



THE EFFECT OF *LEAFLET* MEDIA EDUCATION ON
KNOWLEDGE OF MOTHERS OF TODDLERS WITH ISPA
AT SUKARAJA HEALTH CENTRE
SUKABUMI DISTRICT
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ABSTRACT

Background: World Health Organization (WHO) in 2023 the incidence of ARI is about 11.6%. This figure indicates that 1 in 9 people in the world suffer from ARI in a year. ARI prevalence in Indonesia (2023) was 877,531 cases. The prevalence of ARI in West Java (2023) is approximately 156,997 cases. The prevalence of ARI in Sukabumi District (January-March, 2024) was 56,088 cases. In Sukaraja Health Centre (January-March, 2024) there were 896 ARI cases. One of the efforts that can be made to improve mothers' knowledge about ARI is by providing health education. One of the media or educational aids is leaflets.

The purpose of the study: To determine the picture of leaflet media education on the knowledge of mothers of toddlers about ARI at Puskesmas Sukaraja, Sukabumi District.

Research Methods: Quantitative research design with Pre Experimental method without involving control group. The study was conducted at Puskesmas Sukaraja, Sukabumi Regency in 2024. In July 2024. The sample in this study amounted to 18 mothers of toddlers with ARI who were taken with Non Probability Sampling technique, namely Purposive Sampling technique. Univariate analysis was presented in the form of frequency distribution tables and bivariate analysis using SPSS.

Research Results: After the Wilcoxon signed rank bivariate test, the p value=0.00 ($p > 0.05$ H_0 is rejected), then H_a is accepted, namely there is an effect of leaflet media education on the knowledge of mothers of toddlers with ARI at the Sukaraja Health Centre, Sukabumi Regency. **Conclusion:** There is an effect of leaflet media education on the knowledge of mothers of toddlers with ARI at Puskesmas Sukaraja, Sukabumi District.

Keywords : ARI (Acute Respiratory Tract Infection), Knowledge, Leaflet Media,

Bibliography : 34(2015-2024)

INTRODUCTION

Acute Respiratory Tract Infection (ARI) is a global health problem, as 2 million deaths occur each year. ARI can affect anyone, including toddlers, children, and adults. ARI easily infects low immune system, such as toddlers and children under 5 years old with mild to severe symptoms. ARI easily attacks the human body when the immune system decreases (Triola, et al, 2022 in (Nisya, 2023)).

According to the *World Health Organization* (WHO) in 2023, the global prevalence of ARI is around 11.6%. This figure indicates that 1 in 9 people in the world suffer from ARI at some time of the year. ARI is the leading cause of infectious disease morbidity and mortality in the world with approximately 4.25 million deaths each year. The prevalence of ARI varies worldwide, with the highest rates in low- and middle-income countries. In these countries ARI is the leading cause of death for children under five years. The incidence of ARI in developed countries is caused by viruses, while for developing countries it is caused by bacteria. 1.9 million children under five years of age die from ARI worldwide, 70% of which occur in children aged 1-4 years in African and Southeast Asian countries. In some years the deaths caused by ARI in children under five are 526,000, with 1,400 children under five every day, 60 children under five every hour, and 1 child under 36 seconds. This causes the under-five mortality rate to be higher than other infections in all countries in the world.(WHO, 2023)

Based on the results of the Indonesian Health Survey (SKI) (2023) the prevalence of ARI in Indonesia was 877,531 cases, of which approximately 443,261 cases were male and 434,270 cases were female. The prevalence of ARI in children under five in Indonesia was around 86,364 cases, of which around 44,099 cases were male and 42,265 cases were female. (Indonesian Ministry of Health, 2023). According to data from the West Java provincial health office, in 2022 there were 227,082 cases and in 2023 there were around 156,997 cases of ARI in West Java.(West Java Provincial Health Office, 2023).. According to data from Sukabumi district health office, in January-March 2024 there were 56,088 ARI cases in Sukabumi district. (Sukabumi District Health Office, 2023).

