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The Impact of Leaflet and Turnsheet Counseling on Parents' Knowledge of Toddler Pneumonia

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ABSTRACT

Pneumonia is a disease that affects the upper and lower respiratory tract. It is frequently reported by parents, children, elderly people, and those with health issues. Complications that may arise if pneumonia is not treated promptly include pneumonia, brain membrane infection, kesadaran penurunan, and possibly even kematian. The purpose of this study is to understand the impact before and as appropriate, to provide interventions using leaflets and lembar balik about people's knowledge of pneumonia in the baby. This type of research is quantitative research using experiments. The population in this study consists of all individuals who have a risk of contracting pneumonia, which is around 47 people. The sample was drawn using the total sampling technique because the population was only about 50 people. Analysis results based on prior knowledge and intervention outcomes using Wilcoxon uji with p=0,000 (p<0.05). It can be inferred that there is a negative impact on health by using a booklet to educate people about pneumonia in the baby. The results of this study can be used as a source of information and to increase people's awareness of the need of maintaining good health so that pneumonia is not a serious illness.

Keywords: knowledge flipchart, leaflet, parents, pneumonia, toddlers

BACKGROUND

Toddlers are a category of children aged 0-59 months or 0-5 years. Toddlers are an age group that is vulnerable to various infectious diseases, one of which is pneumonia. This is because the toddler's immune system is still weak, where the formation of antibodies and respiratory organs is not yet perfect and optimal (Nurjamilah Sany et al., 2022).

Pneumonia can be defined as an acute infection that attacks the upper and lower respiratory tract from the nose, ears, larynx, trachea, bronchus, bronchioles to the lungs, lasting approximately 14 days and has the potential to be fatal. Pneumonia is a health problem that needs serious attention, especially for toddlers who are very vulnerable to being infected with this disease because the toddler's immune system has not yet been formed optimally. In this case, pneumonia is the highest cause of death in children under five in various developing countries. (Gobel Bella, et al., 2021).

World Health Organization (WHO), in 2020 it was discovered that deaths of children under five due to pneumonia in the world ranked first. The Under Five Mortality Rate (UMFR) for PNEUMONIA is 41 per 1,000 children, while the Infant Mortality Rate (IFR) for pneumonia is 45 per 1,000 children. The incidence of pneumonia in developed countries is caused by viruses, while in developing countries it is caused by bacteria. In a year, deaths due to pneumonia in children are 2,200 children every day, 100 children every hour, and 1 child per second. This is the highest cause of child mortality compared to other infections throughout the world (WHO 2020).

In Indonesia, pneumonia is a disease that often occurs in children. Pneumonia in toddlers is a cough and cold disease in toddlers in Indonesia. It is estimated that the average toddler suffers from coughs and colds 3 to 6 times a year. The incidence of pneumonia in Indonesia according to the results of the 2021 Basic Health Research (Riskesdas) is 20.06%, almost the same as the previous year's data of 20.56%, while the prevalence of pneumonia in toddlers according to the characteristics of the toddler age group 0 to 11 months is 9.4%, 12 to 23 months is 14.4%, 24 to 35 months is 13.8%, 36 to 47 months is 13.1%, and 48-59 months as much as 13.5%. Meanwhile, according to gender characteristics, it was 13.2% male and 12.4% female. The incidence of pneumonia is still a major health problem in Indonesia, this disease is categorized as being in the 10th most common disease, where this disease is still a frequent patient visit at Community Health Centers (Ministry of Health of the Republic of Indonesia, 2021).

The Health Service (Dinkes) of Ternate City, North Maluku stated that pneumonia was the most dominant disease out of 10 disease patterns for the last 4 years, from 2017 to 2020. Over 4 years, the incidence of pneumonia in Ternate City was 159,978 cases. In detail, in 2017 there were 42,289 cases, in 2018 there were 18,786, in 2019 there were 95,542 and in 2020 there were 3,361. In 2021, the incidence of pneumonia in toddlers in Ternate City was 432 toddlers, while in 2022 it increased to 492 toddlers.

