-24 Months in Baruara Village

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### ABSTRACT

Immunization is an act of providing immunity to children against diseases that could have been prevented by immunization before they were 12 months old, namely tuberculosis, polio, hepatitis B, diphtheria, pertussis, tetanus, and measles. Complete and regular basic immunization by getting all types of basic immunization when a child is less than 11 months old can reduce the morbidity and mortality of children under five by around 80-95%. Incomplete basic immunization can only provide maximum protection of 25-40%. The role of a mother in the immunization program is very important, because the use of health facilities by infants/children is related to factors that affect the mother. The purpose of this study was to determine the relationship between the factors that influence the mother's basic immunization status in infants aged 12-24 months. This study used a descriptive correlation design with a cross sectional approach. The number of samples in this study were 40 people. Sampling using the total population. This research was conducted in Baruara Village, Balige District, Toba Regency in March-May 2023. The instrument in this research was a questionnaire. Data analysis used chi-square. From the results of the study it was concluded that there was a significant relationship between maternal age with  $p=0.001$ , education with  $p=0.004$ , employment with  $p=0.001$ , number of children with  $p=0.000$ , and knowledge with  $p=0.000$  to basic immunization status. From this research it is hoped that health workers will improve the quality of health services, health promotion efforts in the form of social support, namely improving the quality of health education, providing motivation in utilizing health services, especially immunization.

**Keywords:** Basic Immunization, Factors That Affect, Mother

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## 1. INTRODUCTION

National health system is one type of highly effective health intervention in the effort to reduce infant and toddler mortality. The decline in infectious disease incidence occurred dozens of years ago in developed countries that practiced regular immunization. Similarly, Indonesia declared free disease smallpox in 1972 and has seen a significant decline in the incidence of a number of infectious diseases since 1985, particularly diphtheria, tetanus, pertussis, measles, and polio. Even now, polio has not been found again since 1995, and it is expected that by next year, Indonesia will be free from polio [21]

The decrease in AKB (number of deaths baby) over time has resulted in an improvement in quality of life and service health society. The decline in the AKB is partly due to an increase in the scope of immunization for babies, an increase in the scope of labor delivery health, the placement of midwives in the village, and an improvement in the proportion of mothers with more education [4]-[9].

Ibrahim (1991, in Rezis nota, p. 46, said that) when the immunization with complete and orderly, then immunization can reduce pain and in toddlers by 80-95%. It means to obey the scheduled frequency of immunization, whereas immunization base commensetois has getypes of type immunin batime for an time childlessethanh from 11 onths . Immunization base no complete; max can only give 25-40% protection. Whereas the same child was very unimmunized. Of course, level of immunity was low again.

### *Formulation Problem*

Based on the background behind this research, the writer formulates the problem as: There is a connection between influencing factors and the immunization status of babies aged 12–24 months in the village of Baruara Subdistrict Balige Toba Regency in 2023.

### *Theoretical Review*

#### *Immunization*

Immunization comes from the words immune, immune, " and resistant." A child being immunized means being given immunity to a certain disease. Children are immune to or resistant to a disease but not necessarily immune to other diseases [6]. Immunization is an effort made to deliberately give immunity (immunity) to infants or children so they avoid disease. The importance of immunization is based on the idea that disease prevention is the most important effort in maintaining children's health [25].

#### *Factors Influencing Complete Immunization*

Age is ever somebody's life counted from birth until repeating the last year. Age is a concept that is still abstract, even if it tends to raise variation in measurement. Some people count age by the year and month of birth, while others count it by the size of the year [29]. Mothers who are younger and have just had children tend to pay more attention to their children's health, including immunization [22]. Referring to this, it is known that the safest age for a mother to give birth to a child is 20 to 30 years old [23]. Mothers aged 30 years tend not to carry out complete immunization compared to mothers aged 30 years, who tend to carry out complete immunization 2.03 times compared to mothers aged 30 years [28]. However, statistically, the relationship between maternal age and immunization completeness status was not significant ( $p\text{-value} = 0.16$ ). [15] found in his research statistical test results ( $p\text{-value} = 0.109$ ) that there is no significant difference between the age of the mother and the completeness of basic immunization.

#### *Conceptual framework*

The conceptual framework is the relationship between the variables to be observed or measured through the research to be conducted [16]-[19]. *The independent (independent) variables* in this study were factors that influenced the mother, namely age, education, occupation, number of children, and knowledge, while the *dependent (dependent) variable* in this study was the basic immunization status in infants aged 12–24 months.

