

Case Report Paper

## Relationship of Mother's Behavior with Basic Immunization at Public Health Center Pekanbaru City

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**Abstract:** Immunization is a way to actively increase a person's immunity against an antigen, so when he is later exposed to a similar antigen, disease does not occur. The purpose of immunization is prevent the occurrence of certain diseases in group of people or even eliminate certain diseases from world, such as measles immunization. Mother's behavior about immunization form a positive attitude towards immunization activities. With the good knowledge, attitudes and actions that mother has, the awareness to immunize the baby will increase. The knowledge, attitudes and actions possessed by mother will raise the mother's confidence in health of baby and affect status of immunization in Indonesia. The research conducted is correlational quantitative data with a cross sectional design. The research was conducted at Pekanbaru City Health Center in August - December 2021. The study population was mothers who visited Pekanbaru City Health Center to immunize their babies, namely as many as 60 people. Sampling was done total sampling. The data collected in this research is of primary data which is collected directly from the respondents using a questionnaire. The results showed that mother's behavior regarding basic immunization was good for 20 people 33.3%, sufficient behavior for 13 people 21.7%, and poor behavior for 27 people 45.0%. From the results of study it is hoped that the Public Health Center can provide information about immunization to mothers who have babies and visit the Pekanbaru City Health Center to be more active and many mothers are enthusiastic about bringing their children to Integrated Healthcare Center every month.

**Keywords:** Infant and Child Immunity, Immunization Coverage, Maternal Knowledge and Attitudes, Public Health Challenges, Vaccine-Preventable Diseases.



## 1. Introduction

Immunization is a way to actively increase a person's immunity against an antigen, so that he is later exposed to a similar antigen, no disease will occur [1]. The purpose of prevention is prevent the occurrence of certain diseases in group of people or even eliminate certain diseases from the world such as measles [2]. Through the correct therapeutic procedure, it is hoped that optimal immunity will be obtained, safe injections, minimal Post-Immunization Admission Events (AEFI) as well as parental behavior and compliance with the training schedule [3].

The latest UNICEF (United Nations International Children's Emergency Fund) report stated that 27 million children under five and 40 million pregnant women worldwide still do not receive routine health services. As result, this vaccine-preventable disease is estimated to cause more than 2 million deaths each year [4]. This figure includes 1.4 million children under five who lost their lives. West and Central Africa were considered least successful, with average body weight coverage having not increased above the 53 percent range more than a decade. Countries such as Nigeria, the Central Africa Republic and Guyana are increasingly retreating. Latin America and Caribbean have progressed even beyond industrialized countries [5].

The highest average figure in Indonesia is only 72 percent. This means the numbers in some areas are very low. There are around 2,400 children in Indonesia who die every day, including those who die from causes that should be prevented by disposal, such as tuberculosis, measles, pertussis, diphtheria and tetanus. This is a shocking tragedy and should not have happened [6]. This problem mirrors system problems from the district level down. It also reflects need for appropriate financing at national level to support and maintain the catch control program in Indonesia [7].

The positive impact of immunization infant health is reduce morbidity and mortality from diseases that can be prevented by immunization. At that time these diseases were tetanus, pertussis (whooping cough), polio and tuberculosis. The negative impact for babies who do not get complete immunizations is these babies can be infected or attacked by diseases that can be prevented by immunization, they are also at risk of being disabled after getting sick and death rate can soar [8]. The main obstacles to the success of infant and child immunization in health care system are low awareness related the level of knowledge and absence of community needs for immunization, inadequate access to immunization services, neglecting opportunities provide vaccines and adequate resources for public health and prevention program [9].

Behavior about their baby's immunization form a positive attitude towards immunization activities. The good knowledge that mother has, the awareness to immunize the baby will increase. The knowledge, attitudes and actions possessed by mother will lead to the mother's belief about health and affect immunization status [10]. From the results of preliminary study, the researchers obtained data that some of the immunization coverage for infants had not met the target, namely the target the Public Health Service was 95% and 81% had been achieved. In addition, from 12 mothers who were random interviewed about immunization, 7 mothers did not really know about immunization, the type, and the purpose of giving the immunization, while 5 mothers only knew the meaning of immunization but did not know what action to take the baby had a fever and swelling after immunization [11].

