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Effective Factors on Occupational Burnout among the Operating Room Staff in Teaching Hospitals affiliated with Isfahan Medical University: A qualitative content analysis

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ABSTRACT

Background: Burnout has negative effects on the performance of employees, especially on the operating room personnel, who are in contact with acute patients. The aim of this study was investigating effective factors on occupational burnout among the operating room staff at the teaching hospitals affiliated with Medical University of Isfahan, Iran.

Methods: This study was a qualitative content analysis. The study had 20 participants selected from hospital managers, clinical supervisors, operating room supervisors, and hospital matrons in teaching hospitals (al-Zahra, Khorshid, Amin, Kashani, Feyz) of Isfahan in 2016.Participants were selected using the purposeful sampling method until information saturation was reached. Data were collected using a deep semi-structured interview, after thatall interviews were recorded and then transcribed and reviewed. Later, the data were analyzed by MAXQDA$_{/12.}$

Results: In this study, three main themes were achieved internal factors of organization, external factors of organization, as well as individual and personal factors of organization. Totally, these main themes had 51 subthemes. In the process of analyzing the main themes, we found that internal factors of organization had 37 subthemes, external factors of organization had 11 subthemes, and individual and personal factors of organization had three subthemes.

Conclusion: Various factors related to job burnout were mentioned by decision makers. It is possible to resolve these factors by proper decisions of managers and heads of hospitals. Managers of hospitals should advance service quality, reduce costs, and decrease losses of burnout due to internal factors of organization, external factors of organization, as well as individual and personal factors of organization.

Keywords: Staff and medical university, Burnout, Operating room, Qualitative approach

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Introduction

Efficient and entrepreneurial manpower is one of the main needs of today's societies. Manpower is the main factor in the efficiency of organizations and progress of each organization is based on the education and development of these resources (1,2). Health is very valuable for human resources. One aspect of health is mental health and when employees are confronted with stress in their job, they will experience burnout after a while. This problem exists among the health care personnel considering their high level of contact with patients, lack of time to handle patients, and lack of staff support. Initially, Freudenberger used the term "Burnout" in 1970 (3).

Today, this syndrome is a global phenomenon associated with factors of occupational stress. It is characterized by three dimensions: emotional exhaustion, depersonalization, and personal accomplishment. Most health workers suffer from burnout in their workplace. Burnoutis related to work-related factors such as: work environment, employee contact, marital status, and exposure to violence, etc. (4,5).

Emotional exhaustion: this dimension of burnout refers to measuring individuals' emotions, fatigue from work, and lack of a positive sense of work. Depersonalization: lack of emotions and abusive reactions to receiving services and providing care services. This dimension is accompanied by neglect of other employees and visitors. Personal accomplishment: this dimension of burnout measures the employees' feelings who are evaluating their own jobs negatively. This dimension also refers to a lack of competence in performing the job plans, which will reduce the individuals' ability and success. Among all dimensions of burnout, emotional exhaustion is the main dimension (6-9).

Generally, this syndrome is associated with high levels of emotional exhaustion and depersonalization and reduced efficacy. Some consequences of burnout include: reduced quality of service, quitting the job, poor health status, early retirement, increased depression and suicide, reduced quality of patient care services, and reduced patient safety (10,11).

Amiri et al. (12), indicated that burnout rates in medical staff were higher in office personnel. Medscape expressed that burnout was common among the operating room staff. The rate of burnout among all specialist doctors ranged from 37 % to 53 %, while the rate of burnout in general surgeons was 50 %and was placed at the top of this list (13).

Rath et al. (13), investigated burnout and its related factors among members of the Oncology and Maternal Society in 2015 and showed that the rate of burnout among the research population was 32 % (13,14). Health workers, especially operating room personnel, are exposed to environmental stressors to a high degree. Moreover, the cooperation and relationship of the operating room with other units of the hospital caused burnout to affect the quality of service delivery. So, according to the features of working in the operating room environment and considering the few number of studies on the burnout of operating room staff in teaching hospitals, the present study aimed to investigate factors of occupational burnout among the operating room staff in teaching hospitals affiliated with Medical University of Isfahan.

