

Effect of Health Counseling on Mother's Knowledge of Basic Childhood Immunization Programs

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Abstract

Low coverage of complete basic immunization in Lamkunyut Village, poses a public health concern that risks triggering outbreaks of vaccine-preventable diseases. This community service program aims to improve mothers' knowledge of the importance of complete basic immunization through door-to-door education and general health counseling. The activities were carried out from July 14 to August 5, 2025, beginning with field observations, door-to-door education and administration of a pre-test questionnaire, followed by general counseling sessions, and concluding with a second door-to-door visit to evaluate mothers' knowledge. The data were analyzed using the McNemar test, and results showed an increase in the proportion of mothers with good knowledge from 40.0% to 75.0% after the intervention, with a p-value of 0.016 ($p < 0.05$), indicating a significant difference. Community enthusiasm was reflected in active participation during question-and-answer sessions and the sharing of personal experiences. Barriers included a lack of accurate information, family influence, and negative perceptions regarding immunization. This intervention proved effective in improving mothers' understanding of immunization and is expected to contribute to increased immunization coverage in the area.

Keywords: Basic Immunization; Health Education; Maternal Knowledge; Community Health Counseling; Aceh Besar.

Introduction

Importance immunization Still often ignored and still become problem global health, even though the World Health Organization (WHO) emphasizes that immunization can prevent 2 to 3 million deaths worldwide (Agus Iwhan Ariftian Zuhdi et al., 2025). Death the often caused by actual disease can prevented with giving Complete Basic Immunization in children. Most of them disease the is disease infectious chronic and can spread wide even potential cause Extraordinary Event (KLB). Therefore That needed at least 95% coverage immunization base complete For form *Herd immunity* (immunity group). However, in Indonesia there are still Lots child Not yet get immunization base complete, even there is something wrong own history immunization The same very (Sandra Putra et al., 2022).

Immunization is intervention important in improvement quality health child since Early. Complete Basic Immunization Program designed For give protection health maximum for every child with method enter vaccine into the body, vaccine This will stimulate body child For produce antibody as form protection to disease certain. Vaccines is form stimulation system immunity to produce antibody to fight disease with method neutralize the antigen that has been weakened in vaccine (Giese, 2016). Data for the 2022-2024 period shows existence improvement coverage immunization, with achievement of 63.69 % in 2024. However Still found comparison between city areas with

percentage more tall compared to rural areas , and there are correlation positive between level education head House ladder and coverage immunization base complete (BPS, 2024).

Children who live in rural areas recorded own level completeness immunization base more low compared to with children in the region urban areas . Some results study show that low level education and knowledge Mother in the area rural areas , especially in Aceh, become factor main reason lack of understanding about importance immunization . In addition , the lack of support from husband also makes things worse situation , because Still There is assumption wrong that immunization precisely make child Sick or fussy (Syahfitri et al., 2024).

Based on observation direct in the field , has found problem in the form of low coverage Immunization in Lamkunyut Village , Darul Kamal District , Aceh Besar Regency . Many babies and toddlers are still not yet immunized base complete even there is something wrong own history immunization The same once . Low coverage immunization in a area like This can risky outbreaks of preventable diseases With Immunization (PD3I) (Pinilih et al., 2022).

In a way general of this program targeting the community general , shown throughout the community living in the Lamkunyut Village area , with coverage adequate immunization low , good man and women who have involvement direct and No to taking decision immunization in children , because besides level knowledge mother , support family also has an influence in matter rejection immunization child (Glanz et al., 2013; Nova et al., 2023). However target the main focus of this program still focused on mothers who have child toddler , remembering role central they in not quite enough answer For parenting children . The more tall knowledge a Mother so the more fast responsive For adapt with change environment , with thus the more follow quickly change That (Prasida, 2024).

In addition , involvement the role of the father also becomes part another important thing in this program , This caused by significant influence to support a father on completeness immunization child (Dwi Novia Widyaningtyas et al., 2023). The role of the father as head family own dominant position in taking decisions at home stairs , including in matter health children . Because of this that , counseling Generally, this practice is also targeted at men man , as part important in the approach strategy community . Father's involvement can strengthen participation child in get immunization , good through giving permission and involvement direct in the immunization process (Ayu et al., 2020).