Knowledge is the result of knowing and this occurs after people sense a certain object. Sensing occurs through the five human senses, namely the senses of hearing, sight, smell, taste and touch. Most of human knowledge is obtained through the eyes and ears. Cognitive knowledge is very important domain for the formation of one's actions [12].

Immunization comes from word immune, immune or resistant, so immunization is action to provide immunity by inserting a vaccine into the human body, while immunity is a condition where the body has the ability to prevent disease caused by certain disease germs. There are two kinds of immunity, natural immunity and artificial immunity (immunization), immune or resistant to disease is not necessarily immune to other diseases [13].

Immunization is effort to provide immunity to infants and children injecting vaccines into the body so that the body makes antibodies to prevent certain diseases. Where as what meant by vaccine is a material used to stimulate the formation of anti-substances that are introduced into the body through injections such as the HB0, BCG, DPT/HB Combo vaccines, measles, and by mouth such as the polio vaccine [14]. The main obstacles to success of infant and child immunization in health care system are low awareness related to the level of knowledge and the absence of community needs for immunization, inadequate access to immunization services, neglecting opportunities to provide vaccines and adequate resources for public health and prevention program [15].

Immunization as a way to make babies and children immune from various diseases, it is expected that children or babies will continue to grow in good health. Basically, the body already has its own defense so that various incoming germs can be prevented. The body's defense has non-specific defenses and specific defenses [16]. The process defense mechanisms in the body is the first non-specific defenses, such as complement and macrophages, where the complement and macrophages are the first to develop, will give a role when there are germs that enter the body. After that, the germ must fight the second body's defense, namely the specific body's defense consisting of humoral and cellular systems [17]. The defense system only reacts to germs that are similar in shape. The humoral defense system will produce substances called immunoglobulins (Ig A, Ig M, Ig E, Ig D) and the cellular defense system consists of B lymphocytes and T lymphocytes, in the next specific defense will produce a cell called memory cells, these cells will useful or very fast in reacting if it has ever entered the body, this condition is used in the principle of immunization. Based on the above process, immunization is divided into two, namely active immunization and passive immunization [18].

Places for giving immunizations at Public health center include KIA (Maternal and Child Health), UKM (Community Health Business), Integrated Health Center, Medical Centers while non-Public Health Services includes Hospitals, Maternity Hospitals, Maternity Hospitals, Pediatricians, General Practitioners, Midwifery Specialists, practicing midwives, health clinics, children's health centers [19].

## 2. Method

This type of research is correlation with quantitative data with Cross Sectional design [20]. The research was carried out in August - December 2021. This research was carried out at the Pekanbaru City Health Center. The population the study were mothers who had babies aged 1-12 months who visited the Pekanbaru City Health Center to carry out immunizations for babies in June 2021 with a total of 60 people. Partial research samples were taken from all mothers who had babies aged 1-12 months in the working area the Public Health Service who came for immunization the Pekanbaru City Health Center in 2021 and were considered to represent the entire population [21]. The methods selecting research samples was taken by total sampling, the data collection methods in study was carried out by survey, where the research directly collected data from respondents. The instrument used is a questionnaire [22].

## 3. Finding and Discussion

### 3.1. Respondents by Age

Table 1 shows the distribution and percentage of respondents when grouped by nursing characteristic. As for group according to the age group of the respondents, it can be seen that the majority of the respondent's age group is 25-45 years, namely as much as (66.7%).

Table 1. Distribution of Respondents at Pekanbaru City Health Center (N=60)

Age Group	F	%
20 – 25	40	66.7
>25	20	33.3
<b>Total</b>	<b>60</b>	<b>100</b>

After conducting research on mother's knowledge about basic immunization, the research put forward the following discussion: knowledge about immunization is the mother's understanding of how to avoid diseases that can be prevented by immunization. As previously explained, the average immunization rate in Indonesia only 72 percent. This means that numbers in some areas are very low. There are around 2,400 children in Indonesia who die every day, including those from causes that could have been prevented by immunization, therefore the role of the mother is very important in reducing the incidence [23].

### 3.2. Respondents Based on Education

Table 2 shows the distribution and percentage of respondents by education when group by nursing characteristic. As for the group according to the respondent's education group, it can be seen that the majority of the respondent's education group graduated from high school, namely 30 people (50%).

