






## ***Comparative Study of Job Satisfaction among Anesthesia and Operating Room Staff of Zanjan Hospitals***

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### **Abstract**

**Background:** Job satisfaction is a significant factor in increasing the efficiency of staff, enhancing the quality of medical services, and achieving organizational goals.

**Objectives:** The aim of this study was to determine and compare the level of job satisfaction among anesthesia and operating room staff.

**Methods:** This descriptive-comparative study was carried out on 152 anesthesia (71 individuals) and operating room staff (81 individuals) in Zanjan hospitals. Sampling was accomplished by census method. Job satisfaction was assessed using the JSS (Job Satisfaction Survey) in nine areas (Pay, Promotions, Supervision, Coworkers, Fringe Benefits, Contingent Rewards, Nature of Work, Operational Procedures and Communications). Data analysis was performed using SPSS 16 software. Descriptive and analytical statistics, including Fisher's exact test and Mann-Whitney test, were analyzed as well.

**Results:** Most of the participants were female (69.1%), under 30 years old (48.7%), and with a bachelor's degree (75%). In general, job satisfaction of the majority of staff was moderate (75%). The mean job satisfaction in the areas of operational procedures ( $P=0.005$ ), communication ( $P=0.027$ ), and total score ( $P=0.042$ ) in operating room staff was significantly higher than anesthesia staff; however, there was no statistically significant difference in other areas ( $P>0.05$ ).

**Conclusion:** Job satisfaction of anesthesia staff was lower in terms of operational procedures, communication, and total score; therefore, it is suggested that managers and authorities take this issue into account and take appropriate measures to improve the job satisfaction of staff in the mentioned areas.

**Keywords:** *job satisfaction, anesthesia assistant, operating room technician*

### **Introduction**

Satisfaction is a multidimensional factor, or in other words combination of factors, that affects people's attitudes toward activities, affairs and other people. Job satisfaction is a prominent principle playing significant role in staff effectiveness [1]. Productivity and efficiency of staff in an organization will also influence the

productivity and efficiency of the whole organization [2]. The sum of positive desires or feelings of people towards their job is called job satisfaction, which is influenced by various factors such as salary, communication, policies, procedures, job dimensions, work order, and personality traits of employees [3]. Given that most people spend about half of their waking

hours at work, job satisfaction and work environment are very important and necessary [4]. Today, due to the significant impact of staff job satisfaction on the performance of the health care system, this issue has become an important issue in the health industry. High level of job satisfaction of staff is a significant factor in ensuring the quality and safety of health care [5,6]. Since the operating room is one of the most sensitive workplaces for nurses and graduates of anesthesia and operating room technology, the quality of work in it is a major factor determining the quality of services in hospitals [7]. High job satisfaction in this range of staff can enhance the quality of services received by patients and improve patient satisfaction with medical services. It can also prevent possible leave of job [2,5, and 8]. In contrast, job dissatisfaction, with the gap in the care system and causing a faulty cycle, leads to leave of job, manpower shortage, and ultimately results in damage to the quality of health services provided [4].

The results of the study in Kermanshah indicated that the job satisfaction of anesthesia and operating room staff was moderate [9]. Another study in Hamedan showed that the level of job satisfaction among operating room technicians was moderate to low [8]. In the results of some studies, the level of job satisfaction of anesthesia and operating room staff is lower than nurses [3,10]. According to the results of studies, factors such as working hours, work environment conditions, evaluation method, encouragement and punishment [9], job characteristics, job diversity, payment, job security, physical working conditions, management in the organization [11,12,13] have significant effect on job satisfaction. Job aspects such as growing organizational commitment, improving organizational citizenship behavior, increasing customer satisfaction and dropping frequent absences are always influenced by job satisfaction. Improvement of individuals' interaction with colleagues and internal and external stakeholders of the organization is one of the positive effects of job satisfaction. In contrast, managers' laxity to this issue leads to noncompliance, lack of responsibility and ultimately dismissal of employees, which in the long run will become a serious threat to the organization [9].

Despite the significant role anesthesia and operating room staff in providing high quality health services, so far no study has been carried out on the job satisfaction they in hospitals in Zanjan. The results of this study can play an effective role in developing organizational plans of hospitals in Zanjan. Therefore, this study was aimed to determine the job satisfaction of anesthesia and operating rooms staff of Zanjan hospitals in 2019.

