

**AGE-PERIOD-COHORT ANALYSIS AND SPATIAL PATTERN  
OF TUBERCULOSIS INCIDENCE IN BANGLADESH**

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**AGE-PERIOD-COHORT ANALYSIS AND SPATIAL PATTERN OF TUBERCULOSIS INCIDENCE IN BANGLADESH****MOHAMMAD JAHIRUL KARIM 4738057 TM TM/M****M.Sc. (TROPICAL MEDICINE)****THESIS ADVISORS: PRATAP SINGHASIVANON, M.B.B.S., Dr.P.H., JARANIT KAEWKUNGWAL, Ph.D., PONGRAMA RAMASOOTA, Ph.D., CHAROEN CHUCHOTTHAWORN, M.D.****ABSTRACT**

Secondary data for tuberculosis, collected from the National Tuberculosis Control Program of Bangladesh, were used for Age-Period-Cohort (APC) Analysis and disease mapping. Tuberculosis epidemiological data from Netrokona District, for 1991-2005, were used in the APC analysis, and data for all 64 districts of Bangladesh, for the period 2000-2005, were used for disease mapping.

Objectives: To determine the temporal trend and high-risk areas of tuberculosis incidence in Bangladesh.

Methodology: APC analysis was conducted using the Generalized Linear Model for Poisson and Negative Binomial Model to delineate trends of tuberculosis incidence. Relative Risk was used for spatial analysis, to identify risk areas in Bangladesh.

Result: APC analysis showed the highest relative risk to be in the age group 40-44 years, compared with the reference. The period effect was not statistically significant, except for female cases, where the relative risk for the period 2001-2005 was significantly lower than the reference. The trends of tuberculosis incidence decreased both overall and for females at rates of 0.031 and 0.101, respectively, per 5-year interval. Dhaka district had the highest relative risk in Bangladesh and Mymensing, Brahmanbaria, Comilla and Chittagong were higher risk districts.

**KEY WORDS: AGE-PERIOD-COHORT ANALYSIS / TUBERCULOSIS / SPATIAL PATTERN/BANGLADESH****91 P.**