

Optimization of Officers' Role Defaulter Tracking to the Amount of Basic Immunization Coverage (Left Out and Drop Out) Babies Age 0-11 Months in the Working Area of the Pulau Beringin Puskesmas UPT, South Oku District

Fahrurrozi¹, Handry Darussalam², Fera Meliyanti³

^{1,2,3} STIKes Al-Ma'Arif Baturaja

e-mail: handrydmsc10@gmail.com

Abstract—Immunization is the most effective and efficient public health effort in preventing several infectious diseases. Low immunization coverage has the potential to cause extraordinary events of diseases that can be prevented by immunization (PD3I outbreak). Special strategies are needed to minimize the number of children who have not been immunized (Left out) and incomplete immunization (Drop out) by finding children who have not received immunization services or have not received immunizations according to schedule. Several strategies that have been proven to have an influence on parents' interest in providing immunizations to babies are sweeping (sweeping door to door) and counseling. This research aims to determine the effect of optimizing the role of officers defaulter tracking on the number of basic immunization coverage (left out And drop out) babies aged 0-11 months in the working area of the Beringin Island Health Center UPT, South Ogan Komerung Ulu Regency. The research design used was the Quasi Experimental method. By design one group pre test And post-test. The sample size is the total population of 60 mothers. The statistical test used is test Wilcoxon. Based on research, there is a significant influence on knowledge before and after counseling using leaflet media as well as behavior before and after sweeping door to door by officers defaulter tracking on the number of basic immunization coverage (LO and DO) in babies aged 0-11 months in the working area of the Beringin Island Health Center UPT, South Ogan Komerung Ulu Regency with *p*-value 0,000. The conclusion of this research is that there is an influence of knowledge before and after counseling using leaflet media and there is an influence of behavior before and after sweeping door to door on basic immunization coverage (left out And drop out) in babies aged 0-11 months in the working area of the Beringin Island Health Center UPT, South Ogan Komerung Ulu Regency.

Keywords— Immunization, education, sweeping door to door, left out drop out.

I. INTRODUCTION

Immunization is the most effective and efficient public health effort in preventing several infectious diseases (Kemenkes, 2021). Immunization has a higher return on investment than other interventions such as preschool education, public infrastructure, epidemics (Rockson et al., 2024).

The immunization program aims to provide protection against diseases that can be prevented by immunization (PD3I), currently there are at least 10 types of antigens used in immunization programs in Indonesia. High immunization coverage ($\geq 95\%$) and evenly distributed in all villages/districts will form group immunity (*herd immunity*) (Kemenkes, 2019b). Although there is a global focus on Child immunization, coverage is still not universal and low immunization coverage remains a major challenge for public health with more than 19 million children in the world, 7 million children under the age of one year missing their basic vaccinations. Nearly 60% of these missing children live in ten low- and middle-income countries (LMICs) where there are still gaps in coverage and timeliness of immunization (Siddiqi et al., 2024).

Based on data from the South Ogan Komerung Ulu District Health Service Profile, complete basic immunization coverage (IDL) for babies aged 0-11 months decreased by 4.7% (in 2022: 86.3% and in 2023: 81.6%) confirmed based on the healthy application my Indonesia. Number of children who have never received immunization (*left out*) increased by 7% (in 2022: 6.5% and in 2023: 13.5%), the figure *left out* (LO) is an indicator of access to immunization services so it is still quite high because the number of babies who have not accessed immunization services is $>5\%$. On the other hand, numbers *drop out* DPT/HB-Hib 1 and DPT/HB-Hib 3 immunizations increased by 2.5% (in 2022: 0.6% and 2023: 3.1%). From the results of data analysis of immunization coverage for each sub-district area carried out by the South Ogan Komerung Ulu Health Service, there are several areas with low complete basic immunization coverage and low numbers. *left out* as well as *drop out* evenly quite high, one of which is the working area of the Beringin Island Community Health Center UPT. Complete basic immunization data in 2023 with an achievement of 40.7%, LO of 49.6%, and DO DPT/HB-Hib of 9.4%.

