

The Relationship of Perceptions, Subjective Norms, and Beliefs towards Immunization Vaccine Hesitancy in Children

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ABSTRACT

Refusal to vaccinate also occurs in Indonesia, primarily because people are reluctant to provide basic immunizations to their children. Some of these reasons need to be clarified about immunization information. This research aims to determine the relationship between perceptions, subjective norms, and beliefs regarding the hesitancy of childhood immunization vaccines. The research method used was analytical observational with a cross-sectional approach using the chi-square test. The population is mothers with children aged two years or who have passed the immunization schedule for children aged 2 years, numbering 13,052 people. The sampling method used cluster sampling using the sample size formula, according to Slovin, to obtain a sample size of 389 people. The results show a relationship between perception and hesitancy of children's immunization vaccines with a P-value = 0.003 (<0.05). There is a relationship between subjective norms and child immunization vaccine hesitancy with a P-value = 0.001 (<0.05). A relationship exists between confidence and hesitation about children's immunization vaccines with a P-value = 0.000 (<0.05). The conclusion is that there is a relationship between perception, subjective norms, and beliefs on the hesitancy of immunization vaccines in children.

KEYWORDS: Vaccine Hesitancy, Subjective Norms, Subjective Norms

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INTRODUCTION

As a cost-effective method, immunization is one of the priority efforts to be implemented in preventing dangerous diseases in infants and toddlers; however, giving immunization, usually done through injection, makes parents and mothers become worried or doubtful, delaying or even refusing the immunization. This condition is known as vaccine hesitancy (Yuliadi, 2022). Immunization is mandatory for a person as part of society to protect the person concerned and the people around him from diseases that can be prevented using immunization (Marhaban, 2022).

The pandemic has also significantly impacted essential health services, including immunization services in Indonesia. Data from the Indonesian Ministry of Health reports that basic immunization coverage for babies has fallen drastically in the last 2 years 2020 - 2021. In 2020 the immunization target was 92%, but coverage only reached 84%. In 2021, the coverage target of 93% was only achieved by 84% due to the pandemic (Ministry of Health of the Republic of Indonesia, 2022b). For the July 2022 period, the Ministry of Health released that complete basic immunization coverage has only reached 33.4%, immunization for young children has reached 28%,

and vaccines have only reached 29%, which should have been targeted in May to have reached 37%.

For Gorontalo Province, complete basic immunization coverage reached 51% as of September 2022. Suppose the number of surviving infants in Gorontalo Province based on immunization program data is 19,720 children, meaning that only 51% have IDL status. In that case, there are still 9,662 children who have not received immunizations or whose immunizations are not. Only complete and on time. Even though vaccination is essential, quite a few people refuse vaccines (Saida et al., 2022). The issue of vaccine refusal, which has encouraged the emergence of anti-vaccine groups, has caused anxiety not only among health workers working in the field but has also caused some parents to express concerns about the safety of vaccines and the importance of immunization. To overcome doubts about immunization that may arise, as well as deal with concerns about the safety and effectiveness of vaccination due to various myths and other misunderstandings, the Ministry of Health has currently developed a communication strategy that aims to educate the public about immunization (Ministry of Health of the Republic of Indonesia, 2022a). Parental concerns range from hesitancy

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about some immunizations to refusal of all vaccines.

For several reasons, refusing to vaccinate also occurs in Indonesia because people are reluctant to provide basic immunizations to their children. Some of these reasons include misunderstanding of information regarding vaccination, such as the opinion that vaccines contain pork elements, are linked to Jewish programs, are believed to be the WHO's agenda for developing countries, are considered to be contrary to Islamic teachings, and are followed by reasons of wanting to follow the Prophet's way of life (Sulistiyani et al., 2017). Some people do not feel worried about the risk of disease transmission, so they prefer other alternatives such as relying on herbal medicines such as honey, gammat jelly, olives, black seed, raisins, and date juice as a substitute for vaccination (Nur Pida, 2021).

