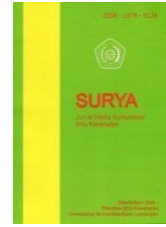




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## *The Relationship between Knowledge and the Role of Parents and Completeness of Basic Immunization for 2-Year-Old Children*

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### ABSTRACT

**Introduction:** Immunization is one way to prevent infectious diseases, especially diseases that can be prevented by immunization given to children, infants, adolescents and adults. The purpose of this scientific paper is to determine the knowledge and role of parents with basic immunization in children aged 2-5 years

**Methods:** The research design used a cross-sectional design. Sampling was taken using the Random Sampling technique. The independent variables are the knowledge and role of parents, the dependent variable is the completeness of basic immunization. The instruments used were questionnaires and KIA books. Data analysis used the SPSS 22.0 test.

**Results:** The results of this study indicate that out of 62 parents, 29 parents were found to have good knowledge so that most (74.4%) of basic immunization was complete and 17 parents played a sufficient role so that almost some (41.5%) of basic immunization was complete.

**Conclusion:** There is a relationship between knowledge and the role of parents with the completeness of basic immunization in children aged 2-5 years

**Keywords:** Completeness of Basic Immunization, Knowledge, Role of Parents

## INTRODUCTION

Immunization is the best form of health investment and technique for preventing and controlling infectious disease outbreaks (World Health Organization, 2020). Immunization is one way to prevent infectious diseases, especially diseases that can be prevented by immunization given to children, babies, teenagers and adults (Amir, 2020).

The provision of basic immunizations in the world was reported to have decreased in 2019. According to data from the World Health Organization (WHO) and the United Nations International Children's Emergency Fund (UNICEF), in some areas the immunity rate is less than 70%. More than 12 million children under 5 years old are affected by hemoglobin and about 2 million die from immunization-preventable diseases every year. The emergence of this disease is due to basic immunization status. About 20% of children lack basic immunization before their first birthday. Factors causing infant deaths include infection, malnutrition, lack of access, ignorance of the next immunization schedule, and fear of immunization side effects. This data shows that knowledge plays an important role in child immunization, therefore parents need knowledge to immunize their babies (Dewi, 2020).

Providing basic immunization in Indonesia over the last 2 years from 2020 - 2021, coverage of complete basic immunization for babies has dropped drastically. In 2020 the immunization target was 92% while the coverage achieved was 84%, in 2021 the immunization target was 93% but the coverage achieved was 84%. The decrease in immunization coverage was caused by the COVID-19 pandemic. There are more than 1.7 million babies who have not received basic immunization during the 2019-2021 period (Kemenkes RI, 2021).

Factors that influence the completeness of immunization are knowledge, education, and employment of parents as well as family support. Apart from that, the services

of health workers who have not yet socialized immunization are very influential in increasing parents' motivation to immunize their children, the availability of service places, and the long distance from where they live are also factors. which prevents parents from getting their children immunized (Musdalina, 2019).

As a result, children who are not fully immunized are vulnerable to various diseases. Because immunity in the body is not formed due to immunization. If a child is not immunized there will be no immunity. The body has no immune system to fight disease, if it is infected (viruses, germs and bacteria) there is a risk of serious illness, disability and even death. (Prihatini, 2021).

Efforts that can be made by the government are to meet the logistical needs of vaccines as supporting materials by providing them free of charge or free of charge in the hope that people will not mind immunizing their babies. Meanwhile, efforts that can be made by health workers in the immunization program include providing education to increase the knowledge of parents and families about the importance of immunization and the impact of incomplete immunization so that parental awareness increases and complete immunization can be achieved. (Ekayanti & Prawesti, 2020).

## METHODS

This research design uses analytical methods with a cross-sectional research design approach. Sampling was carried out using the Random Sampling technique, namely random sampling in a simple way in routine toddler poyandu activities once a month in Widang Village, Tuban Regency and were willing to act as respondents. The total population in this study was 165 people who attended posyandu for toddlers from November to December 2022, while data collection was carried out in May 2023. Inclusion criteria used (1) Parents who have children aged 2-5 years, (2) Parents who have children aged 2-5 years who carry KIA books in Widang Village, (3) Parents who have children aged 2-5 years who are

willing to become respondents by being willing to sign informed consent, the exclusion criteria use (1) Parents who have children aged more than 2-5 years, (2) Parents who have children aged 2-5 years who do not bring KIA books in Widang Village, (3) Parents who have children aged 2-5 years who are not willing to be respondents without sign informed consent.

