

## Comparison of job burnout and general health in hospital staff with constant and rotating shifts

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### ABSTRACT

In this study, causal-comparative research method was used. The study population was hospital staff of Bojnourd in North Khorasan in 2018 and General Health Questionnaire (GHQ) and Burnout Questionnaire were used for collecting data. The results showed that hospital staff were at greater risk of occupational stresses such as shift work, exposure to unpredictable situations and mental health problems. Rotating shift work was correlated with decreased general health, burnout, decreased job satisfaction, and illness. According this study can be suggested to conduct periodic monitoring of the mental health of medical staff, also, group counseling and individual counseling can be helpful in reducing job burnout and stress.

**Keywords:** Job burnout, general health, rotating shift, constant shift

### INTRODUCTION

Today, one of the most important aspects of every personal life is their job. The existence

and survival of today societies requires the use of efficient and entrepreneurial workforce.

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Human resources are also a key factor in the efficiency of all organizations and there is no doubt that the development of any organization is based on the training and development of these resources.

The human resources in the organization have many needs and it will serve the organization as long as it has enough motivation to meet its needs[1,2] and, of course, the workforce in organizations values their health.

Health is one of the basic needs of human beings which plays a vital role in sustainable development [3]. Health promotion measures should focus on all aspects of personal (physical, mental and social) health. One of the most important part of every one life is their jobs. Working, from the point of mental health is an important activity that promotes growth, self-esteem and independence [4].

From the perspective of the World Health Organization (WHO), health is the optimal way that every person recognizes their potential, can cope with the natural pressures of life, work productively and contribute to the society. World Health Organization (WHO), defined health as the desirable physical, psychological and social condition, not just the absence of illness. One of the main goals of human beings is to provide and maintain health in physical, psychological

*Comparison of job burnout in hospital staff* and social dimensions. One of the aspects of human health, is Mental health that goes beyond having no mental disorders and include inner feelings of being good, ensuring self-healing, and personal and emotional skills [5].

One of the things that threatens health is mental stress and environment stress. Human health can be affected by occupational stress and make imbalance in physical and mental state. Employees will experience burnout over time as facing job stresses. The issue of burnout is related to job stress and the work environment [6]. In other words, when one is confronted with role ambiguity, interpersonal conflict, and economic hardship, he or she tries to respond to his or her expectations and organization at the same time, the most likely effect is fatigue, frustration, and exhaustion. This syndrome is more common among health care workers than in other professions, due to the frequent referral, lack of time to care for patients, and lack of support or appreciation [7,8]. This syndrome was first diagnosed by Freddie Weinberg in 1970 [9,10]. Burnout is a phenomenon that has been attracted by psychologists and researchers in recent years and that is caused by persistent psychological stress [9]. Wahi et al. in 2004 believed that burnout affects the recovery process more than any other factor [11]. Maslach and Jackson pointed to this

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option that, job burnout has three dimensions of emotional exhaustion that indicate a reluctance and lack of a positive sense of work. Destroying of personality, which is a negative reaction and disregard to other employees and clients, and ultimately a sense of inefficiency that results from diminishing individual productivity and reduced competence [12]. Meanwhile, emotional exhaustion can be considered as the main dimension of job burnout [13,14]. On the one hand, this syndrome affects the mental health and well-being of employees, on the other hand, it can lead to some side effects, such as medical errors, and the more it increases, the more it will burnout [15,16]. Occupational burnout is often accompanied by frequent absences, a tendency to relocate, quit, lose energy, decrease efficiency, as well as anxiety and depression (as the best predictor of this phenomenon) [17]. Shift work has many physiological and psychological consequences, and can have side effects (repercussions) for hospital staff. Shifting and cycling night work can cause sleep disturbance and restlessness, which have many physiological and psychological consequences. When the daily cycle breaks down, the body adaptive system is compromised, and the body undergoes major changes that cause sleep disturbing that most night-workers complain about. They can't

