

Surveillance Study of Acute Respiratory Infection (ARI) Incidence in The Pekauman Health Center Work Area

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Abstract. Acute Respiratory Infection (ARI) is a disease with the highest incidence (1044 cases in 2021) in the work area of Pekauman Health Center, Banjarmasin City. Acute Respiratory Infection disease surveillance activities need to be carried out to obtain an overview of the related factors so that a health promotion program can be planned to control the incidence of the disease. The purpose of this study was to determine the incidence of ARI based on factors of age, gender, region, and trend of cases in a year. The results obtained that most ARI occurred in the age category ≥ 5 years (73.27%) and most of them were female (52%). The incidence of ARI per region is known to occur the most in Kelayan Selatan Village (29%) and the highest occurred in December 2021 (15.32%). It was concluded that in formulating health promotion programs, it could be focused on the age group 5 years, female, and mainly carried out in the Kelayan Selatan Sub-District, possibly before December.

Keywords. Acute Respiratory Infection (ARI); age; gender; region

INTRODUCTION

Acute Respiratory Infection (ARI) is a disease with the highest incidence rate (1044 cases in 2021) in the working area of the Pekauman Health Center, Banjarmasin City. According to the World Health Organization (WHO) ISPA is an infectious disease of the upper or lower respiratory tract that can cause a wide spectrum of diseases ranging from mild infections to severe and deadly diseases, depending on the causative pathogen, host factors and environmental factors. Factors that influence the incidence of ARI are divided into two, namely intrinsic factors and extrinsic factors. Intrinsic factors such as age, breastfeeding, nutritional status, low birth weight, immunization status. While extrinsic factors such as educational factors, occupancy density, physical condition of the house, house ventilation, cigarette smoke, socio-economic and employment (Caniago et al., 2022).

According to the World Health Organization (WHO) estimates the incidence of ARI in developing countries with the incidence of ARI in infants above 40 per 1000 live births, around 95% of children worldwide die from ARI. 70% come from African and Southeast Asian countries (Illahi, 2022). According to WHO, as many as 13 million children under five in the world die every year and most of these deaths are in developing countries, where ARI is one of the main causes of death by killing as many as 4 million children under five each year (Virgo et al., 2022).

In Indonesia, the number of cases of acute respiratory infection (ARI) is very high and ranks in the top ten of the most common diseases (Nur, 2021). ISPA is one of the main causes of patient visits to health facilities, namely 40% to 60% of all visits to puskesmas and 15% to 30% of all outpatient and inpatient visits to hospitals. The number of ARI

episodes in Indonesia is estimated to be 3-6 times per month. This shows that the morbidity rate due to ARI is still high (Helfrida et al., 2021).

According to the Indonesian Ministry of Health (2017) ARI cases reached 28% with 533,187 cases found in 2016 with 18 provinces including having a prevalence above the national rate (Ministry of Health RI, 2017). In 2017 the number of ARI cases in Indonesia in toddlers found was 533,187 cases, in 2018 there were 643,874 cases. Whereas in 2019 the number of ARI cases was 866,623 cases (Atmawati et al., 2022). Based on data from the Basic Health Research (RISKESDAS) of South Kalimantan Province in 2018 the number of cases of ARI was found to be 22,219 cases. Based on the results of the South Kalimantan Health Service report, there were 13 districts/cities in 2020 totaling 223,038 exposed to ARI, in 2021 there were 145,654 cases, and in 2022 until April there were 149,064 cases of ARI.

One of the efforts to monitor the incidence of disease is to carry out surveillance of the disease. Health Surveillance is an activity of systematic and continuous observation of data and information about the occurrence of diseases or health problems and conditions that influence the increase and transmission of diseases or health problems to obtain and provide information to direct effective and efficient control and management actions (Ministry of Health Republic of Indonesia Year 2014). Surveillance activities are routine activities carried out in a health center. Surveillance is a systematic and continuous process of collecting, processing, analyzing and interpreting data as well as disseminating information to units that need it to be able to take action.

ISPA disease surveillance activities need to be carried out to obtain an overview of the factors involved so that a health promotion program can be planned to control the incidence of the disease. The purpose of this study was to find out data on ARI at the Pekauman Health Center in Banjarmasin based on the criteria of age, sex, family area and number of cases in 1 year (per month).

METHOD

The method used in this study is a descriptive method through a quantitative approach with secondary data types, namely the recapitulation of data that is already available at the Pekauman Health Center in 2021.

RESULTS AND DISCUSSION

Based on the results of a secondary data study at the Pekauman Health Center in 2021, the percentage of ARI incidents in the working area of the health center was obtained based on various factors. Data on cases of acute respiratory infection (ARI) based on age, gender, region, and trend of cases in one year are as follows.