Univariate data analysis can be used to specifically explain each research variable, this research uses descriptive statistics (Nursalam, 2018). Bivariate analysis is used to determine the relationship between three variables and prove the researcher's hypothesis. Bivariate analysis in this research will determine the effectiveness of the statistical tests that will be used. This analysis is for the relationship between knowledge and maternal attitudes towards the COVID-19 vaccine at the SP IV Prafi Health Center. The type of statistical test used is the Correlation Test (X), if it meets the Correlation test requirements if the 2x3 table has a number of cells with an expected frequency (Expected count) of more than 5 (cannot be more than 20%). If it does not meet the requirements for a correlation test, an alternative correlation test will be carried out. Data processing uses a computerized SPSS program.

## RESULTS

In this section the author presents the results of research in the form of knowledge and the role of parents regarding complete basic immunization..

Table 1. Demographic Data

Characteristics	n	(%)
<b>Mother Age</b>		
21-30 year	41	32,3
31-40 year	20	1,6
>40 year	1	1,6
<b>Father Age</b>		
21-30 year	29	46,8
31-40 year	27	43,5
>40 year	6	9,7
<b>Marital Status</b>		
Have Married	62	100,0

Divorced	0	0
<b>Mother Education</b>		
SMP/equivalen	5	8,1
SMAequivalen	35	56,5
University	22	35,5
<b>Pendidikan Ayah</b>		
SMP/Equivalent	7	11,3
SMA Equivalent	40	64,5
University	15	24,2
<b>Mother Job</b>		
Housewife	30	48,4
Work	32	51,6
Workers/Farmers	0	0
<b>Father Job</b>		
Government Employes	5	8,1
Private Employes	40	64,5
Military	1	1,6
Business/trader	16	25,8
<b>Number of Children</b>		
1	17	27,4
2	37	59,7
3	8	12,9
>3	0	0
<b>Child's Age</b>		
2 year	3	4,8
3 year	21	33,9
4 year	31	50,0
5 year	7	11,3
<b>Amount</b>	<b>62</b>	<b>100</b>

Table 2. Knowledge and Role of Parents in Complete Basic Immunization for Children 2-5 Years.

Variable	n	(%)
Parental Guidance		
Good	39	62,9
Enough	18	29,0
Not Enough	5	8,1
Parental Guidance		
Good	21	33,9
Enough	41	66,1
Not Enough	0	0
Complate basic immunization		
Complate	32	51,6
Not Enough	30	48,4
<b>Amount</b>	<b>62</b>	<b>100</b>

From the mother's age, the data obtained were mostly (66.1%) mothers aged 21-30 years, from the father's age the data obtained were almost all (46.8%) of the fathers aged 21-30 years, from the marital status of the parents it was obtained the results of all or all

(100.0%) of the marital status are married, from the mother's education the data obtained are mostly (56.5%), from the father's education the data obtained are mostly (64.5%), from the mother's occupation the data obtained were mostly (64.5%), from the father's occupation the data obtained were mostly (59.7%), from the child's age the data obtained were partial (50%)

From the knowledge of parents, the results obtained were 39 (62.9%) good, from the role of parents the results obtained were 41 (66.1%) sufficient, from the completeness of

basic immunization the results obtained were 32 (51.6%) complete.

Table 3 show the relationship between parental knowledge and completeness of basic immunization. the results obtained were that 29 parents had good knowledge and complete the basic immunization.. Table 4 show the the relationship between the role of parents and the completeness of basic immunization. the results obtained were that 24 parents had enough parental roles and had incomplete basic immunization.

