

**PERCEPTIONS OF MOTHER AND FAMILY REGARDING THE EXISTENCE OF POST COLLECTIVE EVENTS  
IMMUNIZATION WITH COMPLETE IMMUNIZATION IN BABIES AT PUSKESMAS PACCERAKKANG**

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**ABSTRAK : PERSEPSI IBU DAN KELUARGA TENTANG ADANYA KEJADIAN IKUTAN PASCA IMUNISASI  
DENGAN KELENGKAPAN IMUNISASI PADA BAYI DI PUSKESMAS PACCERAKKANG**

Latar belakang: Persepsi merupakan hal yang baik mengenai imunisasi memiliki peluang untuk mengambil keputusan untuk melakukan imunisasi pada anak, mengambil keputusan dan kualitas dari pilihan sebagian besar dipengaruhi oleh persepsi mereka. Tujuan: menganalisis hubungan persepsi ibu dan keluarga tentang kelengkapan imunisasi pada bayi di Puskesmas Paccerrakkang Makassar. Metode: jenis penelitian kuantitatif dengan Cross Sectional Study. Populasi ibu yang memiliki bayi usia 0-1 tahun melakukan kunjungan di Puskesmas Paccerrakkang Makassar sebanyak 926 orang. Sampel 90 yang terdiri dari 45 ibu dan 45 keluarga, dengan teknik pengambilan Accidental Sampling yang sesuai dengan kriteria yang ditetapkan dalam penelitian ini, waktu penelitian tanggal 02 Januari s/d 02 Februari 2023 dan analisis data menggunakan Uji Chi square. Hasil: Didapatkan persepsi ibu dan kelengkapan imunisasi didapatkan  $p.value=0,000$  ( $\alpha<0,05$ ) berarti ada hubungan signifikan antara persepsi ibu dengan kelengkapan imunisasi. Persepsi keluarga tentang KIPI dengan kelengkapan imunisasi pada bayi didapatkan  $p.value=0,000$  ( $\alpha<0,05$ ) berarti ada hubungan yang signifikan antara persepsi keluarga tentang KIPI dengan kelengkapan imunisasi pada bayi. Adapun persepsi ibu dan keluarga tentang adanya KIPI dengan kelengkapan imunisasi pada bayi yaitu ada hubungan yang signifikan dengan  $p.value 0.004$  ( $\alpha<0,05$ ). Kesimpulan persepsi ibu dan keluarga tentang KIPI ada hubungan signifikan dengan kelengkapan imunisasi pada bayi. Saran: Diharapkan pihak tenaga Kesehatan memantau bayi yang tidak lengkap atau melakukan pemberian imunisasi sesuai dengan kebutuhan usianya sehingga semua bayi mendapatkan imunisasi yang lengkap

Kata Kunci : KIPI, Kelengkapan Imunisasi, Persepsi Ibu, Persepsi Keluarga,

**ABSTRACT**

Perceptions are good about immunization having the opportunity to make decisions to immunize children, and their perceptions primarily influence the quality of choices. This study analyzes the relationship between mother and family perceptions about immunization completeness in Paccerrakkang Makassar Health Center infants. The research method is quantitative with a Sectional Study. The population of mothers with babies aged 0-1 years visiting the Paccerrakkang Makassar Health Center is 926. A sample of 90 consisting of 45 mothers and 45 families, using the accidental sampling technique according to the criteria set out in this study, was conducted from 02 January to 02 February 2023, and data analysis used the Chi-square test. The results of this study showed that mothers' perceptions and immunization completeness were  $p.value=0.000$  ( $\alpha<0.05$ ), meaning that there was a significant relationship between maternal perceptions and immunization completeness. Family perceptions about AEFI and the completeness of immunization in infants obtained  $p.value = 0.000$  ( $\alpha < 0.05$ ), meaning that there is a significant relationship between family perceptions about AEFI and the completeness of immunization in infants. As for the perception of mothers and families about the presence of AEFI with the completeness of immunization in infants, there is a significant relationship with a  $p$ -value of 0.004 ( $\alpha<0.05$ ). In conclusion, there is a significant relationship between the perceptions of mothers and families about AEFIs and the completeness of immunization in infants.

