



## AN INVESTIGATION OF THE PATIENT SATISFACTION WITH ANESTHESIA SERVICES IN THE HOSPITALS AFFILIATED WITH JAHROM UNIVERSITY OF MEDICAL SCIENCES: A DESCRIPTIVE CROSS-SECTIONAL STUDY IN 2014

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### ARTICLE INFO

**Received:**

03<sup>th</sup> Jun 2017

**Accepted:**

29<sup>th</sup> Nov 2017

**Available online:**

14<sup>th</sup> Dec 2017

**Keywords:** patient satisfaction, anesthesia services, Hospitals.

### ABSTRACT

**Introduction:** patient satisfaction with anesthesia services can be regarded as an important perspective in order to improve anesthesia services before surgery. Therefore, the objective of the present study is to determine the patient satisfaction with anesthesia services in the hospitals affiliated with Jahrom University of Medical Sciences.

**Method:** this is a descriptive cross-sectional study conducted on 330 18-60-year-old patients with American Society of Anesthesiologists' anesthesia class 1 and 2 who were going to go under elective surgery. The instrument of the study included a questionnaire consisting of two parts: the first part was related to demographic characteristics and the second part was Heidelberg standard questionnaire that is psychometrically developed. The data were analyzed using SPSS 17, frequency distribution, and the statistical tests of independent T-test and one-way ANOVA.

**Findings:** 330 patients participated in this descriptive cross-sectional study. Types of anesthesia were the 41.6-percent spinal anesthesia (S/A) and the 58.4-percent general anesthesia (G/A). 51.3 percent of the patients had experienced a previous surgery, 50.3 of whom had a previous anesthesia, 51.7 of whom had experienced a previous hospitalization, and 70.9 percent of whom had the anesthesia class 1 and 2. The comparison of the patients' satisfaction with anesthesia services in terms of the demographic variables indicated that there is a significant relationship between gender, marital status, type of anesthesia, previous surgery, previous anesthesia, previous hospitalization, and patients' satisfaction with anesthesia services (P-value<0.05). However, there was not a significant relationship between educational level, anesthesia class, and patients' satisfaction with anesthesia services (P-value>0.05). Furthermore, the results of Pearson correlation test indicated that there is a significant relationship between age and patients' satisfaction (P-value<0.05, r = 0.155). Yet, there was not a significant relationship between duration of anesthesia and patients' satisfaction (P-value>0.05, r = 0.092).

**Conclusion:** the present study indicated that the patients' satisfaction with preoperative anesthesia services is very desirable.

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**To Cite This Article:** Shohreh Javadpour, Hasan Zabetian, Yousef Hosseini, Haniye Jaafari, Jaafari, Mahsa Gorgin, (2017), "an investigation of the patient satisfaction with anesthesia services in the hospitals affiliated with jahrom university of medical sciences: a descriptive cross-sectional study in 2014", *Pharmacophore*, 8(6S), 01-08.