The low percentage of complete basic immunization coverage in Gorontalo City raises questions about why mothers or parents with 2-year-old children in Gorontalo City decide to accept or refuse immunization. Based on the results of observations in community health centers throughout the city of Gorontalo, which were carried out by sharing a Google form link with immunization managers at community health centers throughout the city of Gorontalo with a simple questionnaire asking about obstacles to implementing vaccination activities for children, it was found that the reason for parents' refusal to immunize their babies was the condition which dominates regarding the challenges faced by officers, especially for the acceleration program. Reasons given by parents included concerns that their children would receive too many vaccinations. Some said that it was because of the child's body posture that if they were immunized, their child would have a fever. Some stated that even without immunization, their child was already healthy. Another reason was that other children were not immunized. The condition is fine. Based on the results of a survey carried out during the COVID-19 pandemic, the level of public vaccination acceptance in Gorontalo Province was in the medium criteria, with an acceptance percentage of 54% (WHO, Ministry of Health, 2020).

In direct interviews conducted as initial observations, the author found that mothers agreed to immunize their children to avoid disease. Even though there were concerns that their children would get sick after being vaccinated, there were also those who thought that they did not want their children to receive too many types of vaccine or become over-dose. This fact shows that parents or mothers play a significant role in providing immunization (Hafizzanovian et al., 2021).

The phenomena described above and the research results used as references regarding vaccine hesitancy that have been

carried out in the world and Indonesia have made researchers interested in knowing the relationship between perceptions, subjective norms and beliefs, and the hesitation of children's immunization vaccines.

MATERIALS AND METHODS

The research method used is quantitative with an analytical observational research design using a cross-sectional approach. In this study, the research population was mothers who had children aged two years or who had passed the immunization schedule for children aged 2 years during the research period based on the immunization report of the Gorontalo City Health Service. In 2022, there will be 13,052 people. The sampling method used cluster sampling using the sample size formula, according to Slovin, to obtain a sample size of 389 people.

This research uses statistical tests appropriate to the data scale and is processed using a computer using the SPSS application with the chi-square analysis test. The relationship criteria are carried out by looking at the p-value. The significant test was carried out using the conditional limits ($\alpha > 0.05$). If the P value is < 0.05 , there is a substantial relationship between the independent and dependent variables. If the P value is > 0.05 , there is no significant relationship between the independent and dependent variables.

The data used in this research is primary data collected using the results of a questionnaire that has been prepared and tested for validity and reliability. Data collection was obtained from interviews according to the following inclusion criteria

- a. Inclusion Criteria
 1. Mothers who have children aged 2 years or who have passed the immunization schedule for children aged 2 years (HB0, BCG, DPTHBHib1, DPTHBHib2, DPTHBHib3, Polio1, Polio2, Polio3, Polio4, IPV, Measles, HPTHBHib Boster, Measles Boster)
 2. Have KMS/KIA Book or other similar records
 3. Willing to be interviewed
 4. A mother who can communicate well
 5. Lives in the Central City and Sipatana Health Center areas.
- b. Exclusion Criteria
 1. Respondents who are not ready to be interviewed
 2. I can't share well.
 3. Respondents who move frequently
 4. Does not have KMS/KIA Book/other similar records

RESULTS AND DISCUSSION

Results

The results of the analysis of the relationship between perception and hesitancy of children's immunization vaccines can be seen in the following table:

Table 1. Relationship between Perceptions and Hesitancy of Child Immunization Vaccines

Perception	Vaccine Hesitancy				Total		P-value
	There is	%	No	%	n	%	
Positive	48	12.3	207	53.2	255	65.6	0,000
Negative	66	17.0	68	17.5	134	34.4	

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Total	114	29.3	275	70.7	389	100
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Source: Primary data, 2023

The table shows that respondents who have positive perceptions (benefits) do not experience hesitancy of child immunization vaccines, as many as 207 respondents (53.2%), and respondents who have positive perceptions experience hesitation of child immunization vaccines as many as 48 respondents (12.3%). In comparison, 66 respondents (17.0%) had negative perceptions (risk) of experiencing child immunization vaccine hesitancy, and 68 respondents (17.5%)

had negative risk perceptions but did not experience vaccine hesitancy. The Chi-square test results show a p-value = 0.000 (0.05), meaning a meaningful and significant relationship exists between perception and hesitation of children's immunization vaccines.

