

## IMMUNIZATION FLASHCARD: EFFECTIVE AS AN EDUCATION MEDIA FOR POSYANDU CADRES IN SURAKARTA

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### Abstract

Immunization coverage at the world level has decreased from 2019 to 2021. Based on WHO data in 2021, as many as 25 million children did not receive complete basic immunization. In Indonesia, a similar thing happened where basic immunization coverage also decreased from 2019 to 2021. Immunization is an important health intervention in efforts to improve children's health status. The level of basic immunization coverage in children can be influenced, in part, by the attitudes and behavior of health workers, where the behavior of health workers cannot be separated from the role of cadres as midwives in the successful achievement of immunization coverage. This research is a quasi-experimental study with a one group pre-test, post-test design. The intervention in this study used flash cards as an educational medium used by cadres, while to determine the level of knowledge of respondents it was measured using a questionnaire. The population in this study were all posyandu cadres under the Pajang Community Health Center area, Surakarta City. Meanwhile, the sample in this study was posyandu cadres who met the inclusion criteria which had been calculated using a formula and obtained 45 respondents. Sampling was carried out using the purposive sampling method. The statistical results of the Wilcoxon test show that there is a significant difference in knowledge between before education and after education based on the asymp.sig value, namely  $p = 0.000$ . This shows that flash cards used as educational media about immunization can have an effect on increasing respondents' knowledge.

Keywords: Flashcard, Immunization, Cadre, Education media

### 1 INTRODUCTION

The primary health service program through immunization is a focused pillar of the transformation of the Ministry of Health (Kemenkes). The government's immunization program includes several types of vaccination with the aim of providing protection against diseases that can be prevented by immunization (1)(2). Another goal of this program is to provide optimal protection against diseases that can be prevented by immunization. So that morbidity, disability and death due to these diseases can be prevented and suppressed. Apart from that, through the immunization program it is hoped that herd immunity can be created in the community by providing additional protection for someone who has not or cannot be vaccinated. The immunization program provided by the government and stated in Minister of Health Regulation Number 12 of 2017 includes; Complete Basic Immunization (IDL), Additional and Advanced Immunization, and Routine Immunization (3)

Immunization coverage at the world level has decreased from 2019 to 2021. Based on WHO data in 2021, as many as 25 million children did not receive complete basic immunization. In Indonesia, a similar thing happened where basic immunization coverage also decreased from 93.7% in 2019 to 84.2% in 2021. This achievement figure is still far from the target of the strategic plan, set by the Government, where the target Complete basic immunization coverage in 2021 is 93.6% (4) In 2022, there will be a significant increase in basic immunization coverage, namely 99.6%. This figure far exceeds the target of 9.6% that has been set. Meanwhile, in 2023 basic immunization coverage will again decrease to 95.4%. Even though nationally there will be no change in 2023, this figure still does not meet the 2023 strategic plan target of 100% (1).

The achievement rate for complete basic immunization in Central Java in 2023 is 74.83%, an increase compared to the previous year. Meanwhile, the city with the lowest basic immunization achievement is Aceh, namely 24.79% (5) The city of Surakarta is one of the cities in Central Java, has 168 active posyandu. One of the activities carried out at posyandu in the active category is routine

immunization every month, with a minimum coverage of 50 percent and carrying out additional activities. In 2023, complete basic immunization coverage in Surakarta City will be 99.07 percent. This coverage figure has increased compared to the previous year, namely 98.38 percent. The community health center with the lowest achievement rate is the Sangkrah Community Health Center. Meanwhile, the Pajang Community Health Center has an achievement rate of 98.70% (6)

Immunization is an important health intervention in efforts to improve children's health status. Immunization is also used as an indicator in monitoring specific stunting interventions (7) The level of basic immunization coverage in children can be influenced by several factors related to community behavior. Health service utilization behavior is influenced by three factors including predisposing factors, enabling factors, and reinforcing factors. The attitudes and behavior of health workers are included as strengthening factors, where the behavior of health workers cannot be separated from the role of cadres as midwives in the successful achievement of immunization coverage (8) Cadres are volunteers who have a big role in society and are able to influence someone to change their behavior for the better. Cadres are also considered capable of providing health services for the community, one of whose tasks is implementing the posyandu program, including immunization (9,10) So the role of posyandu cadres is an important factor in the successful implementation of immunization for children

