The Epidemiology of Hospitalized Pneumonia in Bahteramas Hospital, Southeast Sulawesi Province

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Abstract. Pneumonia is a disease that can affect all age groups. In some countries, this disease is often found in groups of children. Various causes of pneumonia such as microorganisms. This study was conducted at the Bahteramas Hospital in Southeast Sulawesi Province; the data taken was patients treated with symptoms of pneumonia in the period 2012-2017. It was concluded that the sex group of male patients was higher than women and from the age group of patients with age less than four years.

Keywords: Pneumonia, Ages, Gender, Indonesia.

1. Introduction

Pneumonia is an infectious disease that is often found in the lungs caused by microorganisms (bacteria, viruses, fungi, or parasites) [1]. Clinically, pneumonia is divided into community pneumonia or what is also called pneumonia acquired is pneumonia obtained outside of the hospital [2],[3]. The bacteria that cause pneumonia include S. pneumonia, H. Influenza, Gram-negative Basilus, M. pneumoniae, C. pneumoniae, L. pneumoniae [4],[5].

While pneumonia that occurs in hospitals is called nosocomial pneumonia, namely pneumonia during hospital treatment, especially in the elderly, after surgery and on ventilator use [6],[7]. Some causes of nosocomial pneumonia are the gastric aspiration, thoracic aspiration, use of type II histamine inhibitors, use of nebulizers, humidifiers, nasogastric pipes, endotracheal pipes, and enteral feeding through all of these causes are risk factors for infection nosocomial in the lungs [8],[9],[10].

Globally Streptococcus pneumoniae is the most common pathogenic bacterium in humans causing pneumonia, pneumococcus is considered as one of 9 bacteria that cause international concerns published by the World Health Organization in 2014 [11],[12]. Whereas in old age it is caused by gram-negative aerobes, such as S. Aereus [13].

The description and analysis of the situation of pneumonia at Bahteramas Hospital represent the incidence of pneumonia which also occurs in Indonesia and even in the world. To increase awareness about the dangers of pneumonia, November 12 is celebrated as the world pneumonia day. Pneumonia killed 920,136 children under the age of 5 in 2015, accounting for 16% of all deaths of children under the age of five. Pneumonia attacks children and families everywhere but is most common in South Asia and sub-Saharan Africa [14].

The estimated percentage of pneumonia cases in infants under the Province in Indonesia is 3.55%, and Southeast Sulawesi province is 3.84% [15], and case fatality rate pneumonia in toddlers by province and age group in 2016 in Southeast Sulawesi province with cases of
people aged <1 year at 36.57% and ages 1-4 years at 63.42% [15]. The number of pneumonia cases in children under five by province and age group in 2017 in Southeast Sulawesi Province with cases of people aged <1 year at 37.60% and ages 1-4 years at 62.39% [15]. The purpose of this study was to describe pneumonia cases based on gender, and age treated in Bahteramas hospital, southeast Sulawesi province.

2. Methods

We reviewed records of pneumonia admitted to Bahteramas hospital from 2012 to 2017. Data on pneumonia in all patients with a diagnosis consistent with pneumonia included the following terms: acute respiratory infection, pneumonia, aspiration pneumonia, bronchopneumonia, lobar pneumonia, chest infection, acute chest infection, respiratory infections, and lower respiratory tract infections. Data is presented in a graph based on Cases of pneumonia, gender, and Ages.

3. Results

Diagnosis of pneumonia in the hospital is based on clinical considerations supported by radiology, sputum examination and blood tests of 20-30% show a positive culture. Patient data caused by pneumonia hospitalized in Bahteramas General Hospital were seen to continue to increase, in 2012 a total of 366 cases, and decreased in 2013 with a total of 299 cases, but in 2014 until 2017 it was seen to increase with a total of 696 cases in 2017, (Figure 1).