This program also involves cadres health in the village as implementer education , through training and improvement capacity cadres . Through training programs this , cadre given knowledge more in related skills face society , and strengthen communication with all over figure community . Training for cadre play a role important in overcome frequent obstacles appears on every implementation activity integrated health post (Noprida et al., 2022).

However priority main in this program stay improvement knowledge and awareness Mother related Immunization base complete through activity education *Door to Door (Home visit)*, and counseling general and accompanied with distribution pre-test and post-test questionnaires for measure level knowledge Mother before and after given education . This effort aim For strengthen understanding about benefit vaccination , overcoming misconceptions , as well as push behavior preventive through complete and appropriate immunization time , determination priority This based on facts that knowledge and attitudes Mother is one of the determinant main in success coverage immunization in children , especially in the region with access information that is still limited (Fata et al., 2025).

This program aim For increase knowledge and awareness society , especially mothers with toddlers , regarding how importance immunization base complete as step preventive to diseases infectious dangerous . Even though focusing on mothers, this program also aims expand understanding all over public especially fathers who also play a very important

role important in taking decision immunization in children. In addition , this program is also aimed at cadres integrated health post so that it can form trained community as well as capable push improvement coverage immunization in areas with level compliance that is still low . Through various approach like Education *Door to Door*, General Counseling , Cadre Training , to education through print media (leaflets), designed to be able to easy digested optimally by all community . It is hoped that this program can give benefit term long in society , and increase knowledge cadre in convey education in a way effective and independent .

Methods

In overcoming problems encountered so giving education in a way structured is one of the the solution provided . with through a number of stages , education this is done with objective For increase knowledge Mother so that push desire Mother in giving immunization in children . Intervention This focus in repair understanding Mother about type vaccines , benefits immunization , up to timetable giving , with easy approach understood by the community . The approach used in program This is approach educative with a *blended* strategy between face advance in a way individually and collectively general .

The program implementation was carried out with gradually , starting from observation beginning For gather information related problem immunization in the village , then on July 19, 2025 it was carried out education *Door to Door* that is visit direct to the house Mother toddler first time for measure knowledge beginning use Pre-test questionnaire , and accompanied by with education tailored to the problem every mother . Then implemented counseling in a way general using presentation media , counseling This held at the Meunasah of Lamkunyut Village on July 27 , 2025. The material provided was covering about importance immunization , benefits immunization , schedule immunization until connection giving immunization on nutrition child . After counseling general , back done education *Door to Door* for strengthening education at a time evaluate level knowledge Mother through Post-test questionnaire on July 29, 2025. All activity This done in a way gradually so that the results intervention can measurable with clear .

All over activities carried out done for 23 days start from July 14 to August 5, 2025. This program implemented by students of the Public Health Study Program, Faculty of Health Sciences , Teuku Umar University, in frame activity Practice Study Field (PBL) II in Lamkunyut Village , Darul Kamal District , Aceh Besar Regency . Activities This is form devotion to the community to increase knowledge Mother related importance Complete Basic Immunization .

Results

In order to increase knowledge Mother related with importance immunization base complete , has done educational program aimed at mothers with toddler in a way *Door to Door*, and also in person general through counseling mass . Activities carried out walk with fluent with existence participation sufficient society enthusiastic during program implementation . Enthusiasm the can seen from some parents who share stories and experiences as well as ask more in about importance immunization .



Figure 1. Door to Door Counseling



Figure 2. Public Education Session

Other outputs obtained from this program is Mother toddler can understand more in about immunization as well as importance giving Immunization also has an impact on improving nutritional status children . In addition , mothers toddlers are also capable measure Circumference Upper Arm (LILA) of children using LILA Ribbon independent . This program also produces external in the form of formation community cadres who play a role active and capable increase awareness public about immunization . Based on results from education given to mothers vanity can seen in the description following This

Analysis Univariate

Table 1. Distribution frequency notes immunization in Lamkunyet Village

No	Frequency Notes Immunization	n	Percentage (%)
1	Once	11	55.0
2	Never	9	45.0
	Amount	20	100

Source : Primary data 2025

Based on distribution frequency , known that part big respondents own notes immunization , namely as many as 11 people (55.0%), while the rest as many as 9 people (45.0%) did not own notes immunization . These results show that although majority respondents Once own notes immunization , the proportion No too Far different with respondents who do not Once own notes the .

