Knowledge of mother about the household environment against acute respiratory infection in Padang Pasir: A literature study

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Abstract. Acute Respiratory Infections (ARI) is one cause of death in infants and toddlers. The incidence of ARI at West Sumatera in 2016 was 154,962 cases and increased by 2017 as many as 169,031 cases. The highest incidence of ARI was found in Padang Pasir for age <1 year 568 people and age 1-4 years 1648 people. The high number of ARI cases in children under five is due to lack of knowledge of the mother about the household environment to prevent ARI of toddlers. Sample was 86 mothers. The study was conducted by literature study technique. The result showed that 30.2% mother knowledge about ARI still low. Activities to improve knowledge of mother toddlers need to be intensified again by way of counseling about the prevention of ARI through Posyandu cadres and health personnel so as to reduce the incidence of ARI.

1. Introduction
ARI is one of the causes of death in infants and toddlers in developing and developed countries and has been able to. The results of the International Conference on ARIs in Canberra, Australia, in July 1997 found that four million children under five in developing countries die each year from ARI. In Indonesia, ARI is the number one child killer. Setiyorini [1] states that although the ARI eradication program has specifically begun in 1984, with the aim of trying to reduce morbidity and mortality, especially in infants and toddlers caused by ARI, the morbidity and mortality rates are still high. In West Sumatra Province, at least 17,622 children under five in various cities were infected with ARI. The toddler was partly suffering from a non-pneumonia type of ARI and was relatively small with a pneumonia (severe) ARI and was referred to a hospital for intensive care until healed. While the cases in the community health centre that mostly affect toddlers are non-pneumonia ARI with symptoms of cold cough accompanied by symptoms of shortness of breath (fast) and a feeling of withdrawal of the lower chest wall during breathing [2].
Table 1. Case finding of ARI at Padang City Health Centre January - December 2017 period

| No | Primary Health Care | < 1 years old | 1-4 years old |
|----|---------------------|---------------|---------------|
| 1  | Padang Pasir        | 568           | 1684          |
| 2  | Air Tawar           | 306           | 787           |
| 3  | Alai                | 343           | 1221          |
| 4  | Lapai               | 411           | 1050          |
| 5  | Ulak Karang         | 280           | 973           |
| 6  | Nanggalo            | 461           | 1245          |
| 7  | Lubuk Buaya         | 646           | 2712          |
| 8  | Air dingin          | 1253          | 4897          |
| 9  | Belimbing           | 526           | 1880          |
| 10 | Kuranji             | 283           | 800           |
| 11 | Lb. Kilangan        | 259           | 487           |
| 12 | Penggambiran        | 425           | 770           |
| 13 | Lb Begalung         | 445           | 1327          |
| 14 | Rawang              | 565           | 936           |
| 15 | Andalas             | None          |               |
| 16 | Seberang Padang     | 553           | 1577          |
| 17 | Pemancungan         | 236           | 1166          |
| 18 | Pauh                | 570           | 1848          |
| 19 | Bungus              | 203           | 682           |
| 20 | Ambacang            | 327           | 943           |
|    | Total               | 8660          | 27985         |

From research conducted by Setiyorini [1], toddlers with mothers who have low knowledge of ARI will have a 0.3 times greater risk of developing Non-Pneumonia ARI than mothers who have high knowledge of ARI. According to Suryana [3], the low quality of health of family members including children is due to the low knowledge of a mother regarding health. The results of statistical tests on the study showed that maternal knowledge and attitudes affect the incidence of ARI in infants / toddlers. Suryana [3] showed that out of 157 toddlers who died of ARI, there were 30 toddlers (30%) who were not taken to health care at the time of illness, this was due to a lack of knowledge, attitudes, level of education and low economic status in these communities that can cause death in toddlers. From the initial survey conducted at Padang Pasir Health Center, of the 7 mothers who were asked about their understanding of ARI, 5 mothers said they did not know about the causes and prevention of the ARI, while 2 people could only find the ARI shortness of breath. Knowledge of mothers who have children under five can affect the high incidence of ARI in Padang Padang Health Center.

