

Bright Light Effects on the Concentration and Diffuse Attention Reaction Time, Tension, Angry, Fatigue and Alertness among Shift Workers

Authors : Mohammad Imani, JabraeilNasl Seraji, Abolfazl Zakerian

Abstract : Background: Reaction time is the amount of time it takes to respond to a stimulus. In fact The time that passes between the introduction of a stimulus and the reaction by the subject to that stimulus. The aim of this interventional study is evaluation of bright light effects on concentration and diffuse attention reaction time, tension, angry, fatigue and alertness among shift workers. There are several incentives that can reduce the reaction time or added. Bright light as one of the environmental factors can reduce reaction time. Material &Method: This cross-sectional descriptive study was conducted in 1391, in 88 subjects (44 Fixed morning worker and 44 shift worker) In a 24 h time (13-16-19-22-1-4-7-10) in an ordinary light situation after a randomly selected sample size calculation, concentration and diffuse attention test (reaction time) has been done. After intervention and using of bright light (4500lux), again reaction time test was done. After analyzing by EIISA method obtained data were analyzed by statistical software SPSS 19 and using T-test and ANOVA statistical analysis. Results: Between average of reaction time tests in ordinary light exposed to fixed morning workers and bright light exposed to shift worker, with 95% CI, (P>%5) there was no significant relationship. After the intervention and the use of bright light (4500 lux),between average of concentration and diffused attention reaction time tests in ordinary light exposure on the fixed morning workers and bright light exposure shift workers with 95% CI, (P<5%) there was significant relationship. Conclusion: In sometimes of 24 h during ordinary light exposure concentration and diffused attention reaction time has changed in shift workers. After intervention, during bright light (4500lux) exposure as a light shower, focused and diffuse attention reaction time, tension ,angry and fatigue decreased.

Keywords : bright light, reaction time, tension, angry, fatigue, alertness

Conference Title : ICPHCMS 2015 : International Conference on Prehypertension, Hypertension and Cardio Metabolic Syndrome

Conference Location : Kuala Lumpur, Malaysia

Conference Dates : August 24-25, 2015