The Effect of Flip Chart Media Health Education on the Level of Knowledge of the Dangers of Smoking in Preventing ARI in Parents Who Have Toddlers

Ni Putu Sriwahyuni[1], Ni Luh Putu Yunianti Suntari[2]

[1,2]Department of Nursing, Poltekkes Kemenkes Denpasar, Denpasar, Bali, Indonesia

Corresponding Author: yuni.suntari@yahoo.com

ABSTRACT: ARI stands for Acute Respiratory Tract Infection, which refers to a collection of diseases that affect the upper and lower respiratory tract. Acute respiratory infections (ARI) are the leading cause of morbidity and mortality from infectious diseases worldwide. The incidence of ARI shows fluctuating numbers every year. The purpose of this study was to determine how much influence flip chart media health education has on the level of knowledge of the dangers of smoking in preventing ARI in parents who have toddlers in the Banjarangkan II community health center work area. The research method used is Pre-experiment with the type of One-Group Pre test-Post test Design. The sampling technique used was nonprobability sampling with incidental sampling in accordance with the inclusion and exclusion criteria with a sample size of 252 respondents. Data collection using a questionnaire sheet. Based on the results of the Wilcoxon non-parametric statistical test, the p-value at sig. (2-tailed) of 0.001 (p < 0.05). There was an increase in knowledge value after being given health education by 24.96%. The results of this statistical test prove that there is an increase in the value of knowledge level after being given flip chart media health education about the dangers of smoking in preventing ARI in parents who have toddlers in the working area of Banjarangkan II community health center.

KEYWORDS: Health Education, Dangers of Smoking, ARI Prevention.

I. INTRODUCTION

Acute Respiratory Infection, or ARI for short, is a term borrowed from the English word Acute Respiratory Infections (ARI). Three components make up the name ARI: infection, respiratory tract, and acute [1]. The illness begins in the upper respiratory tract and progresses throughout the lower respiratory tract, including the middle ear cavity, sinuses, pleura and alveoli. As the illness lasts for 14 days, it fits the definition of acute infection. Fever, runny nose, sore throat and cough lasting less than two weeks are signs of ARI [2]. ARI often occurs in children under the age of five, often referred to as toddlers [3]. Infants and children under the age of five are vulnerable to various diseases, including acute respiratory infections (ARI), both pneumonia and non-pneumonia [4]. The incidence of ARI in children under five years of age in Bali fluctuates every year, in 2020 the incidence of pneumonia was 30.9%. In 2021 the incidence of pneumonia was 8.4%. In 2022 pneumonia was 53.2%. [5].

Compared to smokers, those in the immediate family of smokers are more likely to fall ill due to effect being secondhand smokers. Cigarette smoke can lead to the increase cases of Acute Respiratory Tract Infection (ARI) in children under the age of five [6]. Indonesia has a high infant mortality rate which is largely due to the high frequency of acute respiratory illness (ARI) in children under the age of five. Breathing difficulties, lung problems, elevated blood carbon dioxide levels, heart problems, empyema, abscesses, emphysema, chronic bronchitis, and other infections such as cellulitis, osteomyelitis, and mastoiditis are possible consequences of untreated chronic lung dysfunction [7]. Eradication and prevention of ARI is very important as the disease is highly contagious and can cause death. Possible adverse effects are lung hemorrhage, acute respiratory distress syndrome (ARDS), and death [8].

II. RESEARCH METHOD

The research method used is Pre-experiment with the type of One-Group Pre test-Post test Design. The sampling technique used was nonprobability sampling with incidental sampling with a sample size of 252 respondents. Data collection on the level of parental knowledge using

a questionnaire sheet given to respondents, namely parents who have toddlers. Respondents were given health education for one meeting for approximately 15-20 minutes. This study aims to determine the effect of flip chart media health education on the level of knowledge of the dangers of smoking in preventing ARI in parents who have toddlers in the working area of Banjarangkan II community health center.

Subject Pre Test   Intervention   Post Test
K   --   OI   --   X   --   O2
Description :
    K   : Research subjects (parents who have toddlers)
    O1   : Measurement before being given flip chart media health education
    X   : Intervention (Providing health education flip chart media)
    O2   : Measurement after being given flipchart media health education on the level of knowledge of the dangers of smoking in preventing ARI.

Figure 1. Research Design The Effect of Flip Chart Media Health Education on the Level of Knowledge of the Dangers of Smoking In Preventing ARI In Parents Who Have Toddlers.