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sleep in the house during the day due to illumination and daily chores and they reported gastrointestinal, heart, marital problems, and temperament [18]. Gasman reported that shift work is necessary, but for those who are engaged in this kind of work, it has its consequences. People who work in the evening and night shifts are more likely to suffer from various illnesses than day staff, because unusual working hours affect their physiological rhythm and their body and psyche, although shift work is a necessity today, it does have a disadvantage for those engaged in this type of work. People who work in the evening and night shifts are more likely to suffer from various illnesses than working days because unusual working hours affect their physiological rhythm and their physical and psychological health [19]. There is evidence that shift work causes disorders in the body's natural cycle. As an example, shift work can cause cramping and malnutrition. Unlike other public service providers, a higher percentage of health services employees are shift workers or overnight workers. Hospitals with the highest employment rates in health care service have more night workers than the rest of the industries. Nurses are the largest health care group and also the largest group that work at night [20]. Due to the theoretical issues and since there have been no studies on burnout

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with public health in hospital staff, so the purpose of this study is to compare occupational burnout and general health among hospital employees in fixed and rotating shifts.

## **MATERIALS AND METHODS**

In this study, according to purpose and method of data collection, causal-comparative research method was used. The study population was hospital staff of Bojnourd, North of Khorasan, in 2018. The sample number in this study was 200 people according to the population. The available sampling method was used.

Before giving the questionnaire, they were given a brief explanation of the purpose of the research, the necessity of their honest cooperation and how to answer the questions. Then ethical consent was obtained from the subjects and the researcher noted to the respondents that there was no need to mention names and identification and each hospital employee must answer the questions independently and the results will be analyzed in groups. Also, there will be no specific time limit for answering questions. Data were analyzed by statistical methods in two parts: descriptive and inferential. In the descriptive statistics section, frequency indices, frequency percentage, mean and standard deviation were mentioned. In the

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General Health Questionnaire (GHQ):

The General Health Questionnaire was first developed by Goldberg (1972). The original version of the questionnaire consisted of 60 questions but in shortened forms, there are 30 questions, 28 questions and 12 questions. The short form is used in this article including 28 multiple choice questions in four areas of depression, anxiety, physical symptoms, and social dysfunction that presented with a scale of repetition: Much less than usual, less than usual, as always and more than usual, and it's assigned a score of 0 to 3. The sum of the scores, the scores of each domain, and the sum of the scores of the domains, the total score of general health for each individual was obtained. Each domain consists of 7 questions with a maximum score of 21 and 84 in total. The higher the score, shows the lower overall health. The overall reliability coefficient of the questionnaire was 0.96 and the subscales of depression 0.94, anxiety 0.90, physical symptoms 0.89 and social dysfunction 0.78.

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***Burnout Questionnaire (Maslach Burnout Inventory)***

This questionnaire was developed by Maslach in 1994 [21]. And with 4 components: emotional exhaustion, depersonalization of personality, personal performance, and conflict consisting of 25 items in two scales of frequency and severity, emotional exhaustion (feelings in which a person has lost his or her emotional strength and is unable to establish emotional relationships with others). Depersonalization of personality (Refers to the non-emotional, unrelated and violent responses of service recovers (clients), colleagues, etc., with burnout syndrome of negative emotions and negative attitudes, along with blaming others).

Individual failure (Individual success refers to the feeling of accomplishment and success in working with people). Individuals who experience low self-esteem.

They perceive their professional endeavors to be negative, with no progress in their work. Conflict (refers to mental occupation and dealing with the problems of persons). In Maslach main questionnaire, emotional exhaustion, depersonalization of personality and personal performance are the three main dimensions of burnout. And conflict is considered as dimension optional part, also in

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this test, two scales (frequency of feeling) and intensity (degree of feeling) are obtained. It should be noted that the three dimensions of emotional exhaustion, depersonalization, and conflict are directly related to burnout. And dimension of individual success is inversely related to burnout. Content validity of the questionnaire was reported as desirable and its reliability was obtained through Cronbach alpha of 0.82.