Table 2. Distribution frequency of pre-test knowledge Mother about immunization

No	Frequency of Pre-Test of Mother's Knowledge	n	Percentage (%)
1	Not enough	12	60.0
2	Good	8	40.0
	Amount	20	100

Source : Primary data 2025

Based on pre-test results , the majority respondents own level knowledge that is classified as not enough about immunization , namely as many as 12 people (60.0%). Meanwhile that , respondents with level good knowledge amount to 8 people (40.0%). Findings This indicates that before given intervention , partly big Mother Not yet own adequate understanding related immunization , so that required effort improvement knowledge through education or counseling health.

Table 3. Distribution post-test knowledge frequency Mother about immunization

No	Frequency of Post-Test of Mother's Knowledge	n	Percentage (%)
1	Not enough	5	25.0
2	Good	15	75.0
Amount		20	100

Source : Primary data 2025

Based on post-test results , some big respondents own level knowledge that is classified as Good about immunization , namely as many as 15 people (75.0%), while respondents with knowledge not enough totaling 5 people (25.0%). This result show existence improvement amount respondents with knowledge Good compared to before intervention , which indicates that counseling or education provided contribute positive to understanding Mother about immunization .

Analysis Bivariate

Table 4. Results of the proportion test improvement knowledge Mother about immunization

Name of Test	Value	df	Asymp . Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	4.444a	1	.035		
Continuity Correction	2,500	1	.114		
Likelihood Ratio	6,193	1	.013		
Fisher's Exact Test				.055	.051
Linear-by-Linear Association	4,222	1	.040		
McNemar Test				.016c	

Source : SPSS 2025 test results

Based on results analysis using the *McNemar* test , obtained mark significance $p = 0.016$ ($p < 0.05$), which indicates existence difference significant proportion between pre-test and post-test knowledge results Mother about immunization . This is indicates that there is improvement meaningful knowledge after given intervention in the form of education or counseling . Although the *Pearson Chi-Square* test also shows results significant with $p = 0.035$, reference main McNemar test was used because the data was in pairs and has two categories . With thus , it can concluded that interventions provided effective in increase knowledge Mother about immunization .

Discussion

Based on results analysis , found that part big respondents own notes immunization (55.0%), however the difference No Far different with those who don't own notes (45.0%). In the pre-test, the majority mothers (60.0%) have knowledge that is classified as not enough about immunization , however after intervention counseling health , percentage knowledge Good increase to 75.0% in the post-test. The McNemar test shows p value = 0.016 ($p < 0.05$), indicating existence improvement significant knowledge after intervention done . This is indicates that education provided effective in increase understanding Mother related immunization .

Reason The low Knowledge and Coverage

One of reason low knowledge and notes immunization in Lamkunyut Village is lack of trust part public to Immunization given by officers health . Doubt This can arise Because lack of clear information , circulating issue negative , or experience less personal fun . In addition , there is prohibition or influence from party family , such as parents or relatives who have view negative to immunization , also influence decision Mother For give immunization and recording it . Cultural factors and beliefs family big often become difficult non - medical barriers overcome without approach persuasive (Chait et al., 2024).

Impact Incomplete Immunization

Immunization that is not complete risky lower immunity individuals and groups to disease contagious which can prevented with vaccine . Children who do not accept immunization in a way complete more prone to caught disease like measles , diphtheria , polio, and tetanus, which have the potential cause complications Serious even death . On a scale society , low coverage immunization can cause occurrence *outbreak* or disease outbreak infectious (Packham et al., 2024).

Conclusion

The outreach program on Complete Basic Immunization implemented by the PBL II Team through door-to-door visits and general counseling was effective in increasing mothers' knowledge in Lamkunyut Village. The proportion of mothers with good knowledge increased from 40.0% in the pre-test to 75.0% in the post-test. Statistical analysis using the McNemar test showed a significant difference ($p = 0.016$), indicating that the intervention had a meaningful impact. These findings demonstrate that the research objectives were achieved, and the outreach activities contributed positively to improving community awareness of complete basic immunization.

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