

Analysis of Maternal Behavior in the Prevention of Pneumonia in Children Using WHO Behavioral Determinant Approach

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Abstract: Pneumonia in children under five years is a health problem in Indonesia related to the high morbidity and mortality. Therefore this study aims to analyze the mother's behavioral factors in the prevention of pneumonia in children with WHO determinants of behavior approach. The samples were 100 mothers taken by using cluster sampling. The independent variables were thought and feeling (knowledge, attitudes, perceptions, and belief) personal references (health workers and posyandu cadres), resources (floor and air ventilation) and cultures. The dependent variable was pneumonia prevention behavior. Data were collected using questionnaires, observation form and analyzed by Spearman's rho with $\alpha=0.05$. The result showed a significant correlation between variables thought and feeling: knowledge ($p=0.020$), attitude ($p=0.005$), perception ($p=0.007$) and belief ($p=0.030$), resources: house floor and air vents ($p=0.006$) and cultures ($p=0.001$) with the prevention behavior of pneumonia, but there's no correlation between personal reference: health workers and health cadres ($p=0.737$) with the prevention of pneumonia. Discussion: The factors associated with the mother's prevention behavior are thought and feeling: knowledge, attitudes, perception, and belief, resources: floor and air ventilation, and cultures. Further research needs to explore more about the personal reference variable.

1 INTRODUCTION

One of the infectious diseases that pose a threat to toddlers is pneumonia. Pneumonia in infants is a health problem in Indonesia, this is associated with high morbidity and mortality due to pneumonia. Pneumonia is the second leading cause of death in infants in Indonesia after diarrhea (Kementerian Kesehatan Republik Indonesia, 2010). Various factors that can affect the increase of pneumonia incidence in infants, both from individual aspects of children, parent behavior (mother), and environment. Maternal behavior such as immunization and clean and healthy lifestyle have an important role in the prevention of pneumonia in infants. Negative mood behaviors such as rarely cleaning houses, poor feeding and poor toddler care may affect the incidence of pneumonia (Muchlis, R., & Sherli, 2009).

According (WHO, 2016) Pneumonia is one of the most common causes of death infections in children worldwide. Pneumonia is the cause of 15% of underfive deaths in Indonesia, estimated at 922,000 underfives in 2015 with an estimated national pneumonia cases of 3.55% (Kementerian

Kesehatan Republik Indonesia, 2016). Based on data of Indonesia Health Profile in 2015, East Java Province was ranked 7th with the discovery of pneumonia case as much as 4.45%. And in 2015 found as many as 4,018 cases of pneumonia in toddlers in the city of Surabaya (Dinas Kesehatan Kota Surabaya, 2015). Sememi community health center has third rank of pneumonia cases in infants. This is evidenced by data of Sememi community health center which showed an increase in cases of pneumonia toddlers in 2015 as much as 128 cases and increased to 316 cases in 2016 and based on the data visit of patients on maternal and child health in Sememi community health center during the period January 2017 to March 2017 found 43 cases of pneumonia in toddler

The government has made various efforts to prevent pneumonia through MDGs 4 (Millennium Development Goals) program aimed at reducing child mortality from pneumonia such as providing health education through KIA poly to maintain clean environment condition, giving immunization and exclusive breastfeeding for 6 months. However, in the last 3 years cases of pneumonia in infants are still high (Kementerian Kesehatan Republik

Indonesia, 2016). Behavior of a person is influenced by several factors, among others: (1) Thought and feeling: knowledge, attitude, perception and belief, (2) Personal reference or reference of a trusted person such as religious leaders, community leaders, (3) Resource or infrastructure that supports one's behavior can be facilities, money, time and energy, (4) Culture or local culture generated and passed down by a group of people from generation to generation (Notoatmodjo, 2010). Therefore the researcher was interested in using behavioral determinant approach according to WHO to analyze mother's behavior factor because based on preliminary study result, mother's behavior in prevention of pneumonia is influenced by various factors so that approach of WHO's behavior theory can be used to analyze these factors.

