Physical Conditions Of House And Community Behavior Analysis Of Acute Respiratory Tract Infection In Working Region Central Public Health Soe City South East Central District

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ABSTRACT

The incidence of acute respiratory infections occurs due to poor air environmental conditions both inside and outside the home environment. The purpose of this study to analyze the physical condition of the house and the behavior of the community against the occurrence of acute respiratory infections in the work area of Soe City Central Public Health East Central South District.

This research design is correlational analytic with Cross sectional approach. The population studied by all ISPA patients in Soe City Public Health Central of South East Central District Regency with 358 people, with Simple Random Sampling technique obtained 189 respondents. Independent variable of house physical condition (Ventilation X1, X2 Lighting, X3 density, Floor type X4), community behavior X5 with dependent variable of acute respiratory infections occurrence. Data collection using observation. Data analysis with Ordinal Regression test, $\alpha = 0,05$.

The result of this research shows that almost half of the respondents have sufficient category behavior, that is 73 respondents (38,6%) and most of respondent have mild category of ISPA, that is 114 respondent (60,3%). Result of Ordinal Regression analysis simultaneously known there is influence of house physical condition and behavior of society collectively to ISPA event in work area of Soe City Health Center South East Middle Regency (p-value = 0,000 < □ = 0,05). Partially, there is the effect of ventilation (p = 0,030), lighting (p = 0,030), occupancy density (p = 0,043), floor type (p = 0,049), and community behavior (p = 0,014)

Environmental conditions that do not meet the health requirements will reduce the air quality in the room, the condition is exacerbated the lack of public behavior in maintaining environmental hygiene so that the air in the house a good place for the development of virus causes acute respiratory infections. Therefore it is expected for health institutions concerned to participate in improving the quality of public health by doing counseling related to healthy home and acute respiratory tract infection prevention behavior.

BACKGROUND

Acute Respiratory Infection (ARI) is the occurrence of inflammation of the upper and lower respiratory tract. ISPA is very common in the community (Mihardjo, 2012). The term ARI contains three elements: infection, respiratory and acute. Infection is the entry of germs or microorganisms into the human body and multiply causing symptoms of the disease. The respiratory tract is an organ starting from the nose to the alveoli and adnexa organs such as sinuses, ear cavities and pleura (MOH, RI, 2012).

According to WHO (2015), the incidence of ARI in the world reached 67% of all infectious diseases. The incidence of ARI in the community in 2010 nationally is 4.3 million with the number of events that develop into pneumonia is 211 thousand incidents (MOH RI, 2015). While the incidence of ARI in East Nusa Tenggara Province is 27 thousand cases. Meanwhile, based on reports from the District Health Office of South East District, the incidence of ARI was 12,465 cases from Central Public Health reporting on existing morbidity data in South East Middle District (DHO, 2016). ISPA data at the Soe City Public Health Center is quite large, with 4,970 cases in 2014, rising to 5,260 cases in 2015 and declining again in 2016 to 3,750 cases. While from January to August 2017 there have been 3.975 cases of ARI (Soe City Health Office, 2017). The results of initial observations conducted in the Soe District known 5 of 10 homes less ventilated so that the conditions inside the house was quite damp and rather dim. In addition 2 houses obtained still have a house floor made of land 4 other houses have a roof made of reeds. Associated with the behavior of the community, in general, people burn the garbage leaves by burning them in the yard, other than that in the morning smoke is also found in the area that comes from burning firewood for cooking activities.

The immediate cause of ARI is viral or bacterial infection, whereas indirect cause is environmental behavior and condition, such as smoking habit. Respiratory tract from nose to bronchus is coated by ciliated mucous membranes (cilia = fine hairs). The air entering through the nasal cavity is filtered, warmed and moisturized. Rough dust particles can be filtered by the hair contained in the nose, while fine particles of dust such as smoke will be entangled in the mucosal layer. Movement of the cilia pushes the mucous layer to the posterior / back to the nasal cavity and towards the superior / upper to the pharynx. In general, the effect of air pollution on the respiratory tract can cause the movement of the nasal cilia becomes slow and rigid even can stop so it can not clean the respiratory tract due to irritation by the contaminants. The production of mucus will increase, causing narrowing of the respiratory tract and destruction of bacterial killer cells in the respiratory tract. As a result of this will cause difficulty breathing so that foreign objects are attracted and other bacteria can not be removed from the respiratory tract, this will facilitate the occurrence of respiratory tract infections (Said, 2012). Research Objectives To analyze the physical condition of the house and the behavior of the community against the incidence of ARI in the work area of the Soe City Public Health Center of South Central Middle District.