Keywords: AEFI, Completeness of Immunization, Mother's Perception, Family Perception

## INTRODUCTION

Post-Immunization Adverse Event (AIFI) is a medical symptom that can occur after vaccination/immunization suspected to be related to vaccination/immunization given. Generally, AEFI is temporary and mild and will disappear independently without treatment. If the body reacts to AEFI after receiving a vaccination, remain calm. Reactions to pain, swelling, and redness at the injection site can be treated with compresses with cold water. If the fever can compress or take a bath with warm water, drink plenty of water, rest, and take medicine if necessary (Chrisnawati et al. 2022; Saragih and Refika 2019).

Immunization is an effort to cause or increase a person's immunity against a disease. The immunization program aims to provide immunity to infants to prevent illness and death of infants and children caused by diseases that often infect. Immunization is an effort to increase immunity and eradicate infectious diseases. The high infant and toddler mortality rate in Indonesia has caused a decline in public health; one of the efforts to overcome this problem is a complete basic immunization program for infants and toddlers (Chrisnawati et al. 2022; Hasanah, Lubis, and Syahleman 2021; Soedjatmiko et al. 2020)

In some developing countries, routine immunization alone is not enough to stop the spread of poliovirus due to low conversion rates, so additional immunization is recommended. The Indonesian Pediatrician Association (IDAI) recommends giving one dose of polio at birth and three doses of primary immunization (Kemenkes, 2020). According to the World Health Organization (WHO), in 2018, about 20 million children worldwide did not get complete immunizations; some did not even get immunizations at all. Community immunity (herd immunity) requires high immunization coverage (at least 95%) and is evenly distributed. Other AEFI reactions in severe polio vaccines can occur in 1 per 2.4 million doses of the Vaccine Information Statment (CDC) vaccine. In contrast, cases of hepatitis B in children can be mild to moderate fever in 1/14 of vaccine doses and in adults in 1/100 doses. Cases of Post-Immunization Adverse Event (KIPI) measles in the form of fever occur in 1/6 dose, mild skin rash in 1/20 dose, and seizures caused by turmoil in 1/300 amount (WHO, 2020).

According to data from the Director General of Disease Prevention and Control, Ministry of Health, in 2020, the coverage of complete primary immunization has only reached 58.4% of the target of 79.1%, where there are 33.4% of children who experience AEFI from 91.3% of children who get an

immunization, namely with symptoms of 20.6% redness, 20.2% swelling, 6.8% high fever and 6% purulent, while in West Sumatra there are 41.4% of children who experience AEFI from 86.6% of children who get an immunization, namely with symptoms of 67.8% swelling, 57.7% reddish and 32.1% purulent. Based on the figures above, the vaccination target does not reach the mark because there are still many perceptions of mothers who say that there are several types of vaccines containing pork ingredients which are believed by their religion to be haram and also the situation of the COVID-19 pandemic which causes mothers to be afraid to vaccinate their children (Kemenkes, 2020).

Data in Indonesia in 2020 found 544 cases of AEFI. In some cases, the reaction is caused by the vaccine; in other cases, the cause is an error in giving the vaccine, especially in giving DPT immunization; some mothers assume the DPT vaccine is given at 2, 4, and 6 months. However, the government recommends that DPT immunization be given at 2, 3, and 4 months. Measles cases in the form of fever occur 1/6 dose, mild skin rash 1/20 dose, seizures caused by fever 1/3000 dose, and severe allergic reactions 1/1,000,000 dose. Immunization programs are part of primary healthcare efforts (Kemenkes, 2020). Data obtained from the South Sulawesi Provincial Health Office immunization coverage reached 60% of the target of 78.3%. This is due to the mother's perception and understanding of the side effects of immunization and the high number of AEFI cases that cause mothers not to bring their children for vaccination. Efforts to overcome this are by conducting much socialization to the community that the importance of providing primary immunization to infants, side effects or realization of AEFI, and cooperation between parties is needed in the success of the immunization program launched by the government. As for data from the Makassar City Health Office in 2020, immunization coverage has only reached 63% of the target of 93%. The AEFI reaction in Makassar City reached 18.9%, with various responses such as fever, skin rashes, and seizures caused by high fever (Kemenkes, 2020).