2. Study of literature
ARI is an infectious disease in the upper and lower respiratory tract, which is caused by the entry of germs or microorganisms (bacteria and viruses) into the respiratory tract which can last up to 14 days.[4] The cause of ARI consists of 300 types of bacteria, viruses and rickettsia. Bacteria that causes ARI include genera Streptococcus, Staphylococcus, Pneumococcus, Haemophilus, Bordetella and Corynebacterium. Viruses that causes ARI include Mycovirus, Adenovirus, Coronavirus, Picornavirus, Mycoplasma, and ARI Classification divided by age groups, namely:

a. Age group 2 months - 5 years
   - Severe pneumonia, when accompanied by shortness of breath, the chest pulls down the lower chest wall when the child inhales.
➢ Pneumonia is not severe, if accompanied by rapid breathing, the limit of rapid breathing is ages 1-5 years = 40 times per minute or more.
➢ Not pneumonia (common cold cough), if there is no pull of the chest wall and not fast breathing.

b. Group age <2 months
➢ Severe pneumonia, if accompanied by a sign of strong pull of the lower wall or rapid breathing. Fast breathing limits at this age are 60 times per minute or more.
➢ Not pneumonia (common cold cough), if not found a sign of strong pull in the lower chest wall or rapid breathing. [5]

Transmission of ARI disease can occur from sufferers of ARI, also called reservoirs of disease that are transmitted to other people through direct contact or through objects that have been contaminated with diseases, including air, airborne transmission means the mode of transmission that occurs without contact with patients or objects contaminated. [5,6] Prevention of ARI is very important to be done in order to reduce the incidence of ARI. These precautions include: [6]

a. Improvement and improvement of nutrition. Children who experience malnutrition will have a lower body resistance, especially children under 5 years old who are vulnerable to health and nutrition.
b. Environmental improvement and sanitation. Environmental factors play an important role in determining the process of interaction between causes and hosts in the process of occurrence of disease. An unhealthy living environment is at risk of an increased incidence of ARI. The most important thing in preventing ARI is:
➢ Ventilation. This ventilation is very important to facilitate the circulation and replacement of fresh air from outside with air inside the house. We recommend ventilation openings in the direction of the wind.
➢ Lighting and adequate lighting during the day. A healthy house should be facing the sunrise, so that in the morning the sun's rays go straight into the house. With the sun can kill germs that are in the house.
➢ Personal health care

Personal health is very important to be maintained because individual health will also affect the health of others, especially in families. ARI prevention is carried out through efforts to improve health such as: [7]

a. Complete immunization in an effort to provide immunity to toddlers against ARI attacks.
b. Increasing the distribution of health service coverage and quality.
c. Avoid places where there are coughs and colds
d. Prevent children from dealing with ARI patients.

Child home care with ARI include: [8]

a. Feeding children to avoid weight loss which can lead to malnutrition.
b. Adding fluids to avoid dehydration.
c. If there is a fever, immediately apply a warm compress.
d. Encourage mothers to give children adequate rest.
e. Take the child to a health facility, if the ARI does not improve or other serious symptoms occur.

Knowledge or cognitive is a domain that is very important for the formation of one's actions. Someone who has good knowledge is able to think more critically in understanding everything. Because a knowledge can also be formed from experience, information obtained from non-formal education such as reading books, newspapers and magazines. Activities like this can make a person have high knowledge. High knowledge produces high actions, and vice versa. But it does not rule out the possibility of low knowledge resulting in high actions, and vice versa. [9,10]
3. Research Methods
This research is a quantitative research with descriptive research design. Descriptive research is research that aims to explain or describe a situation, event, object whether people, or anything related to variables that can be explained either by numbers or words. This study provides an overview of the level of knowledge of mothers of toddlers on the cleanliness of the home environment which greatly affects the incidence of ARI in infants. The type of data used in this study uses secondary data where secondary data is data obtained by researchers from existing data. Secondary data used in the study are journals or other existing or published research results about the level of maternal knowledge about the home environment on the incidence of ARI in infants. Data were collected using literature study techniques. Literature study is looking for theoretical references that are relevant to the case or problem found. Literature study was carried out by analysing as many as 5 (five) fruits from 2002-2005 related to ARI in infants and toddlers. The results of the analysis of the 5 (five) journals obtained 86 research samples of mothers of children under five. Based on the number of samples obtained, then an analysis was carried out so that the level of maternal knowledge of the incidence of high or low ARI was known. Data analysis used univariate test analysis. Univariate test analysis is an analysis carried out for one variable so that a description of the variable is obtained. The results of the univariate analysis in this study produced a table of frequency distribution regarding the level of knowledge of mothers of toddlers on the incidence of ARI so that it can be known how much percentage of mothers' level of knowledge of infants with high and low ARI incidence. mother's knowledge of children with ARI.

