



The effect of measles immunization booklet (BOKSICAM) on mothers' knowledge about measles immunization

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ABSTRACT

One of the contributors to the high child mortality rate is measles. The easy transmission of the measles virus has caused a very significant increase in measles cases. The government has implemented a measles immunization program as an effective prevention effort so that this case does not spread quickly so that transmission can be stopped, but the community still considers this case trivial and will heal on its own without any treatment. Therefore, effective health education efforts are needed with booklet media to increase public knowledge about measles immunization. The purpose of this study was to determine the effect of measles immunization booklet media (BOKSICAM) on mothers' knowledge about measles immunization. The study was conducted at one of the Integrated Health Service Posts in the Drien Jalo Health Center working area in December 2024. This study is a Quasi Experimental type, with a one group pre-post test design. The number of samples was 46 respondents with a sampling technique of total sampling. The results of the study showed an increase in maternal knowledge after being given health education using BOKSICAM media. The results of the paired t-test analysis obtained a p value = 0.000 <math>$\alpha=0.05$</math>, which means that there is an influence of the measles immunization booklet (BOKSICAM) on mothers' knowledge of measles immunization at the Drien Jalo Health Center. By increasing mothers' knowledge of measles immunization, it is expected that the coverage of measles immunization at the Drien Jalo Health Center can increase.

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1. Introduction

Measles is a highly contagious infectious disease and is one of the highest rates in the category of child morbidity and mortality (Rampengan, 2018). Measles is caused by an RNA virus of the morbillivirus category in the paramyxoviridae group and can be transmitted through the air and inhalation (Adigweme et al., 2024). The rapid spread of the measles virus is a major factor in causing child deaths worldwide each year, estimated at up to thirty million children each year. Suffering from measles, a disease that could have been prevented by measles immunization (Di Pietrantonj et al., 2021; Sari et al., 2018)

World Health Organization (WHO) recorded 140,000 cases of toddlers dying from measles. The transmission of the measles virus is so rapid that it has caused a significant increase in cases (World Health Organization, 2023), while in Indonesia it was reported that there were 8,819 cases of children

with measles in 2019, this figure increased compared to 2018. Furthermore, measles cases decreased in 2021, namely 132 cases, and increased drastically again in 2022 by 3,341 cases, an increase in cases reaching 2.431% (Kementerian Kesehatan RI, 2023).

Aceh is one of the provinces that contributes the most measles cases in Indonesia. Measles cases are spread almost throughout Aceh. In 2021, there were 2,142 measles cases, where the highest area was Pidie Regency with 470 cases, Aceh Besar with 414 cases, Bireun with 370 cases and Banda Aceh City with 327 cases. Then in 2022, measles cases experienced a significant increase, namely 2,986 cases (Dinas Kesehatan Aceh, 2022).

Meanwhile, Drien Jalo Health Center is one of the Health Centers in the South Aceh region, which also contributed the most measles cases in the region up to 26 cases in 2022, and increased to 31 cases in 2023. The high number of measles cases in the Drien Jalo Health Center work area is the impact of the low coverage of measles immunization each year which only reached 36.5% in 2022, and decreased again in 2023, namely 33.6%.

Low motivation of the community to give their children measles immunization due to various reasons (Bangura et al., 2020; Susilowati & Hutasoit, 2019). One of the reasons is the lack of public knowledge about the importance of measles immunization in children (Fadhila & Selviana, 2024). So far, people have assumed that measles is a disease that is commonly experienced by children and does not require treatment, so this disease does not need to be prevented (Zaida Mauludiyah, Hendra Yulita, Lilis Candra Yanti., 2024). Of course this is a wrong understanding, in fact measles is a very dangerous infectious disease because it can cause death in children (Susanti, Ita., Idawati., Yuliana., 2024).

The results of a survey conducted on ten mothers who have babies in the working area of Drien Jalo Health Center, only two mothers had their children given measles immunization. Eight other people said their children were not immunized because they were afraid that their children would experience high fever after immunization, did not know the benefits of immunization, did not have support from family or husband to give immunization to their children, and the culture of the community that adheres to the belief that immunization is haram. This is the basis for the low compliance of the community to give their children immunization, so that community knowledge needs to be improved so that the coverage of measles immunization can increase.