The incidence of AEFI is a confusing reaction to immunization that can result from vaccine reactions, injection reactions, and procedure errors. For this reason, AEFI is needed to know the relationship between immunization and post-immunization by recording and reporting all reactions that arise after vaccination (Norlita and KN 2016). The adverse events following immunization (AEFI) are medical events related to immunization either in the form of vaccine effects or side effects, toxicity, sensitivity reactions, pharmacological effects, or due

to program errors, coincidence, injection reactions, or causal relationships that cannot be determined (G. and Manikandan 2020; Jeon et al. 2021). The low coverage of immunization in Indonesia is due to side effects that, according to mothers, sometimes make their children fussy, and this certainly has an impact when the dose of immunization bacillus cellmate-Guerin (BCG) is given one time to children aged one or two months. BCG immunization provides immunity against tuberculosis (TB), meningitis, and pulmonary TB. Diphtheria, pertussis, and tetanus (DPT) immunization is given three times when the child is three months old. DPT immunization can then be repeated at intervals of 4 weeks. This immunization simultaneously prevents three diseases, namely diphtheria, pertussis, and tetanus. Hepatitis B immunization is given three times. The first time is given after the newborn until the age of 7 days, then when the child is three months and four months old. This immunization provides immunity against hepatitis B, which can cause liver disease. Polio immunization is given four times, namely before the child is two months old, one time when the child is three months old, four months old, and when the child is five months old. This immunization serves to prevent the occurrence of polio or paralysis. Measles immunization is given one time when the child is nine months old. The Measles immunization vaccine serves to prevent the occurrence of measles. The study subjects were handed over to midwives or health workers about the timing of immunization and how many times BCG, DPT, polio, hepatitis B, and measles immunizations were given to their children. Mothers should pay attention to and understand the immunization schedule, how many times each immunization is given, and at what age it is given (G. and Manikandan 2020; Ilawati 2022; Najikhah et al. 2021; Sariatmi and Kusumastuti 2019). Efforts are made if there are children who experience AEFI to get enough rest. Give febrifuge if needed. Try to make children consume enough water. If there is pain at the injection site, try to keep moving and use the child's arm. Compress the affected area with a clean cloth moistened with cold water after early treatment.

Along with high immunization coverage, but it has not reached the national target, vaccine use has also increased, and as a result, adverse reactions related to immunization have also increased. The adverse reaction is known as AEFI. AEFI is a medical event that is thought to be related to immunization, either in the form of vaccine reactions or adverse effects, pharmacological effects, injection reactions, or procedural errors (Y. et al. 2011). The immunization program, which has been running for a

long time in Indonesia, has recently encountered obstacles with the spread of incorrect immunization information, so many parents are hesitant and afraid to immunize their babies. Incorrect information often uses the issue of fear-mongering of AEFI that may occur in children after getting immunization (Gill et al. 2016)