**RESULTS**

In this section, first the descriptive results of mean and standard deviation of each variable are presented and then the results of multivariate analysis of variance are reported.

As can be seen in Table 1, out of 200 participants (100) were in constant shift and (100) in rotating shifts.

The demographic data of the participants are shown in Tables 2 and 3 that, 55 of which had a Diploma degree, 116 had a bachelor degree and 29 had a master degree.

According to Table 3, most participants in the study were females (120) and (80) of them were males.

**Table 1.** Participants in types of shift

	<b>Frequency</b>	<b>Percent</b>	<b>Valid percent</b>	<b>Cumulative percent</b>
constant	100	50.0	50.0	50.0
rotating	100	50.0	50.0	100.0
Total	200	100.0	100.0	

**Table 2.** Education of participants

	<b>Frequency</b>	<b>Percent</b>	<b>Valid Percent</b>	<b>Cumulative Percent</b>
Diploma	55	27.5	27.5	27.5
Bachelor	116	58.0	58.0	85.5
Master	29	14.5	14.5	100.0
Total	200	100.0	100.0	

**Table 3.** Gender of participants

	<b>Frequency</b>	<b>Percent</b>	<b>Valid Percent</b>	<b>Cumulative Percent</b>
Male	80	40.0	40.0	40.0
Female	120	60.0	60.0	100.0
Total	200	100.0	100.0	

According to Table 4, the job satisfaction mean at constant shift is 193 and standard deviation is 6. General health Mean, at constant shift is 37 and standard deviation is

6. In rotating shift job satisfaction 120 and standard deviation 7 were obtained. And general health was estimated at rotating shift 51 and standard deviation 3. General health is

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inversely and negatively correlated with score increase. That is, the higher the public health score is, the lower the public health is. Therefore, it can be concluded that people with rotating shifts have lower general health than people with fixed shifts. Job satisfaction has a positive and direct relationship with increasing scores. That is, the higher the job satisfaction score indicates higher job satisfaction, so there is higher job satisfaction in a constant shift than the rotating shift. Table 5 shows the grouping of employees regarding the level of job satisfaction.

Multivariate analysis of variance (MANOVA) was used to determine the variables affecting job satisfaction. In Tables

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5 and 6, the variables that were significant in this model were reported. Gender (0.49), shift (0) and education (0.30). The results show that there is a significant relationship between these three variables, so constant shift has a positive effect on job satisfaction.

According to Table 6, the results of the general health test are as follows: Gender (0.57) Shift (0) and Education (0.23), so the results show that there is a significant relationship between shift and general health so constant shift has a positive effect on public health.

**Table 4.** Descriptive Statistics

	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>SD</b>
Burnout/constant	100	177.00	208.00	193.98	6.25
GHQ/constant	100	16.00	49.00	37.05	6.32
Burnout/rotating	100	107.00	147.00	120.40	7.35
GHQ/rotating	100	42.00	61.00	51.30	3.89
Valid N (listwise)	100				

**Table 5.** Tests of Between-Subjects Effects

Source	Type III Sum of Squares	Degree of Freedom	Mean Square	F	Significance
Corrected Model	270775.40 <sup>a</sup>	3	90258.46	1931.4	.00
Intercept	560591.72	1	560591.72	11996	.00
Gender	21.54	1	21.54	.46	.49
Shift	265495.80	1	265495.80	5681.3	.00
Education	49.61	1	49.61	1.06	.30
Error	9159.37	196	46.73		
Total	5221674.00	200			
Corrected Total	279934.78	199			

a. R Squared = .967 (Adjusted R Squared = .967)

**Table 6.** Tests of Between-Subjects Effects

Source	Type III Sum of Squares	Degree of Freedom	Mean Square	F	Significance
Corrected Model	10200.244 <sup>a</sup>	3	3400.081	122.895	.000
Intercept	4375.873	1	4375.873	158.165	.000
gender	8.828	1	8.828	.319	.573
shift	9909.497	1	9909.497	358.177	.00
education	40.035	1	40.035	1.447	.230
Error	5422.631	196	27.666		
Total	405909.000	200			
Corrected Total	15622.875	199			

a. R Squared = .653 (Adjusted R Squared = .648)

## DISCUSSION

The purpose of this study was to compare occupational burnout and general health among hospital employees in rotating and constant shifts. Hospital staff are in direct contact with the stratum of society and closely touch people problems.