Low immunization coverage has the potential to cause extraordinary events of diseases that can be prevented by immunization (PD3I outbreaks). There are various reasons

why children are not immunized, including fear of fever, family not allowing it, immunization post being too far away, parents being busy, children often getting sick, not knowing where immunization services are and lack of information from health workers. Rejection of vaccines for various reasons in several areas tends to increase, this affects immunization coverage (Kemenkes, 2019a). Lack of information about vaccines, parental education, not getting immunizations because they ran out of stock, lack of knowledge about immunization schedules, and negative attitudes towards immunizations are significantly related to non-compliance with immunizations in children (Sigdel et al., 2023). Another factor related to the completeness of immunization is the role of cadres. This is because with cadres, it is easier for the public to receive information coming from the government, especially regarding immunizations given to children (Rabiatunnisa et al., 2022). The mother's knowledge and attitude towards the baby are also related to the mother's behavior in providing immunizations. On the other hand, the role of health workers is related to the mother's behavior in providing basic immunizations, because health workers are the people whose duties include planning immunizations, providing information about immunizations, implementing immunizations up to evaluation of immunization implementation (Apriyani & Noviyani, 2024).

Special strategies are needed to minimize the number of children who have not been immunized (*Left out*) and incomplete immunization (*Drop out*) by finding children who have not received immunization services or have not received immunizations according to schedule. (Kemenkes, 2019b). Several strategies that have been proven to have an influence on parents' interest in providing immunizations to babies are door to door sweeping and counseling. Parents who have got it *sweeping door to door* tend to be interested in immunization and it can be seen from their complete immunization coverage compared to respondents who did not receive it *sweeping door to door*, this is because health workers have come to the house and medicines are available. Apart from that, parents who have received counseling know the benefits and can understand the issue of haram and fake vaccines so that parents are interested in immunizing their children (Masyudi et al., 2023). So it is necessary to optimize the role of officers to carry out this strategy to make it more effective and efficient.

Knowledge is a result that occurs after someone senses a particular object, and can also be from the experience gained. A person's behavior that is based on knowledge will be of higher quality than behavior that is not based on knowledge. Knowledge is the result of knowing, and this happens when someone has done something (Andraini et al., 2019).

Based on the description of the data above, the researcher interested in researching about "Optimizing the role of officers *defaulter tracking* on the number of basic immunization coverage (*left out* And *drop out*) babies aged 0-11 months in the working area of the Beringin Island Health Center UPT, South Ogan Komering Ulu Regency."

II. RESEARCH METHODS

The research design used in this research is a quantitative approach using the Quasi Experimental method. With a one group pre design test and post-test, namely experiments carried out on one group only without another group as a comparison. A quasi-experimental design without a control group is a quasi-experiment that produces clear causal or causal conclusions by reducing the inclusion of alternative explanations to see the influence of the treatment that has been given (Darussalam et al., 2019). The research sample was the entire population of mothers of babies 0-11 months in the category (*Left out*) and (*Drop out*) in the Beringin Island Health Center UPT Working Area, totaling 60 mothers of babies 0-11 months. The data analysis used in the research is analysis *PairedT-Test*.

III. RESEARCH RESULT

1. Characteristics of Respondents Based on Gender

Table 1. Frequency Distribution of Baby's Gender

No	Category Gender	Frequency	Percentage %
1	Male	22	36,7%
2	Female	38	63,3%
	TOTAL	60	100%

From table 1 it is known that of the 60 respondents studied, 22 babies (36.7%) were male respondents, which was smaller than 38 babies (63.3%) of female respondents.

2. Characteristics of Respondents Based on Age

Table 2. Frequency Distribution of Mother's Age

No	Age	Frequency	percentage %
1	Early Adulthood (21-35)	54	90,0%
2	Middle Adult (36-45)	6	10,0%
3	Late Adulthood (45-65)	0	0,0%
	TOTAL	60	100%

From table 2 it is known that of the 60 respondents studied, there were 54 respondents in the Early Adult category (90%), compared to 6 respondents in the Middle Adult age category (10%), while there were none in the late adult age category (0%).

