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Original Research

Effect of Health Education on Mothers' Knowledge in the Prevention of Acute Respiratory Infection in Toddlers in Waimital Village, Maluku

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ABSTRACT

Introduction: Acute Respiratory Infection (ARI) is a disease caused by infectious agents that are usually toddlers, so it is expected that the family, especially the mother, plays a role in terms of having good knowledge about the prevention of ARI transmission. Health education through visual aid leaflets is very effective to increase knowledge and understanding in preventing ARI disease. The aim of this study was to determine the effect of health education on the level of maternal knowledge in the prevention of ARI in children under.

Methods: The research design used was a pre-experiment with one group and a pretest-posttest design approach. Intervention was carried out by way of house visits on a sample of 129 people. The research instrument used was questionnaire data analysis using the Wilcoxon test at a significance of (α <0.05).

Results: Before doing health education, good knowledge was seen in 2 respondents or 1.6% and after the action of health education using leaflets, good knowledge was seen in 33 respondents or 25.6%. Statistical analysis of respondents' knowledge after treatment obtained an average value for knowledge of 68.84; the lowest value was 30 and the highest was 100, significant with a p-value = 0.000 (α <0.05).

Conclusion: Health education using leaflets can increase mothers' knowledge so that it encourages self-efficacy and self-management and increases awareness in the prevention of disease. There is an influence of health education on the level of maternal knowledge in the prevention of ARI among children under five.

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INTRODUCTION

Acute Respiratory Infection (ARI) is an acute infection that attacks one part/more than one part of the airways from the nose to the alveoli including adnexa (sinus, middle ear cavity, pleura). This infection is caused by viruses, fungi, and bacteria. ARI will attack the host if the immune system or immunity decline. (Dharmayanti & Tjandararini, 2018). The highest prevalence of ARI occurs in toddlers. According to WHO (World Health Organization), ± 13 million children under five in the world die every year and most of these deaths occur in developing countries in Asia and Africa such as India (48%), Indonesia (38%), Ethiopia (4,4%), Pakistan (4.3%), China (3.5%), Sudan (1.5%), and Nepal (0.3%) (Putra & Wulandari, 2019). In Maluku province, the number of ARI cases among under-fives ranks first out of 10 in terms of most cases of the disease. And western spooky districts in 2018 the number of ARI cases in toddlers was 12,171 and in Waimital care health centers in 2018, the number of cases of ARI in toddlers was 1,576 (*PROFIL_KESEHATAN_2018_1 6.pdf*, n.d.).

There are several risk factors that cause ARI in toddlers including incomplete immunization, exposure to cigarette smoke and dust, lack of breastfeeding, mother's educational background and lack of mother's knowledge about toddler care. The

increasing frequency of ARI events in children has caused socio-economic concerns and burdens for parents, especially mothers, so many of them have consulted health practitioners, especially doctors in prescribing antibiotics (Bham et al., 2016). To reduce the increase in prevalence, it is necessary for there to be a family role in the prevention of ARI in toddlers, especially among mothers. One of the preventive management techniques is the implementation of health education interventions to transmit information to mothers about how to properly care for and prevent ARI in toddlers (Saleh Faidah et al., 2019). Health education interventions are very effective in increasing one's awareness and motivation in preventing risk factors for the disease especially in rural areas such as West Seram district Waimital. Therefore health education must be delivered through visual aids such as brochures or leaflets to encourage willingness and increase knowledge and understanding in preventing an illness (Mohebi et al., 2018) . Health education using leaflets can help respondents improve self-efficacy and self-management and increase respondent awareness in the prevention of disease (Karuniawati et al., 2019). This is supported by research conducted by Kayalli in 2016, which was conducted on 486 patients, with patients wanting to receive information verbally and in writing. More than half of the patients (60%) read leaflets and found useful resources in them (Kayyali, 2016).

For ARI that occurs in the West Seram community, one of the triggering factors is the lack of parental knowledge of the importance of obtaining information to prevent and overcome ARI events in toddlers. Based on preliminary studies obtained by researchers on June 14, 2019, from one of the Waimital Community Health Centers, officials stated that the ISPA problem that occurs in Waimital village is the lack of parental knowledge about it. as evidenced by a survey conducted in the village of Waimital, in which it was found that out of the 20 surveys carried out, 11 parents had toddlers who experienced ARI and lacked knowledge. The purpose of this study was to determine the effect of health education on the level of maternal knowledge in the prevention of ARI among children under five years of age in Waimital village, Kairatu District, West Seram District.