2 METHODS

This research used descriptive analytic design with cross-sectional approach. The target population in this study were all mothers with children (0-5 years old) and were enrolled in Sememi Baru Posyandu, Gunung Agung A, Merbabu and Rinjani as many as 513 people. Sampling using cluster sampling technique. The sample consisted of 100 mothers. Independent Variables in this research were 1) thought and feeling: knowledge, attitude, perception and belief of mother about prevention of pneumonia, 2) personal referrer: health officer and posyandu cadre as reference, 3) resource: facility in mother's house (floor and ventilation air) and 4) cultures. Dependent variable in this research was behavior of prevention of pneumonia. The data collected by using questionnaires and observation sheets.

The first step in this research was to test the validity and reliability of the instrument used in the form of questionnaires. All questionnaires used are valid and reliable. The next step done by the researcher was to conduct ethical review of research proposal to Research Ethics Commission of Health Faculty of Nursing University of Airlangga and has been declared ethical based on ethical certificate number 382-KEPK. This research was conducted on 14-17 June 2017 at 4 Posyandu Balita at Sememi Surabaya Public Health Center. Data collection to respondents together with activities of Posyandu Toddlers attended by mother who brought Toddler. Before the questionnaire was given, the mothers were given an explanation of the implementation of the research to obtain information about the research before signing the informed consent. Furthermore,

the researchers convey to the respondents that in the next period researchers will visit the respondent's home to make observations about the resources owned by the respondents. This observation activity is assisted by posyandu cadres in the local area. Data from questionnaire and observation were analyzed using Spearman's rho statistic test with degree of significance $\alpha=0,05$.

3 RESULTS

Table 1: Distribution of research variables.

Variables	Percentages (%)
Knowledge :	
Good	86
Moderate	12
Low	2
Total	100
Attitude :	
Positive	50
Negative	50
Total	100
Perception :	
Positive	57
Negative	43
Total	100
Belief :	
Weak	52
Strong	48
Total	
Personal references:	
Good	71
Moderate	10
Low	19
Total	100
Cultures:	
Positive	63
Negative	37
Total	100
Prevention behaviour :	
Good	94
Moderate	6
Low	0
Total	100

Table 2: Analysis between Variables.

Variables assosiate	Statistical test with Spearman Rho
Knowledge with behaviour	p = 0,020; r = 0,232
Attitude with behaviour	p = 0,005; r = 0,279
Perception with behaviour	p = 0,007; r = 0,270
Belief with behavior	p = 0,030; r = -0,238
Personal references with	p = 0,737; r = -0,034

behavior	
Resources with behavior	p = 0,006; r = 0,506
Cultures with behavior	p = 0,001; r = 0,336

The results showed that mother's knowledge about pneumonia and its prevention was good (86%). The role of health workers is considered positive by most mothers (96%). Positive cultures in supporting the prevention behavior of pneumonia are also largely positive resulting in preventive behaviors against maternal pneumonia in either 96% (see Table 1).

Among the 7 variables there were 6 variables related to the prevention behavior of Pneumonia in Toddlers, whereas there is one variable that is personal references not related to the prevention behavior of pneumonia done by the mother in Toddler (see table 2).

4 RESULT AND DISCUSSION

4.1 The relationship between thought and feeling factors: Mother Knowledge with Pneumonia Prevention Behavior

The results showed that there was a correlation between mother knowledge with behavior of prevention of pneumonia in under fives with weak correlation correlation. Respondents with good knowledge tend to exhibit good pneumonia prevention behavior, whereas respondents with sufficient knowledge and less tend to exhibit adequate pneumonia prevention behavior. Knowledge is related to the prevention behavior of Pneumonia (Keter, 2015). Mother's knowledge of pneumonia, mother's perception of the cause of pneumonia and her ability to recognize signs and symptoms of pneumonia will help mothers in shaping better behaviors to prevent pneumonia in infants.

Knowledge is a very important domain for the formation of a person's behavior (action). The better a person's knowledge the better his behavior will be (Notoatmodjo, 2011). The above is also reinforced by the determinants of behavior according to WHO (1984) that one of the reasons people behave are thoughts and feelings (thoughts and feelings) in the form of knowledge, attitudes, perceptions and beliefs to the object of health (Notoatmodjo, 2010).