Table 1.1

List of 10 sub-districts with the most ARI cases in Sukabumi District

No.	Puskesmas	Number of Cases
1	Cikembar	4.677
2	Cicurug	4.588
3	Cisaat	2.726
4	Cisolok	2.467
5	Caringin	2.355
6	Cicantayan	1.799
7	Cikidang	1.750
8	Sukalarang	1.604
9	Ciracap	1.561
10	Limbangan	1.103

Source: Sukabumi District Health Office

Based on the table above in January-March of 2024, Cikembar sub-district was ranked first with the most ARI cases followed by Cicurug sub-district and Cisaat sub-district in second and third place and followed by other sub-districts. Although Puskesmas Sukaraja is not included in the top 10 Puskesmas with ARI, but in Puskesmas Sukaraja the biggest disease is ARI. this is supported by data throughout 2023 there were 3,287 cases of ARI that occurred in Sukaraja sub-district, while in January-March 2024 there were 896 cases of ARI and was the biggest disease in the Sukabumi District Puskesmas area 2024.(Puskesmas Sukaraja, 2024).

ARI if not treated properly can result in a number of disabilities such as *otitis media* which is a cause of deafness and the onset of developmental and other disorders. Complications that can arise if ARI is not treated immediately can result in infection of the lungs, infection of the membranes of the brain, decreased consciousness and can even cause death (Widoyono, 2017). (Widoyono, 2017). Risk factors for ARI are external and internal factors. External factors include dwelling density, floor type, window area, kitchen location, fuel use and smoke ventilation ownership. In addition to these external factors, internal factors include age, gender, nutritional status, immune status, vitamin A consumption during childbirth and breastfeeding (Hasan, 2019). (Hasan, 2019).

According to Lawrence Green, (2018) a person's behaviour is determined by three factors. First, predisposing factors that manifest in knowledge, attitudes and perceptions. Second, *enabling* factors, such as the physical environment such as information media and health facilities. Third, *reinforcing* factors manifested in the attitudes and behaviour of health workers, family and peers. (Lawrence Green, 2018).

According to (Santoso, 2018) if the low level of education possessed by the mother and the lack of knowledge and expertise of the mother can cause ARI in children, this happens because of the inappropriate handling of ARI by the mother. One of the efforts that can be made to improve maternal knowledge about ARI management is by providing health education. Increased knowledge is needed by mothers so that they can understand the management and prevention of ARI. Health education is an overview of health promotion and disease prevention efforts (preventive) (Fitriani, 2020).

Of the various media or educational aids, *leaflets* are the most common media and are often used by health workers to convey information during health education. because *leaflets* are in the form of folded sheets and are easy to carry anywhere so that if someone forgets what has been conveyed, they can read it on the leaflet (Notoatmodjo, 2020).

(Notoatmodjo, 2020). Previous research by Erna Wati Tampubolon, (2023) at the Sadabuan Health Centre, the results of the analysis based on knowledge before and after the intervention using the *Wilcoxon* test with $p = 0.000$ ($p < 0.05$), it can be concluded that there is an effect of counseling using *leaflets* on parents' knowledge about ARI in toddlers. (Wati Erna Tampubolon, 2023).

Based on an initial survey conducted by researchers on 30 April -1 May 2024 at Puskesmas Sukaraja, by conducting interviews with 5 mothers who brought their children to the Puskesmas Sukaraja that 4 out of 5 mothers did not know what the causes and effects of ARI were and 4 of them had not received education about ARI. Based on this background, the researcher is interested in taking the title "The Effect of *Leaflet* Media Education on Mothers of Toddlers with ARI at Puskesmas Sukaraja, Sukabumi District".

METHODS

This research is a quantitative study with *Pre Experimental procedures*, with the type of *one group pre-test post test design*, The sampling technique used in this study is *non-probability* with *Purposive sampling* technique which is a sample determination technique by selecting samples among the population as desired by the researcher by being limited by inclusion and exclusion criteria.