MATERIALS AND METHODS

This research was a type of pre-experimental research with an on-group pre-post-test design approach that reveals cause and effect by involving one group of subjects. The subject group was observed before the intervention and then observed again after the intervention. (Nursalam 2017).

This research was conducted for 5 weeks from July 8 to August 10, 2019, in the village of Waimital, Kairatu District, West Seram District, Maluku Province. The sampling technique used was consecutive sampling, with a large sample of 129 respondents. Respondents were mothers who have children under five who live in the village of Waimital, Kairatu sub-district. This study did not go through an ethical test because there were no ethics commissions formed at the educational institutions, but before conducting the study, informed consent was sought from respondents.

Data collection techniques in this study were obtained through direct interviews with respondents using a research instrument in the form of a questionnaire with home visits. The questionnaire consisted of 10 closed questions surrounding the concept of the disease. Before the intervention, respondents filled out a questionnaire about the concept of ARI. Furthermore, respondents were given health education interventions on ARI disease material assisted with visual media in the form of leaflets containing information on understanding, causes, signs and symptoms, risk factors and prevention. The intervention was only carried out for one session for 20-30 minutes. The intervention was not done in groups but with each individual through a home visit. After 1 hour, it was evaluated by giving the same questionnaire to the respondent.

After the data, retrieval was done and the data were obtained; the data processing was then performed which included several parts, namely: editing, coding, processing, cleaning, and tabulating. Then the data were analyzed using SPSS version 21 computer software. The analyses used were: Univariate and Bivariate Analysis using Wilcoxon nonparametric statistical tests with significance levels ($\alpha = 0.05$).

RESULTS

Characteristics of Respondents

The 129 respondents, mothers who had children under five in the village of Waimital, had the following characteristics:

Univariate Analysis

Knowledge of respondents in Waimital village before and after the health education intervention was given in Table 2. Based on Table 2, prior to the intervention, respondents who had good knowledge totaled only 2 people (1.6%), just 6 people (4.7%) had sufficient knowledge and as many as 121 people (93.8%) had less knowledge. After the intervention, the respondents' knowledge increased to 33 people (25.6%) with good knowledge, 90 people (69.8%) with enough knowledge and those with less knowledge were only 6 people (4.7%).

Normality Test

The normality test used was Kolmogorov-Smirnov because the sample was above 50 respondents. Based on the results of the normality test, data from the variables were not normally distributed because they

Table 1. Characteristics of Respondents (n=129)

Characteristics of Respondents	n	%
Age		
19-23	12	9,3
24-28	46	35,7
29-33	36	27,9
34-39	35	27,1
Level of Education		
Primary School	17	13,2
Junior high school	28	21,7
Senior high school	78	60,5
Diploma 3	3	2,3
Scholar 1	3	2,3
Job		
Government employees	5	3,9
Entrepreneur	27	20,9
Housewife	91	70,5
Farmer	6	4,6

Primary data source in 2019

Table 2. Respondents' Knowledge

Knowledge	Pre-test		Post test	
	(n)	(%)	(n)	(%)
Good	2	1,6	33	25,6
Sufficient	6	4,7	90	69,8
Less	121	93,8	6	4,7
Total	129	100	129	100

Primary data source in 2019

Table 3. Wilcoxon Test Knowledge of Respondents Before and After Being Given Health Education About Acute Respiratory Infections

Knowledge	(n)	Mean	(Min-Max)	*p- Value*
Pre-test	129	20.71	(10-100)	0.000
Post-test	129	68.84	(30-100)	0.000

Primary data source in 2019

had a p-value <0.05. Because the requirements for normal data are p-value > 0.05, the test used was the Wilcoxon nonparametric test.

Bivariate Analysis Result

Bivariate analysis aims to determine the effect of health education on the level of maternal knowledge in the prevention of ARI among children under five.

Based on Table 3, it can be seen that the median knowledge of respondents before treatment was 20.85. The lowest value was 10 and the highest was 100. While the analysis of respondents' knowledge after treatment obtained an average value of knowledge of 68.84, the lowest value was 30 and the highest was 100. A significant p-value of 0.000 ($\alpha < 0.05$) was obtained, thus it can be concluded that there is a health effect of education at the level of maternal knowledge in the prevention of ARI among children under five.