This study conducted in the Working Area of Banjarangkan II community health center, Banjarangkan District, Klungkung Regency. This study was conducted for 3 weeks in April. The population in this study were parents who had toddlers in the working area of Banjarangkan II community health center with a population 91 listed in January 2024. Sample criteria include:
1. Inclusion Criteria: (a) Parents who have toddlers in the working area Banjarangkan II community health center, (b) Parents who have never received flip chart media health education on the level of knowledge of the dangers of smoking in preventing ARI, (c) Parents who are willing to give consent to participate in this study.
2. Exclusion Criteria: (a) Parents of toddlers who have hearing loss and mental disorders, (b) Parents

of toddlers who are unable to actively participate in the study.

In this study, the sampling technique used was nonprobability sampling with incidental sampling, which is a spontaneous sampling method in which researchers can employ anyone who happens to meet them as a sample, assuming that they fit the criteria [9].

Primary data collected in this study include data on the identity of respondents and data on the level of knowledge of the dangers of smoking in preventing ARI in parents who have toddlers using a questionnaire sheet before and after being given health education. Secondary data in this study include an overview of the UPTD Banjarangkan II community health center Klungkung Regency and data on the number of ARI cases in toddlers.

Data collection methods in this study using a questionnaire method with 20 questions distributed directly to parents who have toddlers within the working area of Banjarangkan II community health center before and after being given flip chart media health education.

To determine the effect of flip chart media health education on the level of knowledge of the dangers of smoking in preventing ARI in parents who have toddlers assisted by a computer program, in this study the normality test was not carried out because the data used in this study used an ordinal scale that was non-parametric so that it directly used the Wilcoxon Test (with alpha = 0.05 or 95% confidence level). This study has obtained ethical permission from the Ethics Commission of the Health Polytechnic of the Ministry of Health Denpasar with number: DP.04.02 / F.XXXII.25 / 456 / 2024.

III. RESULTS AND DISCUSSION

Respondents who were sampled in this study were parents who had toddlers, either fathers or mothers who have toddlers in the working area of the Banjarangkan II Community Health Center, Klungkung Regency. Based on gender, age, education and occupation, the characteristics of respondents in this study can be shown in table 3 below:.

Table 1. Frequency Distribution of Respondent Characteristics in Parents Who Have Toddlers in the Working Area ofthe Banjarangkan II Community Health Center, Klungkung Regency in 2024.

No	Variable Frequency		Frequency (f)	Percentage (%)
1	Gender	Male	46	18,3
		Female	206	81,7
		Amount	**252**	**100,0**
2	Age	17-25 Years	29	11,5

		26-35 Years	150	59,5
		36-45 Years	62	24,6
		46-55 Years	10	4,0
		56-65 Years	1	4
		Amount	**252**	**100,0**
3	Education	Not in School	1	4
		Did not finish elementary school	1	4
		Elementary	14	5,6
		Junior High School	27	10,7
		Senior High School	147	58,3
		Higher Education	62	24,6
		Amount	**252**	**100,0**
4	work	Private Employee	68	27,0
		Self-employed	34	13,5
		Housewife	113	44,8
		Farmer / Gardener	9	3,6
		Civil Servant	28	11,1
		Amount	**252**	**100,0**

Based on table 1, it was found that most of the respondents were female with a percentage of 81.7%, aged 26-35 years with a percentage of 59.5%, high school / vocational high school education level with a percentage of 58.3% and most of the respondents' jobs were housewives with a percentage of 44.8%. Gender includes enabling factors or predisposing factors that influence a person's health behavior [10].

Most of the respondents were aged 26-35 years with a percentage of 59.5%. One of the divisions of age groups or age categories is early adolescence = 12 - 16 years, late adolescence = 17 - 25 years, early adulthood = 26 - 35 years, late adulthood = 36 - 45 years, early elderly = 46 - 55 years [11]. Age can affect a person's knowledge, the older someone get, the more mature in thinking and working one have. This illustrates that the older the age of the respondent, they will have higher level of knowledge. Age affects a person's attention span and mindset. The increase in age will also develop the power of capture and mindset, so that the knowledge one get improved [12].

The above study shows that most of the respondents' education level is Senior High School with a percentage of 58.3%. The existence of a relationship between the level of education and the level of knowledge cannot be denied that the higher a person's education, the better they can receive information and ultimately the more knowledge they have. Conversely, if a person has a low level of education, it will hinder the development of one's attitude towards receiving newly introduced information and values [13].

