

ASSOCIATION BETWEEN OZONE EXPOSURE AND PREVALENCE OF ASTHMA RHINITIS AND RESPIRATORY SYMPTOMS IN URBAN ELEMENTARY SCHOOL CHILDREN IN TORREÓN COAHUILA MÉXICO.

Rivera Guillén Mario A., *Biomedical Research Center, Medicine School, Universidad Autónoma de Coahuila. Torreón Coahuila México.*

Sanmiguel Salazar MF., *Biomedical Research Center, Medicine School, Universidad Autónoma de Coahuila. Torreón Coahuila México.*

Girón Murillo MT., *Biomedical Research Center, Medicine School, Universidad Autónoma de Coahuila. Torreón Coahuila México.*

Saldaña García A., *Biomedical Research Center, Medicine School, Universidad Autónoma de Coahuila. Torreón Coahuila México.*

García Salcedo JJ., *Biomedical Research Center, Medicine School, Universidad Autónoma de Coahuila. Torreón Coahuila México.*

Serrano Gallardo LB., *Biomedical Research Center, Medicine School, Universidad Autónoma de Coahuila. Torreón Coahuila México.*

Moran Martínez J., *Biomedical Research Center, Medicine School, Universidad Autónoma de Coahuila. Torreón Coahuila México.*

Recio Vega R. *Biomedical Research Center, Medicine School, Universidad Autónoma de Coahuila. Torreón Coahuila México.*

Background/Aims: The aim of this study was to determine the prevalence of asthma, rhinitis and respiratory symptoms and relationship between high ozone levels and low ozone levels in urban elementary school children aged 6 - 12 years.

Methods: A cross sectional study of the history of asthma, rhinitis and respiratory symptoms and ozone exposure among children was conducted using the ISAAC (the International Study of Asthma and Allergies in Childhood) questionnaires which were completed by the parents. A total of 2780 children aged 6 – 12 years in 2006 (response rate: 94.2%) were included in the study. To associate ozone exposure, models was calculated using 8 and 24 hours concentration. Children with high exposure were school located in zones with 80 – 160 ppb ozone concentrations (Typical Children) and low exposure school in zones with 20 – 50 ppb ozone concentrations (Atypical Children).

Results: Total Prevalence of Asthma, Rhinitis, Sibilance, Snot and Tearing was 8.0 (95% CI 6.7 – 9.4), 7.6 (95% CI 6.7 – 9.4), 23.3 (95% CI 21.3 – 25.4), 37.0 (95% CI 34.9 – 39.0) respectively. To Atypical Children Prevalence Rate (8 hours ozone exposure): Asthma 7.1 (95% CI 5.36 – 8.4), Rhinitis 6.9 (95% CI 5.2 – 7.8), Sibilance 21.9 (95% CI 16.1 – 24.4), Snot and Tearing 34 (95% CI 23.4 – 36.7). To Typical Children Prevalence (8 hours ozone exposure): 3.9 (95% CI 2.66 – 4.3), 5.5 (95% CI 5.1 – 7.2), 12.4 (95% CI 9.16 – 14.4 95%CI), 29.6 (95% CI 20.0 – 33.4) respectively.

Conclusion: This study showed that the Prevalence in Atypical Children are modified to ozone exposure compared with Prevalence in Typical Children affected and air quality could be reason to shoot respiratory pathologies.