

Metabolic Syndrome in Shift Workers of a Hospital Emergency

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Abstract

Introduction: There is a critical need to assess the burden of Metabolic Syndrome (MetS) in shift workers employed in Hospital Emergencies where shift work and the high stress environment are affecting the health of the healthcare providers themselves and where burnout and attrition is a major concern in order to better inform stake-holders and influence policy.

Material and Methods: A cross-sectional study was conducted in the Emergency Department of an eminent tertiary care hospital located in New Delhi during May-June, 2023. 61 Healthcare workers including 34 nurses, 14 doctors and 13 paramedical staff posted in the Emergency and working on Shift duty were administered a questionnaire and data was collected along with anthropometric measurements like Waist Circumference, clinical parameters viz. Blood Pressure and most recent available laboratory test reports from retrospective annual medical check-up data with occupational records through the Hospital Information System. This data was used to classify the participants using the revised NCEP-ATP III (2005) criteria to calculate the prevalence of MetS and analysed as per available demographic details, personal, family and occupational history to find possible factors which could lead to MetS.

Results: The overall prevalence of MetS in Shift Workers of Hospital Emergency at 54.1% was considerably high, more than twice the average of 25% in the urban Indian population as per previous studies and 1.5 times more prevalent in male health care workers than in females in contrast to studies in other population groups. There was an escalating age-related prevalence of MetS with an alarming high prevalence of 83% for MetS in the ≥ 40 years age-group. There also appeared to be a dose-response association of years of shift work with presence of MetS which was evident after 10 years of shift work and is also attributable to aging. The prevalence of Abdominal Obesity at 86.9% was very high across all age-groups in both genders, but more profoundly so in females. Almost all the participants of the age 40 years and above had abdominal obesity! Reduced HDL Cholesterol with 77% prevalence was also a major determinant for the presence of MetS in the study population.

Conclusion: It is particularly disturbing to find high prevalence of MetS in one of the most knowledgeable and well-trained health care workers of urban India. This high prevalence of MetS Syndrome in the study population was majorly due to very high prevalence of two reversible and potentially modifiable factors viz. Elevated Waist Circumference and Reduced HDL.