RISK FACTORS INFLUENCING ACUTE RESPIRATORY TRACT INFECTION (ISPA) IN TODDLER AT PUSKESMAS TANJUNG PAKU SOLOK CITY 2014

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ABSTRACT

This study aims to get a description of risk factors ISPA In Toddlers In Review Of Environmental and Nutritional Status in Urban Village of Puskesmas Tanjung Paku Solok City, 2014. This is a descriptive study with populations of all mothers with toddlers ever suffer from ISPA in the village of Tanjung Paku in the last 3 months of 2014. Samples were taken by systematic random sampling with the number of samples was 96 respondents.

Data collected by observation, interview and documentation study. Then analyzed by univISPAate. Based on the research results suggested to the health workers to provide health education to the respondents who have children to improve access to the air vents in the home, among others, by opening a window in the morning and afternoon, organize planting trees around the house so as not to obstruct the air and light, provide balanced nutrition fit the needs of toddlers and set the number of occupants of rooms according to age in order to prevent the risk of transmission of ISPA.

Keywords : ISPA, Ventilation**,** Density Residential**,** Nutritional Status
References : 35 (1989-2013)

BACKGROUND

According to the WHO in 2008, acute respiratory infections (ISPA) is a disease that often occurs in children. Incidence by age group toddler estimated 0.29 episodes per child / year in developing countries and 0.05 episodes per child / year in developed countries. It shows that there are 156 million episodes per year in the new world, where 151 million episodes (96.7%) occur in developing countries. Most cases occur in India (43 million), China (21 million), Pakistan (10 million), Bangladesh, Indonesia and Nigeria respectively 6 million episodes. (Health Ministry, 2011).

In Indonesia, ISPA is a health problem in children because of the high incidence of respiratory infection, especially in infants. Each child is estimated to have three to six ISPA episodes annually and result in approximately 20-30% of deaths (Mairuhu, 2012). ISPA is a leading cause of patient visits in health centers (40% - 60%) and treatment visits at the outpatient and inpatient care in hospitals (15% - 30%) (Ministry of Health, 2011).

Acute respiratory tract infection is a disease affecting one or more parts of the respiratory tract from the nose to the alveoli, including adnexa tissue, such as the sinuses, middle ear and pleural cavity (Health Ministry, 2002). These infections are caused by viruses, fungi, and bacteria that will invade the host when ISPA decreased body resistance. Children aged under five years are groups that have immune systems that are still susceptible to diseases (Marhamah, 2013).

In general, there are three risk factors, namely ISPA environmental factors, individual factors of children, and behavioral factors. Environmental factors can be seen from the factor of air pollution inside the home, ventilation and occupancy density. Factors individual child is influenced by age, birth weight, nutritional status and vitamins. While the behavioral factors are influenced by the mother or other family members to the prevention and control measures respiratory disease in infants (Maryunani, 2010).

Ventilation allows the availability of fresh air in the house or room that is needed by humans, so if a room does not have a good ventilation system and over crowded it will lead to a state that can be detrimental to health (Millatin, 2010). Risk factors that residential density of a role in the incidence of respiratory disease is the density residential bedrooms are generally very vulnerable in developing

countries. When the density of occupancy bedrooms more than 2 people in the room except the toddlers did not participate as of the risk of ISPA will increase. Exposure to infectious agents in the family occurs more frequently in families that share a bed (Andayani, 2012: 7). Nutritional status is also an important risk factor for the occurrence of respiratory infections, because poor nutritional status is usually accompanied by poor immune status thereby increasing the risk of respiratory infection. (Sukmawati, et al, 2009).

Based on a preliminary study that the researchers did on January 13, 2014, found the number of children suffering from ISPA from October to December 2013, of the four health centers in the city of Solok, obtained Puskesmas Tanjung Paku has the most number of patients with respiratory infection that as many as 308 people (38 %). Puskesmas Tanjung Paku consists of four wards. 4 villages of the region, the toddler most experienced by ISPA as much as 298 peoples (95.6%).

In the initial survey conducted by researchers dated January 13, 2014 in the village of Tanjung Paku, many families who have been able to have their own homes, but less attention to vent some even do not have at all. Some homes are closed all day because the owners go to work or other daily routines. How stuffy and moist air in the house. Because of the lack of land, the house was built is not proportional to the number of people who occupy it, so that the house is too dense. There are habits of the people who still like to bring other family members to live together with his family, even though their home area no longer sufficient to accommodate many people. Mothers also say that eating aim is only to eliminate hunger alone.

RESEARCH METHODS

Research Design

This is a descriptive study in order to see the risk factors of acute respiratory infection in infants in terms of environmental and nutritional status at Puskesmas of Tanjung Paku Solok 2014.