Table 2. Distribution Respondents Based on Education at Pekanbaru City Health Center (N=60)

Education Level	F	%
Elementary	2	3.3
Middle School	12	20.0
High School	30	50.0
University	16	26.7
<b>Total</b>	<b>60</b>	<b>100</b>

From results of the researc conducted, it was found that mother's knowledge about the meaning of immunization, the purpose of giving immunization, the benefits of immunization, the age of immunization, the type of immunization and the side effects of immunization, it can be concluded that the majority of mother's knowledge at Pekanbaru Health Center is lacking, namely as many as 27 people (45%).

### 3.3. Respondents by Occupation

Table 3 shows the distribution and percentage of respondents by occupation when grouped nursing characteristics. As for group according to the respondent's occupational group, it can be seen that majority of the respondent's occupational group is housewives, namely many as 28 people (46.7%)

Table 3. Distribution of Respondents by Occupation at Pekanbaru City Health Center (N=60)

Occupation	F	%
Civil Worker	5	8.3
Farmer	4	6.7
Entrepreneur	17	28.3
Labor Worker	6	10.0
House Wife	28	46.7
Civil Worker	5	8.3
Farmer	4	6.7
<b>Total</b>	<b>60</b>	<b>100</b>

This can be proven from question given by research to 60 respondents, 45% answered incorrectly about the meaning of immunization, the purpose of immunization, the benefits of immunization, the age of immunization, the type of immunization and the side effects of immunization. This is because the mother's education is the majority of high school graduates, namely 50%, where the higher education, the better knowledge obtained and the lower one's education tends to result in a person's knowledge lacking.

### 3.4. Respondents Based Respondents Behavior

Table 4 shows the distribution and percentage of respondents based on the behavior of respondents when grouped based on nursing characteristics. As for group according to respondent behavior group, it can be seen that majority respondent knowledge group is lacking as many as 27 people (45%).

Table 4. Distribution Respondents based on Behavior at Pekanbaru City Health Center (N=60)

Knowledge	F	%
Good	20	33.3
Enough	13	21.7
Less	27	45.0
<b>Total</b>	<b>60</b>	<b>100</b>

From the results of research conducted, it was found the mother's behavior regarding meaning of immunization, the purpose of giving immunization, the benefits of immunization, the time or age of immunization, the type of immunization and the side effects of immunization, it can be concluded that the majority of mother's behavior at Pekanbaru City Health Center is lacking, namely many as 27 people (45%). This was proven from question given 60 respondents, (45%) answered incorrectly regarding the meaning of immunization, the purpose of immunization, the benefits of immunization, the time or age of immunization, the type of immunization and the side effects of immunization. This is because the mother's education is the majority of high school graduates, namely (50%), where the higher the education, the better knowledge obtained and lower one's education tends to result in a person's knowledge lacking. In addition, the information obtained by mothers about immunization is lacking, both through electronic media radio, TV, through print media books, magazines and information from counseling obtained from health workers.

Knowledge is result of knowing, and this occurs after someone senses a particular object. Sensing occurs through the five human senses including sight, smell, taste, touch and most of human knowledge is obtained through the eyes and ears. Knowledge or cognitive is very important domain for the formation of one's actions [24].

The mother's attitude regarding basic immunization in infants must accept and respect the baby in immunizing her baby so that she is active and cooperative in bringing her baby to attend the Integrated Healthcare Center every month. The mother's action is attitude that is continuously carried out by mother to bring her baby to carry out basic immunizations so that baby is healthy and his growth and development is monitored properly [25].

#### 4. Conclusion

Based on the results of research regarding the relationship between maternal behavior and basic immunization at Pekanbaru City Health Center in 2021, several conclusions were drawn as follows: the majority of maternal behavior was lacking regarding basic immunization, namely 27 people (45%), good maternal behavior regarding basic immunization many as 20 people (33.3%), and mother's behavior was sufficient regarding basic immunization many as 13 people (21.7%).

Based on the results the research, the following suggestions can be given: For mothers it is advisable to want increase knowledge, attitudes and actions regarding basic immunization in infants by participating in counseling about immunization and willing to carry out immunizations according to the immunization schedule has been determined by Pekanbaru City Health Center. It is necessary to increase counseling regarding the importance of basic immunization for infants at Pekanbaru City Health Center so that mothers who have poor behavior and are not supportive of the immunization program can increase their knowledge about immunization and be supportive of the immunization program, for mothers who already have good knowledge can maintain knowledge and increase their knowledge.

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