3. Characteristics of Respondents Based on Education

Table 3. Characteristics of Respondents Based on Education

No	Education	Frequency	Persentase %
1	No School	0	0%
2	SD	2	3,3%
3	SMP	8	13,3%
4	SMA	47	78,4%
5	University	3	5,0%
	TOTAL	60	100%

From table 3 it is known that of the 60 respondents studied, the results obtained were that all respondents had attended school with a predominance of high school/equivalent education levels being greater at 47 people (78.3%) and only a small portion of respondents had elementary school/equivalent education at 2 people (3.3%).

4. Characteristics of Respondents Based on Occupation

Table 4. Frequency Distribution of Occupation of Infant Mothers

No	Types of Work	Frequency	Percentage (%)
1	Civil Servant	0	0,0%
2	Entrepreneur	3	5,0%
3	Farmer	4	6,7%
4	Housewife	53	88,3%
5	Other	0	0,0%
TOTAL		60	100

From Table 4 it is known that of the 60 respondents studied, it was found that the majority of respondents had housewife jobs, 53 people (88.3%), while the other respondents had agricultural work, 4 people (6.7%), 3 people working in the private sector. (5%).

5. *The influence of knowledge before and after counseling with leaflets to mothers of babies on the amount of basic immunization coverage (Left out And Drop out) in Region Beringin Island Public Health Center UPT work, Kab. South OKU*

Table 5. Frequency Distribution of Mother-Infant Knowledge

No	Knowledge	Pre Test	%	Post Test	%
1	Good	34	56,7	54	90,0
2	Enough	21	35,0	2	3,3
3	Not Enough	5	8,3	4	6,7
TOTAL		60	100	60	100

From table 5 it is known that of the 60 respondents studied, it was found that 34 people (56.7%) had good knowledge before being given the counseling using leaflets, while after the counseling was carried out, respondents with good knowledge increased to 54 people (90%). the results of the Wilcoxon Knowledge test, obtained the Asymp value. Sig. (2-tailed) is 0.000 which means it is smaller than α 0.05. Thus H_0 which stated that there was no difference in the mother's knowledge of the baby before and after being given counseling using leaflet media was declared rejected and H_1 which stated that there was a difference in the knowledge of the baby's mother before and after being given counseling using leaflet media was declared acceptable. Based on descriptive analysis, the average positive rank value was 23.50 and negative rank 0, this means that there was an increase in the mother's knowledge of the baby after receiving counseling using leaflet media. Thus, it can be concluded that there is a significant influence of providing counseling using leaflet media on increasing the knowledge of mothers and babies.

6. *Influence of before and after behavior Sweeping door to door Against the Total Basic Immunization Coverage (Left out And Drop out) in the UPT Working Area of the Beringin Island Community Health Center, Kab. South OKU*

Table 6. Frequency Distribution of Immunization Coverage in LO and DO categories

No	Immunization Coverage	Frequency	Percentage %
1	Left out	6	10,0%
2	Drop out	54	90,0%
TOTAL		60	100%

From table 6 it is known that of the 60 respondents studied, those whose immunization coverage was lost to follow-up (drop out) amounted to 54 babies (90%) and had

not received any immunizations (*left out*) as many as 6 babies (10%).

Table 7. Frequency Distribution of Influence Sweeping door to door Against the Total Basic Immunization Coverage (Left out And Drop out)

No	Category	Pre Sweeping	%	Post Sweeping	%
1	No Immunization	60	100%	4	6,7%
2	Immunization	0	0,0%	56	93,3%
Total		60	100%	60	100%

From Table 7 it is known that of the 60 respondents studied, respondents were immunized before it was carried out sweeping door to door was 0 babies (0%), whereas after sweeping door to door the number of immunization coverage increased by 56 babies (93.3%).

