

## Effect of Health Promotion on Immunization on Increasing Maternal Participation and Basic Immunization Coverage in The Village Tanjung Laong Working Area of Technical Implementation Unit of Muara Pahu Public Health Center

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### Abstract

**Introduction:** Complete basic immunization is immunization given to children before the age of 1 year which consists of HB 0 immunization, BCG immunization, DPT-HB-HIB immunization, polio immunization, IPV immunization and measles immunization. **The benefit of immunization** is to provide immunity to infants in order to prevent illness and death of infants and children caused by frequently infectious diseases. **Objective:** This study aims to determine the effect of health promotion on immunization on increasing maternal participation and basic immunization coverage in tanjung Laong village, the working area of the Technical Implementation Unit of Muara Pahu Public Health Center **Methods:** The research design in this study was a quasi-experimental research design with one group pretest-posttest design. The study was carried out in March 2022. The population in this study were allmothers who had infants and toddlers aged 1-12 month in Tanjung Laong Village totaling 19 people. **Results and Discussion:** The effect of health promotion on immunization on increasing maternal participation was obtained  $p\text{Value} = 0.003$  smaller than 0.05 and the effect of health promotion on immunization on basic immunization coverage obtained  $p\text{Value} = 0.001$  smaller than 0.05. **Conclusion:** There is an effect of health promotion on immunization on increasing maternal participation and basic immunization coverage in Tanjung laong Village, the working area of Technical Implementation Unit of Muara Pahu Public Health Center

**Keywords:** Immunization; Participation; Promotion;

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## **Effect of Health Promotion on Immunization on Increasing Maternal Participation and Basic Immunization Coverage in The Village Tanjung Laong Working Area of Technical Implementation Unit of Muara Pahu Public Health Center**

### **Introduction**

Complete basic immunization is immunization given to children before the age of 1 year consisting of HB 0 immunization, BCG immunization, DPT-HB-HIB immunization, polio immunization, IPV immunization and measles immunization (Ministry of Health RI, 2018) in (Lestari, 2020). Complete basic immunization can protect children from disease outbreaks, disability and death (Irawati, 2020)

UNICEF reports that 110,000 people, mostly young children, died from measles, up 22% from a year earlier. Many of those deaths are actually from preventable diseases. WHO-UNICEF ranks Indonesia fourth in the world with the largest number of children not receiving immunization after India, China and China. The *World Health Organization* (WHO) says an estimated 19.9 million infants worldwide are not covered by basic immunization services such as three doses of the Diphtheria-Tetanus-Pertussis (DTP) vaccine in 2017 (Ningsi, 2020)(Ningsi, 2020). Approximately 60% of these children live in 10 countries: Afghanistan, Angola, Democratic Republic of Congo, Ethiopia, India, Indonesia, Iraq, Nigeria, Pakistan and South Africa. The average immunization anticipates two to three million deaths per year. (WHO, 2018).

According to research conducted by (Helda, 2019) shows that after being given health promotion on Complete Basic Immunization, the surrounding community, especially mothers become active in participating in immunization activities. While research (Arianti, 2017) states that knowledge factors about immunization affect community participation in providing complete basic immunization. Similarly, research conducted by (Asritama et al., 2019) shows that low community participation affects the ineffectiveness of the complete basic immunization program.

Based on data obtained from the posyandu attendance data register in Tanjung laong village and from the register of officers of the Technical Implementation Unit of the Muara Pahu Public Health Center, the participation of mothers to bring babies and toddlers to the Posyandu in Tanjung laong village, according to data in January 2022 38.4% and in February 68.14%. The data is the overall data of infants and toddlers in Tanjung Laong village. For data on infants whose basic immunization has not met the target in January 10.5%, February 21.05%.

### **Method**

This research is a quasi-experimental *research with a one group pretest-posttest design* to look for the effect of certain treatments on others under controlled conditions (Sugiyono 2017). In this case, it means that researchers want to examine the effect of health promotion on immunization on increasing maternal participation and basic immunization achievements in Tanjung Laong village, working area of the Technical Implementation Unit of the Muara Pahu Public Health Center, Tanjung Laong Village. The pattern of research on the design of one group pretest and posttest design according to Sugiyono (2017), as follows:

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With caption:

O1 = Pretest score in the form of participation and coverage of complete basic immunization

X = Treatment in the form of health promotion about immunization.

O2 = Posttest score in the form of participation and complete basic immunization coverage.