Pneumonia that occurs in toddlers can be caused by various viruses and bacteria. There are 300 types of viruses and bacteria that cause pneumonia. The viruses that cause PNEUMONIA are Myxovirus, Adenovirus, Cornavirus, Mycoplasma, Hersevirus, Steptococcus, Klebsiella Penumonie, etc. Bacteria that cause pneumonia include the Genus Steptoccocus, Pneumococcus, Hemovirus, Bordetella, Corinebacterium, etc. (Nur Syamsi, 2018).

Toddlers suffering from pneumonia begin when viruses or bacteria carried through air particles in the form of sneezes or coughs from people who are infected with pneumonia are inhaled by the toddler. Germs can also enter the respiratory tract when a toddler holds objects that have been contaminated with viruses or bacteria that cause pneumonia and the toddler's hands unconsciously hold his nose or mouth, from there germs can enter the nasal cavity and attach to the epithelial cells of the nose. When the cilia on the surface of the respiratory tract move following the respiratory process, the virus can enter the pharynx. Germs will follow the respiratory process so that these germs can enter the bronchi, bronchioles and even the lungs and irritation and inflammation occur which causes symptoms of infection such as coughs, colds, excessive secretions, fever, etc. In general, toddlers are very susceptible to pneumonia because their body's immune system against viruses that cause infection is still not well formed. That is why their bodies find it difficult to fight bacterial and viral infections that cause pneumonia (Tary et al., 2022).

METHODS

The method of health education must be adjusted to the number and characteristics of the target audience in order to achieve optimal results (Notoatmodjo, 2014). There are three common types of methods used in health education: individual methods, group methods, and mass methods. The individual method is a one-on-one approach aimed at fostering new behaviors or providing understanding to individuals who have begun to show interest in behavior change or innovation. This method is personal in nature and allows for intensive two-way communication between the educator and the target individual. The group method, on the other hand, is implemented by considering the number of participants as well as their level of formal education. This method facilitates interaction and discussion among participants, encouraging greater engagement in the education process. Meanwhile, the mass method is used to reach a broader public audience. It typically utilizes mass media such as

radio, television, pamphlets, billboards, or social media to effectively deliver information to a large number of people in a relatively short time.

RESULTS

Respondent Demographic Data

Demographic data measured include: age, occupation, education, child gender, toddler age. The frequency can be seen in the table below.

Table 1. Frequency Distribution Based on Age, Occupation, Education, Child Gender, Toddler Age

Characteristics	n	%
Age		
<25 years	21	44,7
25-35 years	20	42,6
>35 years	6	12,8
Work		
Housewife	21	44,7
Self-employed	22	42,6
Civil servants	4	12,8
Education		
Elementary School	5	10,6
Junior High School	13	27,7
Senior High School	23	48,9
College	6	12,8
Child's Gender		
Man	20	42,6
Woman	27	57,4
Toddler Age		
0-1 years	14	29,8
2-3 years	18	38,3
4-5 years	15	31,9
Amount	47	100,0

Table 1 above shows that most respondents are aged <25 years, as many as 21 respondents (44.7%) and a small number are aged >35 years, as many as 6 people (12.8%). Based on their occupation, most respondents working as self-employed as many as 22 respondents (46.8%) and a small part working as civil servants as many as 4 respondents (8.5%). Based on education, most respondents graduated from high school as many as 23 respondents (48.9%) and a small part had a college education as many as 6 respondents (12.8%). Based on child gender, most respondents were female as many as 27 respondents (57.4%) and a small part were male as many as 20 respondents (42.6%). Based on the age of toddlers 2-3 years as many as 18 respondents (38.3%) and a small part aged 0-1 years as many as 14 people (29.8%).