The data analysis used is univariate and bivariate analysis, the bivariate analysis used is the *Wilcoxon signed rank* test which is used to determine the effect of variable x on variable y. The population in this study was every mother. The population in this study was every mother who had a toddler with ARI at the Sukaraja Health Centre, Sukabumi Regency in July 2024, totalling 40 people and a sample of 18 people. The sampling technique was quantitative. In this study, the instruments used for data measurement were *leaflets* and questionnaires, in the leaflet there was information about ARI and in the questionnaire there were several statements including the level of knowledge of mothers of toddlers about ARI.

RESULTS

Level of knowledge of mothers of toddlers before *leaflet* media education at Puskesmas Sukaraja, Sukabumi District

Table 1 Knowledge level before *leaflet* media education

Knowledge Level	Frequency	Percentage
Good	0	0%
Fair	8	44,4%
Less	10	55.6%
Total	18	100%

(Source: Results of research on 03-04 July 2024 at Puskesmas Sukaraja, Sukabumi Regency)

Based on Table 5.4 from 18 respondents, the level of knowledge before education with *leaflet* media was good knowledge (0%), sufficient knowledge (44.4%), and poor knowledge (55.6%) at Puskesmas Sukaraja, Sukabumi Regency.

Knowledge level of mothers of toddlers after *leaflet* media education at Puskesmas Sukaraja, Sukabumi District

Table 5.7 Level of knowledge after *leaflet* media education

Knowledge level	Frequency	Percentage
Good	11	61,1%
Fair	5	27,8%
Less	2	11,1%
Total	18	100%

(Source: Results of research on 03-04 July 2024 at Puskesmas Sukaraja, Sukabumi Regency)

Based on Table 5.5 of 18 respondents knowledge level after education with *leaflet* media 11 mothers of toddlers experienced an increase in knowledge level to good (61.1%), 5 mothers of toddlers experienced an increase in knowledge to adequate 27.8%, and there were 2 mothers of toddlers with poor knowledge (11.1%).

The effect of *leaflet* media education on the knowledge of mothers of toddlers with ARI at the Sukaraja Health Centre, Sukabumi Regency, 2024

Table 5.9 Effect of *Leaflet* Media Education on the Level of Knowledge of Mothers of Toddlers with ARI

	N	Mean	Std. Deviation	Minimum	Maximum	<i>p</i>
<i>Pre Test</i>	18	50,56	10,556	30	60	0,00
<i>Post Test</i>	18	77,78	15,925	50	100	

Wilcoxon signed rank test

Based on table 5.6 shows that the average value of knowledge improvement in 18 respondents measured before being given *leaflet* media education (*Pre Test*) is 50.56 and after *leaflet* media education (*Post Test*) is 77.78 with a difference of 27.22 After the *Wilcoxon signed rank* bivariate test obtained a *p* value of 0.00 then $p < 0.05$ H_0 is rejected, then H_a is accepted, namely there is an effect of *leaflet* media education on the knowledge of mothers of toddlers with ARI at Puskesmas Sukaraja, Sukabumi Regency.

DISCUSSION

1. Level of knowledge about ARI before *leaflet* media education for mothers of toddlers at Puskesmas Sukaraja, Sukabumi Regency.

Based on the research results in table 5.4 of 18 respondents before being educated with *leaflet* media, most of them were 10 respondents with insufficient knowledge (55.6%) and the remaining 8 respondents with sufficient knowledge (44.4%).

This result is in line with the theory (Santoso, 2018) that if the low level of education possessed by the mother and the lack of knowledge and expertise of the mother can cause ARI in children, this happens because of the inappropriate handling of ARI by the mother. These results are in line with the theory of Notoatmodjo (2020) that knowledge is the result of a person knowing the object through his senses, namely the sense of hearing, the sense of smell, the sense of sight. In the results of this study the majority of respondents were aged >30 years and the majority did not work (housewives), this is in line with Notoatmodjo's theory that age and occupation factors can affect a person's knowledge. The level of knowledge of mothers that is not good can cause the incidence of ARI in toddlers, because the level of knowledge of mothers plays an important role in whether or not the handling of ARI is done by mothers on toddlers who suffer from ARI.

