

RELATIONSHIP OF BASIC COMPLETENESS IMMUNIZATION IN INFANTS AND TODDLERS AT SUMBER KASIH HOSPITAL, CIREBON

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Abstract

One of the main health issues in developing countries is the problem of public health disruption caused by malnutrition. Malnutrition is a condition of malnourishment caused by low energy and protein consumption in daily food intake that does not meet the Nutritional Adequacy Rate (NAC). Immunization is giving a vaccine that contains weakened germs. The vaccine that enters the body will stimulate the body to produce antibodies. The antibodies will fight the seeds of disease that enter the body, vaccines not only keep children healthy, but also help eradicate serious diseases that arise in childhood. The this study purpose was to analyze the completeness of basic immunization with nutritional status in toddlers in the Polyclinic Room of Sumber Kasih Hospital Cirebon Year 2022. This type of research was explanatory study with cross sectional design. Data collection obtained using a questionnaire. The population in this study were all toddlers who visited the polyclinic Room of Sumber Kasih Hospital Cirebon in January - April 2022 which amounted to 432 toddlers. The technique sampling in this study used simple random sampling with a total of 208 respondents. The results of the chi square statistical test obtained a p-value of 0.003, because the p value $\leq \alpha$ (0,05) so it can be concluded that there was a significant relationship of basic completeness immunization and nutritional status in toddlers. This research can be an input for Sumber Kasih Hospital / Health Services to improve and maximize health services to toddlers, especially the importance of basic immunization so that it can minimize the outbreak of disease and can lead to malnutrition.

Keywords: Basic Immunization - Nutritional Status.

INTRODUCTION

Nutrition is an important indicator in measuring the level of health of a child. The factors that influence a person's level of health is good nutritional status. The level of community welfare is determined by indicators of the quality of human resources (HR), one of which is based on the nutritional quality of children under five. In Indonesia, nutrition is not only an issue but also a plan to improve the quality of the country. Thus, one of the objectives of the National Medium Term Development Plan (RPJMN) in Indonesia's health sector is nutritional status, namely reducing the prevalence of wasting and the prevalence of stunted children (Safriana et al., 2022). Immunization is an important program in order to accelerate the improvement of health status, because infectious diseases are the cause of malnutrition and even child death. The problem of nutrition in the world of population is still considered a major issue. Research conducted in 2018, In Indonesia, it was found that 29.9 percent of children under the age of 24 months were stunted. This figure above the regional average (22 percent) but lower than the previous year. It was found that 30.8 percent of children under five experienced stunting in the same study, a decrease from the estimated prevalence rate of 37 percent in 2013. The frequency of stunting was

highest in Indonesia's western and easternmost provinces, and it is more common in rural than in urban areas. Stunting rates differed greatly throughout regions. Follow-up research found that the stunting rate was as high as 42 percent in some regions. The incidence of childhood wastage in Indonesia, which significantly increases the risk of death and illness, is the fourth highest in the world and affects more than 10 percent of children under five (more than 2 million children). Wasting is more prevalent in rural areas (UNICEF, 2020).

Indonesian Nutrition Status Survey (SSGI) results in 2022, rate of stunting fell from 24.4% to 21.6% in 2022 with a target of 14% in 2024. Malnutrition and infectious diseases have a reciprocal relationship; poor nutrition can make it easier to get infectious diseases that can worsen the nutritional state of infant growth. Diarrhea, TB, measles, and whooping cough are common disorders associated with nutritional deficiencies (Supriasa, 2012). Immunization is required in order to avoid diseases that can impede an infant's growth and development into adulthood as well as to lower morbidity and mortality from diseases that can be prevented by vaccination (Ranuh et al., 2008). Children who are immunized are less likely to suffer from serious illnesses, which promotes health and physical fitness and allows for the correct absorption of all dietary intake that is included in nutrition. Good nutritional status is produced by the usage of nutrients for growth (Vindriana, 2012).

