

THE INFLUENCE OF SHIFT WORK ON COGNITIVE FUNCTIONS AND OXIDATIVE STRESS

P.G. Ozdemir¹, Y. Selvi², H. Ozkol³, A. Aydin⁴, Y. Tuluce³, M. Boysan⁵, L. Besiroglu⁶

¹Psychiatry, Yuzuncu Yil University Medicine Faculty, Van, ²Psychiatry, Selcuk University Medicine Faculty, Konya, ³Medical Biology, ⁴Psychiatry, Yuzuncu Yil University, ⁵Psychiatry, Yuzuncu Yil University Arts and Science Faculty, Van, ⁶Psychiatry, Katip Celebi University, Atatürk Training and Research Hospital, Izmir, Turkey

Introduction: The shift work has various negative influences on health, performance, activity, and social relationships as well as causing impairment in cognitive functions.

Objective: We aimed to investigate the effects of shift work on participants' cognitive functions in terms of memory, attention and learning, and on oxidative stress indicated by total oxidant status, total antioxidant capacity, and oxidative stress index.

Methods: 90 health workers participated in the study (45 subjects were night shift workers). The neuropsychological tests were applied to the participants for assessing the cognitive functions and blood samples were taken to detect their total antioxidant capacity and total oxidant at 8.00 in the morning. Depression, anxiety, chronobiological characteristics, cognitive functions were assessed by using the Beck Depression Inventory (BDI), Beck Anxiety Inventory (BAI), Morningness-Eveningness Questionnaire (MEQ), Wechsler Memory Scale- Revised (WMS-R), Auditory-Verbal Learning Test (AVLT) and Stroop Test.

Results: Night shift workers reported significantly lower scores on the verbal memory, the attention-concentration, and the digit span forward sub-scales of the WMS-R as well as the immediate memory and the total learning sub-scales of the AVLT. Oxidative stress parameters were significantly associated with some types of the cognitive functions in both groups.

Conclusion: The findings suggest that health workers in night shift generally revealed significantly poorer performance in cognitive assessment as compared to day shift workers. The oxidative stress indicators associated with the cognitive functioning.