Table 3. Relationship between parental knowledge and basic immunization equipment for children 2-5 years

No.	Parental Knowledge	Complete Basic Immunization				Total	
		Complete		Incomplete		N	%
		N	%	N	%		
1.	Good	29	74,4	10	25,6	39	100,0
2.	Enough	2	11,1	16	88,9	18	100,0
3.	Not Enough	1	20,0	4	80,0	5	100,0
<b>Total</b>		<b>32</b>	<b>51,6</b>	<b>30</b>	<b>48,4</b>	<b>62</b>	<b>100,0</b>
<i>Contingency Coefficient Test <math>X=0,511</math></i>				<i>P = 0,000</i>			

Table 4. The Relationship between the Role of Parents and Completeness of Basic Immunization for Children 2-5 Years

No.	Parental Role	Complate Basic Immunization				Total	
		Complete		Incomplete		N	%
		N	%	N	%		
1.	Good	15	71,4	6	28,6	21	100,0
2.	Enough	17	41,5	24	58,5	41	100,0
<b>Total</b>		<b>32</b>	<b>51,6</b>	<b>30</b>	<b>48,4</b>	<b>62</b>	<b>100,0</b>
<i>Contingency Coefficient Test <math>X = 0,273</math></i>				<i>P = 0,025</i>			

## DISCUSSION

### Parents' knowledge about basic immunization equipment

Good knowledge of parents regarding the completeness of basic immunization is influenced by the age factor, which is based on table 1. At this age it is classified as early adulthood and a person's level of maturity and strength should be more mature in thinking and productive, easily able to receive information and understand new knowledge, so that parents' knowledge is good. According to Nurhidayati (2016), states that age will influence a person's grasping power and

thinking patterns, the older they get, the more their grasping power and thinking patterns will develop so that the knowledge they gain will get better.

Other factors that can also influence knowledge include work. From the mother's employment data and the father's employment table, it is found that the majority of mothers work and the majority of fathers work in the private sector. This means that someone who has more insight into information sources will have broader knowledge. In general, the easier it is to obtain information, the faster a person acquires new knowledge. A person's job can influence a person's knowledge and

experience. According to Suwarya (2018), The work environment can enable a person to gain experience and knowledge both directly and indirectly. Good knowledge is when someone knows and can conclude or interpret something they have studied before. According to Bloom (2020), the level of knowledge is good at present. There are various levels of knowledge, ranging from knowledge, understanding, application, analysis, synthesis to evaluation. This means that mastery of understanding something is not just one level, but must consist of six levels.

The better the parents' knowledge about the completeness of immunization, the better they will be at immunizing their children. It is hoped that the number of complete basic immunizations for children can increase better. There is also other research that supports this Rahmawati & Agustin (2021), The results showed that most of the parents' knowledge was good and the results showed that most of the children's immunizations were complete. Good knowledge is the result of knowing that arises after someone senses a particular object and has the aim of shaping someone's actions towards something.

Knowledge here is a very important domain in shaping a person's actions (overt behavior), the knowledge that parents have has a significant relationship with the completeness of basic immunization in children, that behavior that is based on knowledge will be more lasting than behavior that is not based on knowledge. The better the parents' knowledge about the completeness of immunization, the better they will be at immunizing their children.

### **The Role of Parents in Completeness of Basic Immunization**

Based on table 2, it can be seen that most parents' roles are sufficient. The role of parents is sufficient when parents do not understand how to carry out their duties and responsibilities towards their children in caring for, educating, protecting and preparing children for life in society. According to Wong (2018), which states that parents are the key in looking after and caring for children.

Children can grow and develop healthily both physically and mentally depending on their parents. To make this happen, of course parents must always pay attention, supervise and care for their children, especially at the beginning of their lives, especially during infancy. Parental involvement is needed to prevent health problems in children

The adequate role of parents regarding the completeness of basic immunization for children is influenced by educational factors, where based on table 1 the mother's education data and the father's education data show that the majority are high school/equivalent. High school education can be said to be upper secondary education, which means that a person with a high school education has quite good insight and knowledge, there is good knowledge from parents who have a high school education. This can be supported from opinions and theories Wijanarko et al (2016), that education can influence parents' knowledge of children and the level of education that parents have will determine whether it is easy for someone to receive knowledge and understand the knowledge they have acquired

Insufficient cooperation from parents in bringing their children for basic immunization is one of the causes. Increasing the role of parents and paying attention to the completeness of basic immunization for children according to the predetermined immunization schedule is one of the important things so that children receive complete basic immunization and avoid disease.