According to the National Committee for the Assessment and Control of AEFI, AEFI is all illness and death events within one month after immunization. In certain circumstances, the length of observation of AEFI can reach 42 days (chronic arthritis after rubella vaccination) or even 42 days (measles virus vaccine strain infection in immunodeficiency patients after measles and paralytic polio vaccination and vaccine-strain poliovirus infection in non-immunodeficiency recipients or immunodeficiency recipients after polio vaccination). The fear of AEFI arises because of the lack of correct information that should be provided by health workers to parents clearly and proportionately immunization that some members widely know of the community is the effect of fever or heat after immunization. Not all basic immunizations have a fever effect because there are many other effects after immunization. Symptoms of illness or reaction effects after immunization are known as KIPI. The most severe national incidence of AEFI in children is the reaction after the DPT vaccine, which is estimated to be as many as 50% of cases from 1 million births under five (Mesfin Geremew, 2017, Mesay Tefera, 2015, M.K. Sharma et al., 2018). This AEFI incident then occurs perception in parents. Perceptions are good about immunizations having the opportunity to make decisions to immunize children, and their perceptions primarily influence the quality of choices. The mother's understanding of primary immunization is good, even though a small part of the mother's understanding is sufficient. This can be seen from the mother's understanding of the first immunization obtained by the child, the completeness of the child's primary immunization according to the immunization schedule, side effects after immunization, and actions that must be taken if immunization side effects appear, while for fat, frequency of administration and at the age of administration of each vaccine only a few mothers understand parental perceptions of immunization in infants given by nurses who show results that Trust in health workers is a central theme of research and builds a confident relationship between mother and baby. Each immunization vaccine has a different function, several administrations, and timing of administration, and mothers have a crucial role in caring for and educating children as well as

immunization. The mother will take the child to an Integrated Service Post, Community Health Center, or clinic for immunization (Adhayani Arda et al. 2018; Kartina 2021; Putri, Faturrahman, and Maywati 2022)

For immunization to reach all levels of society, the target is the elderly. Specifically, mothers are to be given counseling about the importance of immunization for children and encouraged to bring their children to the Integrated Service Post. The influencing factors are knowledge, maternal attitudes, and family support. All parents, of course, want their children to stay healthy. Let alone severe illness, even minor pain, if possible, do not let the child suffer (Bina Aquari 2019; Igiyany 2020; Tanjung, Rohmawati, and Sofyani 2017). The success of immunization is due to the spread of Integrated Service Posts and health workers. In addition, the role of parents, especially mothers, strongly supports the implementation of immunization. In essence, the problem of immunization does not escape the calculation of profit and loss. With immunization, children can achieve gains, not losses. The advantages of immunization are not visible in material form (Vakili et al. 2015; WHO and UNICEF 2015, 2022).

Data from the Paccerrakkang Makassar Health Center in 2019 showed that immunization coverage reached 11,668 people (99.28%) and those who experienced AEFI as many as 383 people (3.28%). Meanwhile, in 2020, immunization coverage reached 10,632 people (91.12%). For those who experienced AEFI, as many as 462 people (4.34%) in 2021, the number of immunization coverage reached 9214 people (86.66%), and for those who experienced AEFI, as many as 518 people (5.62%). Meanwhile, from January to June 2022, the number of infants came for primary immunization was 143 people. Those who did HBO immunization were 133 people (93.0%), BCG immunization was 124 people (86.7%), polio immunization 1 was 122 people (85.3%), DPT1 was 122 people (85.3%), polio two immunization was 110 people (76.9%), DPT2 was 103 people (72.0%). Polio 3 immunization as many as 91 people (63.6%), DPT3 as many as 68 people (47.5%), polio four immunization as many as 58 people (40.5%), IPV immunization as many as 54 people (37.7%), measles immunization as many as 50 people (34.9%), while of 143 infants given primary immunization, only 22 people (15.4%) have complete primary immunization in infants. This means there has been a significant decrease since the beginning of the COVID-19 pandemic. Therefore, researchers raised this title to determine the extent of the relationship between maternal and family perceptions of post-immunization follow-up events to

immunization coverage in infants (Rekam Medik, 2021).

Similar research has been done in several regions, but this factor will differ in each region. Research on primary infant immunization AEFI has never been conducted in the Working Area of the Paccerrakkang Makassar Health Center.

## RESEARCH METHOD

The type of research used in this study is quantitative research with a sectional Study. The research was conducted at the Paccerrakkang Makassar Health Center from December 2022 to January 2023.

