

The relationship between mental health and job satisfaction among the operating room personnel of hospitals affiliated to Shiraz University of Medical Sciences, Iran-2020

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ABSTRACT:

Background: The operating room ward is one of the most high-risk wards of a hospital. The mental health of operating room personnel as caregivers influences the quality of their care for patients.

Objectives: The aim of this study was to investigate the relationship between mental health and job satisfaction in the operating room personnel of hospitals affiliated to Shiraz University of Medical Sciences.

Methods: The present study was a descriptive correlational study where the research population consisted of 385 personnel of operating rooms working in seven hospitals in Shiraz, Iran, whom were selected by random stratified sampling method and recruited in the study. Data were collected by a demographic information questionnaire, the General Health Questionnaire (GHQ-28), and Minnesota Satisfaction Questionnaire (MSQ), and analyzed by descriptive and inferential statistical methods using SPSS software (version 20).

Results: Based on the results, a significant and inverse relationship was found between mental health disorder and job satisfaction of operating room personnel ($p < 0.001$, $r = -0.588$). Average scores of 51.07 ± 13.50 and 38.69 ± 9.22 were respectively recorded for mental health disorder and job satisfaction of operating room personnel, indicating high mental health disorder and almost low job satisfaction.

Conclusion: Given the high importance of mental health and job satisfaction of operating room personnel, managers should provide the necessary professional welfare facilities and training skills to improve mental health and job satisfaction of operating room personnel.

Keywords:

Mental health, Job satisfaction, Operating room personnel

INTRODUCTION

1. Background

Provision of health and treatment services accounts for one of the most important backbones of progress in any country and society, hence it is of particular importance to ensure the provision of services with appropriate quality and quantity (1). Hospitals are one of the most important mainstays in providing such services (2). Among all different wards of a hospital and medical wards, the operating room ward is considered one of the most important and high-risk wards of a hospital according to the educational, organizational, technological, and environmental needs (3, 4), and about 40% of hospital costs are spent on surgery (5). According to studies, about 234 million surgeries are

performed annually worldwide. On average, one in 25 people undergoes surgery, which demonstrates the need to pay attention to operating room personnel and their requirements (4, 6).

An organizational characteristic is that managers consider and prioritize the physical and mental health of employees to the same extent that they emphasize the production and productivity. In fact, it can be argued that effective management is not achieved without considering the mental health of employees (7). One of the important dimensions of human resource development and improvement is the attention to and promotion of mental health of the organizational environment and personnel. In the last decade, the focus on healthy human resources in both physical and mental

dimensions in different institutions has greatly influenced the improvements in productivity and production (8). Most countries in the world pay attention to the mental health improvement of all social groups, but healthcare and medical personnel are of special importance because this group is one of the most essential human resources in society. They also play an important role in healthcare provision and community health promotion. Furthermore, these people should be healthy enough both physically and mentally to be able to promote hygiene and health in society (9). Studies indicate that mental problems are a common disorder among medical personnel, which seems to be on the rise among hospital personnel (10-13), necessitating the need for paying attention to the mental health issue.

The concept of mental health includes an inner sense of well-being, self-efficacy, self-reliance, and self-actualization of potential intellectual and emotional abilities enabling an individual to adapt to society (14). Mental health is a branch of psychiatry that encompasses strategies for improvement of the population well-being, prevention of mental illness, and treatment and care for patients (15, 16). Mental health does not only mean a lack of mental disorder, but also positive and optimal performance in the personal, social, and, occupational fields, which includes the management of a wide-ranging mental and psychological conditions (17, 18).

A number of factors can affect the mental health of people, including exposure to special situations, entry into larger communities, different social and cultural environments, economic problems, workplace problems, and changes in personal and social life that are associated with stress (16). According to statistics, 12.8% of people's disabilities are related to their mental problems (19). In contrast, promotion of mental health and improvement of happiness can play a key and effective role in comfort, development of personal ability, effective communication, longevity, and life satisfaction (18). A study by Mark et al. (2012) in the United Kingdom revealed that 26.3%, 5.9%, and 44.8% of nurses in the UK suffered from high anxiety, depression, and mental illness (20). In a study in Tehran, it was found that the prevalence rates of mental disorders were 33.3% and 48.8% in the general population and medical staff, respectively (21). Low mental health of medical staff can lead to such problems as depression, anxiety and stress, fatigue, sleep disorders, and reduced self-efficacy (22-24). Since medical staff must focus on their jobs due to the responsibility for human lives and make proper decisions and have quick reactions in emergencies to avoid making mistakes, it is particularly important to concentrate on the mental health and identify related

factors affecting mental health in this group as many factors can affect the mental health of such people (25). Job satisfaction is one of the factors that can affect the mental health of employees (26). Research has shown that, even with adequate facilities and sufficient capital, an organization cannot achieve its goals in the absence of active and energetic workforce with sufficient job satisfaction (9). Therefore, one of the most important issues deserving high consideration at any organization is the job satisfaction of employees working therein (27). Multiple factors can affect employee job satisfaction, including salaries and wages, job dimensions, job diversity, job security, job physical conditions, communication, workplace arrangement, policies, and personality traits of personnel (28).

