Investigation Effect of Shift Work on Job Burnout and Depression, Anxiety, Stress Scale in Military Personnel

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Received: 10 Apr. 2017, Revised: 27 June 2017, Accepted: 06 July 2017

ABSTRACT

Shift work has been recognized as an important tool for organizing of work in developing countries. The disturbed depression, stress accident are the most common health-related effects of shift work. The military personnel shift worker during work, are exposed to stress and psychological pressure that certainly affect the efficiency of their work. The aim of this study was to Investigation Effect of shift work on job burnout and Depression, Anxiety, Stress Scale in military personnel. This cross-sectional study was carried out on 100 military personnel male in Southern Iran. Respondents were divided into two groups based on their working schedule (50 shift work personnel / 50 day work personnel). Data collection tools were a Depression, Anxiety, and Stress Scale (DASS-21), demographic characteristics and Maslach job burnout questionnaire. Convenience sampling was used as sampling method. Finally, Data analysis was performed with SPSS (version 20), descriptive statistics, One Way Anova test, ANCOVA and t-independent test. The results of showed that shift work has an impact on burnout and DASS-21 and mean obtained score for DASS-21 and job burnout in shift workers are more day work individuals. Analysis of variance test showed significant difference between job burnout in day workers and shift workers and job burnout were more in shift workers. Also significant difference between DASS-21 in day workers and shift workers and DASS-21 was more in shift workers. This study showed that shift work has an impact on burnout and scale DASS-21 shall is taken to Intervention actions in shift works.

Key words: Shiftwork, Job Burnout, DASS-21, Military Personnel

INTRODUCTION

Shift work is defined as work outside of daytime hours, including irregular or rotating schedules, and evening and night work. Shift work is defined as working out of the official work hours; i.e., between 7 a.m. and 6 p.m. Because of the society's needs, there are some individuals performing service jobs who have to work both days and nights. On the other hand, different and long shift work can endanger physical and mental health military personnel [1]. Burnout, a phenomenon that is of interest for both individuals and organizations, is characterized by decreasing energy, power and resources in the presence of excessive demands [2]. Burnout is linked to a specific form of chronic occupational stress, induced by high levels of emotional stress present in the interpersonal relationships within the Organizations [3]. Job Burnout as a psychological syndrome is characterized by feelings of being ∗overextended and depleted of one's emotional and physical resources (emotional exhaustion), the development of a negative, callous, or excessively detached response to various aspects of the job (cynicism or depersonalization), and feelings of incompetence and a lack of achievement and productivity at work (reduced accomplishment) [4]. According to Maslach theory, job burnout is physical, emotional and mental exhaustion syndromes which develop a negative self-concept as well as negative attitudes towards the profession, the life and other people. The presence of burnout syndrome (BOS) in critical care nurses has been examined in numerous research studies. Job burnout costs organization on so many levels including: decrease in staffs' performance, increased accidents, work absence, job dissatisfaction, frequent job changes and turnovers, reduced work performance quality [5]. The World Health Organization (WHO) estimates that four hundred million people in the world suffer from anxiety (more than other mental disorders). Thus, among mental disorders, anxiety disorders are the most common. The use of preventive measures at an early stage and complete treatment of anxiety are of great importance [6]. Depression is a set of various

psychological states the effects of which range from fatigue to silence and avoidance of everyday activities. Chronic anxiety is one of the numerous factors of depression. The high prevalence of anxiety is due to the lack of primary prevention, early diagnosis, and timely control. Individuals who work in stressful environments such as underground mines are at risk of distress. Their work environment is often stressful and demanding; thus, if they lack the adequate mental and physical preparedness, they will be extremely vulnerable. Factors such as lack of sleep or irregular sleep-wake rhythm, and shift work sleep disorder (SWSD) that result in burnout are the most common of these damages [7]. Anxiety occurs when individuals experience stressful situations for a long period of time or frequently. Under such circumstances, the body becomes strained and vulnerable to physical and mental disorders [8]. The words stress and anxiety are used to describe moods and feelings in everyday life. Job stress is a physical and emotional response that occurs when the requirements of the job do not match the capabilities, resources or needs of the worker. This may lead to illness and injury. Stress is a common unpleasant and vague feeling of panic and anxiety of the unknown origin, which gives the person the uncertainty, frustration and arousal of physiology. Stress can cause heart attack and increased blood pressure [9]. Approximately 15 to 18 % of employers are estimated to be involved in shift work in industrialized countries worldwide [1]. Shift work is an occupational characteristic of military personnel, working schedules may influence military personnel health by increasing the risk for job burnout and depression, anxiety and stress. Occupational risk factors in shift workers military personnel are high and the aim of this study was to Investigation Effect of shift work on job burnout and Depression, Anxiety, Stress Scale in military personnel in 2016.