### **Methods**

This study is a cross-sectional descriptive-comparative study carried out on anesthesia and operating rooms staff of Zanjan hospitals in 2019. The study population consisted of all anesthesia and operating rooms staff working in the hospitals of Ayatollah Mousavi, Hazrat Vali Asr, Bahman, and Imam Hossein in Zanjan. The sampling process was accomplished through census. Participants' inclusion criteria included having at least an associate degree in anesthesia and operating room, having at least 6 months of work experience, and not holding managerial positions. Exclusion criteria included incomplete questionnaire. The researcher referred to the research environment to present the questionnaires in all three shifts of morning, evening, and night.

Data collection tools included demographic information questionnaire and Job Satisfaction Survey (JSS). Demographic information questionnaire including gender, age, marital status, education, work experience, and employment status were applied to obtain the participants' personal characteristics.

The Job Satisfaction Survey (JSS) was applied to assess the job satisfaction of anesthesia and operating room staff. This questionnaire was designed by Paul Spector [14]. The validity and reliability of this questionnaire has been confirmed in psychometric study by Akbari Tabar [15] and also in the study by Sadeghi [9]. In the study by Asgari, Cronbach's alpha was 0.89 [8] and in Amir Sadeghi's study, Cronbach's alpha was 0.82 and consistency coefficient was more than 0.7 [16]. Professor Spector's website provides more information about the original version of this questionnaire. This questionnaire assesses job satisfaction in 9 areas: Pay, Promotions, Supervision, Coworkers, Fringe

Benefits, Contingent Rewards, Nature of Work, Operational Procedures and Communications. The questionnaire has 36 questions (19 negative questions and 17 positive questions) based on a six-point Likert scale (strongly disagree, somewhat disagree, slightly disagree, slightly agree, somewhat agree, strongly agree). For positive questions, the score ranges from one (strongly disagree) to six (strongly agree). However, the scoring method for negative questions is the opposite (score one for strongly agree and score six for strongly disagree). The minimum score obtained from the questionnaire is 36 and the maximum is 216. After calculating the average of each domain (0 to 6), job satisfaction score is obtained from the average of total domain scores. A score of 0 to 2.66 was considered low job satisfaction, a score of 2.67 to 4.33 as moderate job satisfaction, and a score equal to or greater than 4.34 was considered high job satisfaction.

After sampling and completing the questionnaires, the data were analyzed using SPSS 16 software. Descriptive statistics including frequency, percentage, mean and standard deviation, and analytical statistics including Fisher's exact test and Mann-Whitney were examined in the following. Significance level in the present study was considered less than 0.05 ( $P < 0.05$ ).

Kolmogorov-Smirnov test was applied to evaluate the normal distribution of data.

Ethical considerations include the code of ethics (IR.ZUMS.REC.1398.263) from the ethics committee of Zanjan University of Medical Sciences and the necessary permits from the relevant authorities, informed written consent from the participants after introducing the objectives of the study and the researcher, being voluntarily in the study, anonymity of the questionnaires, and the confidentiality of all information of the participants.

## Results

The number of anesthesia and operating room staff working in Ayatollah Mousavi (122), Hazrat Vali Asr (39), Imam Hossein (32) and Bahman (25) hospitals in Zanjan, were a total of 218 of which 152 participated in this study by completing the mentioned questionnaires. The participation rate in the study was estimated to be 69.72%.

According to Fisher's exact test, there was no statistically significant difference in terms of demographic characteristics between anesthesia staff and operating room staff. The frequency distribution of demographic characteristics of anesthesia and operating room staff participants in the study is shown (in Table 1).