The results of the analysis of the relationship between subjective norms and child immunization vaccine hesitancy can be seen in the following table:

Table 2 Relationship between Subjective Norms and Hesitancy of Child Immunization Vaccines

Subjective Norms	Vaccine Hesitancy				Total		P-value
	There is	%	No	%	n	%	
Has Subjective Norms	95	24.4	125	32.1	220	56.5	0,000
Has no subjective norms	19	4.9	150	38.6	169	43.3	
Total	114	29.3	275	70.7	389	100	

Source: Primary data, 2023

The table shows respondents with subjective norms do not experience child immunization vaccine hesitancy. As many as 125 respondents (32.1%) and respondents with personal criteria experience hesitancy in child immunization respondents (24.4%). In comparison, respondents who did not have The subjective norm of experiencing child immunization vaccine hesitancy was 19 respondents (4.9%), and the respondents who did not have personal criteria but

did not participate in vaccine hesitancy were 150 respondents (38.6%). The Chi-square test results show a p-value = 0.000 (0.05), meaning a meaningful and significant relationship exists between subjective norms and hesitancy of children's immunization vaccines.

The results of the analysis of the relationship between beliefs and hesitancy of children's immunization vaccines can be seen in the following table :

Table 3 Relationship between Beliefs and Hesitancy of Child Immunization Vaccines

Confidence	Vaccine Hesitancy				Total		P-value
	There is	%	No	%	n	%	
Positive	17	4.4	146	37.5	163	41.9	0,000
Negative	97	24.9	129	33.2	226	58.1	
Total	114	29.3	275	70.7	389	100	

Source: Primary data, 2023

The table shows that respondents with positive beliefs do not experience hesitancy in child immunization vaccines, as many as 146 respondents (37.5%), and respondents with positive opinions experience hesitation in child immunization vaccines, as many as 17 (4.4%). In comparison, of respondents who had positive beliefs 97 respondents (24.9%) were pessimistic about experiencing child immunization vaccine hesitancy, and 129 respondents (33.2%) had negative thoughts about not experiencing vaccine hesitancy. The Chi-square test results show a p-value = 0.000 (0.05), meaning a meaningful and significant relationship exists between belief and reluctance of children's immunization vaccines.

(benefits) who did not experience vaccine hesitancy, more than the number of respondents who had negative perceptions (risks), so they were at risk of incomplete immunization, with a p-value of 0.000 (<0 .05) means that perception is significantly and significantly related to child immunization vaccine hesitancy in Gorontalo City.

This is because the mothers who were respondents in this study have a good perception of immunization being able to protect their children from diseases that can be prevented by vaccination (PD3I), and mothers as people have the perception that vaccines are safe and do not contain dangerous ingredients. According to her, this is a normal condition for mothers who have a good perception regarding immunization when their child has a fever or is fussy after vaccination. Apart from that, a good mother's perception also assumes that immunization does not cause autism. The perception referred to in this research is a perception that can influence the mother's decision . to provide immunization to

DISCUSSION

Relationship between Perceptions and Hesitancy of Child Immunization Vaccines

Based on the results, 207 respondents had positive perceptions

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their children in the form of a perception of benefit (positive), which encourages the mother to accept, or a perception of risk (adverse) which makes the mother refuse immunization, this is in line with the results of research (Karmila & Nababan, 2021) which generally concludes that perceptions or assumptions are based on experience or knowledge which sometimes differs from one person to another and or sometimes differs from actual conditions.

