Analysis of the Level of Knowledge of Sei Tuan Village Community Regarding Acute Respiratory Infection (ARI) Before and After Intervention

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Abstract

Acute respiratory infection (ARI) is an infectious disease that causes morbidity and mortality in developing countries with low economies. This study aims to determine the level of community knowledge before and after being given an ARI education intervention. This research is Quantitative Descriptive research with Quasi Experiment Design. The population in this study was all ARI education participants. The sample used in this study was 30 respondents. The sample collection method is total sampling, using primary data with pre-test and post-test data collection tools. The results showed that age and education affect the level of knowledge. The level of good knowledge before and after the intervention was 53.4%, and after the intervention was 83.4%. There was an increase in knowledge before and after the intervention by 30%. the community's knowledge level after being given an intervention is in the form of ARI education People who have a good level of knowledge are 25 (83.4%), who have a sufficient level of knowledge are 3 (10%), and who have a poor level of knowledge are 2 (6.6%).Knowledge is very important and must be possessed by all levels of society. Good knowledge about ARI can make it easier for people to recognize the symptoms of ARI so that they can be treated immediately. The community's knowledge level in Sei Tuan Village before the intervention was given still needed to be improved. There was an increase in the level of community knowledge before and after the intervention regarding ARI. People who had a good level of knowledge before the intervention amounted to 53.4%, and after the intervention increased to 83.4%, an increase of 30%.

Keyword: ARI, Education, Infectious Disease, Intervention,

INTRODUCTION

Acute Respiratory Infection (ARI) is a prevalent health issue in developing and industrialized nations. This is because of the significant morbidity and fatality rates associated with ARI, particularly in young children (Wulandhani & Purnamasari, 2019). As an acute illness that targets the airways from the nose to the alveoli or lung sacs and may even be fatal, ARI disease is still one of the community's most pressing health concerns and must be considered (Hugo, 2014); (Ibrahim, 2018).

ARI is a typically infectious disease of the lower or upper respiratory tract that may produce a range of symptoms ranging from asymptomatic sickness or moderate infection to severe and fatal disease, depending on the causative organism, environmental variables, and host factors (Dongky, 2016); (Niruri et al., 2021). According to WHO statistics from 2018, lower respiratory infections are the fourth leading cause of mortality worldwide. However, ARI is the second leading cause of mortality in developing nations (World Health Organization, 2020). North Sumatra (6.8%) had the highest frequency of ARI in Indonesia in 2018, based on health professional diagnoses and symptoms that have been encountered. Whereas the average frequency in Indonesia in 2018 was 9.3% (Kementerian Kesehatan RI, 2018a).

The frequency of ARI appears to be greater among those with lower levels of education and household income per capita than the national average (Sofia, 2017); (Fitriyah, 2016). In eastern Indonesia, the risk factors for the occurrence of acute respiratory infection (ARI) are a low level of maternal knowledge about how to care for children, breastfeeding, exposure to cigarette smoke pollution, and poor physical condition of the home as a result of low income (Afriani, 2019); (Mamengko, 2019); (Santoso, 2018).

Some collaborative practices that might lead to ARI incidents include reckless spitting, trash burning, smoking, window opening, and sleeping patterns (Hardati, 2014). Research performed since 2008 demonstrates that ARI is the top cause of mortality in children, accounting for 36.4% (2008), 32.1% (2009), 18.2% (2010), and 38.2% (2012) of all child deaths .

ARI is not a disease to be taken lightly. In 2018, the Ministry of Health noted that ARI is an infectious illness whose risk is affected by extrinsic variables, one of which is the environment, where bad environmental circumstances such as air pollution may raise ARI risk factors. The incidence of ARI is substantially impacted by the mother's awareness of the condition. Also strongly tied to age is the degree of knowledge (Wijayanti & Indarjo, 2018). Thus it is believed that as age increases, so will the level of knowledge since age has a vertical connection with experience, which may improve knowledge (Saragih, 2020); (Siregar, 2021); (Sabri, 2019). Based on the above description, the researcher wishes to determine the degree of community awareness of ARI in Sei Tuan Village and assess if this level increases before and after receiving an intervention on ARI material.