According to the literature, job satisfaction is of particular importance among medical staff, so that their satisfaction with the work can reduce employee complaints, absenteeism, increase positive attitudes, improve employee morale, enhance work commitment, help and accelerate the process of achieving organizational goals, improve the quality of patient care, and patient satisfaction with provided services (29). In contrast, reduced job satisfaction leads to antisocial behavior, absenteeism, production and dissemination of destructive rumors, relocation and quitting, and poor patient care services (30). There is evidence that job dissatisfaction is one of the main reasons for intention to leave nursing service (31). Myhren et al. (2013) found that less than 50% of nurses were satisfied with their job, and also reported a 39% intention to leave nursing service due to job dissatisfaction (32). In addition, a study by Fesharaki et al. showed that operating room personnel had lower job satisfaction than nurses (30).

Another investigation suggested that personnel with desirable job satisfaction have less intention to leave their jobs with better efficacy (30) and can provide patients with better services (33). Also, increasing job satisfaction of operating room personnel can provide better services to patients and improve their satisfaction (34). Due to the negative consequences of low job satisfaction, managers of the medical staff should pay the necessary attention to this group and increase the job satisfaction of their employees by the use of appropriate methods (35). It is now emphasized that managers should pay special attention to the satisfaction and mental health of personnel, in addition to other organizational roles (29). In this regard, the operating room environment is completely unique and very different from other medical wards (36, 37). This ward is also one of the most stressful hospital wards with high mental disorders (16). According to the literature and the need to concentrate on operating room personnel, this study aimed to determine the relationship between

mental health and job satisfaction of operating room personnel in hospitals affiliated to a university of medical sciences in Iran to recognize the problems of operating room personnel and try to improve their mental health, job satisfaction, and thus the quality of services provided to patients.

2. Objectives

The aim of this study was to investigate the relationship between mental health and job satisfaction in the operating room personnel of hospitals affiliated to Shiraz University of Medical Sciences.

3. Methods

The present descriptive correlational study was conducted on a research population consisting of all operating room personnel working in the educational hospitals of Shiraz from October 2019 to January 2020. According to Norouzi et al. (22), a sample size of 385 individuals (125 men and 260 women) was obtained from personnel working in seven educational hospitals in Shiraz. Sampling was performed by stratified random sampling method (permutation blocks). The study strata included the operating rooms of the educational hospitals in Shiraz, where the required number of people from each hospital was determined based on the volume of personnel working in that ward relative to the total sample size (Namazi 96, Khalili 47, Faghihi 70, Chamran 47, Rajaei 85, Ali Asghar 20, and Hafez 20 individuals). Data were collected by direct visits to hospitals in different shifts and samples were recruited randomly by the permutation block method.

The following characteristics were assessed: age, gender, marital status, education, history of smoking, work experience, number of shifts, and shift type.

The Goldberg General Health Questionnaire (GHQ-28) with 28 questions was used to measure the mental health of personnel. The questionnaire contains four subscales, each with seven questions. Questions 1-7, 8-14, 15-21, and 22-28 are respectively related to physical symptoms and general health, the anxiety scale, social performance, and the depression scale. Each question was scored in the Likert method, where the first, the second, the third, and the fourth options are scored 0, 1, 2, and 3, respectively, with a maximum score of 84 per subject. Thus, scores of 0-21, 22-42, and >42 indicate poor, moderate, and high mental health disorders, respectively (22). The validity of this test was obtained as 0.84-0.93 according to Ahmadvand et al. (38). A standard validity of 0.78 was determined for this questionnaire by Ebrahimi et al. (39). Also, Rezaei et al. reported the reliability coefficients of 0.92, 0.81 and 0.81 for the questionnaire by Cronbach's alpha and Spearman-Brown coefficient (40). In the present study, the reliability of the questionnaire was calculated for subscales of physical symptoms and general health (0.81), anxiety (0.81), social performance (0.79), and

depression (0.80), with a total test reliability of 0.89 using Cronbach's alpha coefficient.

