

Research Article

Occupational Difference in Association of Poor Sleep Quality and Metabolic Syndrome: Differences between Workers and Employees

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Background. Regarding insufficient data about interaction of job in association of sleep quality with metabolic syndrome (MS), this study has been designed to evaluate this association in workers and employees. **Methods.** This cross-sectional study was conducted on 448 municipal staff (employee group: $N = 295$; worker group: $N = 153$) referring for periodic examinations. The relationship between sleep quality and MS and their relevant components was investigated in both groups. **Results.** In the worker group, poor sleep quality was independently associated with the risk of MS by 3.04 times ($P < 0.01$). Among the components of metabolic syndrome, hypertriglyceridemia was associated with a greater number of sleep disorder components. There was no association between metabolic syndrome and sleep quality in the employee group. **Conclusion.** Poor sleep quality exerts different effects on metabolic complications in employees and workers.

1. Introduction

Metabolic syndrome refers to a cluster of cardiovascular risk factors such as abdominal obesity, hypertension, and impaired plasma lipid or glucose [1]. The prevalence of metabolic syndrome is high, and about one-third of the Iranian general population suffers from this syndrome [1]. Since this syndrome is associated with a number of complications including cardiovascular diseases, diabetes, fatty liver, and even some cancers [2], investigating its contributing factors is of particular importance. Several factors are involved in the development of metabolic syndrome, some of which include genetic factors, poor nutrition, and physical inactivity [3]. In recent years, the role of factors such as psychological factors [4] and sleep disorders in the development of this syndrome has also been addressed.

Recent studies have demonstrated that sleeping plays a more important role in metabolic health and is not just some

physical resting. Sleeping process is associated with major changes in the hormones involved in metabolism, such as cortisol and growth hormone as well as various neuropeptides [5]. During wakefulness, metabolism is associated with increased levels of free radicals; in contrast, when the metabolic rate and body temperature are reduced, especially when the brain is in the non-REM sleep stage, there is an opportunity to repair the damage caused by free radicals [6]. Sleep disorders can also lead to excessive activity of the sympathetic nervous system, which can have potential effects on complications such as hypertension [7].

Although several pathological mechanisms have been identified for the role of sleeping in metabolic health, the results of clinical and epidemiological studies on the association between sleep disorders and metabolic syndrome are quite inconsistent. In some studies, metabolic disorders have only been associated with sleep duration [8], while in some others, they have been correlated with overall sleep quality