The findings of a study by Hanifah published in 2021 under the title "Research on how Complete Basic Immunization is related to the Nutritional Status of Toddlers" indicate a strong correlation between toddlers' nutritional status and the completeness of their basic immunization. One method of preventing infectious diseases in adults is immunization, particularly Preventable Diseases with Immunization (PD3I). Immunizations stimulate the body's immune system to produce antibodies by introducing specific, deactivated or weakened bacterial or viral antigens. According to Rivanica (2020), the purpose of post-immunization antibodies is to boost an individual's immunity and avoid or lessen the effects of PD3I transmission.

The results of a preliminary study on April 01, 2022 at Sumber Kasih Cirebon Hospital, out of 10 infants and toddlers there were 5 (50%) who were incomplete basic immunizations, and there were 3 infants and toddlers (30%) who were underweight. The aim of this study was to analyze the completeness of basic immunization with nutritional status in infants and toddlers at Sumber Kasih Cirebon Hospital in 2022.

RESEARCH METHODS

This type of study includes explanatory study with cross sectional design. Collection data was done through interviews using a questionnaire. The population in all infants and toddlers who visited the Polyclinic Room of Sumber Kasih Hospital Cirebon in January - April 2022 which amounted to 432 infants and toddlers. A total of 208 newborns and toddlers served as the study's samples. This study used simple random sampling (SRS) using a random number table as the sample method. The degree to which the fundamental immunization variable is complete is the independent variable in this study. The infants' and toddlers' nutritional status is the dependent variable. Univariate and bivariate statistical tests with Pearson Correlation and Parsia Correlation ($p < 0.05$) were utilized for data analysis.

RESULTS

The aim of this study is to analyze the association between the nutritional status and the completeness of basic immunizations in newborns and toddlers at Sumber Kasih Hospital in 2022.

1. Immunization Status of Infants and Toddlers

Table 1: Frequency Distribution of Respondents Based on Completeness of Basic Immunization in Infants and Toddlers at Sumber Kasih Cirebon Hospital in 2022 (n=208)

No	Basic Immunization Completeness	Frequency	%
1	Complete	122	58,7
2	Incomplete	86	41,3
	Total	208	100

2. Nutritional Status of Infants and Toddlers

Table 2: Frequency Distribution of Respondents Based on Status Nutritional in Infants and Toddlers at Sumber Kasih Cirebon Hospital in 2022. Status Gizi Bayi dan Batita

No.	Nutritional Status of Infants and Toddlers	Frequency	%
1	Poor nutrition	8	3,9
2	Undernourished	78	37,5
3	Good nutrition	118	56,7
4	Extra nutrition	4	1,9
	Total	208	100

3. Bivariate Analysis Results

Table 3: Cross Tabulation of the Relationship between Completeness of Immunization Basic with Status Nutritional in Infants and Toddlers at Sumber Kasih Cirebon Hospital in 2022 (n=208)

Basic Immunization	Nutritional Status								Total		P-value
	Poor nutrition		Undernourished		Good nutrition		Extra nutrition		N	%	
	N	%	N	%	N	%	N	%			
Complete	0	0	0	0	118	56,7	4	1,9	122	58,7	0,000
Incomplete	8	3,9	78	37,5	0	0	0	0	86	41,3	
Total	8	3,9	78	37,5	118	56,7	4	1,9	208	100	

Based on table 3 above, it was found that more than half of the respondents (56.7%) with complete immunization status and included the good nutrition category. The results of statistical with chi square test obtained a p-value $\leq \alpha$ (0.05), so that, H_0 is rejected, meaning that there is a significant relationship between the completeness of basic immunization with nutritional status in infants and toddlers.

DISCUSSION

The analysis's findings revealed that 56.7% of the respondents met the criteria for healthy nutrition and had completed their immunizations. The chi square analysis test findings showed a p-value $<$ (0.05), rejecting H_0 , indicating a substantial correlation between infants' and toddlers' nutritional status and the completeness of their fundamental immunizations.