Univariate Analysis

Level of Parental Knowledge About Pneumonia in Toddlers

Table 2. Distribution of Level of Parental Knowledge About Pneumonia in Toddlers

Knowledge	n	Mean	SD	Min	Max
Pre-test	47	4,36	1,223	3	7
Post-test	47	6,85	1,179	5	9

Table 2 above shows that the average level of parental knowledge about pneumonia in toddlers before being given counseling using leaflets and flipcharts to respondents was 4.36 with a standard deviation of 1.223, a minimum value of 3 and a maximum value of 7. Meanwhile, the average level of parental knowledge about pneumonia in toddlers after being given counseling using leaflets and flipcharts to respondents was 6.85 with a standard deviation of 1.179, a minimum value of 5 and a maximum value of 9.

Table 3. Frequency Distribution Based on the Level of Parental Knowledge about Pneumonia in Toddlers Before and After Being Given Health Education Through Leaflets and Flip Sheets

	Pre-test		*Post-test*	
Pengetahuan	**n**	**%**	**n**	**%**
Good	15	24,2	39	88,7
Not enough	32	75,8	8	11,3
Amount	47	100	47	100

Table 3 above distribution based on knowledge before being given health education through leaflets and flipcharts, respondents involved in this study were 47 people. Most respondents had poor knowledge of 32 people (75.8%), and a small number of respondents had good knowledge of 15 people (24.2%). While knowledge after being given health education through leaflets and flipcharts, most respondents had good knowledge of 39 people (88.7%), and a small number of respondents had poor knowledge of 8 people (11.3%).

Bivariate Analysis

Bivariate analysis will describe whether there is a difference in the average level of parental knowledge about pneumonia in toddlers before and after being given counseling using leaflets and flipcharts to respondents. Bivariate analysis is carried out to prove the formulated hypothesis. The bivariate test used is the paired t-test.

Before conducting bivariate analysis, a data normality test was first conducted using the Shapiro Wilk test on the level of parental knowledge about pneumonia in toddlers before and after being given counseling with using leaflets and flip sheets aims to determine whether the distribution of research data is normal or not. If the p value is > 0.05, then the data is normal.

Normality Test

Table 4. Results of the Normality Test of Data on the Level of Parental Knowledge about Pneumonia in Toddlers Before and After the Intervention

Variable	**n**	***p-value***
Pre-test knowledge level	47	0,000
Post-test knowledge level	47	0,001

The results of data analysis with the Shapiro Wilk test on the average level of parental knowledge about pneumonia in respondents before the intervention obtained a value of p = 0.000 (p <0.05) and the level of parental knowledge about pneumonia after the intervention obtained a value of p = 0.001 (p <0.05). Because both are not normal, the Wilcoxon test is used to test the difference between the two observations.

Differences in the Level of Parental Knowledge about Pneumonia in Toddlers Before and After Providing Counseling Using Leaflets and Flip Sheets.

Table 5. Average Difference in Parents' Knowledge Levels about

Knowledge	n	Mean	SD	Min	Max	***p-value***
Pre-test	47	4,36	1,223	3	7	0,000
Post-test	47	6,85	1,179	5	9	

The results of the analysis of table 5.5 above can be concluded that the average level of parental knowledge about pneumonia in toddlers before being given counseling using leaflets and flipcharts to respondents was 4.36 with a standard deviation of 1.223, a minimum value of 3 and a maximum value of 7. Meanwhile toddlers after being given counseling using

leaflets to respondents was 6.85 with a standard deviation of 1.179, a minimum value of 5 and a maximum value of 9.

After conducting a significance test using the Wilcoxon test on the comparison before and after being given counseling using leaflets and flipcharts on parental knowledge about pneumonia in toddlers, a significant change was found with p = 0.000 (p <0.05). This shows that there is an effect of counseling using leaflets and flipcharts on parental knowledge about pneumonia in toddlers.