This study's population was all mothers with babies aged 0-1 year who visited the Paccerrakkang Makassar Health Center with as many as 926 people. The sample was a mother with a baby aged 0-1 year who visited the Working Area of the Makassar Paccerrakkang Health Center with as many as 90 people using the Accidental Sampling technique—measurement of sample size using the Slovin formula. The samples were divided into two groups, namely 45 parents of infants and 45 families of infants. The inclusion criteria are mothers with toddlers with us of 0-1 year who visit the Integrated Service Post and are willing to be respondents. While the exclusion criteria are mothers who do not have literacy and mothers with babies who have congenital disorders / other severe problems that prevent getting immunization

The data collection tool used in this study was in the form of a questionnaire that had been tested for validity and reliability in the form of a maternal perception questionnaire and a family perception questionnaire with 20 number questions using the Gutman scale where each positive question got a value of 2 and negative questions got a score. Infant immunization completeness checklist sheet and Observation Sheet Checklist on infant immunization status. Data analysis techniques using variate and bivariate uni tests using chi-square tests. This research has received approval from the Faculty of Public Health, University of Makassar, with Number 15636/UN4.14.1/TP.01.02/2022.

## RESEARCH RESULT

### Univariate Analysis

Table 1 above shows that of 90 people used as samples, the dominant age of infants 7-12 months is 34 people (75.6%). While the sex of the baby, the dominant male as many as 29 people (64.4%). For a history of infectious diseases the dominant did not have a history of infectious diseases, as many as 31

people (68.9%). In the maternal age group category, the dominant respondents aged <35 years were 25 people (55.6%). In the maternal education group, the

majority of respondents were well educated, as many as 31 people (68.9%), and the dominant respondents worked as many as 24 people (53.3%).

**Table 1**  
**Distribution of Respondents' Characteristics Based on Mothers' Perceptions of AEFI at Puskesmas Paccerakkang Makassar City**

Characteristics of Respondents	n	%
Age of Baby		
1-6 Months	11	24,4
7-12 Months	34	75,6
Baby Gender		
Man	29	64,4
Woman	16	35,6
History of Infectious Diseases		
Yes	14	31,1
No	31	68,9
Mother's Age		
< 35 years old	25	55,6
≥ 35 years old	20	44,4
Mother's Education		
Less	14	31,1
Good	31	68,9
Work		
Not Working	21	46,7
Work	24	53,3

\*Uji Description

**Table 2**  
**Distribution of Respondents' Characteristics Based on Family Perception of AEFI at Puskesmas Paccerakkang Makassar City**

Characteristics of Respondents	n	%
Age of Baby		
1-6 Months	6	13,3
7-12 Months	39	86,7
Baby Gender		
Man	28	62,2
Woman	17	37,8
History of Infectious Diseases		
Yes	17	37,8
No	28	62,2
Family Age		
< 35 years old	13	28,9
≥ 35 years old	32	71,1
Mother's Education		
Less	14	31,1
Good	31	68,9
Work		
Work	31	68,9
Not Working	14	31,1

\*Uji Description

Table 2 above shows that of 90 people used as samples, the dominant age of infants 7-12 months was 39 people (86.7%). The sex of the baby, the dominant male sex, is as many as 28 people (62.2%). For a history of infectious diseases the dominant did

not have a history of infectious diseases, as many as 28 people (62.2%). In the maternal age group category, the dominant respondents aged ≥ 35 years were 32 people (71.9%). In the maternal education group, the majority of respondents were well

educated, as many as 31 people (68.9%), and the dominant respondents worked as many as 31 people (68.9%).

### Bivariate Analysis

**Table 3**  
assesses the relationship between maternal perception of post-immunization follow-up events and the completeness of immunization in infants at the Paccerrakkang Health Center in Makassar City

Mother's Perception	Completeness of Immunization in Infants				Total		OR	p Value <0,05
	Incomplete		Complete					
	n	%	n	%	n	%		
Not Good	10	22,2	2	4,4	12	26,7	10,320	0,000
Good	0	0	33	73,3	33	73,3		

\*Uji Chi-Square

Table 3 shows that of the 45 people sampled, 10 (22.2%) mothers were incomplete in immunizing people, and there were 2 (4.4%) who were complete in immunization. Mothers have an excellent perception of as many as 33 people (73.3%) who

have complete immunization of infants. By using the Chi-Square test, the Value of  $p = 0.000 < 0.05$  means that there is a significant relationship between maternal perception and completeness of immunization in infants.