One strategy for changing community behavior is through health education efforts, which aims to improve the health of the community by providing measles immunization to children aged 9-11 months, but if the child has not received immunization beyond that age limit, then the child must be given the measles, mumps and rubella (MMR) vaccine (Lubanga et al., 2023).

Health education efforts aim to improve the knowledge, attitudes and behavior of the community so that they are able to play an active role in realizing an optimal level of public health (Defilza et al., 2021). The success of educational efforts is determined by the media used. There are many types of health education media that can be used, but booklets are effective media in supporting the success of education for the general public who have difficulty using technology media (Hu et al., 2021). In this study, researchers developed BOKSICAM media (Measles Immunization Booklet), which was compiled based on an analysis of problems in the community, so that the community can gain knowledge with a short reading time. The superiority of booklet media in increasing community knowledge in various matters has been proven by several research results (Machimana et al., 2024).

Study (Sepeh & De Jesus, 2024) shows that there is an increase in parental knowledge and attitudes about basic immunization through health education with booklet media. He said that the low level of respondents' knowledge about basic immunization was due to the low level of health education which was only given when parents checked their babies and toddlers at the integrated health post. This can be seen from the results of the pre-test which showed that respondents had sufficient knowledge about basic immunization, and after being given health education, respondents' knowledge increased to a good category.

Research result (Eny Hastuti., 2021) stated that booklet media education has a significant influence on parents' knowledge and attitudes about basic immunization during the COVID-19 pandemic. This shows that booklet media is a communication tool that can be used by health workers to

help improve parents' knowledge so that they do not hesitate to bring their children to get immunization during the COVID-19 pandemic. Other studies also state that booklet media education has an influence on the behavior of preventing stunting in toddlers. Thus, booklet media can improve the level of knowledge of mothers as an effort to prevent stunting in children (Listyarini & Fatmawati, 2020).

Knowledge is a very important domain in shaping a person's actions, because behavior that is based on good knowledge will be more appropriate than behavior that is not based on knowledge (Zahra et al., 2023). Mothers who have good knowledge about immunization tend to be more obedient in taking their children for immunization compared to mothers who have less knowledge (Syahniar & Amelia, 2023). This is proven by the results of research (Pakpahan & Silalahi, 2021), which states that there is a relationship between maternal knowledge and the status of basic immunization in infants. Good maternal knowledge means that the mother has extensive knowledge about immunization and the mother has understood the importance of immunization in infants. Mothers who give their children immunizations are because they know the benefits of immunization for their child's immunity

The efforts that have been made by the health workers of Drien Jalo Health Center so far are providing counseling using the lecture method without media. Until now, the community has not been motivated to give their children immunizations. This proves that the delivery of information has not been well received by the community, so that a measles immunization booklet (BOKSICAM) is needed as a reading tool that is compiled based on the needs of the community which includes the presentation of information about measles immunization, post-immunization events and their handling that can be done by parents at home, and the statement of the Indonesian Ulema Council on the law of vaccines according to Islam. The presentation of this information is designed with a combination of interesting text and images so that it is easy for the community to understand the material presented, so that BOKSICAM is believed to be able to increase public knowledge about measles immunization.

2. Methods

This type of research is Quasi Experimental research, with a one group pre-post test design. This research was conducted at one of the Integrated Health Posts in the working area of the Drien Jalon Health Center in December 2024. The procedure for this research was that the researcher submitted a research permit to the Head of the Drien Jalo Health Center, South Aceh Regency, then asked for the respondent's approval by signing an informed consent. The population in this study were all parents who had babies aged 0-11 months, totaling 46 people with a sampling technique, namely total sampling. The collection of research data was assisted by enumerators, namely village midwives at the integrated service post (Posyandu). The questionnaire used in this study has been tested for validity by experts, resulting in 14 questions out of a total of 15 questions, and the reliability test was conducted at the Padang Panyang Health Center with respondents who had the same characteristics as the research site. The results of the study were obtained through the results of filling out a questionnaire that had been tested for validity and reliability regarding maternal knowledge regarding measles immunization before and after being given health education using the BOKSICAM media. Data analysis used SPSS through the paired sample t-test, with a significance level of $\alpha = 0.05$.