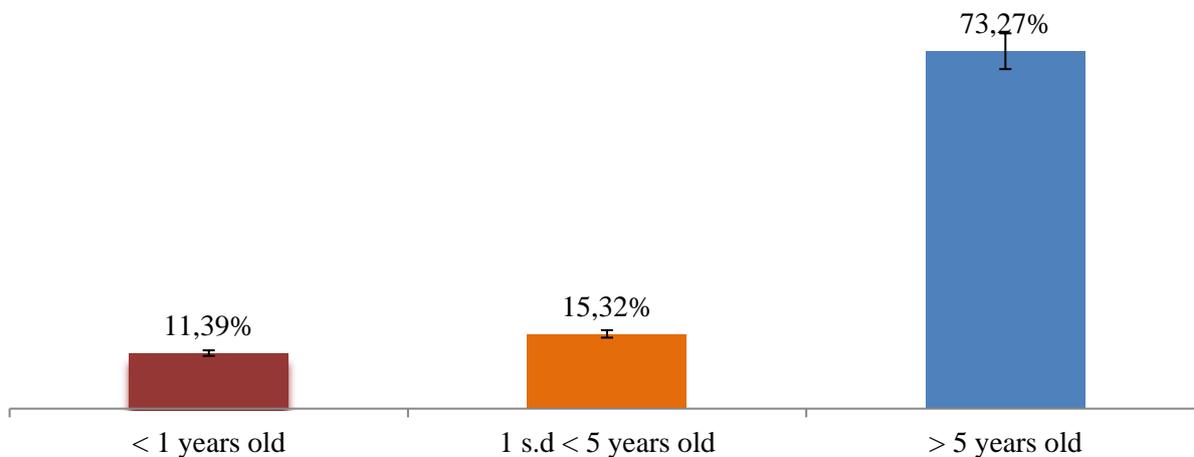


Figure 1: Number of ARI Incidents by Age

Based on Figure 1, it is known that the lowest number of ARI incidents at the Pekauman Health Center in 2021 occurred at the age of <1 year, totaling 119 people with a percentage of 11.39% while the highest occurred at the age of ≥ 5 years with a total of 765 people with a percentage of 73.27%. Children under one year of age are very vulnerable to catching ISPA because their immune systems are still weak and they often engage in activities in public.

According to Dewi Widaningsih (2018) children under 2 years of age have a greater risk of developing acute respiratory infections than children over 2-5 years of age, the condition of children under 2 years of age is that the child's immunity is not yet perfect and the respiratory tract is relatively narrow. In a study conducted by Firda Fibrila (2015) said that ISPA was highest in infants under one year old, and would decrease with age. This condition is possible because in the first 10 years of human life, the respiratory system is still developing to affect its perfect function, especially in the formation of alveoli (Sari Komala et al., 2022).

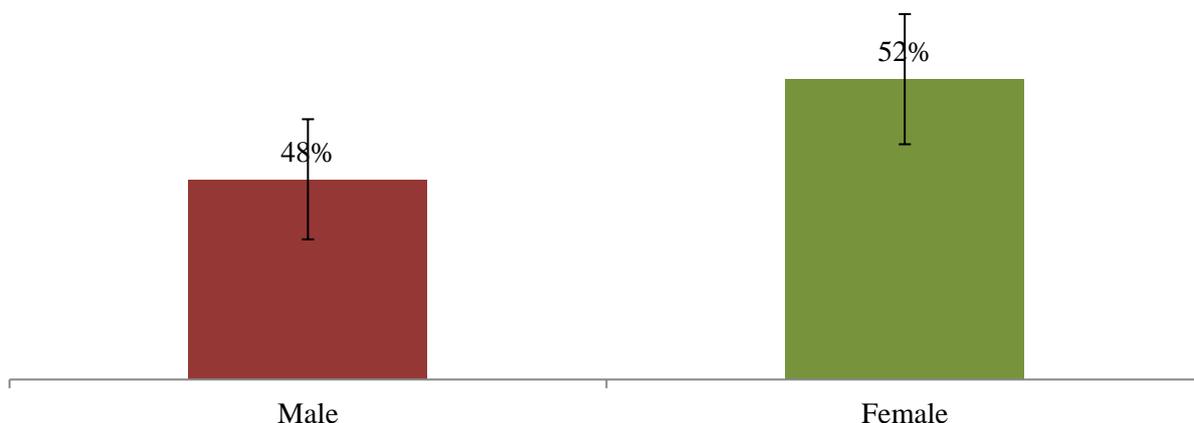


Figure 2: Number of ARI Incidents by Gender

Based on Figure 2, it is known that those most exposed to ARI are women with a percentage of 52% or 543 people. While the male sex is 48% or 501 people exposed to ARI. Women are more at risk of being exposed to ARI because women have more activities

outside and inside the house such as cleaning the house, cooking and often congregating in the market. Meanwhile, men are also vulnerable to ISPA, but men tend to ignore this by not checking their health regularly so that it seems that women tend to have a high number of visits compared to men (Guantari et al., 2012).