Table 8. Frequency Distribution of Mother-Infant Behavior

No	Behavior	Pre Test	%	Post Test	%
1	Good	48	80%	55	91,6%
2	Enough	4	6,7%	1	1,7%
3	Not Enough	8	13,3%	4	6,7%
TOTAL		60	100%	60	100%

From Table 8 it is known that of the 60 respondents studied, respondents were obtained before it was carried out *sweeping door to door* 48 people (80%) had good behavior, while after doing *sweeping door to door* respondents with good behavior increased to 55 people (91.6%).

the results of the Wilcoxon Behavioral test, obtained the Asymp value. Sig. (2-tailed) is 0.000 which means it is smaller than α 0.05. Thus H_0 who stated there was no difference in the behavior of the baby's mother before and after door to door sweeping were declared rejected and H_1 which states that there are differences in the behavior of the baby's mother before and after *sweeping door to door* declared accepted.

Based on descriptive analysis, an average value of positive rank 17 and negative rank 0 was obtained. This means that there was an increase in the positive behavior of the baby's mother after the treatment was carried out. *sweeping door to door*. Thus, it can be concluded that there is a significant influence of door to door sweeping on increasing the positive behavior of mothers and babies.

IV. DISCUSSION

1. *Influence of knowledge before and after counseling using leaflets by officers Defaulter tracking on increasing basic immunization coverage (LO and DO) for babies aged 0-11 months in the working area of the UPT Puskesmas Beringin Island, South Ogan Komerling Ulu Regency*

Of the 60 respondents studied, it was found that 34 respondents (56.7%) had good knowledge before being given counseling using leaflets, while after the counseling was carried out, respondents with good knowledge increased to 54 people (90%). From the Wilcoxon Knowledge test results, the Asymp value was obtained. Sig. (2-tailed) is 0.000 which means it is smaller than α 0.05. Thus H_0 which stated that there was no difference in the mother's knowledge of the baby before and after being given counseling using leaflet media was declared rejected and H_1 which states that there is a difference in the mother's knowledge of the baby before and

after given counseling using leaflets as media was declared acceptable. Based on descriptive analysis, the average positive rank value was 23.50 and negative rank 0, this means that there was an increase in the mother's knowledge of the baby after receiving counseling using leaflet media. Thus, it can be concluded that there is a significant influence of providing counseling using leaflet media on increasing the knowledge of mothers and babies. The results of this research are in line with research conducted by (Masyudi et al., 2023), based on test results using Chi-Square, it is known that P value = 0.016, so there is an influence between counseling and parental interest. Another similar study was conducted by (Ikrimah Pohan et al., 2023) regarding factors associated with complete immunization of babies in work areas. Padang Matinggi Health Center, Padang Sidempuan City, that knowledge has a significant influence on providing basic immunizations to babies at the Padangmatinggi Health Center, Padang Sidempuan City with a sig- p value of $0.007 < 0.05$. The level of knowledge of parents, especially mothers, about the importance of complete basic immunization for babies plays an important role. This research is also in line with research conducted by (Izhar Athala Sigit et al., 2023) regarding the relationship between level of knowledge, age, education, employment, parental income and the completeness of basic immunization in babies where the p -value is 0.008 which means there is a relationship significant relationship between parents' knowledge of the completeness of immunization. Knowledge is the result of a person's knowledge of objects through the senses they have, namely the sense of hearing, sense of smell, sense of sight, sense of smell and sense of touch.

To be able to increase individual knowledge about health and information about immunization, of course it can be obtained from various ways and things that can be done, one of the efforts intended to increase knowledge about health is through health education efforts. Health education is an educational activity carried out by conveying messages and beliefs, so that people have awareness and are also willing to carry out recommendations conveyed by health instructors related to health. Counseling in the health sector is usually carried out by means of health promotion or education. Counseling is intended to inspire. (Notoatmodjo, 2014). To be able to increase individual knowledge about health and information about immunization, of course it can be obtained from various ways and things that can be done, one of the efforts intended to increase knowledge about health is through health education efforts. Health education is an educational activity carried out by conveying messages and beliefs, so that people have awareness and are also willing to carry out recommendations conveyed by health instructors related to health. Counseling in the health sector is usually carried out by means of health promotion or education. Counseling is intended to inspire. awareness, increasing people's knowledge and interest in maintaining and improving health for themselves, their families and their communities. Counseling using leaflet media is expected to provide visual descriptions and examples so that with a sheet of information it is hoped that it can explain the message concisely, be easy to carry,

read and be understood by all people (Masyudi et al., 2023).

