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Mother's Behavior in Treating of Acute Respiratory Infections on Children Post the Earthquake and Tsunami Disaster at the Public Health Center in Wani, Donggala, Central of Sulawesi, Indonesia

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Abstract: Background: After disaster happened, the number of ARI (Acute Respiratory Infections) cases could dramatically increase and even ranked top. The public health center (Puskesmas) in Wani is the public health facility that has the highest number of child ARI patients in Donggala Regency after the disaster happened. The public health center handled 149 ARI cases from the total of 1,597 cases occurred. This study was aimed to find out the knowledge and behavior of mothers, facilities, health services, health worker and family support for mothers that the children suffered from ARI at the working area of Wani public health center. Methods: This study is a qualitative research using case study approach. The data were collected through in-depth interviews with 12 informants who were selected through purposive sampling technique. Results: The results of the research showed that mothers' knowledgeable on ARI was still low due to the lack of information. Their behavior related to ARI management was good that was showed by their decision to take immediate medical treatment for their children by buying them drugs and taking them to health facilities. However, there were also mothers decided to give their children self-medication (traditional) that was performed at home by buying self-prescribed medication or even using traditional medicines. The health facilities are adequate to be utilized by the mothers. However, the role of health worker has not been maximized because of the lack of information related to ARI. Some informants got social support from their families in the form of information and emotional supports, but there were also some informants who did not get adequate support from their families. Conclusion. The low level of mothers' knowledge and lack of social support from health workers influenced the mother's behavior in treating of ARI on children at Wani Public Health Center.

Keywords: Management Behavior, Children, ARI, Post-disaster

1. Introduction

Acute Respiratory Infections (ARI) are the leading cause of morbidity and mortality in children. ARI are acute infectious diseases involving respiratory organs from nose to pulmonary alveoli. This diseases are responsible for 4.25 million deaths worldwide every year. Moreover, ARI also cause four of fifteen million deaths in children under 5 years old every year which two-thirds of the deaths occur in infants [1, 5, 9].

In 2013, the United Nations International Children's Emergency Fund (UNICEF) reported that the world under-five mortality is 46 deaths per 1000 live births. At least

17,000 children in the world die every day before reaching the age of five. It is estimated that more than 2 million children under five die due to ARI per year. Most cases of ARI occur in India (43 million), China (21 million), Pakistan (10 million) [1, 10].

Based on the health professionals and population complaints in the last 1 month, the Basic Health Research (2013) reported that the ARI period prevalence was 25.0%. The highest ARI cases occurred in 1-5 years age group was 35% with pneumonia morbidity in infants and in children were 2.2% and 3% respectively, while the mortality in infants was 23.8% and in children was 15.5%. However, in 2018, the prevalence of ARI has decreased to 4.4% [2, 11].

Disasters are events or series of events that threaten and disrupt people's lives and livelihoods caused by natural and/or non-natural factors as well as human factors resulting in human casualties, environmental damage, property losses and psychological impacts (Law of Republic Indonesia No. 24 Year 2007). One of the impacts of the disaster on the declining quality of life of the population can be seen from various public health problems that occurred. After disaster happened, the number of ARI cases could dramatically increase and even ranked top [3, 8].

Donggala Regency is one of the areas affected by the disaster on September 28th, 2018, which caused the emergence of various infectious diseases such as ARI. ARI was the leading disease suffered after the disaster. On October 31st, 2018, the health crisis center recorded the number of ARI cases after the disaster in Donggala Regency was 2110 cases with the most sufferers (497 cases) treated at Wani Public Health Center, the 149 cases of which occurred in children [4, 5].

In general, there are 3 (three) risk factors for ARI, namely environmental, individual child, and behavioral factors. Environmental factor includes air pollution at home, physical condition of the house, and residential density. Individual child factor includes the child's age, birth weight, nutritional status, vitamin A intake, and immunization status. While behavioral factor is related to the prevention and control of ARI in infants and children, in this case is the practice of ARI management, in family whether done by mothers or other family members [5, 14].

One of the reasons for the high incidence of ARI in Indonesian is due to the fact that there are still many inappropriate maternal behaviors in treating of ARI on children. Mother's behavior is influenced by her background of knowledge about ARI. Other factors that also influence maternal behavior are attitudes, family support, health facilities and infrastructure as well as counseling conducted by health workers to provide information about how to care for and handle children with ISPA [5, 9].