#### *Hypothesis*

The hypothesis used in this study is *the alternative hypothesis (Ha)*. [20]

1. There is a relationship between maternal age and basic immunization status in infants.
2. There is a relationship between maternal education factors and basic immunization status in infants.
3. There is a relationship between the mother's occupational factors and the basic immunization status of infants.
4. There is a relationship between the number of mothers' children and the basic immunization status of infants.
5. There is a relationship between the mother's knowledge factor and the basic immunization status of the baby.

## **2. METHOD**

### *Population and Sample*

#### *Population*

The population is all research subjects [1]. The population in this study were all mothers who had babies aged 12-24 months at the time of the research in the village Baruara Subdistrict Balige namely 40 people ( P2P Sub-Division & PL Health Office Toba, 2023). Determination ages 12-24 months based on consideration that on range age the estimated a child toddler Already should get immunization base complete.

#### *Samples*

Sampling in this study used *total sampling* , where the entire population ( *total population* ) was taken as a sample of 40 people.

#### *Research Place*

Study done in the village Baruara Subdistrict Balige Toba Regency . As for researchers choose location Because scope immunization low Not yet reach the target set and research has never been done.

#### *Research time*

The time of the research was carried out from March 2023 to May 2023. This research began with a literature search, determination of titles and supervisors, preparation of proposals, proposal seminars, field research, collection, processing and analysis of data, preparation of research results.

#### *Research Ethics*

Before carrying out data collection, the researcher first submitted an application letter to the Director of Akper HKBP Balige and permission from the Head of Baruara Village to obtain research approval. After obtaining research approval, the researcher began the research by emphasizing ethical issues which included: the researcher explained the aims and objectives of the research to prospective respondents that the respondent's participation in the study was voluntary and that the respondent had the right to withdraw from the research. If the respondent is willing to participate in the research, then the respondent signs the research consent form. To maintain the confidentiality of the respondent's identification on the data collection sheet (questionnaire), only code numbers are used so that the confidentiality of the identification of all information provided is maintained. And all the information obtained is used for research purposes.

### **3. RESULTS AND DISCUSSION**

#### *Research result*

Data collection was carried out March – May 2023 in Baruara Village, Balige District, Toba Regency . In this study, there were 40 mothers who had babies aged 12-24 months and were successfully interviewed.

#### *Discussion*

The objective of this research was to determine the influencing factors of mothers on immunization status in infants ages 12–24 months. Analysis results are univariate; the youngest mother is 23 years old, and the oldest is 42 years old. The lowest mothers' education is 2 people in elementary school, 19 people in junior high school, and 19 people in high school. 13 people are self-employed, and the majority are farmers (27 people). Amount owned by the child mother: at least 1 person and a maximum of 7 people. The results of the study showed that 16 mothers who carried out complete immunizations achieved 40%, meaning that the program had not been successful. For program success, see the achievement line cumulative per year [18]-[19].

#### *Correlation between Mother's Age and Immunization Status*

Based on research on maternal age in the category 30 years and maternal age > 30 years, there is a significant relationship between age of the mother and immunization status of the baby, with  $p = 0.001$  and  $OR = 0.088$ . This research is in line with [22], with 2 categories: 30 years and maternal age > 30 years, and a significant relationship between age (mother with immunization status) and immunization status (baby) with  $p = 0.000$  and  $OR = 3.10$ .

Mothers aged 30 years tend not to carry out complete immunization compared to mothers aged > 30 years, who tend to carry out complete immunization 2.03 times compared to mothers aged 30 years [13]. However, statistically, the relationship between maternal age and immunization completeness status was not significant ( $p$ -value = 0.16). In [15] research, the results of the statistical test showed a  $p$ -value of 0.109, indicating that there was no significant difference between the age of the mother and the completeness of basic immunization.

From the results of the research above, mothers who are younger and have just had children tend to pay more attention to their children, including the need for health services. An increase in maternal age may be followed by an increase in the number of children, and increased activity will affect motivation and reduce the availability of time for mothers to provide health services to their children.

The health program policy family said that the safe age for a mother to give birth to a child is 20 to 35 years. Along with the results of this research, the socialization of health programs for families and immunization programs to the public is expected to increase motivation to increase complete immunization before 1 year old in the future. Health education efforts are needed for mothers.

#### *Relationship between Mother's Education and Immunization Status*

Based on research on maternal education in the categories of education 9 years and education > 9 years, There is a significant relationship between education and immunization status for the baby, with  $p = 0.004$  and  $OR = 7.286$ . These results are in line with previous research. [22] stated in the results of his research that there was a significant relationship between the mother's education and the child's basic immunization completeness status, with a  $p$ -value of 0.010. [15] research results show that mothers with low education have a 3.14 times greater risk of their child's immunization status being incomplete compared to mothers with higher education.