**Table 4**  
Assesses the relationship between family perceptions of post-immunization follow-up events with the completeness of immunization in infants at the Paccerrakkang Health Center in Makassar City

Family Perception	Completeness of Immunization in Infants				Total		OR	p Value <0,05
	Incomplete		Complete					
	n	%	n	%	n	%		
Not Good	7	15,5	4	8,8	11	24,4	34,070	0,000
Good	3	6,7	31	68,9	34	75,6		

\*Uji Chi-Square

Table 4 shows that of the 45 people sampled, 7 (15.5%) families had poor perceptions, and 4 (8.8%) had complete immunization in infants. Meanwhile, for those who have good perceptions, as many as 3 (6.7%) are incomplete, and 31 people

(68.9%) have completeness in immunization. By using the Chi-Square test, a value of  $p = 0.000 (< 0.05)$  means that there is a significant relationship between family perception and completeness of immunization in infants.

### Multivariate Analysis

**Table 5**  
Results of Logistic Regression Test on Variables That Affect the Completeness of Infant Immunization

Variable	OR (exp.B)	95% CI (exp.B)	P
Mother's Perception	10.320	1.533 – 69.454	0,016
Family Perception	34.070	3.032 – 38.277	0,004

\*Uji Regresi Logistik

From the table above, the completeness of immunization related to maternal perception is statistically meaningful, with a  $p$ -value = 0.016. The completeness of immunization against family

perception obtained  $p$  value = 0.004. From the logistic regression test, it was found that the variables in this study affected the completeness of infant immunization

## DISCUSSION

### Mother's Perception

The results showed that of the 45 people used as samples of mothers who had poor perceptions, as many as 10 (22.2%) people were incomplete in immunization, and there were 2 (4.4%) who were complete in immunization. Mothers have an excellent perception of as many as 33 people (73.3%) who have complete immunization of infants. The results of the study above showed that there were ten respondents who had a poor perception of incomplete immunization status, and there were also two who had a poor perception of complete immunization. This happens because some respondents sometimes forget the immunization schedule, and sometimes, at the same time, their children have a fever, so mothers do not bring their children to immunize. In addition, some say that immunization makes their children sick, like fever, so they do not want to bring their children to immunize.

By using the Chi-Square test, the Value of  $p = 0.000 < 0.05$  means that there is a significant relationship between maternal perception and completeness of immunization in infants. The results of this study are in line with those conducted by (Haya and Destariyani 2020) Show that the results of the hypothesis obtained by the contingency coefficient test show ( $\rho = 0.000$ ;  $\alpha = 0.05$ ;  $r = 0.580$ ), which indicates that there is a moderate relationship between maternal perception and the status of completeness of primary immunization for toddlers aged 9-24 months. Mothers with positive perceptions tend to complete immunizations with complete immunizations for their toddlers rather than mothers with negative perceptions. Conclusions and Implications: The mother's perception will influence the behavior of immunizing according to a predetermined schedule and the completeness of primary immunization to her child

The perception of immunization is a good thing for mothers and families in making decisions to immunize. The mother's understanding of primary immunization is good even though a small part of the mother's understanding is sufficient. This can be seen from the mother's understanding of the first immunization obtained by the child, the completeness of the child's primary immunization in accordance with the immunization schedule (Adhayani Arda et al. 2018; Arisanti et al. 2022; Irawan, Subakti, and Hidayah 2021; Wita, Kursani, and Purba 2021).