METHOD

This research design is correlational analytic with Cross sectional approach. The population studied by all ISPA patients in Soe City Public Health Center of South Central Middle District Regency with 358 people, with Simple Random Sampling technique obtained 189 respondents. Independent variable of house physical condition (Ventilation X1, X2 Lighting, X3 density, Type X4 floor), community behavior X5 with dependent variable of ARI occurrence. Data collection using observation. Data analysis with Ordinal Regression test, $\alpha = 0,05$.

RESULT

Characteristics of the Subject

Table 1. Characteristics of respondents in this study include age, sex, occupation, history of information on ARI, home ventilation, home lighting, occupancy density, floor type, behavior and incidence of ARI,

No	Characteristics	ΣN	Σ%
1	**Age (year)**		
	18-25	46	24
	26-35	71	38
	36-45	72	38
2	**Sex**		
	Man	38	20
	Female	151	80
3	**Occupation**		
	Has no work	44	23
	Student	24	13
	Farmer	47	25
	Entreprenuer	14	7
	Employees	54	29
	Gov. Employees	6	3
4	**Information of ISPA**		
	Has never been	10	6
	Health worker	152	80
	Family	24	13
	Mass Media	3	2
5	**Home ventilation**		
	Qualify	72	38,1
	not eligible	117	61,9
6	**Home lighting**		
	Qualify	56	29,6
	not eligible	133	70,4
7	**Occupancy density**		
	Qualify	64	33,9
	not eligible	125	66,1
8	**Floor type**		
	Not good	38	20,1
	Good	151	79,9
9	**Behavior**		
	Less	60	31,8
	Enough	73	38,6
	Good	56	29,6
10	**Incident of ARI**		
	Light	114	60,3
	Medium	75	39,7
	Total	**189**	**100**

DATA ANALYSIS

Table 2. Results Analysis of the effect of physical condition of the house and community behavior on the incidence of ARI in the work area of Soe City Central Public Health Center South East District

Testing	Variabel	Sig.
Simultan	*Model Fitting Information (final)*	0,000
Parsial	X1_ventilation	0,030
	X2_lighting	0,030
	X3_occupancy	0,043
	X4_floor	0,049
	X5_behavior	0,014
Nagelkerke r square = 0,529		

The results of the above analysis can be interpreted as follows:

1. Simultaneous test results obtained p-value = 0,000 < = 0.05 then H0 is rejected and H1 accepted which means there is influence of physical condition of house and behavior of society collectively to the occurrence of ARI in work area of Soe City Health Center South East Middle District
2. The results of paralysis test show partial influence of house physical condition (Ventilation p-value = 0,030), (Lighting p-value = 0,030), (density of residence = p-value = 0,043), (Floor Type p-value = 0,049), and community behavior (p-value = 0.014 <) < 0.05) partially on the incidence of ARI in the work area of the Soe City Health Center of South Central Middle East Regency.
3. Based on the value of Nagelkerke r square dperoleh value of 0.529 which means 52.9% of ARI occurrence in Soe City Health Center Area Soe influenced by the physical condition of the house and community behavior, while 47.1% (100% -52.9%) the rest is influenced by other factors that are not examined in this study such as knowledge, clean and healthy life behavior and environmental conditions.

DISCUSSION

Physical Condition of House in the working area of Soe City Health Center of South Central Middle East Regency

Physical Condition of Home Ventilation in the working area of Soe City Health Center of South Central Middle East Regency

Physical Condition of Home Ventilation in the working area of Soe Health Center of South East Middle District is known that most of respondent have house ventilation condition in category not fulfilling requirement, that is 117 respondent (61,9%). More house ventilation is only at the front of the house. While on the side already coincide with the wall of a neighbor's house. Home ventilation is related to the humidity of the house, which supports the life-force of viruses and bacteria. Sunlight can kill bacteria or viruses. Some steps that can be taken to overcome the inadequate ventilation include, among other things, adding vents and holes to the walls as natural ventilation that can drain air into the room naturally. In addition, the manufacture of windows in the room that is not only made of glass as a means of entry of light from the outside, but also can be opened as a means of air exchange and the intensity of opening windows that are often done.Imanggung toddler is still tentan against disease will be easily attacked by diseases associated with respiratory tract, especially ARI if the in-room air humidity is not eligible ie ranged between 40% -70%. So it is highly recommended to add natural ventilation as a means of air exchange and is expected to reduce the air humidity is too high.