This research starts from planning (preparation of proposals) to the preparation of the final report, the research conducted in March 2022 will be observed maternal participation until April 2022 where research is carried out before and after health promotion, and continued with the preparation of the final report in June 2022.

The sampling technique in this study is *total sampling cluster*, which is a sampling technique by taking the entire available population (Sugiyono, 2017).

Univariate analysis aims to explain or describe each research variable Notoatmodjo, (2012). In this study, univariate analysis was used to determine the characteristics of respondents as well as research variables.

$$p = \frac{f}{n} \times 100\%$$

Information:

p = propercentage

f = category frequency

n = Total sample

Bivariate Analysis is an analysis process carried out systematically on the data that has been collected. In this study data analysis was carried out after the data from the questionnaire was collected which was then re-examined to determine the completeness of its contents, after complete data was collected and tabulated based on the sub-variables studied, then calculations were carried out using Wilcoxon's statistical test with consideration of the purpose of this study was to determine the influence of independent variables and dependent variables without any control group, The scale of the data used is ordinal and the sample used is free.

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## Results and Discussion

### Result

#### Characteristics of Respondents

**Table 1**

Characteristics of Respondents based on Age, Gender, Education, Occupation in Tanjung Laong Village Working Area Technical Implementation Unit of Muara Pahu Public Health Center in 2022

No.	Characteristic	Total	
		F	%
1	Mother's Age		
	20-30 Years	14	73.6
	31-40 Years	5	26.3
	<b>Total</b>	<b>19</b>	<b>100</b>
2	Gender		
	Female	19	100
	<b>Total</b>	<b>19</b>	<b>100</b>
3	Mother's Education		
	College	4	21.1
	SHS	6	31.6
	JHS	4	21.1
	ES	3	15.8
	No School	2	10.5
	<b>Total</b>	<b>19</b>	<b>100</b>
4	Mother's Work		
	House wife	13	68.4
	Teacher	4	21.1
	Employee	2	10.5
	<b>Total</b>	<b>19</b>	<b>100</b>

Source: primary data

Based on the table above, it can be seen that the age of 20-30 years is almost the most 73.6%, the female sex is 19 people as much as 100%, for maternal education is evenly distributed and the most maternal education is high school as many as 6 people (31.6%), the most mothers work as housewives as many as 13 people (68.4%), while the least maternal work is 2 employees (10.5%)

#### Mother's participation

**Table 2**

Mother's Participation in Immunization Program Before and after health promotion in Tanjung Laong village, working area of the Technical Implementation Unit of the Muara Pahu Public Health Center in 2022

Community Participation	Pre-test		Post-test	
	F	%	F	%
Active	5	26.3	11	57.9
Passive	14	73.7	8	42.1
<b>Total</b>	<b>19</b>	<b>100</b>	<b>19</b>	<b>100</b>

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Based on Table 2, it can be seen that 5 people, 26.3% of public participation in participating in immunization before being given health promotion in the active category, and almost most of them totaled 14 people, 73.7% in the passive category. While participation after being given health promotion was more than 11 people, 57.9% of the active category, and a small part of 8 people, 42.1% of the passive category. The data shows an increase in public participation before and after health promotion on immunization.

### Immunization Coverage

**Table 3**

Basic Immunization Coverage Before and After Health Promotion on Immunization in Tanjung Laong Village, Working Area of Technical Implementation Unit of Muara Pahu Public Health Center in 2022

Complete Basic Immunization Coverage	Pre-test		Post-test	
	F	%	F	%
Reached	7	36.8	14	73.7
Not Reached	12	63.2	5	26.3
<b>Total</b>	<b>19</b>	<b>100</b>	<b>19</b>	<b>100</b>

The results of the study were based on table 3 on Complete Basic Immunization Coverage that before being given the most health promotion in the category was not achieved 12 people (63.2%) and after being given the most health promotion in the category reached 14 people (73.7%).

### Bivariate Analysis

**Table 4**

The effect of health promotion on immunization on increasing community participation and basic immunization coverage in Tanjung Laong village, working area of the Technical Implementation Unit of the Muara Pahu Public Health Center in 2022

Variable	N	p-value
Community Participation	19	0.003
Complete Basic Immunization Coverage	19	0.001

Table 4 shows that the significance value of the *Wilcoxon* test in the community participation group was 0.003 ( $0.003 < 0.05$ ), then  $H_0$  was rejected and  $H_a$  was accepted, meaning that there was a difference in increasing community participation before and after health promotion was given, it can be concluded that there is an effect of health promotion on immunization on increasing maternal participation and basic immunization coverage in the work area of the Technical Implementation Unit of the Public Health Center Muara Pahu. The significance value of the *Wilcoxon* test in the complete basic immunization coverage group of 0.001 is less than 0.05, then  $H_0$  was rejected and  $H_a$  was accepted, meaning that there is a difference in increasing the coverage of complete basic immunization before and after health promotion, it can be concluded that there is

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an effect of health promotion on immunization on basic immunization coverage in Tanjung Laong village working area of the Technical Implementation Unit of the Public Health Center Pahu Estuary.

