

Personal risk factors during heat stress exposure in workplace

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Abstract

Introduction: Heat stress is caused by many factors such as individual factors, environmental factors, and management factors. Individual risk factors can decrease the heat tolerance, and play an important role in heat stress disorders incidence. The aim of this study was to review individual parameters influencing the thermal stress and review the preceding studies.

Material and Method: In this review study sites such as Web of Science, Scopus, Pubmed, Iran Medex, Magiran, Google Scholar and SID databases were used for search. The keywords included heat stress, personal factors and heat exposure. The period of 1995 to 2015 was investigated, and finally 75 original articles were identified.

Result: At the individual level, exposure with a single risk factor may reduce the workers' heat tolerance; while exposure with a combination of several risk factors probably synergistically increases the risk of heat-related disorders. Individual risk factors include age, gender, obesity, fatigue, race, and previous heat disorders and dehydration. In addition, some diseases (such as cardiovascular disease, diabetes and infectious diseases) or use of certain drugs or alcohol can reduce the heat tolerance.

Conclusion: It is necessary to pay attention to the mentioned items when selecting workers in the hot environments. Also, due to the lack of awareness and knowledge of workers, it is necessary to provide appropriate training programs to reduce the effects of heat stress.

Keywords: Heat Stress, Personal Risk Factors, Heat Tolerance, Workplace

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