Side effects after immunization administration and actions to be taken if immunization side effects appear, while for efficacy and age frequency of

administration of each vaccine, only a few mothers understand. Looking at parents' perceptions of immunization in infants given by nurses shows that Trust in health workers is the central theme of research and builds a confident relationship between mother and baby (Amir, Malik, and Arifuddin 2022; Mandesa, Sarimin, and Ismanto 2014; Mulyani, Shafira, and Haris 2018; Ratnasari 2021).

Each immunization vaccine has a different function, number of administrations, and time of administration, and mothers have a crucial role in caring for and educating children as well as immunization. Mothers take children to integrated service posts, community Health centers, or clinics so that children get immunizations (Kusmiran, 2018; Ngastiyah, 2017, Widiana, L. 2018). The mother's understanding of primary immunization is good because she gets information sources from various media, although a small part of the mother's understanding is sufficient. This can be seen from the mother's understanding of the first immunization obtained by the child, the completeness of the child's primary immunization according to the immunization schedule, side effects after immunization, and actions that must be taken if immunization side effects appear, while for fat, frequency of administration and at the age of administration of each vaccine only a few mothers understand parental perceptions of immunization in infants given by nurses who show results that Trust in health workers is a central theme of research and building a confident relationship between mother and baby (Ayumar and Kasma 2016; Jamaluddin and A 2022; Yopi Wulandhari 2018).

Each immunization vaccine has a different function, the number of administrations, and the timing of administration, and mothers have a critical role in caring for and educating children as well as immunization. The mother will take the child to an integrated service post, community health center, or clinic so that the child gets immunization (Kusmiran, 2018, Ngastiyah, 2017, Widiana, L. 2018).

### Family Perception

The results showed that of the 45 people used as samples, families who had poor perceptions, as many as 7 (15.5%) people, there were four people (8.8%) who had complete immunization in infants. Meanwhile, for those who have good perceptions, as many as 3 (6.7%) are incomplete, and 31 people (68.9%) have completeness in immunization. The results of the study above showed that there were three respondents who had good perceptions but incomplete immunization status. This is because a well-built perception of immunization gives the

opportunity to make decisions in immunizing children. Decision-making and quality of these choices are influenced mainly by their perceptions, and four people have fewer perceptions but experience the completeness of primary immunization because positive perceptions about immunization have good enthusiasm in community health center activities so that mothers become more informed about immunization and have good motivation to immunize their babies.

In certain circumstances, the length of observation of AEFI can reach 42 days (chronic arthritis after rubella vaccination) or even 42 days (measles virus vaccine strain infection in immunodeficiency patients after measles and paralytic polio vaccination and vaccine-strain poliovirus infection in non-immunodeficiency recipients or immunodeficiency recipients after polio vaccination). The fear of AEFI arises because of the lack of correct information that should be provided by health workers to parents clearly and proportionately immunization that is widely known by some members of the community is the effect of fever or heat after immunization. In fact, not all basic immunizations have a fever effect because there are many other effects after immunization. Symptoms of illness or reaction effects after immunization are known as KIPi. The most severe national incidence of AEFI in children is the reaction after the DPT vaccine, which is estimated to be as many as 50% of cases from 1 million births under five (Haya and Destariyani 2020).

According to (Haya and Destariyani 2020) Perception is a process that is preceded by the sensing process, which is the process of receiving stimuli by individuals through the sensory apparatus, also called sensory processes. Perception is also an integrated activity in individuals Based on the explanation of the theory above, it can be concluded that perception is a view or assessment of oneself, towards others obtained from the results of learning and experience that motivates individuals to interact or behave with the surrounding environment in the hope of benefiting their environment. Each person's perception is different because of the evaluation indicators in response to external stimuli captured by the senses. There are two kinds of aspects of perception, namely based on the description above, it can be concluded that aspects of perception, namely absorbing or capturing stimuli or objects outside the individual by observing through the five senses, understanding and understanding objects that have been absorbed before and leave an impression in the individual's brain, and assessing from the whole object by comparing insights and experiences believed by individuals.