**Table 1: Frequency distribution of demographic characteristics of anesthesia and operating room staff**

Demographic variable		Operating room Frequency (percentage)	Anesthesia Frequency (percentage)	P-Value
Gender	Male	26 (32.1)	21 (29.6)	0.737
	Female	55 (67.9)	50 (70.4)	
Age	<30	38 (46.9)	36 (50.7)	0.736
	30-40	25 (30.9)	24 (33.8)	
	40-50	17 (21)	11 (15.5)	
	>50	1 (1.2)	0	
Marital status	Single	22 (27.2)	21 (29.6)	0.857
	Married	59 (72.8)	50 (70.4)	
Education	associate degree	22 (27.2)	12 (16.9)	0.225
	Bachelor	58 (71.6)	56 (78.9)	
	MSc	1 (1.2)	3 (4.2)	
	Official	29 (35.8)	24 (33.8)	
Employment status	Contract employment	10 (12.3)	6 (8.5)	0.846
	Temporary Employed	29 (35.8)	28 (39.4)	
	Contractual	13 (16)	13 (18.3)	
	>1	11 (13.6)	15 (21.1)	
Work Experience	3-5	25 (30.9)	18 (25.4)	0.285
	5-10	10 (12.3)	14 (19.7)	
	10<	35 (43.2)	24 (33.8)	

Due to the abnormal distribution of scores obtained in the areas of job satisfaction, Mann-Whitney test was used to compare the mean scores of anesthesia staff and operating room employees. The results indicate that the mean job satisfaction in the field of executive regulations, communication, and total score in operating room

employees is significantly higher than anesthesia staff, yet there was no statistically significant difference in other areas Table 2. The lowest job satisfaction in anesthesia and operating room staff was related to the Fringe Benefits and the highest job satisfaction was related to Nature of Work (Table 2).

**Table 2: Comparison of mean and standard deviation of job satisfaction subscales among anesthesia and operating room staff**

	Operating room		Anesthesia		P-value
	Mean	Standard deviation	Mean	Standard deviation	
Pay	2.13	0.84	1.95	0.82	0.133
Promotion	2.48	1	2.52	0.84	0.675
Supervision	4.1	1	3.76	1.15	0.088
Coworkers	3.7	0.88	3.5		0.185
Fringe Benefits	2.03	0.86	1.94	0.97	0.413
Contingent Rewards	2.35	0.91	2.31	0.9	0.815
Nature of Work	4.34	1.1	4.21	1.01	0.402
Operational Procedures	3.16	0.83	2.8	0.69	0.005
communication	3.47	0.8	3.12	1.03	0.027
Total	3.09	0.55	2.9	0.56	0.042

According to the results of Fisher's exact test, there was no statistically significant difference in the frequency distribution of the total job

satisfaction score in anesthesia staff and operating room employees. Job satisfaction was moderate in the majority of employees (Table 3).

**Table 3: Frequency distribution of total job satisfaction score in anesthesia and operating room staff**

Job satisfaction	Anesthesia	Operating room	Total	P-value
	Frequency (percentage)	Frequency (percentage)		
Low	21 (29.6)	16 (19.8)	37 (24.3)	0.187
Moderate	50 (70.4)	64 (79)	114 (75)	
High	0	1 (1.2)	1 (0.7)	
Total	71 (100)	81 (100)	152 (100)	

## Discussion

The aim of this study was to determine and compare the level of job satisfaction in anesthesia and operating rooms staff of Zanjan hospitals. Based on the findings of the study, the level of job satisfaction in anesthesia and operating room staff was determined at a moderate level. Job satisfaction in the areas of operational procedures, communication, and total score in operating room staff was higher than anesthesia staff, but there was no statistically significant difference in other areas.

In this study, the level of job satisfaction in the areas of pay, fringe benefits, and contingent rewards in anesthesia and operating room staff was low. In the studies by Gholami Fesharaki [3] and Asgari [4], the satisfaction of anesthesia and operating room staff with salaries and benefits was low, which was consistent with the results of the present study. Also, in the study by Teruya,

the intensive care unit nurses were dissatisfied with the payments and benefits, which was consistent with the results of this study [17]. One of the most important aspects of any job is its income. In the present study, low salaries and benefits can be effective in reducing job satisfaction of anesthesia and operating room staff due to high workload and stress, lack of proportion regarding merit pay and overtime, as well as irregular payments.

In the present study, the level of job satisfaction among coworkers was at a moderate level, which was consistent with the results of studies by Asgari [4] and Sadeghi [16]. When staff in an organization have job satisfaction, their interaction with coworkers and internal and external stakeholders of the organization will enhance significantly [18]. staff interaction and satisfaction with their coworkers encourages people in the workplace [19].