Job satisfaction was measured by the Minnesota Satisfaction Questionnaire (MSQ) consisting of 19 items and six subscales of payment system (3 questions), job type (4 questions), development opportunities (3 questions), leadership style (4 questions), and physical conditions (3 Question). This questionnaire is scored on a Likert scale from 1 to 5, as I completely disagree=1, I disagree=2, I have no idea=3, I agree=4, and I completely agree=5. Accordingly, poor, moderate, and very good job satisfaction were scored 19-38, 39-57, and ≥ 58 , respectively (22). The formal and content validity of the questionnaire were confirmed by BakhtiarNasrabadi et al. with a test reliability coefficient of 0.92 using Cronbach's alpha formula (41). In the present study, a test reliability of 0.84 was calculated using Cronbach's alpha coefficient. To observe the ethical and confidentiality of the information.

Data were analyzed using descriptive statistical methods (standard deviation and frequency percentage) and inferential analysis including paired t-test, analysis of variance, and Pearson correlation coefficient. The nonparametric equivalents of these tests were used in cases of non-normal data distribution. Data were analyzed using SPSS software (version 20) at a significant level of $p < 0.05$.

This article is extracted from a master's degree dissertation and registered in Shiraz University of Medical Sciences Research System under research code of conduct 20912 and research code of ethics IR.SUMS.REC.1398.1198. All subjects of the study signed informed consent. They were informed about the objectives of study. Also, they were assured about the confidentiality of the results.

4. Results

Of the 385 participants in the study, 32.5% (125) and 67.5% (260) were males and females, respectively, with a mean age of 31.50 ± 6.22 . Participants holding bachelor ($n=338$), associate ($n=30$), and master or higher degrees ($n=17$) comprised 87.8%, 7.8%, and 4.4% of the subjects, respectively. Married ($n=261$) and single (124 people) subjects accounted for 67.8% and 32.2%, respectively. A history of smoking was recorded in 15.3% ($n=59$) while 84.7% ($n=326$) of participants had no history of smoking. Most of the personnel (87.8%) had rotational work shifts. The average work experience of staff was 7.67 ± 6.33 years, and the average number of shifts was 26.02 ± 5.47 per month. A mean score of 51.07 ± 13.50 for the mental health of participants indicates a high level of mental health disorder among operating room personnel, with the highest prevalence ($n=301$ or 78.2% of subjects) for the high level of mental health disorder (Table 1). Among

the four dimensions of the mental health questionnaire, anxiety received the highest average score, suggesting higher mental health disorder in this dimension; also, depression attained the lowest average score. Among the seven surveyed hospitals, the best (1.57 ± 0.41) and the poorest (1.94 ± 0.67) levels of mental health were recorded in the operating room personnel of Khalili and Chamran hospitals, respectively.

Based on the results of Pearson correlation coefficient test, no relationships were found between the ages and mean mental health scores of participants ($p=0.242$, $r=-0.060$). Besides, significant differences were not observed between mental health with shift numbers ($p=0.204$, $r=0.065$) and work history ($p=0.085$, $r=-0.088$) of personnel. The results of paired t-test showed no significant relationships between mental

health and gender ($p=0.226$), marital status ($p=0.807$), and a smoking history ($p=0.547$) of participants. The ANOVA analytical results revealed a significant relationship between average mental health scores and education levels of operating room personnel ($p=0.049$), with lower average scores of mental health disorder in those holding a master's degree and above than the other groups, meaning their better levels of mental health. The results of this test also showed that the examined hospitals were significantly different in mean scores of mental health ($p=0.004$), with significantly lower scores in Khalili hospital than the other ones. The results of the Kruskal-Wallis test showed no significant differences between mental health levels in four different work shifts ($p=0.309$).

Table 1

Frequency distribution and average scores of mental health disorder in operating room personnel

Mental health disorder score range	Frequency	percentage	M±SD
Poor (0-21)	16	4.2	15.56±4.19
Moderate (22-42)	68	17.7	39.94±5.77
High (>42)	301	78.2	56.60±8.25

In this study, the average job satisfaction score (38.69 ± 9.22) indicates poor (55.1%) and moderate (41.8%) job satisfaction levels in most of operating room personnel (Table 2). Among the dimensions of job satisfaction, the highest and the lowest levels were observed in the dimensions of organizational climate and the payment system. Among the seven studied hospitals, the highest (2.40 ± 0.38) and the lowest (1.85 ± 0.64) average scores of job satisfaction were recorded in the personnel of Khalili and Chamran hospitals, respectively.

Analytical results of Pearson correlation coefficient test showed no significant relationships between job satisfaction and ages of participants ($p=0.825$, $r=-0.011$). Also, the results of this test revealed no significant differences between job satisfaction of the

personnel with their work experiences ($p=0.855$, $r=0.009$) and the number of shifts ($p=0.636$, $r=-0.024$). Based on the results of paired t-test, there were no significant differences between job satisfaction and gender ($p=0.122$), marital status ($p=0.191$), and smoking history ($p=0.187$) of the subjects. The ANOVA results indicated a significant relationship between job satisfaction and the hospital of work ($p<0.001$), with a significantly higher average score of job satisfaction in Khalili hospital than the other hospitals. The results of this test showed no significant differences between the job satisfaction and education levels of the personnel ($p=0.142$). Examination of the relationship between job satisfaction and work shifts using Kruskal-Wallis test indicated no significant associations in terms of work shift type ($p=0.179$).

