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**THE RELATIONSHIP BETWEEN HAZE AND INCREASED PNEUMONIA AT "X" HOSPITAL IN SUMATRA 2015-2016 YEAR**

**Rayhana1\*; Rahmini Shabariah1; Hanifah Amalia1**

**1** **Microbiology Department, Faculty of Medicine and Health, Muhammadiyah University of Jakarta**

\*Corresponding author: raykud@gmail.com

Underline the presenting author

**ABSTRACT**

**Background**

The frequent occurrence of fires in the regions of Sumatra and Kalimantan causes various health problems, especially respiratory diseases, one of which is pneumonia in infants. In 2019, UNICEF stated that pneumonia is one of the causes of under-five deaths every year

**Keywords**

Pneumonia, Haze, Toddlers

**Objective**

The Relationship between Haze and Increased Pneumonia at “X” Hospital in 2015-2016

**Research methods**

This research was a correlative analysis using cross-sectional method with secondary data and total sampling technique. The sample in this study were toddlers hospitalized due to pneumonia in 2015 – 2016

**Research result**

Using data from inpatient under-fives due to pneumonia in 2015 – 2016, there were 50 children. Hospitalized patients increased in November – December after the haze disaster period.

In this study, the results of statistical analysis using Spearman Correlation showed that the correlation value (Spearman Correlation = -0.206) was at a degree of weak correlation with a negative direction, and the Significance value (0.334) was greater than the specified significance value of 0.05. Therefore, the conclusion that can be drawn from this analysis is that an increase in the number of inpatients under five due to pneumonia is weakly correlated with the incidence of smog disaster. This is similar to research conducted by Kollanus in Finland in 2019 that during the haze event period, an increase in particulate pollution was not associated with hospital admissions due to respiratory problems at all ages. However, different results were found by Ming in 2018 in Kuala Lumpur that during the 2015 haze disaster period, the weekly frequency of several admissions due to respiratory problems correlated significantly, although daily admissions were found to be weakly correlated with the average per day (r = 0.35, P < 0.001) (Kollanus et al., 2016; Ming et al., 2018).

According to Casarett&Doull (2019) theory, the toxic substances contained in the smoke produced by burning organic matter can cause damage to cells and immunity of the respiratory organs and can increase the likelihood of developing infectious diseases, especially if people who are exposed to smog inhale these toxic substances in sufficient time. long. The factor of duration of exposure to smog is one of the reasons underlying the weak correlation in this study. In this study, the duration of exposure to haze was not studied, so it is difficult to explain the possible direct effects of exposure to haze. Further studies and analysis need to be carried out by considering the characteristics and other risk factors that are associated with the haze disaster (Casarett and Doull, 2019)

**Conclusion**

There is a weak correlation between the increase in the number of inpatients under five with a diagnosis of pneumonia at the “X” Hospital in 2015 – 2016 and the incidence of the haze disaster in 2015 – 2016.

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