## **Discussion**

### **1. Characteristics of Respondents**

The results of the study based on table 1 on the characteristics of respondents showed that the age of most infant parents was 20-30 years as many as 14 people (73.6%). The most gender is female as many as 19 people (100%). The most maternal education is high school as many as 6 people (31.6%). A person's education is one of the processes of behavior change, the higher a person's education, the better a person will be in choosing a health care place. There is an influence of education level on the use of health care facilities. That the use of posyandu is influenced by the level of education can make people broader-minded, think and act rationally so that one's educational background can affect the use of health services. The most number of mothers working as housewives is 13 people (68.4%). Work is something that humans really need. These needs can vary, develop, and change, often not even realized by the perpetrator. A person works because there is something to be achieved, and one hopes that the work activity he does will bring him to a more satisfactory state than the previous state.

### **2. The effect of health promotion on immunization on increasing maternal participation.**

The results of the study were based on table 2 on Maternal Participation Following Immunization that before being given the most health promotion in the passive category 14 people (73.7%) and after being given the most health promotion in the active category 11 people (57.9%) This result is in line with the theory that health promotion is an activity or effort to convey messages to the community, group or individual. With the hope, with this message, the community, group or individual can gain knowledge about better health. This knowledge can affect behavior. And with the health promotion, it is expected to have an impact on changing health behavior from the target (Notoatmodjo, 2014). Health promotion in general is any planned effort to influence others, whether individuals, groups, or communities, so that they do what is expected by education or health promotion actors. And these limits implied elements of *input* (goals and educators of education), *process* (planned effort to influence others) and *output* (doing what is expected). The expected outcome of a health promotion is a health behavior, or behavior to maintain and improve health that is conducive to the target of health promotion (Notoatmodjo, 2014).

The researchers' assumption why community participation follows immunization is that before being given the most health promotion in the passive category and after being given the most health promotion in the active category, because the health promotion provided by health extension workers is interesting in the way of delivery, using language

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that is easy to understand so that people listen well. The content of the material delivered by extension workers is also good, so that it can attract residents to be involved in immunization activities and automatically immunization coverage increases.

Based on table 4.4 shows that the significance value of *Wilcoxon* test results in the community participation group of 0.003 is smaller than 0.05 or  $0.003 < 0.05$ , then  $H_0$  is rejected and  $H_a$  is accepted, meaning that the hypothesis states that there is a difference in increasing community participation before and after health promotion is given, it can be concluded that there is an effect of health promotion on immunization on increasing maternal participation in Tanjung laong village working area of the Technical Implementation Unit of the Muara Pahu Public Health Center.

Previous research from Asritama, (2019) showed that low maternal participation affects the ineffectiveness of basic immunization programs, using descriptive qualitative design, sampling with *purposive sampling*. Comparison with the current study is a quasi-experimental *study with a one group pretest-posttest design* *The sampling technique in this study* is total sampling There is an effect of health promotion on immunization on increasing maternal participation in Tanjung Laong village, working area of the Technical Implementation Unit of the Muara Pahu Public Health Center (*p-value* = 0.003).

The presence of mothers in visiting posyandu and weighing their baslitanya to posyandu will be very useful as monitoring the growth and development and nutritional status of toddlers as well as early detection of growth and development and health status of toddlers so that further intervention can be determined immediately. The gap between the achievement rate of community certainty or the absence of mothers in making monthly visits to Posyandu with the target at posyandu is possible by several factors. Good knowledge is expected to influence the participation of mothers in bringing their children to posyandu (Notoatmojo, 2012).

The researchers' assumption is that there is an influence of health promotion on immunization on increasing maternal participation, because participation can increase the participation of a person or community group in the development process both in the form of activities and statements by providing input of thoughts, energy, time, expertise, materials, and capital. In addition to taking advantage of it, it also enjoys the results of development. It is very important for community participation in participating in posyandu because it has an impact on the immunization coverage received by infants, and can change behavior that can improve health status.