Mothers who have a good knowledge of pneumonia prevention will be easier in carrying out what he knows in the prevention of pneumonia so

that will cause the behavior of prevention pneumonianya be better. Mother's lack of knowledge about respiratory diseases affects mother's delay in doing disease prevention and is a contributing factor in the high mortality (Malik, A.Y. & Iqbal, 2012). Early recognition of maternal pneumonia symptoms and its participation in effective cases of pneumonia can reduce mortality rates in children (Memon, 2013).

4.2 The relationship between thought and feeling factors: Mother's attitude with Pneumonia Prevention Behavior

The results showed that there was a relationship between maternal attitudes with prevention behavior of pneumonia in under fives with weak correlation correlation. The attitude of mother toddler about prevention of pneumonia related to behavior of prevention of pneumonia (Rahim, 2013). Attitude is a person's closed response to a particular stimulus or object, involving the factors of opinion and emotion in question (Notoatmodjo, 2010). Attitude is not yet an action or activity, but it is still a predisposition to the action of a behavior. Factors that influence the formation of attitudes are personal experience, culture, other important people, mass media, institutions or educational institutions and religious institutions and emotional factors in individuals (Azwar, 2009). A person's attitude will affect health behavior, positive attitude of a person will produce a positive health behavior as well, while a negative attitude will result in negative health behavior as well (Alfaqinisa, 2015). A positive attitude is an important factor that can affect decision making by parents in taking precautions pneumonia (Ridda, I., Lindley, L.R., McIntyree, P., MaacIntryee, 2008).

4.3 The relationship between thought and feeling factors: Mother Perceptions with Pneumonia Prevention Behavior

The results showed that there was a relationship between maternal perceptions with prevention behavior of pneumonia in infants with weak relationship strength. Maternal perception is associated with preventive behavior against pneumonia (Abusaad, El Sayeed F., Hashem, 2014). Perception is a process that involves the entry of messages or information in the human brain continuously establish relationships with its

environment through its senses. One important reason of perception is in the interpretation of the circumstances around us that each of them do the perception of an object differently. Perception is a process that is almost automatic and works in a similar way to each individual, but nevertheless typically produces different perceptions (Slamento, 2010).

Based on the results of the study, almost half of the respondents had negative perceptions but had good prevention behavior and some respondents had a negative perception of having sufficient pneumonia prevention behavior. The emergence of negative perceptions possessed by the mother can arise because of the dissatisfaction of the object that the source of his perception, the existence of individual ignorance and the lack of individual experience of the perceived object and vice versa. The level of education of the mother has a significant relationship with the mother's perception of pneumonia (Pradhan SM, Rao AP, Pattanshetty SM, 2016). The level of maternal education may affect the mother's perception of the child's health and relate to inappropriate hygiene behavior (Shibata, T., 2014).

4.4 Relationship between thought and feeling factor: Mother belief with Pneumonia Prevention Behavior

The results showed that there was a relationship between maternal belief with the prevention behavior of pneumonia in infants with correlation and negative relationship direction. Based on the research results can be seen that the respondents who have strong and weak trust can both have good and adequate pneumonia prevention behavior. This indicates that, respondents with weak trust have good prevention behavior.

A region with different tribes has different customs, customs, and beliefs. Every individual has a different social structure, lifestyle and ultimately has differences in doing a health behavior (Notoatmodjo, 2010).

The result of the research shows that the majority of Javanese still have strong belief in information obtained from generation to generation from parent, grandparent or without proven in advance. One of the main reasons (determinants) of a person behaving is a factor of thought and feeling that includes knowledge, attitudes, perceptions and beliefs. Trust is obtained from parents or

grandparents. A person accepts trust based on belief and without any proof (Notoatmodjo, 2010).