Materials and Methods

For investigating the factors associated with job burnout in the operating room staff, we conducted a qualitative research using the content analysis method. Content analysis method is a method for subjective interpretation, in which the content of text data is classified systematically into codes or known patterns (15). By this methodology, scientists can interpret the authenticity and truth of the data using the mental and scientific ways. This approach is based on the analysis of linguistic messages can be found by discovery of meanings, preferences, attitudes, and practices. So, this method is very suitable for extraction and deduction of concepts and meanings (15). The study population included 20 participants from hospital managers (n = 5),

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clinical supervisors (n = 10), and hospital matron (n = 5) in teaching hospitals (al-Zahra, Khorshid, Amin, Kashani ,Feyz) of Isfahan in 2016. We used the purposeful sampling method and continued sampling until the data saturation was met. Inclusion criterionwas having a work experience of more than 15 years and the exclusion criterion included unwillingness to enter the study. Data were collected by referring to teaching hospitals affiliated to Isfahan University of Medical Sciences and interviewingwith participants. Prior to data collection, researchersprovided the participants with study goals and method and ensured them about the confidentiality of information. The scholars explained to the participants that participation in the study was voluntarily. Furthermore, all participants were required to sign informed consent forms to enter the study. The data were collected using semi-structured and depth personal inter views conducted in participants' workplace. The interview built-in four questions: 1): Please tell us about the operating room, the pressure that you feel in the part, the severity and burnout of the operating room personnel? 2): Please tell us about the effective factors on burnout among the operating room staff? 3): In your judgment, what are the external factors of burnout in the operating room staff? 4): Could you tell us, what are the internal factors of burnout in the operating room staff? 5): Do you think specific and personal factors have an effect on the burnout of the operating room staff? Can you explain more it?

Interviews began with an open question and the following questions depended on the information provided for the first question. The average interviews were 45 minutes and the data were analyzed using the analytical software $MAXQDA_{12}$. Guba and Lincolne used "Dependability" to replace reliability and validity. The accuracy, strength, and acceptability of the data were confirmed by continuous manipulation of the data; the interviews were transcribed verbatim and the texts were reviewed until the main themes emerged. Data objectivity was obtained by researchers' working with the data continuously, observing ethical issues, keeping accuracy in all stages of the research, and explaining the research method clearly. Finally, validity of the findings was considered using the information analysis review approach by the researcher to increase the accuracy of data (16). Reliability and validity in this study were also confirmed by the guidance, experience, and support of the supervisor and counselors. Furthermore, several preliminary interviews were conducted before the research and the necessary revisions were made by the supervisors and counselors. Subsequently, the researcher started the interviews, while they were recorded. The transcribed information was then reviewed several times until overall understanding was achieved from it. Later, the collected data were entered into the $MAXQDA_{12}$ software and the codes and sub-codes were extracted. Participation in this study was completely voluntary for all staff of the operating room and informed consent were obtained from the participants to take part. Ethics code was 3.297.

Results

The participants' demographic information included income ($), number of children, marital status, interest in the job, gender, work experience, age category, and education degree. The findings showed that 75 %of the participants earned more than 833$,50 % of the participants had two children, 80% of the participants were married, and 65 % of them had interest in their jobs. Moreover, 75 % of the participants were woman, 50 % had work experience of about 26-30 years, and most participants were in the age group of 46-50 years. With regard to education, 45 % of the participants had bachelor’s degree

We determined themes and subthemes by $MAXQDA_{12}$, which resulted in three main themes:

1.Internal factors of organization:

Most participants mentioned this theme and most factors associated with burnout were related to internal factors of organization. This theme had

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37 themes. Among all themes, some had other branches (after retirement, external to the organization, internal to the organization, internal-sector communications, before retirement, and during surgery) (Table 2).

2.External factors of organization:

After the internal factors of organization, participants selected this theme as a secondary factor associated with burnout. This theme had 11 themes, some ofwhich had other branches (lack of outside organizational support, hiring employees) (Table 3).