By looking at the data obtained above, the researchers are interested in conducting a research related to mother's behavior in treating of ARI on children in the aftermath of the earthquake and tsunami disaster at Wani Public Health Center, Tanantovea District, Donggala Regency.

2. Research Method and Material

This study is a qualitative research using case study approach. This research was carried out in the working area of Wani Public Health Center, Tanantovea District, Donggala Regency, from January to February 2019. The technique used to select informants for this study was purposive sampling technique. The key informant was the person in charge of ARI program at Wani Public Health Center, while the other informants were mothers who have children suffering from ARI, and the additional informants were the family members of the mothers who have children suffering from ARI.

3. Result

Knowledge Variable

The researchers enacted interviews to the informants about the definition of ARI. There were 3 informants who have sufficient knowledge on ARI, but were still incorrect and some others were unfamiliar or had never heard of ARI.

The interviews were also conducted related to the cause of ARI. The mother's knowledge related to the cause of ARI was very poor that they thought the causes of ARI were because their children played dirty water and consumed cold water (ice). However, there was an informant said that the cause of ARI was cigarette smoke and firewood smoke.

The researchers also conducted an interview related to the signs of ARI. There were 3 informants said that the signs are fever, runny nose, cough and shortness of breath, while some others did not know the signs of ARI. In addition, the informants said that the way to take care of children suffering from ARI is through drugs and take them immidiately to the nearest health facilities.

Behavior Variable

In addition to knowledge variable, the researchers also examined the mother's behavior in treating of ARI on children in the aftermath of the earthquake and tsunami disaster. All of the informants said that countermeasures were carried out by bringing ARI sufferers to the health facility or giving the medicines. The researchers also asked the mothers' opinions about self-medication (traditional) for children with ARI. The results showed that some informants said self-medication (traditional) could also be done at home by buying medicines or even using traditional medicines. However, there was an informant who said that self-medication (traditional) for children suffering from ARI cannot be done at home. Furthermore, in-depth interviews were also conducted to find out the response of the mothers if the family members suggested taking self-medication (traditional) when their children were sick. Most of the informants said that they did not do self-medication (traditional) when their children were sick even though it had been suggested by the family member, yet there was 1 informant who chose to do self-medication.

Furthermore, the researchers also conducted an interview about another behavioral question related to how they will take care of children with ARI. All informants said that children with ARI should be brought to a health facility and

traditional medication could also be implemented.

Based on the result of the interview with the key informants consisted of the people in charge of ARI by asking their responses related to ARI management after a disaster, showed that ARI prevention action was done through treating sick people and counseling the community.

Means and Infrastructure Variables

The researchers have conducted in-depth interviews to find out where to take children suffering from ARI. All informants said that they would bring children with ARI to the nearest health facility to help them. However, there were 2 informants who, besides taking their children for treatment at the health service, also took him to a traditional healer. The researchers also asked the key informant questioned related to traditional treatments carried out by the community such as bringing to *dukun*, it was found that health workers had tried to overcome this by conducting socialization. However, changing people's behavior is not easy and there were also some people who stated that pneumonia with the term 'Sikopo' is not a medical disease but a non-medical disease, which the treatment is carried by blowing the patients' heads [14].

The researchers also conducted an interview about health services in the area and the results showed that all informants said that health services in the area were good and supported. It can be seen from the statements from the additional informants who said that the services provided were good [6, 11].

An interview was also conducted to determine the completeness of facilities and infrastructure available in the health services. The results showed that there are 4 informants who say that the completeness of infrastructure and facilities to support the prevention of ARI in children is complete, while 2 others said that the facilities and infrastructure available are incomplete. However, the key informant said that the facilities and infrastructure that support the prevention of ARI are complete. They consist of scales, thermometer and medicines. Furthermore, the researchers also asked them a question related to the distance of their home to the health facility, and whether there were obstacles to access the health services. The results showed that some informants lived near from the health services and there were no obstacles when accessing the health sevices and some were constrained by the lack of vehicles to access the health services [14].

Health Worker Variable

In addition to the behavior variable, the researchers also wanted to know about the role of health workers. The researchers conducted interviews and asked them questions related to counseling carried out by the health workers. The health workers said that they have never received any information related to ARI. However, the key informants stated differently that counseling related to ARI was routinely conducted every month at the integrated health post (Posyandu). Furthermore, the researchers also conducted an interview related to the role of health workers in dealing with ARI events and the interactions made by the health workers. The informants said that the role of health workers is very important, especially in terms of serving, administering drugs, maintaining interaction between health workers, and being able to socialize with the community [12].

