

# **Distribution of Typhoid Fever Cases in Genuk Subdistrict, Semarang, Central Java, using Geographic Information System**

**Maryani Setyowati<sup>1)</sup>, Dyah Asri Tunjungsari<sup>2)</sup>**

<sup>1)</sup>Graduate Program in Environmental Health, Faculty of Health,  
Universitas Dian Nuswantoro

<sup>2)</sup>Diploma Program in Medical Records and Health Information,  
Faculty of Health, Universitas Dian Nuswantoro

## **ABSTRACT**

**Background:** A Geographical Information System (GIS) is a computer system that displays stored digital data on a map representing the earth's surface. The application of GIS to the public health has been developed over the last two decades. It can help to understand and explain the dynamics and spreading pattern of a disease and increase the speed of response in the case of a disease emergency. This study aimed to describe the distribution of typhoid fever incident cases using GIS.

**Subjects and Method:** This was a descriptive study conducted at Sultan Agung Islamic Hospital in Genuk subdistrict, Semarang, Central Java. A total sample of 167 children with typhoid fever covered by Badan Penyelenggara Jaminan Sosial (BPJS) was selected for this study. The dependent variable was typhoid fever case. The independent variables were age group, comorbidity, and severity. The data were collected from the medical record. The data were described in percent and map using GIS.

**Results:** A total of 167 children with typhoid fever were reported in Genuk subdistrict, Semarang, Central Java, in 2017. These cases consisted of 79 (47%) children aged 1 to <5 years, 8 (5%) children aged 5 to <10 years, and 80 (48%) children aged 10 to <18 years. As much as 88 (53%) were female, 82 (49%) had comorbidity, 133 (80%) had grade 1 severity.

**Conclusion:** A total of 167 children with typhoid fever were reported in Genuk subdistrict, Semarang, Central Java, in 2017, with the majority of grade 1 severity cases.

**Keywords:** typhoid fever, children

### **Correspondence:**

Maryani Setyowati, Graduate Program in Environmental Health, Faculty of Health, Universitas Dian Nuswantoro, Jl. Nakula 1 No. 5-11, Semarang, Central Java. Email: watiek\_ms@yahoo.com. Mobile: 081326271072