In this study, the level of job satisfaction in the area of job promotion was low, which is consistent with the results of studies by Teruya [17] and Sadeghi [16] which was concentrated on job satisfaction among nurses. The results of some studies indicate that nurses are dissatisfied with the conditions of their promotion [20,21]. It seems that in the present study, the existence of complications such as manpower shortage, shift work, marriage, lack of opportunity to study, and no opportunity to follow education can be involved in this issue; therefore, the officials and those concerned in this regard should pay special attention to this issue.

In the present study, the level of job satisfaction in the area of supervision was high among anesthesia and operating room staff. In Asgari's study, the level of satisfaction with supervision on operating room technicians [8] and in Sadeghi's study on nurses was reported at a moderate level [16], which is consistent with the results of the present study. If staff are supported by managers and supervisors, they will do their job with less stress and this will improve the relationship and job satisfaction, consequently increasing self-confidence and quality of work [16,22].

According to Herzberg, the nature of the work is motivational and one of the internal factors influencing job satisfaction [16]. In the present study, job satisfaction in anesthesia and operating room staff was high concerning the nature of the work. The anesthesia and operating room staff participating in our study acknowledge that despite their limitations, they are proud of their job and enjoy doing it because of the specialization of their work. In Teruya's study, intensive care unit nurses were satisfied with the nature of their work, which was consistent with the results of the present study [17]. Also, in Sadeghi's study on nurses, the level of job satisfaction was determined at a high level, which was consistent with the results of the present study [16].

In the present study, the level of job satisfaction in the area of operational procedures was moderate in anesthesia and operating room staff, just this rate was higher in operating room staff than anesthesia staff.

In the study by Serafin [23], the level of job satisfaction in this area was moderate, which was consistent with the results of our study.

Facilitating operational procedures and reducing bureaucracy can improve staff job satisfaction. In the present study, the level of job satisfaction in the area of communication was moderate in anesthesia and operating room staff, just this rate was higher in operating room staff than anesthesia staff. Consistent with the results of the present study, in studies by Teruya [17] and Sadeghi [16], the level of job satisfaction of nurses in the area of communication was reported at a moderate level. Improving communication is associated with increasing job satisfaction [24] and needs to be considered by managers and officials.

In the present study, in general, the average job satisfaction in anesthesia and operating room staff was moderate and was significantly higher in operating room staff than anesthesia staff. In Sadeghi's study, the level of job satisfaction of anesthesia and operating room staff was reported to be moderate, which is consistent with the results of the present study [9]. In studies by Akbari [26] and Serafin [23], nurses' job satisfaction was generally at a moderate level, which is consistent with the results of the present study. In the study by Gholami Fesharaki, the level of job satisfaction in anesthesia and operating room staff was reported to be lower than other groups, which is not consistent with the results of the present study [3]. In this study, out of 301 participants in the study, only 27 (9%) operating room and anesthesia staff were present, which can affect the results of the study, and on the other hand, our study was not comparative regarding groups.

In the present study, the lowest level of job satisfaction was related to fringe benefits. In the studies by Mousavi [25] and Akbari [26], the lowest level of satisfaction among nurses was related to salaries and benefits, which is consistent with the results of our study.

In the present study, the highest level of job satisfaction in anesthesia and operating room staff was related to the nature of the work, which is consistent with the results of the studies by Akbari [26] and Sadeghi [15] on nurses.

One of the limitations of the present study was that the mental state of staff may affect the ability to answer questions. Another limitation of the present study is the lack of generalizability of its results.

## Conclusion

According to the results and in line with the objectives of the study, the level of job satisfaction among anesthesia and operating room staff in Zanjan hospitals was determined at a moderate level. Job satisfaction in the areas of operational procedures, communication, and total score in operating room staff was significantly higher than anesthesia staff, but there was no statistically significant difference in other areas. Considering the positive effects of increase in job satisfaction in achieving the goals of the organization, the results of the present study hopefully will be helpful to managers and authorities for upcoming planning to promote job satisfaction, especially in the area of operational procedures, communication, and overall satisfaction in anesthesia staff, consequently enhancing efficiency and quality of services provided.

## Ethical considerations

This research was approved by the Ethics Committee of Zanjan University of Medical Sciences (IR.ZUMS.REC.1398.263). All participants signed written informed consent forms. The study objectives were explained to the participants and they were assured of voluntary participation in the study and anonymity.

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## Conflict of interest

The authors declare that they have no conflict of interest.

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