### Introduction

Health is the right of the human and everybody has the right to enjoy it. The main objective of the health care is to provide health for the people of the society which is done through providing desirable and necessary health services. An efficient health care system can fulfill its duty, i.e. maintaining public health, only by providing desirable services; the assessment of this system is done through assessing its services. The patients' opinions are regarded as a reliable source for assessing the health care services. That is firstly because of the fact that the patients are a very suitable source for collecting information and assessing the quality of the health care and services; secondly, it is of their rights to take their opinions into consideration while planning and evaluating the services. The patient satisfaction is one of the important issues in health care and it was paid attention to since the 1950s. At that time, some sociologists like Szasz and Parsons conducted some studies on the doctor-patient relationship [1]. The patients' opinions, wants, and satisfaction are regarded as a quality index in the health care centers because these opinions lead to innovation, promote the service quality, and restore health [2]. A dynamic satisfaction assessment system automatically promotes satisfaction [3]. Many of the experts consider the patient satisfaction with the hospital services as one of the most important indices of effectiveness and quality of the services provided in different sections; they believe that the satisfied patients are the keys to success for any hospital [4]. Therefore, it seems that investigating the patients' satisfaction is one of the most important health system outputs [5, 6]. For this, the hospital administrators regard the patients' needs, satisfaction, and treatment as the major precondition for their duties and match the hospital goal with that of the patient [5]. War et al. conducted a systematic review of 45 papers and indicated that the patients' satisfaction is a useful index for estimating the quality of the health care services [7]. The patients' satisfaction is due to the patients' perception and awareness of their rights, the doctor's gender, the medical staff skills to mentally communicate with the patients as well as the other various factors such as the cultural, social, economic, and personality backgrounds and their demographic characteristics like age, gender, and educational level [7, 8]. Therefore, regarding the fact that the determination of the related factors with patients' satisfaction helps improve the health care level, the health care workers are willing to become aware of the patients' real needs [5]. Nowadays, the investigation of the patients' satisfaction is regarded as an important health care quality index in most countries and it is necessary to organize some programs in order to create, maintain, and promote this feeling of satisfaction [9]. In fact, the investigation of the patients' satisfaction has many benefits and results and the patient feels that his needs and expectations have been fulfilled [10]. As this is an important issue, many studies have been conducted in Iran to assess the patients' satisfaction with the health care services. A study was done in the emergency departments of Mashhad teaching hospitals and the amount of patients' satisfaction was 61.7%. The maximum satisfaction level belonged to the nursing staff and the minimum satisfaction level belonged to the guards and the physical security of this department [11]. In an investigation of the patients' satisfaction with nursing services in the teaching hospitals of the selective cities (Tehran, Isfahan, Mashhad, Ahvaz, Tabriz, and Shiraz), 39.7% of the patients were highly satisfied with nursing services and 36% of whom were highly satisfied with the services, in general [12]. In the study conducted by Jenkinson et al., about 90% of the patients were satisfied with hospital services [13]. A study was done in Pakistan and indicated that the amount of satisfaction in different areas of hospital services was from 86.9% to 95%; the youth and the individuals with a lower educational level were more dissatisfied [14]. Another study indicated that the patients with a lower educational level were more satisfied with the hospital services since they have lower expectations; the results of the study suggested that the factors of age and the patient's health status should be taken into consideration while interpreting the patients' satisfaction data [15]. Most of the patients expect to have an anesthesia without any complication; however, many factors like the fear of not getting conscious after anesthesia, pain, nausea, vomit, and many other unknown factors cause anesthesia phobia and the fear of surgery [16]. Few studies have assessed the patients' satisfaction with anesthesia. It is important to take into consideration the patients' satisfaction level with the health care services since it plays an influential role in management planning for health service systems. The assessment of the patients' satisfaction with anesthesia shows a balance between the patients' expectations and the services they receive and this is one of the major components of the anesthesia services quality improvement. Therefore, the objective of this study was to determine the level of the patients' satisfaction with anesthesia services in the hospitals affiliated with Jahrom University of Medical Sciences.

#### **Material and Method**

This is a descriptive cross-sectional study conducted on 330 18-60-year-old patients with American Society of Anesthesiologists' anesthesia class 1 and 2 (class 1: patients without systemic problems; class 2: patients with mild systemic problems) who were going to go under elective surgery in the teaching hospitals affiliated with Jahrom University of Medical Sciences in 2014. Having obtained the permission from Jahrom University of Medical Sciences vice president for research affairs, the researcher was present in the research environment, explained the research objectives to the department supervisor, and started sampling. Patients with mental health problems, dissatisfied with giving an interview and patients with anesthesia class 2 and above were excluded in this study. One day after surgery, the researcher with face to face interviews with patients asked them to answer the questionnaire and questions about the patient satisfaction and the factors influencing their satisfaction. The instrument was a questionnaire consisting of two parts. The first part contained demographic characteristics and information associated with the type of surgery, type of anesthesia, medical history, previous history of the disease and the second part of the questionnaire Heidelberg is in the form of psychometric has been developed and its validity and reliability were evaluated by Khajavi et al. [17]. The questionnaire consisted of 24 questions, each of which is based on the Likert scale of 0-3 scored. The researcher interviewed patients the day after surgery in a quiet environment away from stress for 15 minutes

completed the questionnaire (At least 10 hours after the patient is anesthetized and to reduced complications of anesthesia and respond in a better way). After collecting information on the questionnaire and the SPSS version 17, this information was analyzed with frequency distribution, independent T-test, and one-way ANOVA.