DISCUSSION

From the results of the study, there was still a lack of knowledge of respondents before health education was conducted even though most mothers had secondary education. But interestingly 2 (1.6%) of the respondents had good knowledge because their education level was bachelor's level given that the higher the level of one's education, the better one's knowledge and attitudes and behavior (Notoatmodjo 2014). But an increase in knowledge is not absolutely obtained from formal education but can also be obtained through non-formal education such as the role of health education and access to information from various media which is still lacking (Karimah et al., 2014). As is known, prevention of ARI is a very important problem because of the high incidence of ARI in children, especially among toddlers. Parents, especially mothers, play an important role in preventing ARI by avoiding risk factors, especially cigarette smoke and dust, ensuring environmental cleanliness and avoiding other risk factors. One of the factors is how much health education is given (Alexandrino et al., 2017)

The results of the study show that, after being given an intervention in the form of health education, the knowledge of respondents increased by 25.6% in the good knowledge category and sufficient knowledge increased to 69.8%. This is because health education guidance was carried out in this study by visiting house to house with visual aids, namely leaflets. The results of this study were supported by Karuniawati in an article which stated that health education via house-to-house guidance using visual media was more effective and better at increasing respondents' knowledge in understanding both disease prevention or adherence to treatment. Visual media leaflets are needed to make it easier for

patients to get information related to disease prevention (Karuniawati et al., 2019). In addition to counseling, mothers can read leaflets about the concepts of the disease listed so that they can immediately ask questions about what they do not understand. A person's knowledge of an object involves two aspects, namely positive aspects and negative aspects. These two aspects will determine a person's attitude; the more positive aspects and objects that are known, the more positive attitudes towards an object (Andarias et al., 2018). A positive attitude can turn negative if you do not receive guidance in the form of education or education and vice versa because of the attitude of having valence; a positive attitude can also be increased to be more positive (Kamaljeet Singh, 2017). But from the results of the study, there were still 4.7% of respondents who lack knowledge; this is because there were 5.4% of respondents who had a primary school education: the higher the level of one's education, the better one's knowledge and attitudes and behavior and vice versa Notoatmodjo (2015). Knowledge can encourage someone to try to get more information about something that is deemed necessary to be understood further or is considered important. Such knowledge encourages parents to develop attitudes that lead to action as a result or output of knowledge about things that are the right of children, one of which is to be nurtured. There was a significant relationship between the mother's level of knowledge with care efforts for toddlers with ARI. This result is reinforced by the opinion of Notosiswoyo in Muhammad who stated that a low level of knowledge and skills in the family, especially mothers, is one of the triggers of ARI in toddlers (Andarias et al., 2018).

From the Wilcoxon test results with $\alpha < 0.05$, p-value = 0.000, this means that there is an influence of health education on the level of maternal knowledge in the prevention of ARI in children under five so that H0 is rejected and Ha is accepted. Based on this theory, health education is an effort aimed at influencing others and providing learning to the community so that healthy living behavior is applied in an effort to improve their health. One health education technique is the use of leaflets to make it easier for respondents to immediately read anywhere and anytime. In addition, leaflets can help respondents improve self-efficacy and self-management and increase respondent awareness in disease prevention (Karuniawati et al., 2019). This is supported by research conducted by Kayalli, conducted on 486 patients, who wanted to receive information verbally and in writing. More than half of the patients (60%) read the leaflets and found useful resources (Kayyali, 2016).

Health education affects a person's level of knowledge. Knowledge is the result of human sensing or the result of knowing something about objects through the senses. Factors that influence a person's level of knowledge include education, information/mass media, social, cultural, and economic, environment, experience, and age. The level of knowledge will be a provision to be more selective in looking after toddlers (Andarias et al., 2018). However, limited knowledge can affect family health care, especially among toddlers. So it is demanded of parents, especially mothers, to always increase their knowledge so that they can take good care of their children.

CONCLUSION

The solution in preventing the emergence of ARI in a toddler is to conduct health education with the help of visual leaflets for parents, especially mothers. The leaflet medium helps mothers to understand because it can be read immediately wherever and whenever. This method has a significant positive impact on increasing knowledge and awareness in terms of changing attitudes and behaviors to care for toddlers. From the results of the study, after being given an intervention, mothers who had children under five showed an increase in the prevention of ARI so that there was an influence of health education on the level of maternal knowledge in the prevention of ARI in children under five in Waimital village, Maluku province. It is recommended that additional similar research is conducted using group intervention so that the group and individual method can be compared for efficacy.

