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THE EFFECT OF HEALTH EDUCATION ON THE LEVEL OF KNOWLEDGE OF MOTHERS OF TODDLERS REGARDING PREVENTION OF ACUTE RESPIRATORY INFECTION IN TODDLERS

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ABSTRACT

Acute Respiratory Infection is one of the heaviest respiratory diseases that can cause death, people with Acute Respiratory Infection will suffer greatly if they are in humid, cold or too hot weather. Acute Respiratory Infection is the main disease of infant mortality and often ranks first in the morbidity rate of toddlers, early treatment of Acute Respiratory Infection disease is proven to reduce mortality. This study aims to determine the effect of health education on the level of knowledge of mothers under five regarding the prevention of Acute Respiratory Infection in toddlers in Gading Kencana Village, the working area of the West Bawang Bone Marga Health Center in 2023. This research design uses quantitative methods with a Pre-Experimental approach with a One Group Pretest – Postest Design approach with 55 respondents who are homogeneous samples and use purposive sampling techniques. Data obtained by distributing questionnaires. The results of the statistical test obtained a p-value of <0.005 which can be concluded Ha is accepted so that there is a significant difference. It is concluded that there is an influence of health education on the level of knowledge of mothers under five regarding the prevention of Acute Respiratory Infection in toddlers in Gading Kencana Village before counseling and after counseling.

Keywords: health education; knowledge; prevention; acute respiratory infection; toddler

INTRODUCTION

Acute Respiratory Infection is one of the most severe respiratory diseases that can cause death, ARI sufferers will suffer greatly if they are in humid, cold or too hot air (Saydam, 2011). Acute Respiratory Infection is the main cause of infant mortality and often ranks first in the number of toddlers, early treatment of Acute Respiratory Infection has been proven to reduce mortality (Irianto, 2014). The World Health Organization (WHO) estimates that the incidence of Acute Respiratory Infection in developing countries with a toddler mortality rate of over 40 per 1000 live births is 15% - 20% per year at the age of toddlers. In Indonesia, Acute Respiratory Infection always ranks first as a cause of death in infants and toddlers. Based on the prevalence of ARI in 2016 in Indonesia, it has reached 25% with a range of incidence of around 17.5% - 41.4% with 16 provinces having a prevalence above the national figure. In addition, Acute Respiratory Infection is also often on the list of the 10 most common diseases in hospitals (Kusuma, 2014).

According to the 2018 Riskesdas data, the prevalence of Acute Respiratory Infection in Indonesia is 4.4%. Meanwhile, the highest prevalence of Acute Respiratory Infection by province, namely 15.4%, is in East Nusa Tenggara Province and Lampung Province is ranked 22nd with a prevalence of 7.4%, namely 31,462 cases, of which 2,963 cases occurred in toddlers. From these data, there was an increase in Acute Respiratory Infection cases from 2017-2018. Based on the 2018 Riskesdas Lampung Province Report, of the 15 districts that ranked first in the prevalence of Acute Respiratory Infection, West Lampung Regency was 12.67% while West Tulang Bawang Regency was ranked 10th with a value of 5.89% (Lampung Health Office, 2022). From the recapitulation data of the monthly report of the P2 (Prevention and Management) Acute Respiratory Infection

program at the Marga Kencana Health Center, there were 58 cases in all health centers and 34 cases during health center visits during January and February 2023, of which there were 10 cases of Acute Respiratory Infection in toddlers (UPTD Marga Kencana Health Center, 2023).

Acute Respiratory Infection can be prevented if mothers know or increase their knowledge about ISPA, both regarding regulating toddlers' diets, creating a comfortable environment, avoiding triggers, and so on (Andarmoyo, 2012). Mothers' knowledge about Acute Respiratory Infection is one of the factors that plays a very important role in protecting toddlers from Acute Respiratory Infection, such as how to prevent and treat it. Mothers who have less knowledge about preventing Acute Respiratory Infection can cause more widespread infections that attack the lower respiratory tract system and cause systemic complications (Anisa et al., 2013). One effort that can be made to increase mothers' knowledge about ISPA management is by providing health education. This increase in knowledge is very much needed by mothers so that they can understand the management and prevention of ARI, health education is an important picture and part of the role of professional nurses in health promotion and disease prevention efforts (Fatmawati, 2017). The aim of this research is The Effect of Health Education on the Level of Knowledge of Mothers of Toddlers Regarding the Prevention of Acute Respiratory Infection in Toddlers in Gading Kencana Village, Marga Kencana Health Center Work Area, West Tulang Bawang in 2023.