2. Level of knowledge about ARI after *leaflet* media education for mothers of toddlers at Puskesmas Sukaraja, Sukabumi District

Based on Table 5.5 of 18 respondents when after education with *leaflet* media there were 11 mothers of toddlers with good knowledge level (61.1%), 5 mothers of toddlers with sufficient knowledge level 27.8%, and there were 2 mothers of toddlers with poor knowledge (11.1%). These results are in line with research conducted by (Novrianda, 2019) at Puskesmas Padang pasir and Pauh, it was found that there were differences in knowledge and ability to care for toddlers before and after health education with ($p=0.002$). These results are in line with Adriani's theory (2022) that *leaflet* media is a form

of delivering health information or messages through sheets containing methods that will be used later. The content of the *leaflet* is in the form of information that can be seen in the form of sentences and images or a combination that has been modified so that it can be an attraction for the reader. These results prove that *leaflet* media education can affect the increase in the level of knowledge of mothers of toddlers about ARI, by providing *leaflet* media education will provide more knowledge about ARI to mothers of toddlers so that *leaflet* media education is effective for increasing the level of knowledge in mothers of toddlers.

3. The effect of *leaflet* media education on the knowledge of mothers of toddlers with ARI at Puskesmas Sukaraja, Sukabumi District

Table 5.6 shows that the average value of knowledge improvement in 18 respondents measured before being given *leaflet* media education (*Pre Test*) was 50.56 and after *leaflet* media education (*Post Test*) was 77.78 with a difference of 27.22. After the *Wilcoxon signed rank bivariate* test, the *p value* = 0.00 ($p > 0.05$ Ho is rejected), then Ha is accepted, namely there is an effect of *leaflet* media education on the knowledge of mothers of toddlers with ARI at the Sukaraja Health Centre, Sukabumi Regency.

These results are in line with research by Erna Wati Tampubolon, (2023) at the Sadabuan Health Centre, the results of the analysis based on knowledge before and after the intervention using the *Wilcoxon* test with $p = 0.000$ ($p < 0.05$), it can be concluded that there is an effect of counseling using *leaflets* on parental knowledge about ARI in toddlers. These results are in line with research conducted by (Novrianda, 2019) at Puskesmas Padang pasir and Pauh, it was found that there were differences in knowledge and ability to care for toddlers before and after health education with ($p = 0.002$). These results are in line with other research by (Elsa Sambur, 2023) in the work area of Puskesmas Oki Baru Selatan, the results were tested using the *Wilcoxon Signed Rank Test* statistical test which stated that there was an effect of education using leaflet media on maternal knowledge of caring for ARI toddlers in the work area of Puskesmas Oki Baru Selatan ($p \text{ value} = 0.000 < 0.05$). The purpose of leaflet education is to change the behaviour of people or communities from unhealthy behaviour to healthy behaviour, as we know when behaviour is not in accordance with health principles, it can cause health problems. (WHO, 2011)

These results prove that there is a significant increase in the knowledge of mothers of toddlers before (*pretest*) and after (*posttest*) education with *leaflet* media. This is in line with the theory of Notoatmodjo (2020), that. *Leaflet* is one of the health promotion media in the form of a sheet of paper containing writing with short, concise, easy to understand

sentences and simple pictures. Good health promotion media is media that is able to provide information or health messages that are in accordance with the level of acceptance of the target so that the target is willing and able to change behaviour in accordance with the messages conveyed.

CONCLUSION

The level of knowledge of mothers of toddlers before education with *leaflet* media was 10 respondents with poor knowledge (55.6%), and 8 respondents with sufficient knowledge (44.4%), The level of knowledge of mothers of toddlers after education with *leaflet* media was 11 respondents with good knowledge (61.1%), 5 respondents with sufficient knowledge 27.8%, and there were 2 respondents with poor knowledge (11.1%). There is an effect of *leaflet* media education on the knowledge of mothers of toddlers with ARI at the Sukaraja Health Centre, Sukabumi Regency in 2024 with a *p value* = 0.00.

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