![Figure 1. Number of pneumonia cases by years of hospital admission.](image)

Patients with pneumonia who were hospitalized according to gender also described an increase in the incidence of pneumonia each year. The proportion of pneumonia incidence in male and female patients is different where it is clear that male sufferers are higher than the percentage of female sufferers. In figure 2, there are fluctuating cases in both male and female patients. However, male sufferers continue to increase until 2017 reaches a rate of (60%), whereas in 2012 the number of male patients hospitalized with pneumonia was (55%) and women (44%), in 2013 men (54%) and women (45%), 2014 men (53%) and women (46%), 2015 men (53%) women (46%) and 2016 men men (58%) and women (41%), (Figure 2).
Pneumonia attacks all ages in all regions, but most are in South Asia and sub-Saharan Africa [16]. Populations prone to pneumonia are children less than two years old. Based on data from the Bahteramas Hospital Proportion of pneumonia in the age group, it appears that the proportion of pneumonia in infants (<1 year) from 2012 - 2017 totaled 21% - 43% of the total cases of all age groups and toddlers (1-4 years) and years 2012 - 2017 total cases of 20% - 30% of the total cases of all age groups, this shows that pneumonia in infants and toddlers is a high enough case (Figure 3). When compared with other age groups. This shows that infants and toddlers are the age group with the highest pneumonia cases in Bahteramas hospital. Therefore pneumonia in infants and especially in infants needs attention.

Discussion

In general, pneumonia can affect everyone, but there are two age groups that have the highest risk in this case infants or children and adults over 65 years, the picture above shows the frequency of pneumonia sufferers in the Bahteramas Hospital continues to increase every year. When looking at microorganisms that cause community pneumonia, in general, are bacteria from the gram-positive group. Comorbid factors, such as a history of alcoholism, and
smoking and the location of treatment can affect microorganisms that cause community pneumonia [17]. Most community pneumonia patients have at least one comorbid disease. Heart disease and Diabetes Mellitus are the most comorbidities found [18]. States that more than half of elderly patients were diagnosed with community pneumonia and heart disease.

The most common clinical symptoms are shortness of breath, coughing, and fever, shortness of breath, coughing, and fever are clinical symptoms that often appear. The clinical sign that often appears in the study sample is the sound of wet cracks, followed by bronchial lung sounds [19]. Nosocomial pneumonia is often masked by a pulmonary embolism, intoxication, and allergies, and cardiac decompensation, the largest bacterium for nosocomial pneumonia is an-aerobic bacteria [20].

In pneumonia sufferers male sex looks high compared to women, if the child is caused the respiratory tract diameter of boys is smaller than girls or there is a difference in the resistance of boys and girls [21, 22]. Whereas in adulthood, male sufferers are high; this may be influenced by smoking habits and the existence of differences such as economic and social conditions, demographic factors and lifestyle [23].

The frequency of pneumonia sufferers by age group, in infants and children under the age of two years the risk of getting pneumonia is higher, this can be caused because the immune system is still in the development stage. Another thing that causes pneumonia is environmental factors such as cigarette smoke, toddlers who have members of the family of smokers at risk of 10.3 times suffering from pneumonia, in addition to age, socio-economic factors and exclusive breastfeeding also influence as additional variables [24],[25],[26].

Seeing the incidence of pneumonia is quite high and tends to increase every year, so it is necessary to try preventive or suppressive measures so that there is no increase in the incidence and mortality caused by pneumonia. To improve pneumonia control and surveillance one of the efforts of the Ministry of Health by establishing ten provinces as sentinel pneumonia areas in 2007, then it will be developed into 20 provinces in 2010 and is expected to become 33 provinces in 2014 [27],[28].

5. Conclusion

The incidence of pneumonia in Bahtermas Hospital is quite high, from the sex group of male patients is higher than women, and from the age group of patients with age less than four years is also high, this is caused by several factors including environmental factors that are not healthy as exposure to cigarette smoke.

Reference


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