METHOD

This type of research is quantitative with a Pre Experimental design with a One Group Pretest - Posttest Design approach. This research was conducted on July 17 - August 16, 2023, in Gading Kencana Village, Marga Kencana Health Center, West Tulang Bawang Regency. The population in this study was 118 respondents, namely all mothers who have toddlers in Gading Kencana Village, Marga Kencana Health Center, West Tulang Bawang Regency and a research sample of 55 people taken using a purposive sampling technique. The independent variable in this study is health education for mothers who have toddlers. The dependent variable in this study is the level of knowledge of mothers of toddlers regarding the prevention of Acute Respiratory Infection in toddlers. There are 4 data processing in this study, namely Data Editing, Coding, Processing, Cleaning and data analysis using a computer program which is carried out in 2 stages, namely univariate analysis and bivariate analysis.

RESULT AND DISCUSSION

Respondent Characteristics

Based on table 1, it is known that most of the respondents' ages are in the age range of 21-35 years, which is 36 people (65.5%) and the age range of 36-45 years, which is 19 respondents. Meanwhile, the level of education of the respondents is 2 people (3.6%) at elementary school level, 12 people (21.8%) at junior high school level, 32 people (58.2%) at high school level and 9 people (16.4%) at college level.

Table 1.
Frequency Distribution of Characteristics of Mothers of Toddlers

Characteristics	f	%
Age		
21 – 35 Years	36	65,5
36 – 45 Years	19	34,5
Education		
SD	2	3,6
SMP	12	21,8
SMA	32	58,2
Perguruan Tinggi	9	16,4

Data Analysis

Univariate Analysis

In the research process, 55 respondents, namely mothers who have toddlers, were given treatment or health education with counseling using leaflets about Acute Respiratory Infection. Before the researcher gave the treatment, the researcher first gave a pre-test to the respondents using a questionnaire. After that, the researcher provided counseling to the respondents using leaflets provided by the researcher. After being given treatment, the respondents were given a post-test using the same questionnaire as the pre-test questionnaire. The results of the study on respondents in Gading Kencana Village, UPTD Marga Kencana Health Center in 2023 regarding Health Education on the Level of Knowledge of Toddler Mothers Regarding Acute Respiratory Infection Prevention are as follows:

Table 2.
Frequency Distribution of the Level of Knowledge of Mothers of Toddlers Regarding the Prevention of Acute Respiratory Infection Before and After Health Education was Given

Health Education	Category	f	%
Before being given Health Education	Good	6	10,9
	Enough	10	18,2
	Less	39	70,9
After being given Health Education	Good	51	92,7
	Enough	2	3,6
	Less	2	3,6

Based on table 2, it is known that before being given health education, the majority of respondents were in the poor category, namely 39 respondents (70.9%) and the good category, namely 6 respondents (10.9). Then, after being given health education, the number of respondents increased to the good category with 51 respondents (92.7%), while the poor category became 2 respondents (3.6%).

Table 3.
Average results of Pre-Test and Post-Test of respondents

Variabel	*Mean*	*Median*	SD	Min-Max
Pre test	10,24	11	3,57	4-18
Post test	17,87	18	2,49	6-20

Based on table 3, it is known that from 55 respondents, the mean pre-test score was 10.24 and the post-test score was 17.87 (there was a difference of 7.63), the median pre-test score was 11.00 and

the post-test score was 18.00. The minimum pre-test score was 4.00 and the post-test score was 6.00, while the maximum pre-test score was 18.00 and the post-test score was 20.00.

Bivariate Analysis

The following are statistical results regarding the Influence of Health Education on the Level of Knowledge of Mothers of Toddlers Regarding the Prevention of Acute Respiratory Infection in Toddlers in Gading Kencana Village, Marga Kencana Health Center Working Area, West Tulang Bawang in 2023.

Table 4.
Effectiveness of the Level of Knowledge of Toddler Mothers Regarding Prevention of Acute Respiratory Infection Before and After Health Education

Variable	*Mean*	n	*SD*	ρ *value*
Before being given health education	10,24	55	3,57	0,000
After being given health education	17,87	55	2,49	
Difference	7,63			

Based on Table 4.4 above, it is known that the average (mean) value of respondents before being given health education was 10.24 while the average (mean) value of respondents after being given health education was 17.87. From the mean value, it is known that there is a difference in the average score before and after being given health education, namely 7.63. The results of the statistical test obtained a p value of 0.000 (p value $<\alpha = 0.05$). So it can be concluded that there is a significant relationship between health education and the level of maternal knowledge regarding the prevention of ARI in toddlers at the Marga Kencana Tulang Bawang Barat Health Center in 2023.

