

Seasonality and trend analysis of Tuberculosis in Madhya Pradesh, India



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Abstract

Tuberculosis is highly contagious disease that shows seasonal pattern. Deciphering the season specific risk factors and the socio-economic factors equip us with better counter strategy to control and manage tuberculosis, which is one of the major causes of human mortality. Epidemiological studies were performed for the Indian central province, i.e. the state of Madhya Pradesh (with highest tribal population) to analyze the seasonality in tuberculosis. Data on smear positive pulmonary tuberculosis was collected from RNTCP for the period 2005-2010 for all the districts of Madhya Pradesh. Data was analyzed via R- software (R-3.2.3 version) with Poisson regression model and Time series analysis to count rate of incidence, seasonality and trend factor for smear positive case, pulmonary tuberculosis cases and annual incidence rate of tuberculosis. Results have established a definite seasonal pattern that peaks in summer. Results were also compared for the tribal dominated districts. Various seasonal risk factors, spatio-temporal, socio-economic factors were discussed along with nutrition, associated co-infection, immune-competence, vitamin D deficiency and physiology with respect to their effect on tuberculosis infection, transmission and progression.

Biography

Pranveer Singh has completed his preliminary education from Central school, Azamgarh (UP), followed by graduation and postgraduation from University of Allahabad, Allahabad (UP). He did his Ph.D. in Genetics under the mentorship of globally acclaimed geneticist Prof. B.N. Singh from Banaras Hindu University (BHU), Varanasi (UP). He did his postdoctoral work as UGC DS Kothari fellow in Biophysics / Proteomics with another highly reputed figure Prof. Raghavan Varadarjan from Indian Institute of Science (IISc), Bangalore, a premier institute in India. He has authored 5 international books as single author, published from Springer Germany, Cambridge Scholars, UK and Nova, USA; book chapters from

Springer Sweden and International academy of Biosciences, UK and more than 40 publications including review articles in the international journals of repute. He is currently supervising two projects from DST-NRDMS and UGC and two research students including one Ph.D.



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