3.Individual and personal factors of organization: This factor had a minimum effect of burnout among other factors and had three themes (Table 4).

Table 1. Demographic status of the participants in the interview

Variable		Frequency	percent
Income ($)	595-833	5	25 %
	833-1071	15	75 %
Number of Children	0	5	25 %
	1 child	3	15 %
	2 Children	10	50 %
	3 Children	2	10 %
Marital status	Married	16	80 %
	Single	4	20 %
Interest in the job	Low	1	5 %
	Medium	2	10 %
	Much	13	65 %
	Too much	1	5 %
Sex	Female	15	75 %
	Man	5	25 %
Work Experience	Under 20 years old	3	15 %
	20-25years	7	35 %
	26-30 years	10	50 %
Age category	Under 40 years old	4	20 %
	40-45years	3	15 %
	46-50 years	14	70 %
Degree of education	Bachelor’s degree	9	45 %
	M.Sc	6	30 %
	Ph.D	5	25 %

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Table 2. Internal factors of the organization associated with burnout

Themes	Subthemes	Codes
Lack of planning to replace personnel and succession		
Inappropriate arrangement operating room staff		
Failure to correct some processes		
Feeling of loss or lack of job security		
Lack of planning at the start of surgery		
Not having a job rotation		
Obsessions for the disinfection of employees		
Lack of human resources due to problems in recruiting		
Failure to perform hierarchy physicians' predominance		
The lack of attention and support from senior officials		
Lack of work by some employees		
Ignore time management		
Lack of creativity and doing something according to the policies in the operating room		
Lack of responsible attention to employees		
Lack of time for staff recovery during the week		
Lack of checkup for staff		
Doing unprofessional work		
Lack of attention to mental health of employees		
Possibility of transmission of infections and contagious diseases of patients		
Contact patients and companion patients with personnel		
Lack of policy and structure in section		
Change attitudes in managers		
Lack of training		
Attend personnel of operation room in all the crises		
Contact with patients with non-Persian languages		
New employees and students	Teaching students and new staff	
	The presence of students in operation room	
	Lack of responsibility for new students and staff	
Stress	Before surgery	Lack of rest between two surgeries
	During surgery	Long surgery time
		Be ready for surgeries in all time

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		Transfer of doctor's stress during surgery to personnel
		Type of surgery
		Unpredictable surgery
		Stress due to medical error
	After surgery	
	External to the organization	Comparison of the operating room staff with other staff in other hospitals
Compare		Discrimination and compare staff with doctor
	Internal to the organization	Comparison among staff of sections with each other in a hospital
		Communications between physician and personnel
Communications	Internal-sector communications	Communications between staff and Responsible of section (Non-doctor) in operating room
		Communications between staff and other staff with the same level
	Communications between sectors	
		Lack of support and motivation in personnel
	Before retirement	Lack of support in supplying equipment
Lack of support		Lack of equipment for welfare
	After retirement	Low pensions
		Lack of treatment facilities
	Lack of planning for supporting	
Delay	Delay in bringing of patient	
	Delay doctor for surgery	
	work time	
Extensive workload and shifts	Workload	
	Many shifts in other hospitals	
	Shift and overtime in the own hospital	
	Decrease the fee for service	
Economic problems (in organization)	Low employee salary	
	delayed payment	
Physical problems caused by surgery		
	The presence of gases	
	Operation Room Design	
	loud noises	
Operating room problems	Worn equipment	
	Lack of proper ventilation	
	Special lighting in operating room	
	The color of the operating room	
	Closure of operating room space	

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Table 3. External factors of the organization associated with burnout

Themes	Subthemes
Implementation of Ghasedak system (A kind of performance- based payment system)	
Nursing tariffs system in the Ministry of Health	
Lack of proper personnel selection	
Lack of people's understanding of operating room	
Economic problems (outside organization)	
Failure to implement in medical services referral system	
Implementation of accreditation in hospitals	
Cultural issues	
Legal problems	
Lack of outside organizational support	Lack of media support Lack of support from the University of Medical Sciences and the Ministry of Health
Hiring employees	Type of recruitment (permanent, temporary-to-permanent, contractual) Problems in employee recruitment