4. Results and Discussion
The results of this study indicate that out of 86 respondents found at 30.2% have low knowledge about prevention of ARI. This ignorance can be seen from the answers of respondents who were mostly unable to answer correctly, including: question No. 1 relates to the definition of ARI as much as 59%. Question No. 2 relates to the class of ARI as much as 35%. Question No. 6 related to the cause of ARI as much as 74%. Based on the distribution of respondents' answers, it was clearly seen that the knowledge of mothers of toddlers about understanding, class, causes, from ARI was still lacking. This shows the low intelligence of respondents especially regarding ARI. This may be due to a lack of information relating to ARI. Thus, providing counselling can improve respondents' understanding, especially about ARI. In this study it is seen that knowledge is the main form of intervention in changing health behaviour factors to reduce the occurrence of ARI. Limited level of knowledge, this is the possibility that causes ARI.

| Table 2. Distribution of Frequency of Respondents Based on Knowledge of Toddlers Against ARI Prevention Efforts in Padang Pasir Health Center in 2018 |
| Educational Level | f | (%) |
|-------------------|---|-----|
| High              | 60| 69.8|
| Low               | 26| 30.2|
| Total             | 86| 100.0|

| Table 3. Distribution of Frequency of Respondents Based on Preventive Efforts of Mothers Against ARI at the Padang Health Centre Year 2018 |
| Prevention Program | f | % |
|--------------------|---|---|
| Good               | 53| 61.6|
| Less               | 33| 38.4|
| Total              | 86| 100.0|

The results of this study indicate that out of 86 respondents found that 38.4% of prevention efforts for ARI were lacking. This ignorance in prevention efforts can be seen from the answers of respondents who mostly cannot answer correctly, among others: question No. 10 related to prevention
of ARI as much as 85%. The results of previous research conducted by Setyorini [1] on the relationship of predisposing factors of mothers who have children under five on ARI with the incidence of acute respiratory tract infections (ARI) in Air Tawar Health Center in 2008 found out of 31 mothers who had a toddler some mothers 61.3% negative attitude. The results of research conducted by M. Irfan [5] in Nanggalo Padang found as many as 52.8% of mothers under five under five behaved negatively towards the incidence of ARI.

Based on the results of the research and the above theory, it is clear that efforts to prevent ARI by mothers under five are not good for prevention of ARI, this shows the misperception of mothers in under five in interpreting healthy and sick lives according to their life experiences or values passed down by previous generations. hence prevention of ARI disease which is often reported to occur due to a lack of maternal attitudes which depend on the perception of the ARI. That is, if the ARI is perceived as a non-serious disease and does not threaten its life, the prevention of ARI is not too serious. Conversely, if the mother of a toddler perceives that ARI is a health problem that needs to be watched out, automatically the mother of a toddler will react seriously to this disease by developing preventive behaviours.

5. Conclusion
Considering that there are still many respondents who have low knowledge and efforts to prevent diseases that are less supportive of ARI, it is necessary to intensify activities that might improve knowledge and various prevention efforts, so that in the end it can reduce the incidence of ARI, namely in a way:

a. Conduct information about prevention of ARI through Posyandu cadres.

b. Mapping toddlers with ARI by Posyandu cadres with routine monitoring.

c. Increase cross-sector cooperation (PKK) because to reduce the incidence of ARI, it needs support from the community, especially mothers of children under five.

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