### Findings

In this cross-sectional study, 330 patients participated. 54.5% were male and the rest female. 50.2 percent were illiterate. 78.7 percent were married. Type of anesthesia 41.6 percent, S/A and 58.4%, G / A, respectively. 51.3 percent have a history of previous surgery, 50.3 percent had a history of previous anesthesia, 51.7% had a history of hospitalization were 70.9% of class consciousness. The mean duration of anesthesia was  $1.18 \pm 1.92$ . The average age was  $17.29 \pm 40.04$  in the range of 6 to 86 years (Table 1). 17.3 percent and 9.6 percent cesarean surgery tibia and the rest of the other cases (Table 2).

**Table1.** Descriptive Analysis of Demographic Variables

Percent	Level	Variable
45.5%	Female	sex
54.5%	male	
50.2%	illiterate	education
36.1%	Diploma	
12.1%	Bachelor	
1.6%	MA	
78.7%	Married	marital status
21.3%	single	
41.6%	Spinal anesthesia	Type of anesthesia
58.4%	General anesthesia	
51.3%	yes	History of surgery
48.7%	NO	
50.3%	YES	Previous anesthesia record
49.7%	NO	
51.7%	YES	Admission
48.3%	NO	
70.9%	I	Class consciousness
28.2%	II	
0.9%	III	
0.0%	IV	
	$1.92 \pm 1.18$	Duration of anesthesia
	$40.04 \pm 17.29$	Age

**Table2.** Descriptive Analysis Surgery

Percent	Type of surgery
%17.6	Caesarean section
%9.6	tibia
%6.4	Trans Ureteral Lithotripsy
%3.7	Tonsillectomy
%5.9	Orthopedics
%3.7	Appendectomy
%3.2	Rhinoplasty
%4.3	Lumbar disc
%1.1	Substitution crack
%6.4	PCNL
%1.1	Tear Minsk
%3.2	TURP
%5.3	Cataract

%0.5	Hip abscess
%2.1	Laparoscopy
%1.1	septoplasty
%7.0	cataract
%1.6	ACI
%0.5	Nerve Repair Hand
%1.6	prostate
%8.0	Women
%2.7	Hernia
%2.1	colectomy
%1.1	Hemorrhoids
%0.0	Chest

Patient satisfaction score of anesthesia services to low levels ( $<26$ ), medium (27-52), high ( $\geq 52$ ) was divided. Patient satisfaction with anesthesia services at a high level was 60.9 percent (Table 3).

**Table 3:** The level of patient satisfaction with anesthesia services

percent	Abundance	Patient satisfaction with anesthesia services
0.3	1	( $\leq 26$ ) down
38.8	128	(27-52) Average
60.9	201	( $\geq 52$ ) Up

Comparing patient satisfaction with services of general anesthesia in terms of demographic variables in Table 4 indicated that there is a significant relationship between gender, marital status, type of anesthesia, history of surgery, history of previous anesthesia and hospitalization and patients' satisfaction with the services of anesthesia (P-value  $<0.05$ ). However, there is no significant relationship (P-value  $>0.05$ ) between the variables of education, class of anesthesia and patient satisfaction with anesthesia services. Pearson correlation coefficient test results also show that there is a significant relationship between age and patient satisfaction (P-value  $<0.05$ ,  $r = 0.155$ ). However, there is no significant relationship between the duration of anesthesia and patient satisfaction (P-value  $>0.05$ ,  $r = 0.092$ ).

