

The Impact Of Road Traffic Exposure On Childhood Asthma Exacerbation In Coimbatore City

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ABSTRACT

Background: There are only few hospital based studies on asthma in school going Indian children. The aim of our study was to assess the effect of air pollution exposure; while commuting to school, on asthma exacerbation in school going children aged 5-12 years in Coimbatore city.

Materials and Methods: A total of 100 children who were diagnosed to have childhood asthma as per GINA guidelines attending the Pediatric outpatient department, were recruited consecutively in the study, after obtaining the ethical clearance from Institutional Ethics Committee, PSG IMSR, Coimbatore. between July 2015 and May 2016. A detailed study pro forma comprising of various factors pertaining to asthma exacerbation and travel to school were documented. . Student-T test Statistical analysis and Spearman Correlation statistics was applied. A p-value <0.05 was considered as significant.

Results: Among the subjects, 56% had intermittent, 34% had mild persistent and 10% had moderate persistent asthma. A positive correlation between distance travelled to school more than six kilometers and asthma exacerbation was observed. But it was not statistically significant, a larger sample size might have made it significant as distance

and duration of travel in traffic increases, exposure to traffic and pollution results in increased exacerbations.

Conclusion: There was a statistically significant mean difference in the asthma exacerbation rate among different modes of transport to school. Children travelling in public transport had the highest rate of exacerbation. There was a positive correlation with the asthma exacerbation rate and distance travelled more than six kilometers from school but this correlation was not statistically significant. Future studies with similar aim and done on larger scale might show better correlation on these observations. *Limitations:* Small sample size, adherence to therapy, dose of steroids.