MATERIALS AND METHODS

This cross-sectional study was carried out on 100 military personnel male in Southern Iran in September 2016. The participants were divided into two groups based on their working schedule; day work (from 7 am to 7 pm; number = 50 personnel) and shift work (from 7 pm to 7 am; number = 50 personnel). Data were collected using a two-part. The first part of consisted of the demographic characteristics of the study population including work experience, age, level of education and body mass index. The second part consisted of the Depression, Anxiety, and Stress Scale (DASS-21) and Maslach job burnout questionnaire. The DASS-21 was designed by Lovibond in 1995. Each item in the DASS-21 is scored on a 4-point Likert scale ranging from 0 to 3 (normal, low, medium, and severe). This questionnaire was validated for the Iranian population by Samani *et al.* and Cronbach's alpha for the questionnaire was 0.77 [10]. The minimum score of this questionnaire 0 and the maximum score of this questionnaire is 63 and whatever obtained score close to 63, DASS is worse. Maslach burnout questionnaire consists of 25 questions. This questionnaire was validated for the Iranian population by Ghahramani *et al.* and Cronbach's alpha for the questionnaire was 0.83 [11]. Final score of this questionnaire as in the form points 25 to 60 with low job burnout, points 60 to 90 with an average job burnout and points of 90 and above high is job burnout. The researcher explained the design and goals of the study to the participants and assured them that participation in the project was voluntary and all information would be considered confidential. Inclusion criteria respondents must have had at least one year of work experience, lack diabetes disease, and must have been willing to participate. Exclusion criterion includes being addicted, suffering from psychological and Physical known diseases, and working part-time. Data analysis was performed with SPSS (version 20) and descriptive statistics, One Way Anova test and t-independent test. Also the value of $P<0.05$ was considered statistically significant.

RESULTS

This cross-sectional study was carried out on 100 military personnel male (50 shift work personnel and 50 day work personnel). Demographic variables participants include age, work experience and Body mass index is shown in Table 1.

Table1 : Demographic variables age, work experience and Body mass index participants (50 shift work personnel and 50 day work personnel)

Variable	Type shift	mean (SD)
Age	day work	36.1(7.3)
	Shift work	31.7(5.69)
Work experience	day work	10.6(6.04)
	Shift work	16.7(9.10)
Body mass index	day work	24.2(2.77)
	Shift work	27.7(2.31)

According to the Table 1 can conclude that the average Body mass index and work experience of shift workers was more than day workers.

In Table 2 Mean (SD) obtained scores for Depression, Anxiety, and Stress Scale (DASS-21) and Maslach job burnout questionnaire have been shown.

Table 2: Mean (SD) obtained scores for Depression, Anxiety, and Stress Scale (DASS-21) and Maslach job burnout (50 shift work personnel and 50 day work personnel)

Variable	Type of shift	mean (SD)	Min-max
DASS-21	day work	11.7(10.65)	8 - 33
	Shift work	49.3(16.28)	12 - 61
job burnout	day work	43.3(31.6)	14 - 52
	Shift work	104.7(28.41)	22 - 120

According to the Table 2 mean obtained score for DASS-21 and job burnout in shiftwork personnel is more than day work personnel.

