

Abstract

Tuberculosis (TB) is a disease that is easily contagious and can attack various organs of the body, especially the lungs. This disease can cause complications to cause death for the sufferer if not appropriately treated. Currently, Indonesia is in the top six countries with the newest TB cases and is ranked second with the most cases of TB patients in the world. Prevention can be done, among others, by conducting regular visits to community homes to ensure that their place of residence has proper sanitation by established health standards. It is necessary to map problems in each region to ensure what diseases are now spreading in the area. This study aims to monitor Tuberculosis in the Special Capital Region of Jakarta, especially East Jakarta, by using interactive maps to facilitate the DKI Jakarta Health Office in monitoring the control of Tuberculosis for action and prevention. This research use SDLC methodology, which consisted of the stages of system analysis, system design, system implementation, and system testing. The data used is from the Health Service Office of Jakarta Region. This interactive map-based tuberculosis information system in the particular area of the capital Jakarta is a form of business that can help the community and is expected to be useful for its users.

Keywords: information system, tuberculosis, interactive map

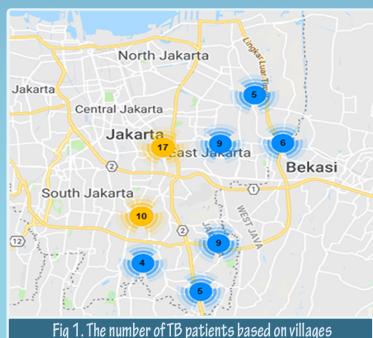
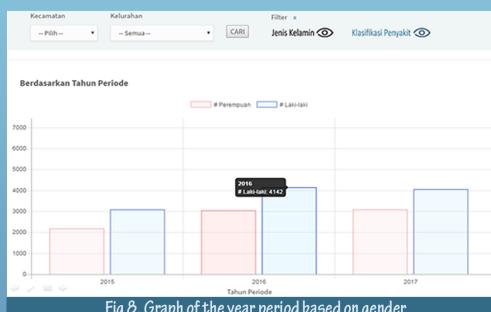
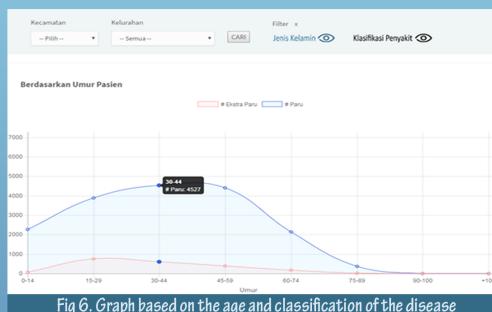


Fig 1 Show the number of TB patients based on village. The yellow node shows the number of patients at 10 villages or more, and the blue node shows the number of patients at 9 villages or below.



Aim

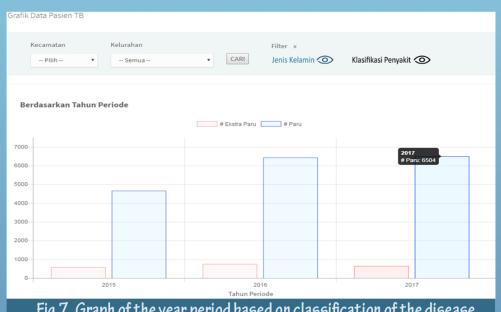
This research aims to monitor Tuberculosis disease data in the Special Capital Region of Jakarta, especially at East Jakarta by using interactive maps. The system can facilitate the DKI Jakarta Health Office to control the spread of Tuberculosis disease for action and prevention.

Data

Data for this research is from the DKI Jakarta Health Office regarding the spread of TB patients data in East Jakarta in the 2015-2017 period. The data consists of 1 (one) Province, 1 (one) city, 10 (ten) districts, and 65 (sixty five) villages, with 2 (two) patient classifications, namely pulmonary TB and extra pulmonary TB. Extrapulmonary TB is TB that attacks other organs of the body besides the lungs. Pulmonary TB is TB that attacks the lung parenchyma. The data also has 5 (five) types of patients that are standard treatment, relapse, failure, and others with a total of 19,580 patient data.

Results

Fig 2 is the marker label that has been filtered by category in 2017. The result shows the number of TB patients based on villages, sub-district, year, classification of patients (pulmonary and extrapulmonary), gender (male and female), and patient type (default treatment, relapse, failure, new and others) at Kayu Putih village, Pulo Gadung sub-district.



Conclusion

In this research, we develop the Interactive Map of Tuberculosis (TB) in the Special Capital Region of Jakarta. It can support the Jakarta Health Office to monitor and retrieve the information about TB patients in the Jakarta Special Region, especially East Jakarta. This system can help the stakeholder to make a decision of action to be taken to prevent the spread of the TB virus. This system also provides graphs showing types of TB patients, such as pulmonary, extrapulmonary. It also shows the diagram of TB patients based on their gender in East Jakarta in 2015-2017. Testing is done using the System Usability Scale. The average value obtained from the questionnaire is 72. It is obtained if the usability testing value is 72, it is included in the range B (range 70-80) and gets percentile rank by 70%. With the final value obtained in index B shows that the system created has met the criteria in terms of functional, display and efficiency.