Physical Condition of House Lighting in the working area of Soe City Public Health Center South East Central District

Physical Condition of House Lighting in the working area of Soe City Central Public Health Center of South Central Middle East is known that most of respondent have house lighting condition in category not fulfilling requirement, that is 133 responden (70,4%).

Houses expressed healthy and comfortable, if the air temperature and humidity of the room in accordance with the normal human body temperature. The temperature of the air and the humidity of the room is greatly influenced by the air and lighting. The lack of sense or lack of sense will make the room feel stuffy or stuffy and will cause high humidity in the room (Notoatmodjo, 2012).

Natural lighting is obtained by the entry of sunlight into the window through the crevice or open space. Rays should not be blocked by buildings, trees or high fence walls.

The standard lami light requirement that meets health requirements for family and bedroom rooms according to WHO 60-120 Lux (KepMenkes 1405 / SK / VII / 2002). According to a study conducted, under-fives who stay at home with 1.38 times less lighting have a risk of suffering from ARI compared to toddlers who live at home with good livelihood. (Situmorang, 2009)

Physical Condition of Residential Homes in the working area of Soe City Health Center of South Central Middle East Regency

Occupancy density in the working area of Soe Central Public Health Center of South East Middle District is known that most respondents have occupancy density in unqualified category, that is 125 respondents (66,1%).

Most respondents have homes that meet the health requirements, both for lighting conditions, ventilation, occupancy density or related to the condition of the respondent's home floor. The house is one of the basic needs of human beings other than clothing and food, so the house must be healthy so that residents can work productively. Home construction and home environment that do not meet health requirements is a risk factor as a source of transmission of various diseases, especially environmental-based diseases. Good floor conditions can reduce water intrusion that can reduce the moisture in the house. High residence density can cause high levels of environmental pollution. So the morbidity rate increases. This is one of the factors affecting morbidity in urban areas higher than rural morbidity because the population density and environmental pollution in the city is higher than in the village.

Physical Condition Type of Floor House in the working area of the Soe City Health Center of South Central Middle District

Physical Condition of House Floor Type in the working area of Soe Health Center of Central South Tengah Regency is known that most of the respondents have the condition of the type of floor of the house in good category with the type of floor of the house made of tile, which is 151 respondents (79.9%). The result of cross tabulation is known that most of respondent have age 26-35 years with type of floor in good category, that is 58 respondent (30,7%).

The results showed that most of the respondents had homes that met the health requirements, related to the condition of the respondent's home floor. The house is one of the basic needs of human beings other than clothing and food, so the house must be healthy so that residents can work productively. Construction of homes and home environment that do not meet health requirements is a risk factor as a source of transmission of various diseases, especially disease-based environment. Good floor conditions can reduce water intrusions that can reduce the moisture inside the house. The floor of the house is always wet facilitate the emergence of bacteria and moisture on the floor. Eligible floors must be made of ceramic so that the mapu is easy to clean even the entire dirt is carried out to every crevices of the ceramic segment. Unsuitable housing conditions are caused by low socioeconomic status. House walls made of woven bamboo or plywood or wood are generally dusty that can be a medium for viruses or bacteria to be inhaled by the inhabitants of the house carried by the wind. The unsuitable home ventilation is due to the small house type and narrow land ownership. More house ventilation is only at the front of the house. While on the side already coincide with the wall of a neighbor's house. Home ventilation is related to the humidity of the house, which supports the life-force of viruses and bacteria. Sunlight can kill bacteria or viruses.

Community Behavior in the working area of Soe City Health Center of South Central Middle East Regency

The behavior of the community in the working area of the Soe City Health Center of the South East Middle District is known that almost half of the respondents have behavior in the sufficient category, that is 73 respondents (38.6%). The result of cross tabulation shows that most of respondent with history information ever get information from health worker have behavior in enough category that is 56 respondent (29,6%).