DISCUSSION

Respondent Characteristics

Based on the results of the study, most respondents were aged <25 years as many as 21 respondents (44.7%) and a minority aged >35 years as many as 6 people (12.8%). Age is a factor that influences a person's knowledge. A person's knowledge is influenced by several factors, one of which is age. As a person's age increases, a person's wisdom and ability to make decisions and think rationally will also increase.

As a person ages, they 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 (Mubarok, 2017). The older a person is, the more knowledge or science they have (Notoatmodjo, 2018). Researchers assume that the more mature a person is the higher the level of experience, the more it will influence respondents in caring for their children suffering from pneumonia.

The majority of respondents work as self-employed as many as 22 respondents (46.8%) and the minority work as civil servants as many as 4 respondents (8.5%). Work affects knowledge, people who often interact with others will be exposed to more information or knowledge compared to people without interaction with others. A housewife interacts more often with her family or with other mothers when looking after her child playing outside so that they can exchange information and experiences with each other regarding health information. In addition, it can be through television, magazines or by easily accessing the internet so that it can increase knowledge to prevent disease, maintain health and improve the health status of the family.

Dewi's research results (2019) concluded that employment status has a relationship and influence on ISPA care in toddlers. Someone who works is easier to gain knowledge and experience about caring for toddlers suffering from ISPA. Working parents can get information about how to care for toddlers suffering from ISPA from their workplace, for example from friends who have experience caring for children suffering from ISPA or get various health information through the internet, newspapers, magazines and social media in the environment where they work.

Based on the respondents' education, the majority of respondents graduated from high school, as many as 23 respondents (48.9%) and a minority had a college education, as many as 6 respondents (12.8%). Higher education makes it easier someone in seeking information so that the knowledge they have is better, on the other hand, lack of education will hinder the development of a person's attitude towards healthy living changes. (Riskesdas, 2018) This is in accordance with the opinion of Notoatmodjo (2018) who said that a person's or community's behavior regarding health is determined or formed from 3 factors, one of which is the predisposing factor, namely knowledge. Knowledge is actually not formed by only one sub, namely education, but there are other sub-fields that will also affect a person's knowledge, such as experience, information, personality and others.

Level of Parental Knowledge About Pneumonia in Toddlers Before Intervention

Based on the results from 47 respondents, it showed that the average level of parental knowledge about pneumonia in toddlers before being given counseling using leaflets and flipcharts with the Shapiro Wilk test on the average level of parental knowledge about pneumonia in respondents before the intervention obtained a p value = 0.000 (p <0.05).

Knowledge is the result of knowing obtained through sight or hearing and knowledge is also influenced by education (Wawan & Dewi, 2017). There are several factors that influence knowledge, namely age, experience, work, environment, socio-culture, information and education

(Notoatmodjo, 2018). A person can have high knowledge if they have good knowledge and are supported by experiences in participating in health counseling activities such as health education or health promotion (Notoatmodjo, 2018).

The results of Muflihatunnisa's (2020) study showed that efforts to prevent pneumonia in toddlers after health education on efforts to prevent pneumonia in toddlers increased in the good category by 25 respondents (83.3%). This shows that health education has a great influence on knowledge where there has been a change in knowledge as expected from health education, namely from not knowing to knowing.

The results of Triyanto's study (2016) with the results of 28 respondents (27.7%) that there is a significant influence of health education on increasing knowledge, parents are expected that this knowledge can later influence parental behavior in efforts to prevent pneumonia in toddlers. Changes in a person's behavior are influenced by the high level of knowledge obtained from health education which can have a positive impact on behavioral changes due to the learning process, because learning is a process of change from not knowing to knowing (Notoatmodjo, 2018).

CONCLUSION

The majority of respondents were under 25 years old, self-employed, had a high school education, and had female toddlers aged 2–3 years. Before receiving health education through leaflets and flip sheets, most parents had a low level of knowledge about pneumonia in toddlers. However, after the education was provided, the majority showed an improvement to a good level of knowledge. This indicates that counseling using leaflets and flip sheets has a positive impact on increasing parents' knowledge about pneumonia in toddlers.

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