**Table 4:** Comparison of Demographic Variables and Satisfaction with Anesthesia Services

p-value	Satisfaction with anesthesia services		Level	Variable
	Standard deviation	Average		
0.003*	7.52	52.70	Female	sex
	6.70	55.09	male	
0.053**	7.11	54.35	illiterate	education
	7.48	52.61	Diploma	
	6.85	54.41	Bachelor	
	8.58	59.80	MA	
0.273*	7.66	54.10	Married	marital status
	6.87	52.97	single	
0.001*	6.79	55.37	Spinal anesthesia	Type of anesthesia
	7.65	52.66	General anesthesia	
0.003*	6.83	55.02	yes	History of surgery
	7.72	52.54	NO	

0.002*	6.90	55.05	YES	Previous anesthesia record
	7.75	52.44	NO	
0.006*	7.12	54.91	YES	Admission
	7.82	52.50	NO	
0.602**	8.22	50.65	I	Class consciousness
	8.26	52.19	II	
	.	47.00	III	
	.	.	IV	
0.176***	r=0.092			Duration of anesthesia
0.005***	r=0.155			Age

\* Independent T-test

\*\* one-way ANOVA

\*\*\* Pearson Correlation Coefficient

### Discussion

The results of this study show that patient satisfaction with anesthesia services of the hospitals affiliated with Jahrom University of Medical Sciences in most cases are at high levels like the study of Imani and colleagues [17]. The results testify that an average male satisfaction was higher than the average female satisfaction and this difference was statistically significant ( $p$ -value $<0.005$ ). The results of the study conducted by Azami are similar to the results of this study in this case [18]. Perhaps, this difference is related to the fact that men have more physical endurance and naturally their mental condition is more stable. The other results stated that the level of patient satisfaction with the service provided and the level of their education have no statistically significant relationship ( $p$  value $>0.005$ ). However, the results of the studies conducted by Hashemi ( $p$ -value $<0.001$ ) Sarchami ( $p$ -value  $<0.005$ ) and Azami ( $p$ -value  $<0.003$ ) violate the results of this study [18- 20]. This difference may be due to the fewer number of people with low literacy rate in our study. That is because when the patient's educational level rises, according to consciousness in individuals with higher education levels, satisfaction declines. The results of this study indicated that the married patients are in higher satisfaction levels compared to the single ones. In this study, the patients under anesthesia with an anesthetic- the type SA have surgery compared to patients who were under anesthesia GA, have the higher level of satisfaction. But, in a study conducted on Japanese patients who had undergone surgery were dissatisfied with local anesthesia [21]. This difference may be due to the small number of patients in this study that received local anesthesia. It was also observed that people with a history or record of previous surgery were more satisfied than those without such record and this difference was statistically significant ( $p$ -value  $<0.05$ ) Mora et al study shows people who have a record of 1 or 2 surgery have shown more satisfied than patients without a previous record [22]. The study also shows the satisfaction of anesthesia in patients with a record is more than those without a record of anesthesia. This relationship is statistically significant ( $p$ -value $<0.05$ ). This means that a history of previous anesthetics can have a positive impact on patient satisfaction anesthesia in the future. Between the patients' satisfaction with the service provided and admission is statistically significant ( $p$ -value $<0.05$ ) and people who are admitted to hospitalization have expressed higher satisfaction levels than those who have no history of hospitalization. Of course, in the study of sheikhi and Javadi, no significant positive correlation between hospitalization and satisfaction level of services has been reported [23]. It seems that people who have had a history of hospitalization by reducing their expectations and with the awareness that gained by the treatment centers by experience that have adapted themselves and could have been more satisfied. But people who have not previous hospitalization experience may not meet their high expectations and have led to dissatisfaction in these patients. The results show that the age of the participants and their satisfaction with the services provided by the Department of Anesthesiology have a statistically significant relationship ( $p$ -value = 0.005). The results of the study conducted by Barbara et al. ( $p= 0.004$ ) [24] as well as the studies of Sarchami and Bakhtiari are in line with the present study [19 , 25].

### Conclusion

The results showed that the patients' satisfaction with preoperative anesthesia services is at a high level. There were some factors which negatively affected the patients' satisfaction. Therefore, taking into consideration these factors and the efforts which balance these factors, one can completely improve the services and increase the hospital service quality.

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