Education is very important for somebody. Forgive the ability to think, study, and understand the information obtained with more consideration and rationality. A good education will give someone the ability to make good decisions about their family's health, particularly immunization of children. Population Report [15]. Education is an

important thing in changing behavior, especially in utilizing service health. Because educated women tend to improve their health status, their families look for more service. good, including for immunizing his son. As a result, according to [16], Education determines patterns of thought and insight in someone. The more tall education someone has, the more knowledge they are expected to have.

#### *Relationship between Mother's Occupation and Immunization Status*

Based on research on the mother's occupation in Baruara Village, the mother is farming, and the mother is self-employed. There is a significant relationship between work mother and immunization status of the baby, with  $p = 0.001$  and  $OR = 0.086$ . The results of this study are different from [15] study on maternal occupation in the category of working mothers and not working mothers; there is no relationship between maternal occupation and completeness of immunization, with a  $p$ -value of 0.250. This is because, for working mothers, the proportion of children who do not receive complete immunization is almost the same as for working mothers. Reza's (2006) research results found no relationship between the mother's occupation and the basic immunization status of their children, with a  $p$ -value of 0.902. The proportion of children who did not receive complete basic immunization was almost the same as the proportion of children who had complete basic immunization for each group of mothers. This is because those selected as respondents are mothers who work in the non-formal sector or as housewives only. Such a working status will give mothers more time to bring their children to get immunized at the integrated service post.

#### *Correlation between the Number of Mother's Children and Immunization Status*

The number of research child mothers with categories 2 people and > 2 people gets concluded. There is a significant relationship between the amount of child and the immunization status of the baby with a  $p$  value of 0.000 and an  $OR$  value of 0.014. Visits to immunization service posts are related to the availability of time for mothers to seek immunization services for their children. Therefore, the number of children can affect whether or not there is time for mothers to leave the house to get immunization services for their children. A large number of children requires a lot of time for mothers to take care of their children, so there is not much time available for mothers to visit immunization service locations. The results of this study are different from [15], where there is no relationship between the number of children and the completeness of immunization with a value of  $p = 0.434$ . Likewise, with [22], there was no relationship between the number of children they had and the  $p$ -value of 0.168 on the completeness of the immunization status of children at the Pauh Health Center.

#### *Relationship between Mother's Knowledge and Immunization Status*

Based on research knowledge Mother with category good and less knowledge of statistical test results obtained a  $p$  value of 0.000, then can be concluded With an  $OR$  value of 0.014, there is a significant relationship between the mother's knowledge and the baby's immunization status. Research results obtained show that 100% of respondents can answer with Correct question numbers 3, 4, and 22, i.e., Polindes or Integrated Healthcare Center place Midwives and officers may take action to obtain service immunizations. Immunization and purpose of gift immunization for measles is to prevent the emergence of the disease measles. Question number 12, i.e., timetable giving polio responders an answer, corrects only 11 people, the majority of whom chose the wrong answer. When just

This research is in line with [22], which states that there is a relationship between a mother's knowledge and the completeness of basic immunization ( $p = 0.036$ ). Correlation between basic immunization status in infants aged 0–12 months and the mother's knowledge about immunization, parental education, parental income, and number of children. Among these factors, the mother's knowledge of immunization is a factor that is closely related to the child's immunization status [23–[25].

#### *Research Limitations*

As with research in general, these limitations are always there, but efforts need to be made to minimize any deviations that may occur. Inaccurate information obtained, especially in research that traces the past, can occur due to the inability of respondents to remember events that have occurred in the past. Researchers do not influence respondents or direct respondents to a particular answer but provide alternative ways of asking questions, including using the language of the local community. This study has limitations that can be related to the results of research where data were collected at the same time, so it cannot prove a causal relationship.

## **4. CONCLUSION**

Based on the results of the study "Factors Influencing Mothers on Basic Immunization Status in Infants Aged 12-24 Months in Baruara Village, Balige District, Toba Regency in 2023" the conclusions were obtained factors that influence the mother's basic immunization status in infants are the mother's age, mother's education, mother's occupation, mother's number of children and mother's knowledge about immunization. There is a significant relationship between maternal age and immunization status. There is a significant relationship between maternal education and immunization status. There is a significant relationship between the mother's occupation and

immunization status. There is a significant relationship between the number of children and immunization status. There is a significant relationship between maternal knowledge and immunization status

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