In relation to the belief there are respondents who have a strong belief about suwuk, change the name and belief that the child will recover if brought to the shaman infant or dipijet. The condition is caused by limited information obtained by Mother. Information obtained is limited to statements submitted by parents, grandparents or grandparents

4.5 Relationship between personal factors references: Health workers and Posyandu Cadres with Pneumonia Prevention Behavior

The results showed that there was no relationship between personal references with preventive behavior of pneumonia in children. Reference from the important person (personal reference) is one of the factors that influence the behavior of one's health. If a person is important to us then anything done and said tends to be our example. Other people who are considered important can influence the formation of individual attitudes and tend to have a unidirectional attitude with the attitudes of people who are considered important (Nursalam, 2013)

The results showed that there are some respondents who have a positive personal reference but the prevention behavior is sufficient, this is because in addition there are personal reference factors, there is also a factor of thought and feeling is the knowledge and attitude factors that are personal factors of the respondents who are important domains for the formation of a person's behavior. Formation of behavior is not only influenced by others who are considered important but also influenced by several factors one of which is the attitude and personal experience (Maulana, 2013).

4.6 Relationship between the resources factor: Facilities in the Home Environment with Pneumonia Prevention Behavior

Resources in the mother's home environment (home floor and ventilation) are strongly linked to pneumonia prevention behaviors. Conditions that are not eligible home at risk 4.65 times exposed to pneumonia compared with toddlers whose home conditions meet the requirements (Budiaty, E. & Duarsa, 2012). A poor dwelling density increases the risk of pneumonia in infants by 1.38 (Anwar, A. &

Dharmayanti, 2014). Densely populated homes can have a chance of getting pneumonia 2.20 times. Densely populated homes may contribute to bacterial transmission, pneumonia-causing viruses by breathing from one home to another easily and quickly (Hartati, 2011).

Based on the observation of the house, all respondent households use ceramic type floor and clean house floor condition although there are still some respondents with less clean house floor condition. Type of floor at risk of the incidence of pneumonia in infants because basically toddlers more often play on the floor. The condition of the floor of the house is a risk factor because the condition of the house floor is closely related to the type of floor of the house.

Most respondents have air ventilation in their homes and some respondents do not have air vents. Most of the respondents had a window in the house with varying numbers, but there were two respondents who did not have a window at home. Homes that do not have air ventilation 6.44 times risk of experiencing pneumonia compared to toddlers who have home ventilation (Sugihartono & Nurjazuli, 2012).

In addition, family members who smoke in the house have a major influence in indoor air pollution. Based on demographic data it is known that most respondents have family members who smoke.) Said that exposure to cigarette smoke is a factor that can increase the risk of pneumonia in infants. Research conducted by also that indoor air pollution increases the risk of under-five mortality due to pneumonia 3 times greater (Sugihartono & Nurjazuli, 2012)

4.7 Relationship between cultures with Pneumonia Prevention

Most respondents have a positive culture and almost half of respondents have a negative culture. Negative cultures of respondents include the habit of not closing the mouth when coughing near the child, not wearing a mask while coughing, not wearing a mask when in contact with sick children and not washing hands after contact with the nose and mouth when coughing. Toddlers have 4.72 times the possibility of pneumonia if the mother washes hands without using soap after coughing (Shibata, T., 2014).

Culture is the plural of the word mind and power which means love, taste and intention. Culture is all the work, taste, and creation of society (Setiadi, 2008). So that culture or culture concerning all aspects of human life both material and non material

Culture is a pattern of life produced by normal behavior, habits, values and procurement of resources within a community (Notoatmodjo, 2010).

Culture in the community is a factor that affects health behavior of the behavior of prevention of pneumonia in infants. In addition, cultural values and knowledge of mothers about health helps motivate mothers in making decisions about health behaviors (Miller, 2011). In addition to the culture in which a person lives and is raised has a great influence on the formation of one's attitude. Attitude is an important domain for forming an action or health behavior (Notoatmodjo, 2010).

5 CONCLUSION

Preventive behavior against pneumonia in the mother associated with thought and feeling (knowledge, attitude, perception and trust), resources and culture. The better the knowledge about the prevention of pneumonia owned by the mother, the better the prevention behavior of pneumonia done by the mother. The more positive the perception of the mother the better the mother's behavior in the prevention of pneumonia. While the personal reference factor is not directly related to the prevention behavior. The formation of behavior is not only influenced by the reference of others who are considered important, but also influenced by several factors one of which attitude and personal experience.

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