3. Results and Discussion

Table 1
Frequency Distribution of Respondents' Knowledge about Measles Immunization at Drien Jalo Health Center

Knowledge	Before		After	
	Frequency	Percentage	Frequency	Percentage
Good	6	13.0%	32	69.5%
Enough	13	28.0%	9	19.5%
Not enough	27	59.0%	5	11.0%
Total	46	100%	46	100%

Table 1 shows that before being given health education using BOKSICAM media, most respondents had good knowledge, as many as 6 people (13.0%). After being given health education using BOKSICAM media, some respondents had good knowledge, as many as 32 people (69.5%).

Table 2.
The Influence of the Measles Immunization Booklet (BOKSICAM) on Mothers' Knowledge of Measles Immunization at the Drien Jalo Health Center

Variables	Sig (2 tailed)	Significance Level	Information
Pre-test			
Post test	0,000	0.05	Significant

Table 2 shows the results of the paired t-test analysis, there is a difference between the pre-test and post-test with a p value = 0.000 $< \alpha = 0.05$, which means that there is an influence of the measles immunization booklet (BOKSICAM) on mothers' knowledge about measles immunization at the Drien Jalo Health Center.

Analysis

The Influence of the Measles Immunization Booklet (BOKSICAM) on Mothers' Knowledge of Measles Immunization. Based on table 2, the results of the paired t-test analysis were obtained, which shows that there is a difference in the pre-test and post-test of health education using BOKSICAM media with a p value = 0.000 $< \alpha = 0.05$, which means that there is an influence of the measles immunization booklet (BOKSICAM) on maternal knowledge about measles immunization at the Drien Jalo Health Center. This study showed an increase in maternal knowledge after being given health education with BOKSICAM media.

The results of this study indicate that BOKSICAM, which is compiled based on an analysis of problems in the community and designed using a combination of interesting images and text, has proven to have an effect on mothers' knowledge about measles immunization. The booklet developed in this study presents various information consisting of information about measles immunization, immunization targets such as the age of immunization, dosage and form of immunization, Post-Immunization Adverse Events, how to handle children with fever after immunization and the fatwa of the Indonesian Ulema Council on immunization.

According to (Abdulrahman et al., 2020), Booklets have two advantages compared to other media, namely they can be studied anytime and anywhere, because the material is presented in the form of a small book with a lot of information, and they are able to disseminate information in a relatively short time so that they can increase public knowledge.

Mother's knowledge will determine the mother's behavior in determining the immunization status of her child. The lack of mother's knowledge so far is due to the ineffectiveness of information conveyed by health workers. The effectiveness of health education is influenced by the media used. Booklets are one of the media that play an important role in health promotion. Booklets can trigger someone's interest in reading and understanding the material presented because booklets are designed with small printed books, full color and attractive images so that this really helps readers understand the information conveyed. Research results (Bardiati Ulfah., 2023) stated that there was an influence of Fe tablet booklet media education on adolescent knowledge about stunting prevention. He stated that adolescent knowledge increased after the Fe tablet education intervention with booklet media as an effort to prevent stunting in the future.

Health education efforts through booklet media are one of the contributors to increasing public knowledge. This is proven by the results of research (Rahmadani et al., 2023) which states that education on the use of booklets can increase adolescent knowledge about the impacts of premarital sex. The study states that booklets designed with colorful images and simply arranged can motivate respondents to read and make it easier for respondents to understand the information presented.

4. Conclusion

The results of this study were obtained based on the results of the paired t-test analysis, there was an effect of the measles immunization booklet (BOKSICAM) on mothers' knowledge of measles immunization at the Drien Jalo Health Center. This study showed an increase in mothers' knowledge after being given health education with BOKSICAM media. By providing mothers with adequate knowledge about measles immunization, of course this will be the basis for motivating mothers to give their children measles immunization. Based on the results of this study, the researcher recommends the use of BOKSICAM to the Aceh Health Service as a medium for counseling to increase measles immunization in the Aceh region. With the implementation of BOKSICAM in the Aceh region, it is hoped that it can be an example for other regions as a program to increase the coverage of measles immunization nationally. In addition, the researcher also recommends the development of a booklet as a medium for counseling in an effort to prevent polio in children, because polio has also been an extraordinary case in Aceh several years ago, so it is hoped that the coverage of polio immunization can also increase.

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