OCCUPATIONAL HEAT EXPOSURE OF TRAFFIC POLICE WORKERS IN AHMEDABAD, INDIA
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Abstracts

INTRODUCTION Climate change is causing rising levels of extreme heat. Traffic police workers form a vulnerable group exposed to high atmospheric temperature in temperate countries like India. A heat exposure assessment among traffic police has not been previously undertaken in an Indian city. Therefore, a pilot study was conducted with plans for an exhaustive study in future.

METHODS This study was conducted over a six-week period during June and July 2015 at four Traffic junctions in Ahmedabad on 16 traffic policemen. Personal ambient temperature was measured by data loggers, Wet-bulb-globe temperature and ambient temperature measurements were also recorded. Ahmedabad city Temperature Measurement data corresponding to the monitoring period was collected from Indian Meteorological Department. A questionnaire was administered to all participants to collect demographic data and history of heat related symptoms. Follow up was done to capture prevalence of heat-related symptoms over the study period.

RESULT The average age of study participants was 35.1 years. 94% of participants reported that the summer is the most uncomfortable season to work. The dry bulb and globe bulb temperature ranged from 31.6°C±1.0°C to 36.1°C±1.0°C respectively. Area WBGT heat stress measurements for all four traffic junctions ranged from 28.2°C to 36.1°C during the study period. Participants experienced high heat exposures during the study period. Daily WBGT measurements exceeded the maximum recommended exposure at each of the four outdoor worksites. 

DISCUSSION This study offers one of the first data sets on ambient heat exposure of traffic police workers in an urban context. The occupational heat stress exposure resulting from outdoor work in traffic junctions is likely to have implications for health. Further, it is observed that the exposures of people who work near roadways is not well characterised by conventional temperature monitoring stations. Various strategies are recommended to protect traffic police from heat exposures.