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MAPPING OF PULMONARY TUBERCULOSIS CASES IN BANJARMASIN CITY 2016-2017

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ABSTRACT : Banjarmasin has the highest suspect level of Pulmonary Tuberculosis (TB AFB) in South Kalimantan from 2015 was 10.24% until 2016 was 11.39%). Focus of this research is to analyze cases of TB AFB Positive TB 2016 with spatial number, the number of health care facilities, occupation, sex, age, and income and the relationship between the number of new cases of Pulmonary TB AFB with population density and health care facilities that will result in layout map, table, graph, place of spread of Pulmonary TB AFB patients. This research uses spatial analysis method with ecological study design. The study population amounted to 659 cases. The sample calculation uses the Slovin formula with a sample size of 249 cases taken using the proportion per District. The results showed that the relationship was found only in population density variables, health service facilities, and income (economic level) (p-value <0.05) with the number of new cases of Pulmonary TB AFB.

Keywords : Banjarmasin, pulmonary TB AFB, spatial analysis, ecological study design

INTRODUCTION

Six million new cases tuberculosis (TB) by year 2014, reported by world health organization organisation from 9.6 million people or as many as two-thirds of the (63%) people thought to have clear of the[1]. Then, according to riskesdas 2013 is predicted there are 539.000 new cases and death as many as 101.000 people every year for events pulmonary tuberculosis in indonesia.Cases pulmonary tuberculosis smear positive found on each 110 patients per 100,000 is a sign the number of occurrences pulmonary tuberculosis in indonesia[2].

Based on the data provincial health department south kalimantan 2016, pulmonary tuberculosis highest to tb smear positive in the province of kalsel are located in the banjarmasin by the number of 774 (11,39%) suspek of the number of 6.791 a person examined[3]. According to achmadi (2012), one methodology to management disease based areas analyzing and deciphering about distribution risk factors environment, data diseases in geography regarding the distribution of population, socioeconomic, ecosystem, as well as the relations between analysis variable and the results communicated to users data over the

geographic information system (GIS) is the senses of analysis spatial[4]. With regard to the problem, researchers interested to assess mapping pulmonary tuberculosis smear positive in the city 2016-2017 banjarmasin years

RESEARCH METHODS

The research is the spatial analysis tb in urban area banjarmasin years 2016-2017 and use design study ecology tb cases per kecamatan aggregate data .It is a whole population to research suspek pulmonary tuberculosis smear positive based on the city health department banjarmasin years 2016-2017 at 659 cases. Sample of using formulas slovin with e = 0,05 (%) trust 95 degrees. To emerge in the survey sample 249 cases are. As for the criteria for inclusion in research is a new case, relapse, treatment after default or drop out and lain-lain. This study using data primary and secondary. The free to research the population density, distribution of health services, the distribution of work, distribution of the sexes, distribution age, the economy of the) (distribution of income, education and distribution. The number of cases of pulmonary tuberculosis smear positive in urban area banjarmasin 2016-2017 years is the variable bound.

RESULTS AND DISCUSSION

Based on the results of the research, then obtained the frequency distribution can be seen in the picture 1.
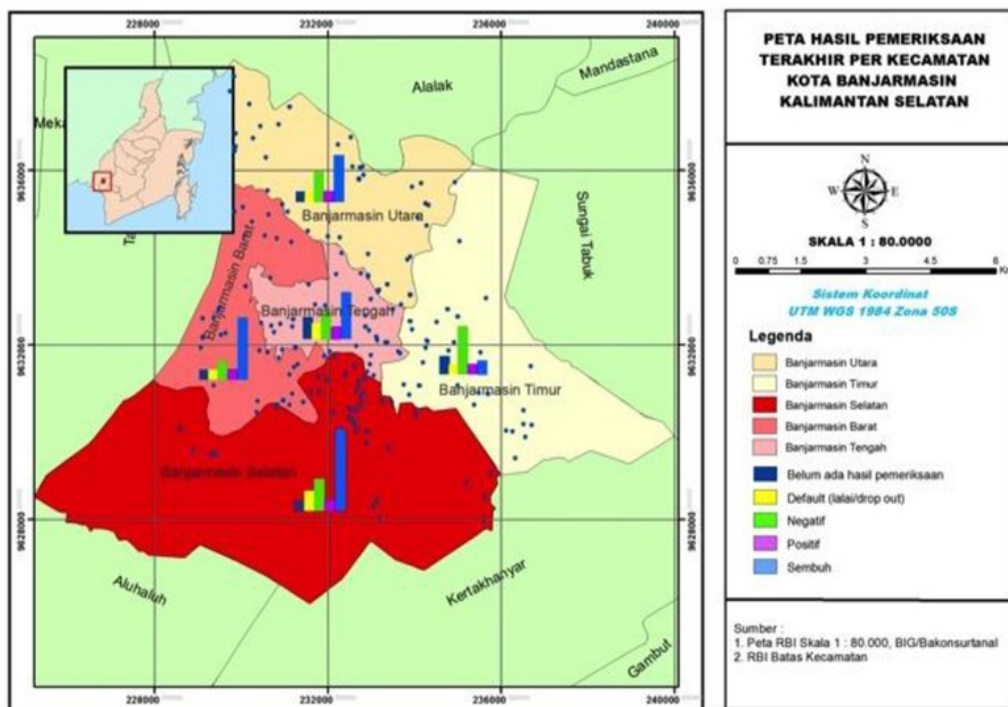
Picture 1. Spasial analysis Pulmonary tuberculosis cases in Banjarmasin City