There are two perceptions in this research, namely positive perceptions, which are those associated with the benefits that will be received to encourage acceptance of immunization services. In contrast, negative perceptions are the risks that will be accepted and promote rejection of immunization services, so increasing immunization acceptance and reducing hesitancy is necessary. The positive perception of a mother as a parent is in line with research (Indriyani, 2019), which states that a positive perception of immunization services is necessary to get complete immunization to prevent VPD.

The Relationship between Subjective Norms and Child Immunization Vaccine Hesitancy

Based on the results, data was obtained that 150 respondents who did not have subjective norms did not experience child immunization vaccine hesitancy. The number was more significant than the respondents with personal criteria, although the difference was slight. With a p-value of 0.000 (<0.05), subjective norms are significantly related to the hesitancy of child immunization vaccines in Gorontalo City.

This is because mothers who do not have subjective norms are mothers who provide immunizations to their children with full awareness of the benefits of vaccination, while groups who have personal criteria tend to provide immunizations based on applicable standards, indicating the social pressure they feel to do or do not carry out immunization, not based on the benefits or importance of vaccination, for example a mother who brings her child to be immunized because all her family members also get their children to be vaccinated (Sankaranarayanan et al., 2019), apart from the norms that apply in society that apply in the environment where you live, for example you have to bring your child to be immunized because your family is a family that receives aid, if you don't take part in immunization services then the support will stop, apart from that, the mother is also worried about her child are not immunized and become a source of disease transmission for children in the area where they live, this is in line with an ethnographic study conducted in six countries, Streefland and his collaborators have shown that "people vaccinate their children because everyone does it and it seems a normal thing to be carried out, apart from that (Domek et al., 2018) stated in their research that they see vaccination as a social responsibility and as an individual obligation to maintain group immunity, which can also be linked to vaccine acceptance.

The Relationship between Beliefs and Child Immunization Vaccine Hesitancy

Based on the results, data was obtained that 149 respondents

who had positive beliefs did not experience child immunization vaccine hesitancy. The number was more significant than the group of respondents who had negative thoughts, amounting to 129 respondents, with a p-value of 0.000 (<0.05), meaning that the belief in the relationship was positive. Meaningful to the hesitancy of child immunization vaccines in Gorontalo City.

This is due to the mother's belief in immunization services, which is often also related to the religion adhered to regarding the halal and haram of skin products, or also the mother's view that breast milk and herbal medicine can prevent disease and encourage mothers to accept or refuse immunization for their children, mothers who have this belief. Positive tend not to have vaccine hesitancy because the mother believes that the vaccine is not haram because it has received guarantees from the government. The mother has a positive belief and believes that even though the child has received exclusive breast milk, he must still receive immunization to prevent severe disease and disability. The mother also believes that conditions such as tuberculosis, hepatitis, diphtheria, tetanus, pneumonia, measles, and other PD3I cannot be prevented by consuming herbs and honey. The mother's beliefs about the above matters determine whether to provide or refuse immunization services (Sulistiyawati & Widarini, 2022).

This aligns with research results, which generally state that belief is an attitude humans show when they know enough and conclude that they have reached the truth. Belief is an attitude, so a person's belief is not always correct, or belief alone is not a guarantee of validity. Negative beliefs contribute to vaccine rejection, resulting from the mother's doubts about vaccination. Negative beliefs, such as considering vaccination harmful and causing infertility, are examples of negative beliefs that can potentially reject immunization. This is also in line with research results (Kusnali & Dartanto, 2021), which stated that due to the growing understanding in society about the elements of making vaccines originating from pig enzymes, mothers had a negative opinion about immunization and ultimately refused to give their children immunization because in Islamic teachings it was not allowed and was considered haram

CONCLUSION

A relationship exists between perception and hesitancy of children's immunization vaccines with a P-value = 0.003 (<0.05). There is a relationship between subjective norms and child immunization vaccine hesitancy with a P-value = 0.001 (<0.05). A relationship exists between confidence and hesitation about children's immunization vaccines with a P-value = 0.000 (<0.05).

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