CONFLICT OF INTEREST

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

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REFERENCES

Alexandrino, A. M. F. D. S., dos Santos, R. I. G. V., de Melo, M. C. D. A., & Bastos, J. A. M. (2017). Designing and evaluating a health education session on respiratory infections addressed to caregivers of children under three years of age attending day-care centres in Porto, Portugal: A community-based intervention. *European Journal of General Practice*, *23*(1), 43–50. https://doi.org/10.1080/13814788.2016.1240777

Andarias, M., Darwis, & Hanis. (2018). Gambaran pengetahuan orang tua dan lingkungan keluarga dengan kejadian ISPA di wilayah Kerja Puskesmas Batua Kota Makasar. *Jurnal Ilmiah Kesehatan Diagnosis*, *12*(6), 630–634.

Bham, S. Q., Saeed, F., & Shah, M. A. (2016). Knowledge, Attitude and Practice of mothers on acute respiratory infection in children under five years. *Pakistan Journal of Medical Sciences*, *32*(6),

1557–1561. https://doi.org/10.12669/pjms.326.10788

Dharmayanti, I., & Tjandararini, D. H. (2018). Identifikasi Indikator dalam Indeks Pembangunan Kesehatan Masyarakat (IPKM) untuk Meningkatkan Nilai Sub-Indeks Penyakit Menular. *Jurnal Keperawatan Padjadjaran*, *5*(3), 249–257. https://doi.org/10.24198/jkp.v5i3.647

Kamaljeet Singh, deepak sharma. (2017). *EFFECT OF HEALTH EDUCATION ON AWARENESS OBOUT ORAL CENCER AND ORAL SELF-EXAMINATION*. 1–6. https://doi.org/10.4103/jehp.jehp

Karimah, D. N., Kurniawati, N. D., & Hidayati, L. (2014). Pendidikan Kesehatan dengan Metode Syndicate Group Meningkatkan Pengetahuan tentang Pencegahan ISPA pada Remaja Putri di Pondok Pesantren. *Universitas Airlangga*, *3*(1), 31–41.

Karuniawati, H., Putra, O. N., & Wikantyasning, E. R. (2019). Impact of pharmacist counseling and leaflet on the adherence of pulmonary tuberculosis patients in lungs hospital in Indonesia. *Indian Journal of Tuberculosis*, *66*(3), 364–369. https://doi.org/10.1016/j.ijtb.2019.02.015

Kayyali, R. (2016). Patients Perceptions of Medication Counselling from Community Pharmacies. *Pharmacy & Pharmacology International Journal*, *4*(2), 334–337. https://doi.org/10.15406/ppij.2016.04.00071

Mohebi, S., Parham, M., Sharifirad, G., & Gharlipour, Z. (2018). *Social Support and Self - Care Behavior Study*. 1–6. https://doi.org/10.4103/jehp.jehp

Notoatmodjo (2014). Ilmu perilaku kesehatan, Jakarta: Rineka Cipta.

Notoatmodjo (2015) *Pendidikan dan Perilaku Kesehatan*. Jakarta: Rineka Cipta

Nursalam (2017). Metodologi Penelitian Ilmu Keperawatan. Penerbit Salemba Medika: Jakarta.

PROFIL_KESEHATAN_2018_1 6.pdf. (n.d.).

Putra, Y., & Wulandari, S. S. (2019). Faktor Penyebab Kejadian Ispa. *Jurnal Kesehatan*, *10*(1), 37. https://doi.org/10.35730/jk.v10i1.378

Saleh Faidah, H., Haseeb, A., Yousuf Lamfon, M., Mohammad Almatrafi, M., Abdullah Almasoudi, I., Cheema, E., Hassan Almalki, W., E Elrggal, M., Mohamed, M. A., Saleem, F., Mansour Al-Gethamy, M., Pervaiz, B., Khan, T. M., & Azmi Hassali, M. (2019). Parents' self-directed practices towards the use of antibiotics for upper respiratory tract infections in Makkah, Saudi Arabia. *BMC Pediatrics*, *19*(1), 1–9. https://doi.org/10.1186/s12887-019-1391-0