The results showed that most of the respondents' jobs were housewives with a percentage of 44.8%. The work environment can provide knowledge or experience to a person either directly or indirectly which will also affect a person's process of receiving knowledge [10]. Someone who works will certainly be able to gain a lot more experience, so that from this experience they will gain broader knowledge which can be used to determine actions.

The results of observing the level of knowledge of parents who have toddlers before and after being given health education media flip chart the dangers of smoking in preventing ARI in toddlers, shown in tabular form as follows:

Table 2. Frequency Distribution of Knowledge of Parents with Toddlers in the Working Area of Banjarangkan II Community Health Center, Klungkung Regency in 2024.

No	Knowledge	Before being given health education media flip chart the dangers of smoking in preventing ARI		After being given health education media flip chart the dangers of smoking in preventing ARI	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
1	Good	97	38,5	241	95,6
2	Enough	66	28,2	11	4,4

3	Less	89	35,3	-	-
Amount		**252**	**100,0**	**252**	**100,0**

Based on table 2, it was found that before being given health education on the dangers of smoking flip chart media in preventing ARI, respondents had knowledge of 35.3% in the poor category and 38.5% in the good category, then after being given health education on the dangers of smoking flip chart media in preventing ARI, respondents' knowledge increased to 95.6% in the good category and 4.4% in the fair category.

The results of measuring the knowledge of parents who have toddlers before being given flip chart media health education from 252 respondents obtained an average value of 67.90. The average value shows that the knowledge of respondents before receiving health education media flip chart the dangers of smoking in preventing ARI is in the good category. This indicates that there is still a need to improve their knowledge through appropriate health education.

This study is in line with research conducted by Tina et al., (2017) titled "The Effect of Health Education with Leaflet Media on Maternal Knowledge About Management of ARI in Toddlers at Posyandu", showing that the results of measuring knowledge in the pre-test about the management of ARI in toddlers at the posyandu show a good average value. This study involved 20 participants, the pre-test results showed that the average value of participants was 6.85 in the good category. This shows that there are still participants who do not understand the management of ARI in toddlers before being given health education [14].

Researcher analysis based on the research above, shows that there are similarities with this study, namely the results of knowledge in the pre-test before being given health education are in the good category and there are still participants who are in the less category. In this study, there is a lack of knowledge and information regarding the management of ARI in toddlers which of course will later be able to affect the health of toddlers. Factors that influence respondents' knowledge are education and a person's level of education is often an important indicator in determining how much information they receive and how well they process that information. People with higher levels of education tend to have better access to information sources, including medical literature, health guides and doctors' recommendations. They may also have a greater ability to understand complex information and apply it in daily practice. besides that, a person's age can also affect knowledge. In general, longer life experience can result in the accumulation of knowledge about various health conditions. Older people may be more often involved in the experience of caring for toddlers who have experienced ARI or have those in their family who have experienced ARI. However, it is important to remember that knowledge does not always increase with age.

Based on the results of measuring the knowledge of parents who have toddlers after being given health education media flip chart of 252 respondents obtained an average value of 92.86. The average value indicates that the knowledge of respondents after receiving health education media flip chart is in the good category. There was an increase in respondents' knowledge before and after being given health education media flip chart the dangers of smoking in preventing ARI with an average increase of 24.96%.

This research is in line with research conducted by Tina et al., (2017) titled "The Effect of Health Education with Leaflet Media on Maternal Knowledge About Management of ARI in Toddlers at Posyandu", found that the results of measuring knowledge in the post test about the management of ARI in toddlers at the posyandu showed an average value of 9.20 in the good category. This shows an increase of 2.35% [14].

The results obtained are also supported by research conducted by Dwi Purnomo et al., (2020) regarding the Effect of Health Education through Flip Chart media on the Level of Community Knowledge Regarding Dengue Hemorrhagic Fever, it was found that the mean or average pre test value showed the results of 67.2 and post test 85.2 with the meaning that the level of community knowledge after being given intervention improved by 18% [15].

Result above showed that there are similarities with this study, namely the results of the post test after being given intervention showed an increase in respondent's knowledge because respondents understand what has been conveyed when given health education which makes respondents understand. A person's knowledge can be influenced by several factors, one of which is information. Information is the raw material for building knowledge. The more information obtained by a person, the higher their level of knowledge because knowledge is the result of understanding and interpretation. With more information, a person has the potential to increase their understanding and knowledge. A person's knowledge is usually

obtained from various sources such as mass media, print media, electronic media, books, health workers, poster media, close relatives and so on. In line with this research, health education is one form of information provided to respondents. Health education is used to convey relevant information about certain health topics to respondents. Through health education, individuals can learn about healthy practices, common diseases, prevention methods, and the importance of a healthy lifestyle. With better knowledge, people tend to make better decisions regarding their health. Thus, health education plays a role in building knowledge that enables individuals to improve their knowledge about health.