Community behavior can also affect the incidence of ARD disease. Community Behavior that Increases ISPA Insurance is Clean and Healthy Behavior (PHBS) Cigarette Smoke as well as the environment as well as individuals in the family, community habits that rarely wash hands regularly and rarely use masks, gloves and protector can accelerate the spread of ARI. PHBS is one of the main capital to prevent the occurrence of ARI disease. Clean and Healthy Living Behavior is strongly influenced by the Culture and education level of the population. Thus the higher education and knowledge of the community will affect both the understanding of the public in maintaining health in order not to get ARI disease is through efforts to pay attention to healthy homes and healthy environment.

The incidence of ARI in the working area of Soe City Health Center of South Central Middle East Regency

The incidence of ARI in the work area of Soe City Central Public Health Center of South Central Middle East is known that most of the respondents have ISPA incidence in light category, that is 114 respondents (60,3%). The results of the study also known that almost half of the respondents work as private employees, ie 54 respondents (29%).

The results showed that most of the respondents had the incidence of ISPA in the mild category of the results of the study note that respondents who have had respiratory infection respiratory disease experienced more than 14 days is known quite a lot. The age most susceptible to ISPA disease is an adult who is still low immune resistance during its growth. ISPA disease is one of the diseases associated with the environment in the house, especially the conditions that are very close to the shelter of the environment in the house. The environment inside the house strongly interacts with everyday living in the community, if the environment in the house where a family gather and shelter is not healthy because of the infection by bacteria or viruses can cause various diseases in the community one of them is ISPA disease . Infection that occurs in ARD disease can occur in both upper and lower respiratory tract. However, infection at the top is more common.

Influence of physical condition of house and community behavior toward ISPA incident in working area of Soe City Public Health Center South East Middle District

The simultaneous test results obtained p-value = 0,000 < = 0.05 then H0 is rejected and H1 accepted which means there is influence of physical condition of house and behavior of society collectively to the occurrence of ISPA in work area of Soe City Health Center South East Middle East Regency. While the value of Nagelkerke r square dperoleh value of 0.529, which means 52.9% of ISPA occurrence in Soe City Health Center Area Soe influenced by the physical condition of the house and community behavior, while 47.1% (100% -52.9%) the rest is influenced by other factors which is not examined in this research such as knowledge, clean and healthy life behavior and environmental conditions. In this study it is known that the behavior of the community is the most dominant variable affecting the incidence of ARI with p-value (0,014).

In general, there are 3 (three) risk factors of ISPA that are environmental factor, individual factor of child, and behavior factor. Environmental factors include indoor air

pollution, physical condition of the house, and housing density. Individual factors include child's age, birth weight, nutritional status, vitamin A, and immunization status. While behavioral factors related to prevention and control of ARI disease in society and society in this case is the practice of handling ARI in family either by mother or other family member (Department of Health RI, 2001). The house is one of the basic needs of human beings other than clothing and food, so the house must be healthy so that residents can work productively. Construction of homes and home environment that do not meet health requirements is a risk factor as a source of transmission of various diseases, especially disease-based environment. Based on Household Health Survey (SKRT) conducted in 1995, Acute Respiratory Infection (ISPA) disease, which is the second leading cause of death is closely related to unhealthy housing sanitation condition.

CONCLUSIONS AND SUGGESTION

Conclusion

1. Almost half of respondents have behavior in enough category, that is 73 respondents (38,6%).
2. Most of respondents have ISPA of incidence in light category, that is 114 respondent (60,3%).
3. Simultaneously there is influence of physical condition of house and behavior of society collectively to ISPA event in work area of Soe City Health Center South East Middle East Regency (p-value = 0,000 < = 0,05). (P-value = 0.043), (Floor Type p-value = 0.049), and community behavior (p-value = 0.030), (p-value = 0,030) p-value = 0.014α <) < 0.05) against ISPA events. The variable of physical condition of house and community behavior is able to explain the factors that influence the incidence of ISPA by 52,9%.

Suggestion

1. For Respondents
   Expected to renovate the physical condition of the house (ventilation, lighting, density and type of floor) and can change people's behavior becomes cleaner and healthier.
2. For Research Sites
   Can be an input for planning and development of health services in pasiendalam improving the quality or quality of services, especially reducing the incidence rate of ISPA.
3. For Educational Institutions
   Can be used as reference, input materials and consideration when doing care of Public Health about ISPA disease.
4. For Further Researchers
   Limitations in this study that the measurement of behavior is only done with the questionnaire and not accompanied by direct observation. It is hoped that further researchers can develop this research by conducting similar research by adding other instruments such as observation and counseling to obtain more complete data and strengthen the results of research related to environmental conditions at the research site.

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