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ABSTRACT

Title of Abstract : Analysis Environmental Factors of Diarrhea in East Kalimantan Province Based on a Large-Scale Survey
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Background : Diarrhea remains a global public health problem with high morbidity and mortality rates. Environmental conditions such as poor sanitation infrastructure and hygiene practices have the potential to increase the risk of diarrhea.

Objective : This study aims to analyze the relationship between environmental factors and the incidence of diarrhea in East Kalimantan Province based on big data from the 2023 Indonesian Health Survey (SKI).

Research Methods/ Implementation Methods : This study employed a cross-sectional design using secondary data from 15,854 SKI respondents. Variables included gender, education, drinking water sources, water quality and treatment, storage containers, wastewater disposal, waste management, sanitation access, and hygiene practices. Data were analyzed using Chi-square and logistic regression to determine independent environmental factors influencing diarrhea incidence.

Results : The prevalence of diarrhea was 2.1%. Bivariate analysis showed a significant association between the incidence of diarrhea and education ($p=0.001$), drinking water source ($p=0.003$), physical quality of drinking water ($p=0.000$), raw water source ($p=0.012$), waste management ($p=0.002$), and sanitation hygiene ($p=0.000$). In the models of multivariable logistic regression analysis, it was found that physical quality of drinking water ($AOR=2.058$; $p<0.001$), level of education ($AOR=2.008$; $p<0.001$), and waste management ($AOR=1.276$; $p=0.032$) were the main determinants of diarrhea incidence.

Conclusion/Lesson Learned : Poor drinking water quality, low levels of education, and inadequate waste management increase the risk of diarrhea in East Kalimantan. Efforts to improve water quality, environmental health education, and household-based waste management need to be strengthened to reduce the incidence of diarrhea.

Keyword : Diarrhea; Environmental Factors; Indonesian Health Survey; Logistic regression; East Kalimantan.