Mother's Knowledge Level Before Being Given Health Education

Based on the results of the study, it shows that before being given health education regarding Acute Respiratory Infection from 55 respondents, there were 39 respondents who were in the less category and 10 respondents who were in the sufficient category. This study is in line with the study of Rahayu and Muhammad (2018) at the Leuwigajah Health Center, South Cimahi District, where data on parental knowledge about ARI before being given health education was obtained, most of which were 27 respondents (43.5%) had sufficient knowledge and 19 respondents (30.6%) had insufficient knowledge. This study is also in line with the study of Dheny, et al. (2018) at the Abadi V Gonilan Kartasura Posyandu, where data on parental knowledge about ARI before being given health education was obtained, most of which were in the sufficient category, 71 respondents (70.2%), and 15 respondents (14.9%) were in the less category. Knowledge is something that is known by someone related to health, illness or health. Everyone has different knowledge depending on each individual's sense of something (Notoatmojo, 2018).

Knowledge can be used as a tool to gain awareness so that someone can behave according to the knowledge they have. Changes in a person's behavior based on knowledge, awareness and positive traits will be consistent because there is no coercion from other parties (Arini, 2019).
According to the results of observations made by researchers, there is still a lack of knowledge of mothers of toddlers regarding the prevention of Acute Respiratory Infection in Gading Kencana Village, UPTD Marga Kencana Health Center, West Tulang Bawang in 2023 due to the lack of information obtained by mothers and the age range of mothers who are still young, namely between

21-35 years so that the lack of experience, mothers of toddlers need health education. In accordance with Mubarak's theory (2011) increasing age of a person will experience changes in physical and psychological (mental) aspects. In the psychological or mental aspect, a person's level of thinking becomes more mature and adult. According to (Kumalasari, 2012) good knowledge will lead someone towards rational and responsible behavior and can help make the most important personal decisions. Researchers assume that the more mature a person is, the higher their level of experience will be, which will influence respondents in efforts to prevent Acute Respiratory Infection. Based on the description above, researchers argue that the main cause of the lack of knowledge of mothers of toddlers regarding the prevention of Acute Respiratory Infection is the lack of information possessed by mothers and the mother's age factor so that health education is deemed necessary to be carried out so that mothers of toddlers experience increased knowledge.

The Level of Knowledge of Mothers After Being Given Health Education

Based on the results of the study, it showed that after being given health education regarding ARI from 55 respondents, there was an increase in respondents who were included in the good category to 51 people (92.7%) and 2 people (3.6%) each in the sufficient and less categories. This study is in line with the study of Rahayu and Muhammad (2018) at the Leuwigajah Health Center, South Cimahi District, where data on parental knowledge about ARI after being given health education was obtained, most of which were 27 respondents (43.5%) had sufficient knowledge and 19 respondents (30.6%) had insufficient knowledge. This study is also in line with the study of Dheny, et al. (2018) at the Abadi V Gonilan Kartasura Posyandu, where data on parental knowledge about ARI before being given health education was obtained, most of which were in the sufficient category, most of which were 71 respondents (70.2%), and 15 respondents (14.9%) had insufficient category.

ARI can be prevented if mothers know or increase their knowledge about Acute Respiratory Infection, both regarding regulating toddlers' diets, creating a comfortable environment, avoiding triggers, and so on (Andarmoyo, 2012). Mothers' knowledge about Acute Respiratory Infection is one of the factors that plays a very important role in protecting toddlers from Acute Respiratory Infection, such as how to prevent and treat it. Mothers who have less knowledge about preventing Acute Respiratory Infection can cause wider infections that attack the lower respiratory tract system and cause systemic complications (Anisa et al., 2013). One effort that can be made to improve mothers' knowledge about managing Acute Respiratory Infection is by providing health education. This increase in knowledge is very much needed by mothers so that they can understand the management and prevention of Acute Respiratory Infection, health education is an important picture and part of the role of professional nurses in efforts to promote health and prevent disease (Fatmawati, 2017).

