

Study the Relation between Fatigue, Sleepiness and Accidents among the workers of Indian Weaving Industries

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Abstract

It has been found that shift work can disrupt human circadian rhythms which are normally acclimated to daytime wakefulness and nighttime rest. At physiological level, medical investigations have demonstrated that circadian de-synchronization can lead to changes in hormonal levels, increase risk of cardiovascular disease, produce sleep-cycle disturbances and result in significant fatigue. Shift work is growing in modern society as an important tool for flexibility of work organization. The aim of this study was to examine the rate of exhaustion and sleepiness around the shift and non-shift workers and its relation to occupational accidents.

This was a cross-sectional study on the workers of Indian weaving textile industrial Group. Study included 150 shift workers as the case and 141 non-shift workers as the control. A multi-part questionnaire including demographic characteristics, Piper Fatigue Scale (PFS) and Epworth Sleepiness Scale (ESS) were applied. The X² test and t-test were used to measure differences between variables. The mean of PFS scores in the two groups was significantly different ($p=0.045$), but the difference in the mean of ESS scores was not significant. Shift workers with the reported accident had a higher score on fatigue than shift workers with no accident ($p<0.001$) whereas the difference in the number of accidents in the two groups was not related significantly to the rate of sleepiness. The rate of fatigue or exhaustion and the number of the work accidents was more in the shift workers. Also, fatigue or exhaustion had a stronger relationship with the occupational accidents as compared to sleepiness. It seems that evaluation of exhaustion as compared to sleepiness is a more accurate factor for preventing work accidents.

Keywords: Weaving workers; Weaving Industry; Shift work; Sleepiness; Exhaustion or Fatigue; Accidents.