## 2 METHODOLOGY

This research is a quasi-experimental study with a one group pre-test, post-test design. The pre-test was carried out before providing education, while the post-test was carried out 30 days after providing education or during the next posyandu activity. Education in this study used flash card media, while to determine the respondent's level of knowledge, it was measured using a questionnaire. Researchers conducted pre-tests and post-tests on respondents to see any changes that occurred before and after treatment in the form of providing immunization education using flash cards. In simple terms, the research design used can be described as follows:

**O1-----X-----O2**

Description: O1: initial test (pre-test); O2: final test (post-test); X : treatment (providing education).

This research took place in April-May 2024. This research was carried out at the Posyandu, Pajang Village, Surakarta City. The instrument used for data collection is in the form of a questionnaire (list of questions) regarding basic immunization for children under five which has been validated first, including internal validity containing an instrument in the form of a test that meets content validity and construct validity. Content validity is carried out based on expert opinions regarding the contents of the questionnaire used as a data collection instrument. The validity of the measure is carried out by distributing questionnaires to respondents who are not research subjects. Educational material in the form of flash cards contains the types of basic immunizations that must be given to children under five, from newborns to 5 years old. The material and layout in the flash cards used were previously validated by experts, namely D3 Midwifery lecturers at the UNS Vocational School. The dependent variable in this research is the knowledge of the respondents, namely posyandu cadres, Pajang Village, Surakarta City. The independent variable is the provision of education. The population in this study were all posyandu cadres under the Pajang Community Health Center area, Surakarta City. Meanwhile, the sample used in this research was posyandu cadres who met the inclusion criteria, namely posyandu cadres in Pajang Village, who had actively served as cadres for at least 2 years of service, and could read and write. The sample was determined using the Lwanga & Lemeshow formula, so that the sample calculation results were 45 respondents. Sampling was carried out using the purposive sampling method.

## 3 RESULTS

### 3.1 Immunization Education With Flash Cards

#### 3.1.1 Respondent Characteristics

Table 1. Education Level of Posyandu Cadre

Education Level	Frequency	Percentage
Elementary School	3	6.7
Junior High School	5	11.1
Senior High School	31	68.9
Diploma Three Degree	5	11.1
Bachelor Degree	1	2.2
Total	45	100

Based on table 1. The highest level of education for Posyandu cadres is Senior High School (SMA) with 31 people (68.9%), then 5 people (11.1%) each with a Diploma Three and Junior High School (SMP) education and The fewest people have a Bachelor's degree, namely 1 person (2.2%). Based on the results of research conducted by Farokah (2022), it was found that there was a correlation between the education level of posyandu cadres ( $p=0.006$ ) and baby massage skills, which means that the higher the education level of posyandu cadres also had an effect on the cadre's skill level. This was conveyed in the research that education is a basic thing in preparing human resources and the main foundation in developing posyandu cadre resources in carrying out posyandu activities, with education it will influence a person's experience and ability to make decisions and think rationally and ripe (11)

Table 2. Age of Posyandu Cadre

Age	Frequency	Percentage
31-40	11	24.4
41-50	19	42.2
51-60	15	33.4
Total	45	100

Based on table 2 above, it can be seen that the most Posyandu cadres are aged 41 - 50 years, namely 19 people (42.2%) and the least are aged 31-40 years, namely 11 people (24.4%). According to research conducted by Rahayuningsih (2023), posyandu cadres involved in posyandu activities are people of sufficient age (41-50 years) so they have the psychological ability to help implement the posyandu program (12). Meanwhile, research from Pratiwi (2024) showed that age was significantly related to cadre participation in posyandu activities in the Puspahiang Community Health Center working area. The characteristics of posyandu cadres based on age influenced the role of a cadre in posyandu activities. The older the cadre's age, the more prepared the cadre was to participate. Posyandu activities can run better because they have experience that influences performance while working at Posyandu (13)