The results of data analysis on parents who have toddlers before and after being given flip chart media health education on the level of knowledge of the dangers of smoking in preventing ARI, are shown in tabular form as follows:.

Table 3. Results of Data Analysis of Flip Chart Media Health Education on the Level of Knowledge of the Dangers of Smoking in Preventing ARI in Parents Who Have Toddlers in the Banjarangkan II Community Health Center Working Area, Klungkung Regency in 2024.

Variable	N	Mean	SD	Difference of Mean	Sig. (2-tailed)
Knowledge					
Before	252	67,90	21,273	24,96	0,001
After		92,86	7,139		

Based on the results of the analysis in table 3 which uses the Wilcoxon sign rank test on the level of knowledge of respondents, the results obtained sig. (2-tailed) $p = 0.001 < 0.05$, it can be concluded that Ho is rejected and Ha is accepted so that there is a significant influence in providing health education media flip chart on the level of knowledge of the dangers of smoking in preventing ARI in parents who have toddlers and there is an increase in knowledge of parents who have toddlers after being given health education media flip chart the dangers of smoking in preventing ARI by 24.96%.

In line with the above research, research conducted by Yuanta et al., (2023), on the Effect of Flip Chart Media on Knowledge Level and Diet in Hypertension Patients at Kaliwates Health Center, Jember Regency. The results of this study indicate an increase in respondents' knowledge after being given an intervention using flip chart media and it is shown that there is a significant effect before and after being given an intervention using flip chart media resulting in a p-value = 0.000 <0.05 [16].

The researcher's analysis based on the research above shows that there are similarities with this study, namely a significant effect before and after being given an intervention using flip chart media. This can occur because the use of flip chart media in this study really helps respondents to understand the information provided so that changes in knowledge levels can occur. Therefore, the increase in knowledge is due to the influence of health education with flip chart media. The provision of flip chart media health education has an impact on increasing the knowledge possessed by respondents. The use of flip chart media in this study really helps respondents to understand the information provided. Information can be provided in the form of a material that has been described using clear language, easy to understand and accompanied by attractive image illustrations, so that respondents will better understand the material presented. In addition, the use of flip chart media allows interaction between researchers and respondents, allowing them to be able to ask questions and discuss the information presented directly. This can increase respondents' understanding and involvement in the topics discussed.

IV. CONCLUSION

The results of the research conducted, obtained conclusions regarding the effect of health education media flip chart on the level of knowledge of the dangers of smoking in preventing ARI in parents who have toddlers in the working area of Banjarangkan II Community Health Center, namely as follows: Parents who have toddlers who are respondents are mostly female by 81.7%, aged 26-35 years by 59.5%, the last education is Senior High School by 58.3% and most of them are housewives by 44.8%. Parents who have toddlers who are respondents are mostly female by 81.7%, aged 26-35 years by 59.5%, the last education is Senior High School by 58.3% and most of them are housewives by 44.8%. The level of knowledge of the dangers of smoking in preventing ARI in parents who have toddlers who are respondents

before being given health education media flip chart as most have knowledge in the good category, namely 67.90%. The level of knowledge of the dangers of smoking in preventing ARI in parents who have toddlers who are respondents after being given health education flip chart media has increased in the good category to 92.86%. The results of data analysis using the Wilcoxon sign rank test on the level of knowledge of respondents obtained sig. (2-tailed) p = 0.001 <0.05, it can be concluded that Ho is rejected and Ha is accepted so that there is a significant influence in providing health education media flip chart on the level of knowledge of the dangers of smoking in preventing ARI in parents who have toddlers and there is an increase in knowledge of parents who have toddlers after being given health education media flip chart the dangers of smoking in preventing ARI by 24.96%

REFERENCES

[1]. Andini, R., & Astuti, Y. P. (2021). Klasifikasi Kelompok Umur Manusia Bedasarkan Analisis Dimensi Fraktal Box Counting Dari Citra Wajah Dengan Deteksi Tepi Canny. Jurnal Ilmiah Matematika, 9(2), 437–446