RESULTS AND DISCUSSION

Result

Table 1
Frequency Distribution of Respondents by Ventilation Houses at Puskesmas Tanjung Paku Solok 2014

No	Ventilation	f	%
1	Adequate	8	8,3
2	Inadequate	88	91,7
Total		96	100

From Table 1 it can be seen that almost all respondents (91.7%) ventilation is not eligible. Ventilation is very useful to keep the air flow inside the house to keep it fresh. This means the balance of O_2 required by the occupants of the house is maintained. Lack of ventilation will cause lack of O2 in the house which means CO2 levels that are toxic for the residents to be increased. Besides, insufficient ventilation will cause the humidity in the room rises due to the process of evaporation and absorption of fluid from the skin. Humidity is a good medium for bacteria, pathogens (bacteria that cause disease) (Notoatmodjo, 2003).

This is consistent with the proposed Jawetz in Evita Naria et al (2008) that the lack of ventilation will increase the humidity of the house. Moist air will cause health problems, especially respiratory diseases occupants (Evita Naria, et al, 2008: 4). So ventilation is required to qualify Menkes RI No.1077 / Menkes / Per / V / 2011, ventilation of at least 10% of the floor area.

Qualified ventilation can prevent the bad influence that can harm human health in a room. Good ventilation will allow wind movement and exchange of clean air becomes more smooth (cross ventilation). While the poor ventilation in the house causing air exchange less than the maximum. Indoor air will quickly turn into a stuffy and polluted. Without adequate ventilation, polluted air can not go out and replaced new air. Inadequate ventilation also cause less sunlight into the house. Without sufficient sunlight, pathogens in the house will multiply freely. Both of these increase the incidence of ISPA in Toddlers who live in homes with poor ventilation (Sri Andarini, et al, 2010: 7).

This is consistent with research of Lindawaty in Rahmayatul Fillacano (2012) that children who live at home with vents that do not qualify at 3.07 times the risk of experiencing respiratory infection than children who live at home with a qualified ventilation (Fillacano, Rahmatul, 2013).

Table 2
Frequency Distribution of Respondents by Density House at Puskesmas Tanjung Paku Solok 2014

No.	Residential Density	f	%
1.	Not Solid	44	45,8
solid	Solid	52	54,2
Jumlah		96	100

From table 2 it can be seen that over the majority of respondents (54.2%) categorized occupancy density solid. A healthy home building area should be sufficient for the occupants in it, meaning that the building floor area must be adapted to the number of inhabitants. Building area that is not proportional to the number inhabitants will cause overcrowded. It is not healthy, because in addition to causing lack of O2 consumption, also when one family member affected by infectious diseases, would be easily transmitted to other family members (Notoatmodjo, 2003: 151). Then the houses said solid area of the house is divided when the number of occupants is <10 m2 / soul. It is listed in the health requirements of housing RI No.1077 / Menkes / Per / V / 2011. This is consistent with research irianto (2006) that children who live with a solid home occupants at risk of experiencing ISPA 2.27 times compared with no solid occupants (Fillacano, Rahmatul, 2012: 77)

Table 3
Respondents Frequency Distribution Based on Nutritional Status in Urban Village Puskesmas Tanjung Tanjung Paku Paku Solok 2014

No.	Nutritional Status Of Children	F	%
1.	Less	5	5,2
2.	Gizi Kurang	68	69,8
3.	Good	23	24
Total		96	100

From Table 3 it can be seen that the majority (69.8%) categorized under five nutritional status of malnutrition

Good or poor nutritional status describe a person's nutrient consumption. Nutrients are needed for the formation of immune substances such as antibodies. The better nutrition means better consumed so that the better nutritional status also immune. Good immune system causes the body's immune to the disease (Elyana, 2009: 8)

Toddlers with poor nutritional will be more susceptible to respiratory infection than children with good nutrition for endurance factor is lacking. Infectious diseases alone will lead to malnutrition. In the state of malnutrition, children are more susceptible to severe respiratory infection attacks even longer (Maryunani, 2010: 15). This is consistent with research Sukmawati (2010) that children with recurrent respiratory infection in infants with more malnutrition status.

CONCLUSIONS AND SUGGESTIONS

From the description above can be concluded that most of the risk factors ISPA incidence in infants coming from the house ventilation because can not meet the needs and oxygen circulating properly, then the nutritional status of children under five with malnutrition and poor, and the condition of dense residential home. Based on the research results suggested to the health workers to provide health education to the respondents who have children to improve access to the air vents in the home between laindengan open the window in the morning and afternoon, organize planting trees around the house so as not to obstruct the air and light, providing balanced nutrition in accordance the needs of toddlers and set the number of room occupants according to age in order to prevent the risk of transmission of ISPA.

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