### 3.1.2 Respondents' knowledge before and after being given immunization education using flash card media

Based on the results of the questionnaire during the pre-test and post-test to measure the level of knowledge of posyandu cadres as respondents regarding immunization with flash card media, it is shown in table 2. In table 2, it shows that the highest percentage of knowledge level before treatment was in the sufficient category, namely 34 respondents (75.6%), while after treatment there were 43 respondents (95.6%) in the good category. There was an increase in the percentage of respondents' knowledge about immunization with the majority being good and not a single respondent with poor knowledge after receiving educational treatment using flash card media. This shows that before providing education, public knowledge was quite good. This is because there are many health information media available that can be obtained either through print media such as maternal and child health books or through electronic media such as cellphones, television and radio. One way to increase a person's knowledge about health is health education (14)

Tabel 2. Respondents' knowledge before and after being given immunization education using flash card media

Knowledge Level	Pre-Test		Post-Test	
	Frequency	Percentage	Frequency	Percentage
good	8	17,8	43	95,6

enough	34	75,6	2	4,4
less	3	6,7	0	0
<b>Total</b>	<b>45</b>	<b>100</b>	<b>45</b>	<b>100</b>

### 3.1.2 The effect of given education using flash card media on immunization knowledge

Table 3. The effect of given education using flash card media on immunization knowledge

Pre-test Pos-Test	N	Mean rank	Total of value	p
Negative value	0	0,0	0	
Positive value	42	21,5	903	0,000

The results of the questionnaire during the pre-test and post-test were carried out by the Wilcoxon test to determine the effect of providing education using flash card media. The test results are in table 3. Based on table 3 of posyandu cadre respondents in Pajang Subdistrict, Surakarta City in 2024, it shows that 0 respondents had pre-test scores greater than post-test scores, 42 respondents had post-test scores greater than pre-test scores. test and there were 3 respondents who had pre-test scores the same as post-test scores. Statistical results also show that there is a significant difference in knowledge between before education and after education based on the asymp.sig value, namely  $p = 0.000$ . This shows that flash cards used as educational media about immunization can have an effect on increasing respondents' knowledge.

The results of this study are in line with research that has been conducted in Bengkayang, West Kalimantan, which states that there are significant differences in nutritional knowledge and protein, fat and carbohydrate intake in elementary school students after being given nutritional education using flash card media (15). The use of multimedia, which is a combination of more than one type of media, such as text, symbols, images, the addition of audio or video, and animation with the help of technology, is useful for a person's understanding (16) Media is used and directed to make it easier for someone to learn in an effort to understand learning materials. Immunization education media in the form of flash cards is a learning media that is made by inserting image and symbol elements, in addition to the text of the material on the flash card. There are two sides with the title of information and the reverse side contains information material. The advantage of using flashcards as a literacy medium is that they can be taken anywhere and their use is flexible (17). Another study conducted on the students of Iqro Satu The Gold Generation also showed significant results in the use of flash card media to improve the students' learning outcomes. (18)

## 4 CONCLUSIONS

The way to increase a person's knowledge about health is through health education by utilizing various media. Media is used and directed to make it easier for someone to learn in an effort to understand the learning material. Immunization education media in the form of flash cards is a learning media created by including image and symbol elements, in addition to the text material on the flash cards. There are two sides with informational titles and the reverse side contains informational material. The research results showed an increase in knowledge before and after being given education using flash cards. The highest percentage of knowledge level before treatment was in the sufficient category, namely 34 respondents (75.6%), while after treatment it was in the good category, namely 43 respondents (95.6%). There was an increase in the percentage of respondents' knowledge about immunization with the majority being good and not a single respondent with poor knowledge after receiving educational treatment using flash card media.

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