Based on the map above, category of the worst results is positive, where the dark color maps showed the severity of the area to the most beautiful showing reduced severity cured. If sorted from the worst based on the legends that is positive, default, negligent or drop out, there has been no results, negative, and cured.

Based on the 2016, only 1 sub district in Banjarmasin City having the final checkpoint pulmonary tuberculosis smear positive the kecamatan banjarmasin the cases as many as 1. Then, ones with results default (negligent or drop out are highest in Banjarmasin sub district) north as many as 11 cases and the lowest in kecamatan banjarmasin west and east banjarmasin (-) found no cases .Has no results come from sub districts banjarmasin highest east about 5 cases and the lowest in west banjarmasin sub district, banjarmasin south, and not found north banjarmasin (-) case. Has negative results is highest in kecamatan banjarmasin east as many as 31 cases and the lowest in north not found in banjarmasin (-) case. Then, has healed of the highest is in kecamatan banjarmasin south as much as 57 cases and the lowest .

The above data shows that the transmission of germs determined by the person with ejected. The higher degree positive results phlegm, the patients were infectious. If the results of the inspection sputum negative (invisible germs, so patients is considered not infectious).

Pulmonary tuberculosis cases smear positive on banjarmasin 2016 having results final checkpoint highest that is healed. Patients expressed cured if patients treatment has completed a complete and reëxamination the sputum (follow-up) at least 2 (two) in a row the results negative (that is at the end of the treatment and or a month before the end of the treatment, and in one follow-up examination formerly). In which, some patient had been regularly visiting doctor and do treatment at public health center.

Based on the results of research, then obtained the trend of a frequency distribution in the proportion of cases pulmonary tuberculosis smear positive per month based on last sub-district that can be seen in pictures 2 the following.
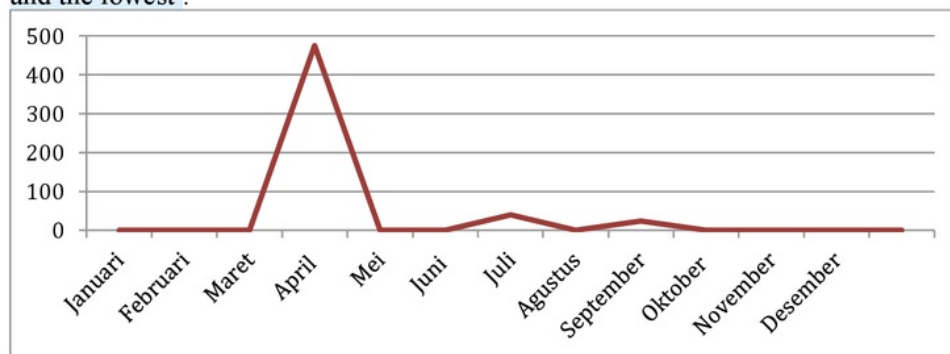
Picture 2. Cases Trend Pulomnary Tuberculosis.

Based on a picture 2 above, TB cases 2016 tending to smear positive for years has increased significantly in the April-Juni. After which it charts in figure had fluctuations and constant in January, February and December.

According to calender (2003), in achmad af for 2010, the rainfall will have an impact on changes in temperature air and moisture air, so that it will exert influence over the capacity life mycobacterium tuberculosis. Rainfall is defined as the rain that falls of the atmosphere in a horizontal plane, before yawning and percolate into much land as a liter in each sector of 1 square meters. In the rainy season house for moist, walls and the floor of a house wet by water that oozes up. At the time of flood many patients tuberculosis expressed recover it turns out a recurrence spatial analysis. According to chandra in 2005, in achmad af for 2010, the months in the tropics based on classifications climate mohr grouped into three parts based on the rainfall, namely month with rainfall more than 100 mm, month with rainfall between 60- 100 mm and the moon with precipitation less than 60 mm.

This is in accordance with the trend of cases above that triggered the high number of cases of tb smear positive maret-juni on the moon. Rainy season in indonesia happened in October until April. The beginning of rainy season 2016 begins occurring in january as many as 1 zom (0.3%), march as many as 6 zom (1.8%), as many as 3 april zom (0.9%) and may 1 zom (0.3%)

CONCLUSION

Happened grouping to scatter cases pulmonary tuberculosis based on the results of mapping software. Including trend scene cases tb based on months scene.

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