Family Support Variable

An interview was also done to find out family support when mothers brought their children with ARI to the health services, whether the husbands accompanied them or not. Several informants said that their husbands or other family members accompanied them to bring the children to the public health center, there was 1 informant who went there alone but she got help from her husband or families in taking care of her children who suffered from ARI. This is evidenced by additional informants who provided facilitator support in the form of cost and time.

Moreover, the researchers also conducted an interview to find out the motivation given by husbands or family members to the mothers. The researchers found out that all informants said that they were motivated by their husbands or other family members who suggested bringing their children to seek medical care. There were 4 informants said that they got information about ARI treatment from their husbands or family members, while 2 others did not get any information about ARI treatment from their husbands or the family members. However, some mothers get information from their family members related to ARI treatment by bringing their children with ARI to a *dukun* (shaman) [5, 15].

4. Discussion

Knowledge Variable

The mother's knowledge about ARI was still lack. Most of them did not know the definition of ARI, were still unfamiliar with ARI, and did not know the causes, signs and ways of handling children with ARI appropriately. This was because they were rarely exposed to the information related to ARI. However, their knowledge would influence their behavior in treating of ARI on their children. If they have proper knowledge of ARI, they would know what to do in taking care of their children suffering from ARI.

This is in accordance with the research that found out that the higher the knowledge of the mothers of children with ARI, the better their behavior in treating of ARI on children. Mothers with good knowledge of ARI will treat their children better than whom with less good/sufficient knowledge [6, 14, 16].

Behavior Variable

Mothers' behavior related to ARI management showed a positive attitude that the mothers immediately took action by bringing their children to seek medical treatment or to buy medicine. Mothers' behavior is influenced by their emotional sense that they are worried if their children suffered from an illness and also the sense of responsibility and affection of mothers toward their children.

This study is in line with the research which the respondents' knowledge is not good but they have good behavior. This is due to the respondents' experience in acting if their children are sick apart from that sense of responsibility and affection of parents toward their children, so that when parents, especially

mothers, find out that their children less healthy they will certainly worry about the health of their children. Thus, when mothers find signs and symptoms of illness on their children, in this case ARI, they would immediately go to health facilities to seek for help or medication [7, 13].

Means and Infrastructure Variables

Health facilities, village health center (Polindes) and public health center (Puskesmas), have been widely utilized by citizens. However, there are also people who prefer to take their children to traditional health clinic or *dukun* (shaman). Every informant face different difficulties to access health services, some of them do not have vehicles to go the the health facilities.

This is in accordance with the theory that shows that although public awareness and knowledge about health are high, if the health facilities are far from good, they will not get proper medication. Adequate health service facilities will ease people to get health service. The availability of health services supported by adequate facilities can give someone satisfaction in seeking treatment. The community considers health facilities that have incomplete/inadequate facilities cannot support the treatment process [8, 15].

Health Worker Variable

The role of health workers in ARI management has not been maximized, because health workers do not provided with adequate information and inappropriate counseling time about ARI. However, the interaction and role of health workers in terms of drug administration and service are already good.

This is in line with the research that explained that the role of health workers can influence mothers' behavior in making visits and bringing their children to health facilities. Friendly staff and quick treatment they give to patients without making them wait too long, and their readiness to provide patients explanation of the importance of a repeat visit are forms of support from health professionals that can affect patient compliance behavior [9, 11].

Family Support Variable

Family supports given to mothers can be in the form of instrumental supports to accompany them taking their children to health centers and assist them in caring for their children. In addition, information and emotional supports are also important. Information support can be in the form of information related to ARI treatment, while emotional support can be given through providing motivation to mothers in caring for their children.

This is in line with the research which suggested that family is the closest people to the mothers, and through their family the mothers will get social support they need. Social support from the family includes the provision of assistance such as material, emotion, and information that influence the mothers' behavior. Family, in this case is husband or mother-in-law, is considered as the most capable party to give influence to the mothers [10, 12].

5. Conclusion

Maternal behaviors / actions related to ARI are good because some mothers who suffer from ARI will bring their children to health facilities and buy medicines. But the mother's knowledge of ARI is still quite low because the role of health workers in the region is not yet optimal. Likewise with family support, some informants received family support and some did not get family support. this is what influences the mother's behavior in handling and treating ARI in her children.

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