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Evaluation of subjective heat strain using a questionnaire among transport workers

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Abstract

Introduction: Exposure to excessive heat at workplace is commonly encountered with multitude of health and social impacts. Workers experience a wide range of health impacts like heat exhaustion, heat cramps etc which can cause unsafe conditions and discomfort leading to reduced performance and over a period of time result in severe health related illness. Because of the inter-individual differences in tolerating heat, it is important to know the view of the workers regarding the heat stress.

Objective: To qualitatively evaluate the transport workers perception using a standardized questionnaire regarding the heat stress and its health impacts.

Materials and Methods: Transport workers were interviewed using standardized HOTHAPS questionnaire. Area Heat stress assessments were measured using Quest Temp WBGT monitor.

Results: Heat stress measurements (WBGT) ranged from 28.1 - 32oC during the period of December 2012 in Chennai, South India. Workers reported a myriad of symptoms related to heat stress. Almost 80% of the workers felt that hot weather was a problem and it affected their performance substantially. Around 50% of workers complained of muscle cramps, excessive sweating and thirst. 8% of workers gave a history of severe heat exhaustion, and syncope. 40% of workers felt heat stress impacted their work as they have to avail more leave due to excessive heat and thereby affected their productivity and income.

Discussion and Conclusions: This study has highlighted the subjective feelings of the workers regarding the social and health impacts of heat stress. Implementation of interventions and health education will be effective if done in conjunction with knowledge of the workers perception regarding their work environment. Qualitative measurement of workers perception is an effective method to evaluate the heat stress along with the environmental measurements.

Biography

Dr. Archana P Kumar has completed her MBBS from The Tamil Nadu Dr. MGR University in 2001 and completed her MD from Sri Ramachandra University. At present she is doing her PhD at Sri Ramachandra University under the guidance of Prof. Padmavathi R. and Prof. Vidhya Venugopal.