Table 4. Investigating individual and personal factors of organization associated with burnout

Themes	Subthemes
Lack of motivation and interest in work	
Physical problems outside the workplace	
Individual problems	

Discussion

This study examined factors related to burnout among the operating room staff after interviewing with hospital managers, clinical supervisors, operating room supervisor, and hospital matrons. The results showed that the factors related with burnout in the operating room staff were divided into three groups: external factors of organization, individual and personal factors of organization, and internal factors of organization. Behboodi Moghadam et al. (17), examined the relationship of different dimensions of burnout with some individual and occupational factors. They showed that motivation and interest in job had a significant relationshipwith burnout and its dimensions, which coincided with the results of this study (17). However, the studies by Alimoradnori et al. (18) and Tayba'i et al. (19) did not show anysignificant relationship between job burnout and motivation and interest in job. These findings are different with the result of this study.

Toubia et al. (20) , investigated the burnout of nurses in internal and surgery wards. Theyconcluded that one of the effective factors in high burnout was increasing contact with patients, which coincided with the results of this study. Khorasani Niasar et al. (21) , investigated burnout among operating room nurses in Qom teaching hospitals and showed that nurses had a very bad condition in the operating room. They recommended that the managers at different levels were required to create friendly relationships with employees, consider psychological factors, and conduct courses on employee compatibilityskills teach the operating room staff. Moreover, Khorasani Niasar et al. indicated that the authorities should consider the health systems, mental health, and working conditions more attentively since thesecan reduce burnout. These findings confirmed the results of this study.

Tawfik et al. (22) , examined the factors related to burnout in the NICU and some internal factors of organization. According to the results, increase of daily admissions, bed occupancy rate, and staff sensitivity in analyzing electronic health records are the most important factors related to job

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burnout. We found that nurses' burnout was higher than physicians.Moreover, a significant relationship was observed between other internal organizational factors, such as delay in patient transfer to department and nurses' working hours, and the prevalence of burnout, which was similar to the findings of this study .Tayebani et al.(19) examined some of the factors associated with burnout and stated that job burnout had no significant relationship with some factors such as attitude effective, type of service provided, number of referrals, and patients admitted. The result of her study was different with the finding of present study. However, some factors affected burnoutsuch as staff working hours per week, type of hospital (private and public) that had a high impact on burnout (this result was similar to our findings) .Furthermore, Dalia et al.(23), examined internal organizational factors associated with burnout; a significant relationship was found between job burnout and some factors such as management of workload, control, reward, justice, values in the organization, and social communication between sectors that coincided with findings of the present study.

Green et al. (24), studied the individual and organizational factors related to burnout and showed a significant relationship between some organizational variables such as leadership with burnout, which was similar to the findings of this study. Demiret al. (25) and Cordeset al. (26) stated that job rotation could reduce work stress and a person who experienced job rotation perceived the work environment more easily; this reduces burnout. The results of their studies were the same as our findings.

Conclusion

Based on the findings of this study, internal factors of organization, external factors of organization,as well as individual and personal factors of the organization are the most important causes of burnout.In this regard, identifying challenges and factors related to job burnout helps hospital managers and organizationauthorities to improve the quality of care in hospitals by planning.On the other hand, recognizing these challenges increases the staff awareness in operation room; so, appropriate training programs should be developed to reduce the rate of burnout. Moreover, limitation of this study was lack of full cooperation of research units for collecting the required data. Finally, some useful suggestions are recommended based on results: this research can be carried out in private and social security hospitals in Isfahan and its results can be compared with our findings for clarifying the factors associated with burnout. Moreover, the effective factors on burnout can be examined in other wards. The limitation of this study was hard access to the participants for interview due to their difficult working conditions

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Conflicts of interest

The authors declared no conflict of interests.

Authors' contributions

Alimoradnori M designed research; ShaarbafchiZadeh N and Keyvanara M conducted research and analyzed data; Alimoradnori M and Keyvanara M wrote manuscript. All authors read and approved the final manuscript.

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