In this study, after Kvlmvgraf- Smirnov test and ensure the distribution normal variables,

Independent t-test not showed significant difference between job burnout and scale DASS-21 (p-value=0.07) in day work personnel but Independent t-test showed was significant difference between job burnout and scale DASS-21 (p-value=0.02) in Shift work personnel. Analysis of variance test showed significant difference between job burnout in day work and shift work and job burnout was more than in shift work. Also significant difference between DASS-21 in day work and shift work and DASS-21 were more in shift work. Also between age (p-value=0.01) (p-value=0.01) and work experience (p-value=0.01) (p-value=0.02) respectively, with DASS-21 and job burnout there was significant differences that with age and work experience increase, DASS-21 and job burnout increased. ANCOVA test showed that with controlling the age (p-value=0.02) and work experience (p-value=0.02), shift work effects on job burnout and DASS-21.

DISCUSSION

According to the literature review, few studies were found on the relationship between job burnout and dass-21 with shift work in military personnel. Shift work and long work hours increase exposures to hazards at work and reduce health. Depression is a major pathogen agent in the whole world and accounts for 2 to 15 percent of the work-related disability. Habibi *et al.* in their study, Concluded that the shift work is causes job burnout that is consistent with the findings of this study [12]. The immediate effects of shiftwork can be impact on depression, anxiety and stress. The results of this study indicated that work-shift work has an effect on depression, anxiety and stress. Omidi *et al.* investigated the relationship between the shift work with depression and anxiety has concluded that depression and anxiety in shift work with day work were significantly different that the finding present study confirmed [13]. In this study in shift workers and day workers with age and work experience increase, job burnout and DASS-21 increased. ANCOVA test showed that with controlling the age (p-value=0.02) and work experience (p-value=0.02), shift work effects on job burnout and DASS-21. This study showed in age above the 45 years and work experience above the 20 years, shift workers and day workers increased job burnout and DASS-21. In this study, age above the 45 years and work experience above the 20 years were considered as a confounding factor and other studies have to be done to further evaluate it. Ashrafirizi *et al.* investigated the impact age and work experience on job burnout, concluded that with age and experience increase job burnout increased, that the finding present study confirmed [14].The results this study showed that the average body mass index and work experience in shift workers was more than day workers. Morikawa *et al.* investigated the effect shift work on body mass index, results showed of shiftwork on weight and body mass index has impact, that the finding present study confirmed [15]. In this study, it was found that there was a significance relationship between age and work experience with job burnout and DASS-21. Khademian *et al.* investigated relationship between night work and nurses anthropometric indices (body mass index), concluded that shift work has the incremental impact of on body mass index that with the results of this study consistent [16]. Mokarrami *et al.* examined the influence of age and work experience on depression and anxiety, concluded with an age and work experience increase, depression and anxiety increased, that this study confirms findings [17]. In the present study, there was a significant relationship between depression, anxieties and stress with job burnout that matched with the results of previous studies [18]. Iacovides *et al.* investigated the relationship between job stress and depression with job burnout, concluded that especially in the more severe forms of burnout, were high depression and stress, The findings of the present study confirms [19]. Haines *et al.* concluded that shift work effects on depression and stress that is consistent with the results of this study [20]. Shift works requires of awake. This can lead to a disruption of circadian rhythm, which in turn can cause psychological (depression and anxiety) and physiological disturbances [21]. Shift work is another important issue which can be considered as another consequence of military personnel. Wisetborisut *et al.* reported a higher prevalence of job burnout among shift workers compared to non-shift workers military personnel hospital [22].

CONCLUSION

Shift work physical and psychological effects associated with the job burnout and depression, anxiety and stress. The results showed that shift work was significantly related to job burnout and depression anxiety and Stress in military personnel. Also, people that age and work experience are high or are not used in shift work or less are employed in shift work system. The limitation of this study was the lack of opportunity to utilize a larger sample size.

ETHICAL ISSUES

Ethical issues (Including plagiarism, Informed Consent, misconduct, data fabrication and/ or falsification, double publication and/ or submission, redundancy, etc.) have been completely observed by the authors.

CONFLICT OF INTEREST

All authors declare that they have no actual or potential competing financial interest.

AUTHORS' CONTRIBUTION

All authors read and approved the final manuscript.

FUNDING/ SUPPORTS

The authors would like to thank the facility supported by military center and financial support with this military center.

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