METHODS

This research is Quantitative Descriptive research with Quasi Experiment Design that aims to see the increase in community knowledge before and after being given an intervention regarding ARI. Experimental research is where researchers deliberately provide treatment or intervention to research subjects to study the effects of the treatment given (Sastroasmoro, 2017).

This research was conducted in Sei Tuan Village, Pantai Labu District, Deli Serdang Regency, North Sumatra. This research was conducted from September 5-September 30, 2022.The population in this study were all participants of the ARI counseling seminar. The sample used in this study was 30 respondents. The sample collection method in this study used total sampling.

This study uses primary data taken directly from the community. The data in this study are in the form of pre-test and post-test scores related to maternal knowledge of ARI. The instrument used in this study is a test questionnaire given before the intervention is carried out and after the intervention is carried out. The test method collects data by asking several questions to the data source or the person being questioned with the intention of testing (interests, talents, attitudes, and abilities). The data collection tool is called a *test*, and a data source is a person (teste). Data analysis in this study used univariate descriptive quantitative analysis.

RESULTS

The following results were obtained from the research conducted in Sei Tuan Village.

Table 1. Frequency Distribution of Respondent Characteristics

	Variables	N	%
Age	18-25 Years Old	3	10
	25-45 Years Old	20	66,7
	45-65 Years Old	6	10
	>65 Years Old	1	3,3
Education	Primary School	13	43,4
	Junior High School	12	40
	Senior High School	4	13,3
	University	1	3,3

Job	No Working	23	76.6
	Farmer/Laborer	2	6,7
	Private Employee	2	6,7
	Goverments Worker	1	3,3
	More	2	6,7
	Total	30	100

Based on the frequency distribution table of respondent characteristics above, most respondents were aged 25-45 years (66.7%). The most education level is elementary school graduates as many as 13 respondents (43.4%). The majority of respondents are homemakers, as many as 23 people (76.6%).

Table 2: Community Knowledge Level beforeIntervention

Knowledge Level before Intervention	**N**	**%**
Good if correct ≥ 7 questions	16	53,4
Fair if correct ≥ 5 questions	4	13,3
Less if correct < 5 questions	10	33,3

From the table above, the community's knowledge level before being given an intervention is in the form of ARI counseling. 16 (53.4%) people had a good level of knowledge, 4 (13.3%) people had a reasonable level of knowledge, and 10 (33.3%) people had a poor level of knowledge.

Table 3. Community Knowledge Level afterIntervention.

Knowledge Level after Intervention	**N**	**%**
Good if true ≥ 7 questions	25	83,4
Enough if true ≥ 5 questions	3	10
Less if true < 5 questions	2	6,6

From the table above, the community's knowledge level after being given an intervention is in the form of ARI counseling. People who have a good level of knowledge are 25 (83.4%), who have a sufficient level of knowledge are 3 (10%), and who have a poor level of knowledge are 2 (6.6%).

It can be seen from the data above that there was an increase in the level of community knowledge before and after the intervention regarding ARI. People who had a good level of knowledge before the intervention amounted to 53.4%, and after the intervention increased to 83.4%, an increase of 30%. This shows that our intervention has increased the community's knowledge about ARI.

DISCUSS

Age influences a person's capacity to catch and ponder. The more developed a person's attention span and thinking, the greater the quality of the information acquired. Individuals between the ages of 20 and 35 take a more active part in society and their social lives. Additionally, individuals at this age spend more time reading. According to reports, intellectual capacity, problem-solving ability, and language skills drop little at this age (Anggraini, 2019); (Triandriani, 2019). From the age of the respondents, it is known that most respondents are between 25-45 years old, namely 20 respondents (66.7%). The age of 25-45 years is an age that has physical and psychological abilities that are still quite good.

Age affects a person's ability to catch and think. The older a person gets, the more developed his or her attention span and mindset will be so that the knowledge he or she acquires will improve. A person's lack of information about ARI is that they become terrified or even apathetic when they or their relatives experience ARI. Therefore, giving the community accurate information and comprehension about ARI is vital. So, based on his understanding of ARI, the person can still take necessary precautions in the case of ARI occurrences in himself or his family.

Education is forming a person's fundamental skills intellectually and emotionally towards nature and fellow human beings (Meutia, 2020); (Hanum, 2020). Education *is a* process that changes or improves a person's knowledge, attitudes, and behavior in solving ARI. A person's degree in education makes it easier for him to learn and retain information (Siregar, 2020); (Nasution, 2019).