### **3. The effect of health promotion on immunization on complete basic immunization coverage**

The results of the study were based on table 4.3 on Complete Basic Immunization Coverage that before being given the most health promotion in the category did not reach 63.2% and after being given the most health promotion in the category reached 73.7%. In the success of health promotion at the ssat, this research was carried out before the schedule of posyandu activities took place using lecture methods and leaflet media. Media

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in health promotion is one of the efforts to support the success of the learning process so that it attracts more attention and the material delivered will be easier to understand by participants. Through health promotion using lecture methods and media learning situations are more fun, creative and not boring (Wiworo, 2015). Media can provide benefits when used properly including avoiding misunderstandings, easier to catch longer remembered, attracting or focusing attention and can provide a strong incentive to do what is recommended

The assumption of researchers before being given the most health promotion in the category was not achieved and after being given the most health promotion in the category was achieved, because the health promotion delivered by the speaker could be understood, caused a sense of awareness and could change the behavior of parents in fulfilling basic immunization coverage.

The significance value of the *Wilcoxon* test results in the complete basic immunization coverage group of 0.001 is smaller than 0.05 or  $0.001 < 0.05$ , then  $H_0$  is rejected and  $H_a$  is accepted, meaning that the hypothesis states that there is a difference in increasing basic immunization coverage before and after health promotion is given, it can be concluded that there is an effect of health promotion on immunization on basic immunization coverage in Tanjung Laong Village working area of the Implementing Unit Technical Health Center of Muara Pahu Community.

Previous research Helda research, (2019) that there is an influence of health promotion methods on maternal knowledge and attitudes in providing basic immunization. Reinforced by Arinti, (2017) that factors knowledge about immunization affect community participation in providing complete basic immunization. Comparison with the current study is a quasi-experimental *study with* one group pretest-posttest design *The sampling technique in this study* is total sampling There is an effect of health promotion on immunization on basic immunization coverage in Tanjung Laong village (p-value = 0.001)

Basic Immunization is the initial immunization given to infants before the age of one year. In this condition, the immune system is expected to work optimally. In order for the immune system to work optimally, basic immunization must be complete in all infants starting with Hepatitis B to Measles and rubella immunizations. Complete basic immunization is a state of achieving complete basic immunization in all infants under 1 year of age. UCI Village is a village where at least 80% of the total infants in the village have received complete basic immunization at a certain period of time. Completeness of immunization includes: 1 dose of BCG, 3 doses of DPT-HB, 4 doses of Polio, 1 dose of Hepatitis B, and 1 dose of Measles (Permenkes number 12 of 2017). The achievements of UCI Village are access to services, community awareness and knowledge about the benefits and timing of immunization, affordable immunization service places, regular service schedules and in accordance with the community, availability of energy, availability of immunization cards, MCH books, cultural factors, education and socio-economic conditions (Munawir, 2019).



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The researchers' assumption is that there is an influence of health promotion on immunization on complete basic immunization coverage, because the community environment that is willing to receive health workers well, listen well and trust medical personnel, makes them willing to follow the advice given by health counseling providers and ultimately aware to fulfill complete immunization of their children.

**Research Limitations**

Based on the direct experience of researchers in this research process, there are several limitations experienced and become a concern for future researchers in further refining their research because this research itself certainly has shortcomings that need to be improved in future studies. Some limitations in this study, among others:

1. The total respondents were only 19 people, which is data on infants under five who have not received basic immunization in Tanjung laong village. In this study only one village, there are still other villages that also need attention and increase targets according to the target which has not reached the target for basic immunization for infants. Of these 1 villages there are still 4 other villages that also need attention, in this case there are many actors who influence including facilities and infrastructure, as well as geographical location, customs and population habit factors.
2. Data analysis is still not too in-depth so there may be other factors that can further strengthen the influence between the two variables.
3. The limitations of the knowledge possessed by researchers and also this research is the first research conducted by researchers.
4. There is a difference from the results of the discussion after the research, where community participation here is more directed to parents of infants and toddlers who especially to mothers.

**Conclusion**

The conclusion of this study is that there is an effect of health promotion on immunization on increasing community participation in Tanjung laong village, working area of the Technical Implementation Unit of the Muara Pahu Public Health Center ( $p\text{Value} = 0.003$ ) and Basic Immunization coverage after health promotion (*Post test*) in Tanjung laong village, the working area of the Technical Implementation Unit of the Muara Pahu Public Health Center in the category reached (73.7%) with  $p\text{-value} = 0.001$

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