Therefore, it is a risky responsible, which increases job burnout in shift workers (especially rotating shifts), and consequently, decreasing in their level of physical and mental health. The present study showed that shift variable had a significant effect on job burnout and general health. This finding was in line with the findings of koustelios *et al.* [22]. The results of a review study by Rasoulzadeh *et al.* Of 33 studies show that the relationship between job stress and job satisfaction, burnout and job satisfaction, as well as general health and job satisfaction is a bilateral relationship [23]. Therefore, it can be said that the interaction of multiple working factors affects the health of hospital staff. In their study, Mushak *et al.* investigated the relationship between nurses job stress and general health status. The results of his study show that stress can cause adverse effects on nurses performance and their general health.

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Therefore, there is a relationship between stress and general health of nurses [24]. The results of this study are in line with the findings of Sotoudeh Asl, who found in his study that job burnout was more variable in shift workers than in fixed shift workers [25]. Most studies have focused on the effects of rotating shifts on occupational accidents, attenuation, and the circadian cycle [26]. Employees who turn weekly on work shifts experience more work accidents, gastrointestinal disorders, lower productivity, and problems such as insomnia, mental illness and depression [27]. The results of Momeni research on the staff of Dr. Shariati Hospital in Isfahan showed that 1.87 % of nurses and 7.94 % of physicians are burnout [28]. Investigating the interaction between shifts in hospital wards as well as shifts and burnout in different wards by using MANOVA showed different results. The explanation that can be given is that rotating shift workers experience different stressors than fixed shift workers. That is, when this group of employees is exposed to job pressures, they experience job burnout. Relationships between job shifts in different sectors and on job satisfaction have been obtained significant and have significant effect on general health. Mosleh [29], believes That burnout is a reduction in

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one ability to cope with stressors (not conflict with stressors). For this reason, when one fails to cope with stress at work, he or she experiences physical and emotional exhaustion, which leads to a negative self-image, a negative attitude toward work, and a lack of feeling about clients at work. According to Potter in 1985, people with low burnout are adopting preventive measures, those, People with moderate levels of burnout Corrective programs and those with high levels of burnout need immediate corrective action [30]. The highest rate of burnout was reported in emergency, cardiac and pediatric wards

Because these units in addition to the workload are highly sensitive, these are likely to be involved in the burnout of hospital staff [31]. The results are in line with the WHO report on high levels of burnout among health care workers and low prevalence among employees of public agencies and research institutes [32]. In general, when people are working in areas where there is no appropriate encouragement, efficiency and self-discovery, tasks are not well understood, Laws and policies are not explained, there are no new and varied approaches, the work environment is not pleasant and lacks the necessary conditions for mental well-being.

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People lose their perspective on patient care while feeling burned out [33, 34].

**CONCLUSION**

Overall, hospital staff are at greater risk of job stress due to occupational stresses such as shift work, exposure to unpredictable situations and personal factors, are at greater risk of mental health problems. Shift work was correlated with decreased general health, burnout, decreased job satisfaction, and illness.

According this study can be suggested to conduct periodic monitoring of the mental health of medical staff, also, group counseling and individual counseling can be helpful in reducing job burnout and stress.

Actions such as stress management group therapy, communication skills training, use of some nutritional supplements, and emotional quotient training have had a significant role in enhancing health among hospital staff. This requires more attention from managers and authorities on this issue and its importance in the health system. Therefore, the authorities are advised to pay more attention to the health of staff, especially nurses, and try to improve it so

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that they can improve the quality of their services.

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