Table 2

Frequency distribution and average scores of job satisfaction in operating room personnel

Job satisfaction score range	Frequency	percentage	M±SD
Very good (≥ 58)	12	3.1	62.25±2.22
Moderate (39-57)	161	41.8	46.01±5.06
High (19-38)	212	55.1	31.80±3.85

The results of Pearson correlation coefficient revealed a significant and inverse relationship between mental health and job satisfaction of operating room personnel, so that increased in the job satisfaction scores of the personnel reduce their average mental health scores, meaning that their mental health disorders mitigates

with improving job satisfaction ($p < 0.001$, $r = -0.588$). Significant and inverse relationships were also detected between all components of mental health disorders (physical symptoms and general health, anxiety, social performance, and depression) with job satisfaction ($p < 0.001$) (Table 3).

Table 3

Average values, standard deviations, and correlation coefficients of mental health components and job satisfaction in the studied units

	M±SD	Job satisfaction	
		Correlation coefficient	p-value
Mental health disorder	1.82±0.48	-0.588	$p < 0.001$
physical symptoms and general health	2.00±0.63	-0.441	$p < 0.001$
Anxiety	2.06±0.64	-0.548	$p < 0.001$
social performance	2.03±0.60	-0.482	$p < 0.001$
Depression	1.19±0.68	-0.310	$p < 0.001$

5. Discussion

The aim of this study was to determine the relationship between mental health and job satisfaction in the operating room personnel of hospitals in one of the cities of Iran. According to the results of this study, a significant and inverse relationship was observed between mental health disorder and job satisfaction of operating room personnel, that is, their mental health disorder decreased with increasing job satisfaction and vice versa. Which is in line with those of Norouzi et al. (2018), Nørøxe et al. (2018), and Nadinloyi et al. (2013). These studies, which were performed on nurses, general practitioners, and employees of two industrial companies, respectively, reported improved levels of mental health by increasing job satisfaction (22, 42, 43). Another result of our study was high mental health disorder in the operating room personnel, so that 301 (78.2%) out of 385 subjects had high mental health disorder. This is consistent with those of Sepehrmanesh et al. (2013) on nurses and Bakhshipour et al. (2014) on university staff, but the level of mental health disorder was higher in the present study than the two studies that reported high mental health disorder in 38.3% and 36% of samples, respectively (9, 14). The reason for this discrepancy could be due to differences in the studied samples and different working conditions. The present results do not correspond to those of Norouzi et al. (2018) on nurses and Hejazi et al. (2017) on operating room personnel, where the majority of samples had poor

and moderate mental health disorders, respectively (19, 22). The difference in results might be due to differences in the work environment of hospitals. Also, the difference of our result with that of Hejazi et al might have occurred because of different sample sizes of the two research, which is much higher in the present study.

In the current research, poor job satisfaction was observed among 212 (55.1%) of the studied operating room personnel, which in agreement with those of Elsherbeny (2018) and Semachew et al. (2017), who reported poor job satisfaction levels (61.8% and 33.5%, respectively) in most of samples selected among nurses (44, 45). However, a study by Sadeghi et al. (2014) on operating room and anesthesia personnel reported a moderate job satisfaction in 52.4% of samples (46). Similarly, Asgari et al. (2012) observed moderate job satisfaction in operating room personnel (34). Both of these two studies are in contrast to the present study, which can be attributed to differences in work environments and different atmospheres governing operating rooms in various cities.

The present study also demonstrated a relationship between job satisfaction and hospital of service, but job satisfaction was not significantly correlated with other demographic variables, which corresponds to those of Semachew et al. (2017) and Moosavi tabar et al. (2013), who found that the hospital of work was an effective component on job satisfaction of personnel (45, 47). Sadeghi et al. (2014) observed no relationships between

workplace and job satisfaction (46). Another finding from the present study was the relationships between the mental health of operating room personnel and the variables of education and the hospital of work. No significant relationship was found between mental health and other demographic variables. Likewise, a research by Goegich et al. (2017) indicated that education levels and the hospital of work were effective of the mental health of personnel (48).

5.1. Conclusion

Overall, the results of this study showed a significant and inverse relationship between mental health disorder and job satisfaction. Also, low job satisfaction and high mental health disorder were observed in the operating room personnel. Given that the operating room ward is one of the main wards of hospitals, and the performance of this ward and the personnel can directly influence other wards, most importantly, the health of patients, managers should pay special attention to this ward and improve the mental health and job satisfaction levels of personnel by providing job opportunities and training necessary skills.

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