In order for immunization to reach all levels of society, the target is the elderly. Especially for mothers or prospective mothers to be given counseling about the importance of immunization for children, it is recommended that mothers bring their children to the integrated service post, community health center. The influencing factors are knowledge, maternal attitudes, and family support. All parents, of course, want their children to stay healthy. Let alone severe illness, even minor pain, if possible, do not let the child suffer (Haya and Destariyani 2020). The success of immunization is due to the spread of integrated service posts and health workers. In addition, the role of parents, especially mothers, strongly supports the implementation of immunization. In essence, the problem of immunization does not escape the calculation of profit and loss. With immunization, children can definitely achieve gains, not losses. The advantages of immunization are not visible in material form (Haya and Destariyani 2020).

It is a complex process undertaken by individuals to select, organize, and give meaning to a reality that has been encountered around them. Perception, in general, is the process of acquiring, interpreting, selecting, and organizing sensory information. In psychology, perception can also be interpreted as the process of acquiring, interpreting, and organizing sensory information about others. What is acquired, interpreted, selected, and organized is sensory information from the social environment, and the focus is on others; perception is the activity of perceiving others and what makes a person recognizable. Behavioral theory is based on two factors, namely closed and open behavior, so as to form the physical system of humans and human personality is joint. At the same time, open behavior will encourage human interest that has the capacity of ability or intelligence and shapes perception and understanding or knowledge or human attitudes themselves (Asniar, Kamil, and Mayasari 2020; Kemenkes RI 2020; Notoatmodjo 2014; Rachmawati 2019).

Research conducted (Haya and Destariyani 2020) showed that the results of the analysis of univariate statistical tests showed that respondents whose essential immunization completeness in infants was complete were 25 respondents (44.6%), and those who were incomplete 31 respondents (55.4%). The results of the bivariate statistical test analysis showed a value of  $p = 0.000 (<0.05)$ . It can be concluded that there is a relationship between maternal perception of immunization and the completeness of primary immunization in infants aged 9-11 months in Paningggaran village. Through



perception, individuals try to find out about others. Perception can also be interpreted as learning how individuals form impressions and make inferences about others.

### **The Effect of Immunization Completeness on Perceptions of Mother and Family**

The results of the multivariate test, namely looking at the influence of maternal and family perceptions on the completeness of immunization, get statistical test results  $p$  value = 0.016, which means there is an influence. This research is in line with Puri, Murti, and Demartoto (2018), which state That there is an influence on the mother's understanding of immunization with the completeness of immunization. In line with the research of A. I. Rahmawati & Wahyuni (2014), with the research title "Factors Affecting the Completeness of Basic Immunization in North Krembangan Village," that the results showed the completeness of immunization status influenced by family support with a  $p$ -value result of 0.001 (A. I. Rahmawati & Wahyuni, 2014). The study stated that respondents who had infants or toddlers with incomplete immunization status mostly did not receive support from their families, and this was in contrast to respondents who had infants or toddlers with complete immunization status who mostly received support from family, but there were also families in it who did not support, but the mother's knowledge was good so that mothers could provide health services for infants or her toddler.

In addition, research was carried out McNeil et al (2019). The result is that vaccination decision-making is complex and influenced by many similar factors but contributes to different decisions depending on the mother's perspective. There is a need to examine new intervention approaches to increase uptake that recognize and address parents' feelings of distress and commitment to choice.

The completeness of primary immunization in infants is influenced by several factors, one of which is the lack of maternal knowledge about immunization, which has an impact on the mother's lack of understanding of the completeness of essential immunity. The factor influencing the lack of knowledge and understanding is based on the mother's level of education.

### **CONCLUSION**

There is a significant relationship between maternal and family perceptions and completeness of immunization in infants. It is expected that health workers, especially midwives, can provide

counseling to mothers about the completeness of immunization in infants.

### **SUGGESTION**

It is expected that health workers monitor incomplete infants or immunize them according to their age needs so that all infants get complete immunizations.

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