From the data obtained, the most common level of education is elementary school graduates, with as many as 13 respondents (43.4%). Furthermore, in order of junior high school graduates, as many as 12 respondents (40%); high school graduates, as many as four respondents (13.3%); and college graduates, as many as one respondent (3.3%).

According to the statistics presented, the level of education in Sei Tuan Village is still quite low, with elementary and junior high school graduates holding the greatest degree of education. Education has a significant impact on a person's degree of knowledge. A person with a high degree of education will also be knowledgeable.

In line with research conducted by Febrianti Arly, (2020), There is a significant relationship between education, knowledge, and attitudes of mothers with the incidence of ARI in toddlers in the work area of the Ulu Palembang City Health Center 2019. A

substantial correlation between the amount of public awareness regarding the influence of air pollution on ARI sickness in community.

In research that was also conducted Wijayanti & Indarjo, (2018) showed indicated that only some of the five informants questioned had adequate knowledge and comprehension of ARI sickness. Four of the five informants understood that the causes of ARI were dust, air pollution, chemicals, and smoking, whereas one did not know the reason. This is because informants labor in the room and use things that may impede their respiration. All five informants were aware of the signs and symptoms of acute respiratory infection, including coughing, runny nose, sneezing, and shortness of breath. One of the five informants has completed elementary school, two have completed junior high school, and two have completed high school. According to prior studies, a person's education degree influences their knowledge level.

Knowledge may be affected by a poor level of schooling. Individuals with just an elementary school diploma have a different degree of understanding than those with a high school diploma. Nevertheless, this may be remedied through therapy and socializing. The significance of public awareness of ARI is that it enables everyone to identify and understand its symptoms, prevention, and treatment. Individual understanding of ARI has a significant impact on the occurrence of ARI.

It is feasible for the degree of knowledge to rise after receiving a health education intervention since providing health activities is to alter or raise the knowledge, attitudes, and behaviors of individuals, families, special groups, and communities (Darafunna et al., 2022); (Suryaningtyas et al., 2018). According to the statistics, the percentage of persons with a high level of knowledge before the intervention was 53.4%, and after the intervention, it increased to 83.4%, a 30% increase. This demonstrates that the counseling-based ARI intervention has successfully increased community awareness.

Control and prevention of ARI can be done by providing counseling. Such as using pre-test and post-test given before and after counseling. The results of this study are in line with research Qiyaam et al., (2016), In this study, the effectiveness of audiovisual media as a health counseling medium on increasing knowledge before and after the intervention was known (Siregar, 2019).

Who concluded that mothers' accurate knowledge and comprehension of ARI might benefit the early detection and prevention of ARI sickness. It is anticipated that as the mother's understanding of stimulation increases, there will be a shift in behavior toward

supporting health, particularly in the prevention and treatment of ARI, resulting in a decrease in the incidence of ARI (Rachmawati, 2018)(Haqi & Astuti, 2016).

The provision of health education initiatives may boost a person's knowledge. The quantity of knowledge gained may be affected by the participants' attentiveness and how the material is presented. As a person's knowledge increases, his or her capacity to evaluate and comprehend something advances favorably. In this instance, it is ARI knowledge. With increased awareness about ARI, the person will be able to detect the signs of ARI, take preventative measures, and initiate rapid treatment if he or a member of his family contracts ARI.

CONCLUSIONS

Knowledge is very important and must be possessed by all levels of society. Good knowledge about ARI can make it easier for people to recognize the symptoms of ARI so that they can be treated immediately. The community's knowledge level in Sei Tuan Village before the intervention was given still needed to be improved. There was an increase in the level of community knowledge before and after the intervention regarding ARI. People who had a good level of knowledge before the intervention amounted to 53.4%, and after the intervention increased to 83.4%, an increase of 30%.

Based on the results of the research that has been done, the researcher gives advice to the public health center and village midwives. The public health center and village midwives are expected to increase socialization and counseling to the community related to ARI. Especially mothers and village cadres which can be done when there is an implementation of posyandu or other activities. Academics are expected to increase students' knowledge and skills in carrying out an extension program so that it is even better and right on target. Future researchers are expected to develop this research even better with a wider scope. It is hoped that this research can be a reference for future researchers.

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