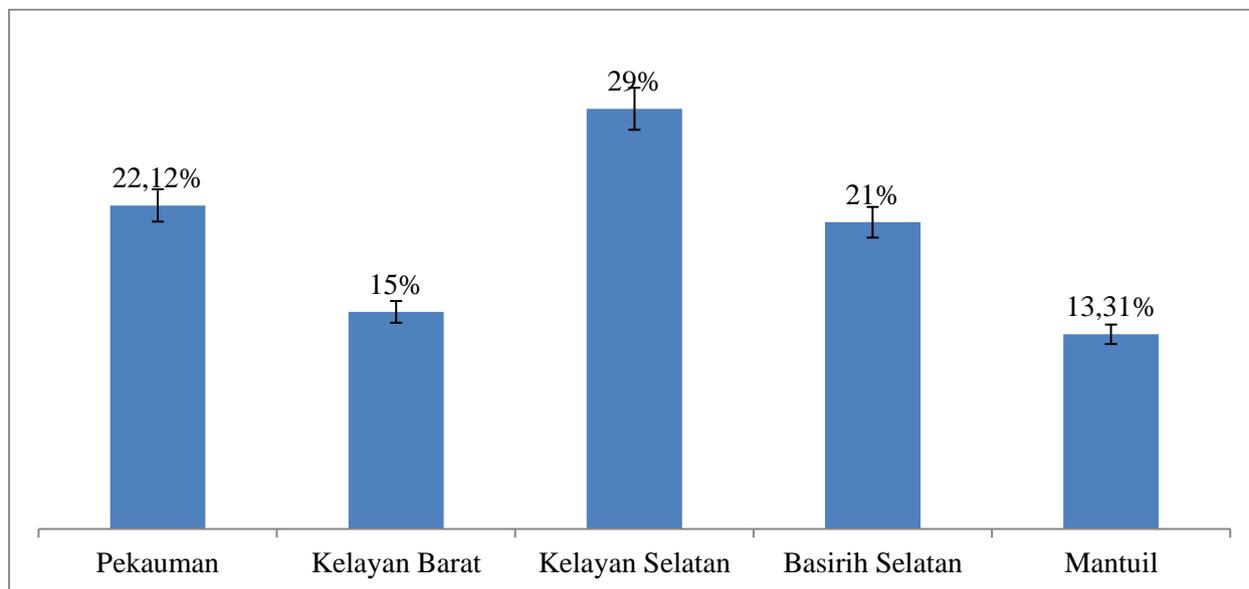


Figure 3: Number of ARI Incidents by Village Area

The area with the highest incidence of ARI is the South Kelayan region, which has 300 people with a percentage of 29%. Meanwhile, the area with the lowest incidence of ARI was the Mantuil area, with 139 people with a percentage of 13.31%. The South Kelayan area is one of the slum areas. The main problems in the area include poor building order and are located on the banks of the river, not yet optimal sanitation system and accessibility.

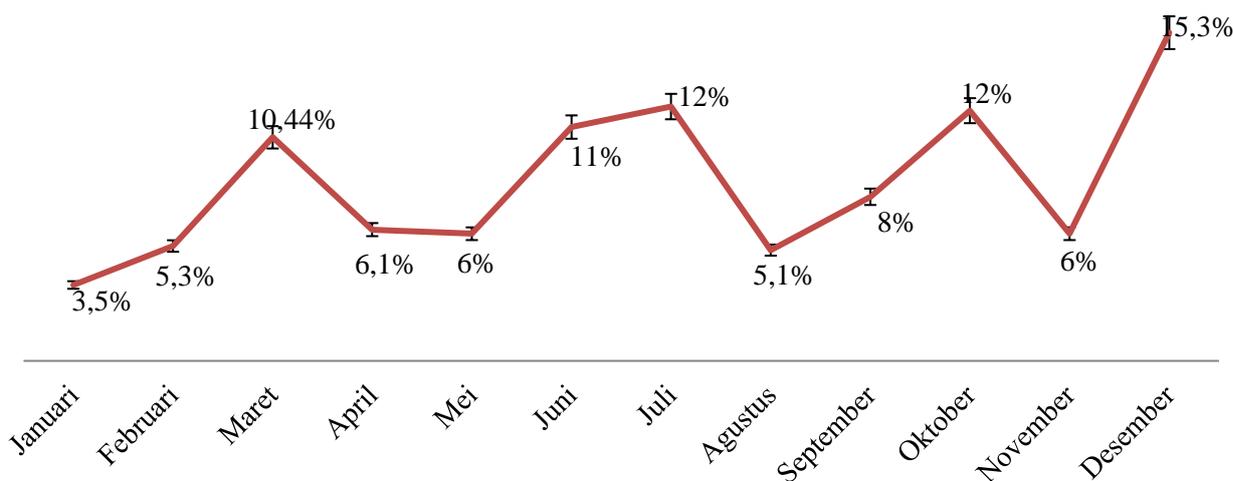


Figure 4: Number of ISPA Incidents Based on Case Trends in a Year

Based on Figure 4, it is known that the number of ARI cases in March, June, July, October and December experienced a significant increase. With the highest number of

cases, namely 160 people with a percentage of 15.32% which occurred in December. Meanwhile, the lowest number of ISPA cases occurred in January, amounting to 37 people with a percentage of 3.5%.

CONCLUSION

Based on the discussion above, it can be concluded that in compiling health promotion programs it can be focused on the age group ≥ 5 years, female, and especially carried out in the Kelayan Selatan area, possibly before December.

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