[2]. Anggraini, W., Aisyah, S., & Afrika, E. (2023). Faktor-Faktor Yang Berhubungan Dengan Kejadian Infeksi Saluran Pernapasan Akut (ISPA) Pada Balita Di Puskesmas Kemalaraja Kabupaten Ogan Komering Ulu Tahun 2023. Jurnal Kesehatan, 6(2), 205–213

[3]. Aryani, N., & Syapitri, H. (2018). Hubungan Kebiasaan Merokok Anggota Keluarga Di Dalam Rumah Dengan ISPA Pada Balita Di Puskesmas Helvetia Tahun 2016. Jurnal Kesehatan Masyarakat Dan Lingkungan Hidup, 3(1), 29–37. http://e-journal.sari-mutiara.ac.id/index.php/Kesehatan_Masyarakat

[4]. Dharmawati, I. G. A. A., & Wirata, I. N. (2016). Hubungan Tingkat Pendidikan, Umur, dan Masa Kerja dengan Tingkat Pengetahuan Kesehatan Gigi dan Mulut pada Guru Penjaskes SD di Kecamatan Tampak Siring Gianyar. Jurnal Kesehatan Gigi, 4(1), 1–5

[5]. Dinkes Bali. (2022). Profil Kesehatan 2022 Bali. Dinas Kesehatan Provinsi Bali

[6]. Dwi Purnomo, D., Windyastuti, E., & Devi Ardiani, N. (2020). Pengaruh Pendidikan Kesehatan dengan Flipchart tentang Bahaya Merokok pada Remaja terhadap Sikap Orang Tua di Desa Jati rejo Jatiroto Wonogiri. Jurnal Kesehatan, 1–12.

[7]. Khairunnisa z, K. z, Sofia, R., & Magfirah, S. (2021). Hubungan Karakteristik Dan Tingkat Pengetahuan Dengan Perilaku Pencegahan Covid-19Pada Masyarakat Desa Paya Bujok Blang Pase Kota Langsa. AVERROUS: Jurnal Kedokteran Dan Kesehatan Malikussaleh, 7(1), 53. https://doi.org/10.29103/averrous.v7i1.4395

[8]. Lea, A. I., Febriyanti, E., Trianista, S. O., & Bangsa, C. (2022). Penyakit ISPA, Status Gizi, Status Imunisasi, Balita C.

[9]. Mardiah, W., Mediawati, A. S., & Setyorini, D. (2022). Pencegahan Penularan Infeksi Saluran Pernapasan Akut dan Perawatannya Pada Balita Di Rumah Di Kabupaten Panggandaran. Dharmakarya: Jurnal Aplikasi Ipteks Untuk Masyarakat ISSN 1410 - 5675, 6(3), 258–261.

[10]. Sari, H. (2019). Hubungan Imunisasi DPT dengan Kejadian ISPA pada Balita di Wilayah Kerja Puskesmas Pancur Batu Tahun 2019. Poltekkes Kemenkes Medan.

[11]. Suardana, I. W., Sulisnadewi, N., Adil, L., & Wijaya, A. A. N. T. (2016). Akupresur Dan Perubahan Keluhan ISPA Pada Pasien Balita. Jurnal Gema Keperawatan, 9(2), 151–155.

[12]. Sugiyono. (2017). Metode Penelitian Kuantitatif, Kualitatif, dan R&D. Alfabeta.

[13]. Sulistyowati, A., Putra, K. W. R., & Umami, R. (2017). Tentang Perawatan Payudara Selama Hamil Di. 6(2), 40–43.

[14]. Tina, Yuli, & Ftmawati. (2017). Pengaruh Pendidikan Kesehatan Dengan Media Leaflet Terhadap Pengetahuan Ibu Tentang Penatalaksanaan Ispa Pada Balita Di Puskesmas Mambi Kabupaten Mamasa. Bina Generasi : Jurnal Kesehatan, 17(1), 78–94. https://doi.org/10.35907/jksbg.v10i1.85

[15]. Yuanta, Y., Widiyawati, A., Ayu, D. P., & Janna, T. A. (2023). Pengaruh Media Flipchart terhadap Tingkat Pengetahuan dan Pola Makan Pada Pasien Hipertensi Puskesmas Kaliwates Kabupaten Jember. Jurnal Ners, 7(2), 1100–1106. https://doi.org/10.31004/jn.v7i2.16925

[16]. Yuniati, N. L. M., & Suyasa, I. N. G. (2019). Di Desa Petak Kecamatan Gianyar Kabupaten Gianyar Tahun 2019. 9(2), 136–148