2. *Influence of behavior before and after Sweeping door to door by officers Defaulter tracking on Basic Immunization Coverage (LO and DO) for babies aged 0-11 months in the UPT Working Area of the Beringin Island Health Center, South Ogan Komering Ulu Regency*

of the 60 respondents studied consisted of immunization coverage who were lost to follow-up (*drop out*) amounted to 54 babies (90%) and had not received any immunizations (*left out*) as many as 6 babies (10%). It is known that of the 60 respondents studied, it was found that 0 babies (0%) were immunized before the door to door sweeping, while after the door to door sweeping, the number of immunization coverage increased to 56 babies (93.3%). From the results of the Wilcoxon Behavioral test, the Asymp value was obtained. Sig. (2-tailed) is 0.000 which means it is smaller than α 0.05. Thus, H_0 who stated there was no difference in the behavior of the baby's mother before and after door to door sweeping were declared rejected and H_1 which states that there are differences in the behavior of the baby's mother before and after *sweeping door to door* declared accepted. Based on descriptive analysis, an average value of positive rank 17 and negative rank 0 was obtained. This means that there was an increase in the positive behavior of the baby's mother after the treatment was carried out. *sweeping door to door*. Thus, it can be concluded that there is a significant influence of door to door sweeping on increasing the positive behavior of mothers and babies.

The results of this research are in line with research conducted by (Masyudi et al., 2023) entitled the influence of counseling and *sweeping door to door* on parents' interest in providing basic immunizations to babies, there is an influence between door to door sweeping on parents' interest with a p value (0.001). From the research results it is known that parents who have received *sweeping door to door* tend to be interested in immunization and this can be seen from their complete immunization coverage compared to respondents who did not get *sweeping door to door*. Yulida (dalam Masyudi et al. 2023) with the title relationship *sweeping door to door* regarding the mother's interest in providing immunizations to babies, saying that there is a relationship between *sweeping door to door* with the mother's interest in providing immunizations to babies with a P value (0.001), where the mother gets it *sweeping door to door* tend to be interested in immunizing babies compared to mothers who do not *sweeping door to door* from health workers, because the mother gets it *sweeping door to door* from health workers will influence maternal behavior and motivate mothers to immunize their children. The results of this study are also in line with research (Apriyani & Noviyani, 2024) that there is a significant relationship between the role of health workers and the behavior of providing basic immunization with p -value 0.01 and OR 6.750. This research is also in line with research (Ikrimah Pohan et al., 2023) that the role of health workers has a significant influence on providing basic immunization to babies at the Padangmatinggi Community Health Center, Padang Sidempuan City with sign p 0.008 and OR 4.983. According to research results, it shows that the role of health

workers has an influence on providing basic immunization to babies. Research conducted by (Rabiatunnisa et al., 2022) on the Relationship between the Role of Toddler Posyandu Cadres and Mothers' Motivation for Carrying out Complete Basic Immunization in the Pahandut Palangka Raya Community Health Center Work Area resulted in a p-value of 0.000 which states that there is a significant relationship.