### **Completeness of Basic Immunization for Children 2-5 years**

Based on table 2, the results show that the majority of children's basic immunization is complete. Complete basic immunization is said to be complete if the child has completed all immunizations from HB-0, BCG, Polio 1, DPT-Hb-Hib 1, Polio 2, DPT-Hb-Hib 2, Polio 3, DPT-Hb-Hib 4, Polio 4, Injectable Polio (IPV), Measles-Rubella (MR), DPT-Hb-Hib advanced, Measles-Rubella (MR) advanced.

According to Putri & Zuiatna (2018), that the closer the health facility is to where people live, the easier it is for people to access health services. People will use these health services when the available services are accessible. Health services are a facility that must be utilized by all groups fairly and equally.

The completeness of basic immunizations regarding the completeness of basic immunizations for children is influenced by marital status factors. From table 2, all or all are married (husband and wife status). According to Putri & Zuiatna (2018), This shows that there is a division of responsibilities and assistance between husband and wife in solving problems and raising children.

Children who have received complete basic immunization according to their age level will make the child immune and susceptible to disease. If the child's basic immunization is achieved properly, this will also affect the level of achievement of the child's basic immunization completeness, because if there is a problem with the completeness of the child's basic immunization there will be problems. This will be an ongoing problem for children in getting complete basic immunization.

### **Relationship between parents' knowledge about basic immunization equipment for children 2-5 years**

Based on the research results in cross table 3 above, it shows that out of 62 parents, 29 parents had good knowledge so that the majority (74.4%) had complete basic immunization. The significance of these two variables was tested using SPSS 22.0 analysis of the contingency coefficient test. The results showed that parents' knowledge of complete basic immunization for children aged 2-5 years showed a significant level of  $p = 0.000$  with  $X = 0.511$ . This proves that  $H_1$  is accepted, which means there is a strong relationship between the role of parents regarding the completeness of basic immunization for children aged 2-5 years.

One of the important factors to consider in implementing complete basic immunization for children aged 2-5 years is the level of knowledge. According to Rizki et al. (2016), The processes of achieving complete basic immunization in children will be successful if good knowledge from parents runs optimally. And parents' lack of knowledge about the completeness of children's basic immunizations will have a negative impact on implementation. The results of this research are in accordance with research by Sari (2016), It can be concluded that parents with good knowledge of the baby's immunization status, this influences where babies who have mothers with good immunization knowledge will have complete basic immunization status compared to babies with mothers who have poor knowledge of immunization. This is also in line with the research conducted Heriyanti (2017), It can be concluded that parents with good knowledge about complete basic immunization will have a tendency for mothers to provide complete immunization to their babies.

In accordance with the results of this study, it was concluded that there is a relationship between parental knowledge and the completeness of complete basic immunization in children 2-5 years. Knowledge is very important for parents, if parents understand and know about the completeness of basic immunization in children then children's health can be achieved well.

### **Relationship between the Role of Parents regarding Completeness of Basic Immunization for Children 2-5 years**

Based on the research results, there was relationship between the role of parents regarding the completeness of basic immunization for children aged 2-5 years.

One of the factors related to the completeness of basic immunization in children is the role of parents. The role of parents in carrying out their duties and responsibilities towards children, good

cooperation between both parents in achieving complete basic immunization in children is very necessary. Because parents have an important role in their children's health (Fabanzo et al., 2022).

The results of this research are in accordance with research by A. Putri & Nurhayati (2019), It can be concluded that parents have an adequate role regarding complete basic immunization, this shows that the role of parents is very important in maintaining children's health, the role of parents who can help in maintaining children's health is that parents must immunize children. Immunization is an important thing that is fundamental to maintaining children's health. Parents need to remember their child's immunization schedule correctly and appropriately. This is also in line with research conducted by Giantiningsih et al. (2021), It can be concluded that parents with an adequate role regarding complete basic immunization will have an insufficient family role causing the family to be less supportive in implementing basic immunization coverage. And the lack of health workers, cadres and poor functioning of posyandu has resulted in the family's role being less supportive in implementing complete basic immunization.

## CONCLUSION

In accordance with the results of this research, it is concluded that there is a relationship between the role of parents and the completeness of complete basic immunization in children 2-6 years. With this relationship, it is hoped that in order to improve the implementation of completeness of basic immunization, it is necessary to pay attention to the role of parents, namely by improving cooperation well.

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