The goal of vaccination is to instill immunity in infants and young children by injecting vaccines into their systems to cause the production of antibodies that guard against specific diseases. Vaccinations such as Bacillus Calmette Guerin (BCG), Diphtheria Pertussis and Tetanus (DPT), measles vaccine, and oral vaccinations like the polio vaccine work by inducing the body to produce antibodies that are administered into the body (Hartina, 2020).

Immunization status is an early indicator of achieving health service targets, where complete immunization status will improve nutritional absorption problems, so that immunization status also has a positive influence on nutritional absorption which affects nutritional status in the long term (Maxwell S). Children who are not vaccinated are not immune to infectious diseases, so they become susceptible to diseases that have the potential to cause a nutritional status decrease. This is due to the fact that viral disorders have an effect on nutritional status by lowering it in children, which is closely tied to immune function (Afrida, 2022). According to the findings of Agustia et al.'s (2018) study, toddlers in the Poboya Mine region of Palu City who are between the ages of 12 and 59 months are at risk for stunting due to insufficient immunization.

Nutritional status in toddlers can have various impacts on growth and development. Undernutrition (wasted) in toddlers has a negative impact on body and brain development. Some of the reasons mothers do not bring their children to immunization are because they cannot get permission from their husbands, children are afraid of fever, children are often sick, do not know the place of immunization, the distance of immunization places and mothers work every day. The low coverage of complete basic immunization in toddlers in Indonesia is due to several factors, including supporting factors consisting of maternal characteristics such as occupation, maternal knowledge, maternal attitudes, and economic status (Ministry of Health, 2013).

According to research by Sowwam & Ningsih (2018), there is a connection between toddlers' nutritional status and the completeness of their immunization records. Henukh et al.'s research from 2021 confirms Sowwam's findings that children under-five's nutritional status and full immunization status are related. According to research by Pebrianti et al. (2022), children's nutritional status and the completeness of their basic immunizations are significantly correlated. Children that have received all recommended vaccinations are immune system-compliant, healthy, and have adequate nutritional status. Unvaccinated children are more prone to illness, have a lower appetite, and have unmet nutritional demands, which can lead to a nutritionally deficient state.

The results of Wahyudi's research (2015) explain that because the immune system from immunization can make the toddler's immunity good and not easily sick if the toddler does not immunize, the toddler's immunity will be vulnerable to infectious diseases, this indirectly has an impact on malnutrition. A correlation was observed between toddlers' nutritional status and the completeness of their immunizations, according to research conducted by Sowwam & Ningsih (2018). Henukh et al.'s (2021) research confirms Sowwam's findings, which show a connection between children under-five's dietary status and their level of immunization. Pebrianti et al.'s research from 2022 indicates that children's nutritional quality and the completeness of their basic immunizations have a substantial association. These children range in age from one to five years. Due to their immunity, children who have received all

recommended vaccinations are healthy and in good nutritional condition. Without vaccinations, toddlers may be more prone to illness, have less appetites, and have unmet nutritional demands, which can lead to inadequate nutritional status.

CONCLUSION

After conducting research on the relationship of the completeness of basic immunization with nutritional status in toddlers in Polyclinic Room of Sumber Kasih Cirebon Hospital in 2022, conclusions can be drawn, among others:

- 1) The results of the identification of immunization status of toddlers illustrate that toddlers whose immunization status is complete are as many as 122 toddlers (58.7%) and incomplete immunization status as many as 86 toddlers (41.3%).
- 2) The results of the frequency distribution of nutritional status in toddlers can be seen that the nutritional status of toddlers in Polyclinic Room of Sumber Kasih Hospital Cirebon is mostly in the good nutrition category as many as 118 toddlers (56.7%).
- 3) The results of the chi square statistical test obtained a p-value of 0.000, because of the p value, $p \leq \alpha$ (0,05) so that it can be concluded that there is a significant relationship of the completeness of basic immunization with nutritional status in toddlers.

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