According to Lawrence Green (1993) behavior is formed by three factors, namely predisposing factors, driving factors and supporting factors (Notoatmodjo, 2014). There are various reasons why children are not immunized, including fear of fever, family not allowing it, immunization post being too far away, parents being busy, children often getting sick, not knowing where immunization services are and lack of information from health workers. Rejection of vaccines for various reasons in several areas tends to increase, this affects immunization coverage (Kemenkes, 2019a). Of course, there are various factors that influence the dynamics of human behavior from a psychological perspective. According to Daryanto, there are two factors that influence human behavior, namely biological and sociopsychological factors. Biological factors, namely human behavior, are influenced by biological inheritance from parents, while sociopsychological factors, humans are social creatures, so their behavior is influenced by social processes (Daryanto, 2016). Providing immunizations is a health behavior. Health behavior is any activity carried out by individuals regardless of their actual health status or health status which has the aim of improving, protecting or maintaining their health (Apriyani & Noviyani, 2024). *Left out* (LO) give *Drop out* (DO) is a problem that occurs in the implementation of the immunization program. *Left out* Immunization is a child who is not immunized (has never been immunized at all) whose age is within the target age of the immunization program (*eligible*). The LO number is an indicator of access to immunization services. Access to immunization services is the first opportunity or contact with the community's own efforts to obtain immunization services which is measured by looking at the coverage of the first type of antigen received by the child (BCG). *Drop out* (DO) Immunization is a child who has had the first opportunity to be immunized but has not completed the series of doses according to schedule. Number *drop out* (DO) is an indicator of the utilization of immunization services. Utilization of immunization services is an opportunity for people to use health facilities to obtain immunization services. To prevent an increase in the number of children who have not/incompletely immunized, it is necessary to carry out tracking activities for babies and toddlers by Puskesmas health workers in the Puskesmas working area. In carrying out tracking, Puskesmas health workers are assisted by health cadres. The tracking targets are children who have not received any immunization services at all (*Left out*) or incomplete immunization (*Drop out*). *Defaulter Tracking* (*defaulters tracking*) needs to be done every month by the health worker who makes the list *defaulters* and health cadres who encourage para *defaulters* want to come to posyandu and community health centers for immunization (Kemenkes, 2019b). Tracking children whose immunizations have not

been or are incomplete will minimize the occurrence *Missed opportunity* (MO) is the loss of a child's opportunity to receive immunization according to schedule. The purpose of tracking is to ensure that all babies, toddlers, school age children in the puskesmas/posyandu area are recorded and recorded in the immunization and ASIK cohort/register along with their history. The immunization. This activity is carried out by immunization program managers, village/district midwives, regional development officers, and other health workers involving village/subdistrict officials, posyandu cadres (Kemenkes, 2023). *Sweeping* namely active efforts to find and complete immunizations for babies/babies who do not receive any immunizations at all or if basic immunization coverage at the village/district level does not reach the target for 3 consecutive months (Kemenkes, 2019b). House-to-house tracking is an active effort to look for babies who have not received immunizations at all or have not been immunized according to schedule or are not recorded in the immunization register at the community health center/posyandu, including those who receive immunization services at private health service facilities. For remote and very remote areas, these visits can be used to simultaneously carry out immunization services. Vaccines and logistics are carried and stored according to standards. Children who do not receive immunization according to the schedule should need to have their immunization status completed through catch-up immunization activities (Kemenkes, 2023).

V. CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the research that has been carried out, the following conclusions can be drawn:

1. There is a significant influence *sweeping door to door* by officers *defaulter tracking* on basic immunization coverage (LO and DO) for babies aged 0-11 months in the working area of the Beringin Island Health Center UPT, South Ogan Komering Ulu Regency with p-value 0.000.
2. There is a significant influence of outreach using leaflet media by officers *defaulter tracking* towards increasing basic immunization coverage (LO and DO) for babies aged 0-11 months in the working area of the Beringin Island Health Center UPT, South Ogan Komering Ulu Regency p-value 0.000.

Based on the results of the research that has been carried out, the suggestions are as follows:

1. Building harmonization, communication and cross-program coordination by carrying out stock taking of vaccines and logistics as well as desk review of coverage for all village midwives in monthly mini-workshop meetings.
2. There needs to be efforts to strengthen the role of officers *defaulter tracking* by increasing the capacity of officers immunization or posyandu in each region through training such as immunization management training and training in good communication techniques for health workers.

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