According to (Notoatmodjo 2013) high knowledge is not only influenced by formal education but informal education and the experience process also have an influence. This is in line with showing that most respondents have high school education, namely 32 people (58.2%) and college level, namely 9 people (16.4%). In addition to education, ISPA prevention efforts are also influenced by age. Based on the results of the study, it showed that some respondents were aged 21-35 years, namely 36 people (65.5%). Respondents' education can affect a person's knowledge, but it does not mean that if they are low educated, their knowledge will also be low, besides that mothers who pay attention to their children's health conditions will know more about the early signs of the disease

so that they can take the right action. Although the respondents in this study were mostly high school educated and the least were college educated, knowledge about Acute Respiratory Infection was even or not much different from respondents with high education. Knowledge can increase and influence someone if the person often interacts and gets information from outside such as from friends, neighbors or the media. According to researchers, the decrease in musculoskeletal complaints in workers is due to regular stretching exercises such as stretching exercises for approximately 15 to 30 minutes per day 4 hours after work can reduce musculoskeletal complaints. The results of the study showed that all 35 workers experienced a decrease in musculoskeletal complaints.

Effectiveness of Health Education on the Level of Mothers' Knowledge Regarding the Prevention of Acute Respiratory Infection in Toddlers

Based on the results of the study, it shows that there is an effect of health education on the level of knowledge of mothers of toddlers regarding the prevention of Acute Respiratory Infection in Gading Kencana Village, UPTD Tulang Bawang Barat with the results of the statistical test obtained a □-value of 0.000 (p-value <α = 0.05) then Ha is accepted, which means there is a difference before and after health education is given. This means that the health education provided by the researcher is effective. This study is in line with Aulia's (2020) research on the influence of health education on efforts to prevent Acute Respiratory Infection in toddlers at the Kagongan Posyandu, Kalibawang Kulon Progo Health Center Working Area, where the results of the study showed that before health education was carried out on efforts to prevent ISPA in toddlers, the most were in the sufficient category with 18 respondents (60.0%) and after health education on efforts to prevent Acute Respiratory Infection in toddlers increased to the good category with 25 respondents (83.3%).

Mother's knowledge about Acute Respiratory Infection is one of the factors that plays a very important role in protecting toddlers from Acute Respiratory Infection, such as how to prevent and treat it. Mothers who have less knowledge about preventing Acute Respiratory Infection can cause more widespread infections that attack the lower respiratory tract system and cause systemic complications (Anisa et al., 2013). One effort that can be made to increase mothers' knowledge about ISPA management is by providing health education. This increase in knowledge is very much needed by mothers so that they can understand the management and prevention of ISPA.

During the study, many mothers of toddlers were seen enthusiastic in receiving the counseling given and the level of curiosity of the mothers was very high, for example, the mothers focused on listening to the material and actively asked questions about Acute Respiratory Infection. According to the researcher's observations, this can happen because the mother's education level is high, as evidenced by the fact that some respondents are high school graduates and 16.4% are college graduates and are still young so that their curiosity and responsiveness are very high. Then from the results of this observation, it can be proven by the increase in the respondent's questionnaire score after being given counseling and before being given counseling, namely the mean pre-test score of 10.24 while the post-test was 17.87 (there was a difference of 7.63). Based on the description above, the researcher argues that health education has proven to be able to increase mothers' knowledge about Acute Respiratory Infection and how to prevent it. This is because health education is an action to influence others, whether individuals, groups, or communities, so that they do what is expected by the educator or health education and within this limitation there are

elements of input, process and output. The expected result of an education or health education is health behavior, or behavior to maintain and improve health that is conducive to the target of health education. It is hoped that by providing this health education, the knowledge of mothers of toddlers about Acute Respiratory Infection will increase and not only know, mothers are expected to be willing and able to implement and invite families and communities to behave in a healthy way and protect the environment in order to prevent various diseases, especially Acute Respiratory Infection.

CONCLUSION

The level of knowledge of mothers before being given health education was mostly in the less category, namely 39 respondents (70.9%), the sufficient category was 10 respondents (18.2%), the good category was 6 respondents (10.9%) and after being given health education, the most were in the good category, namely 51 respondents (92.7%), the sufficient category and the less category, namely 2 respondents (3.6%). The average (mean) score of respondents before health education was 10.24 while the average (mean) score after being given health education was 17.87. There was a difference in the average (mean) score with the difference in scores before and after being given health education, namely 7.63. There is an influence of health education on the level of knowledge of mothers of toddlers regarding the prevention of Acute Respiratory Infection in toddlers in Gading Kencana Village, UPTD Marga Kencana Health Center, Tulang Bawang with the results of the statistical test obtained a ρ-value of 0.000 (ρ-value $<\alpha = 0.05$).

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