



## Assessment of mothers' satisfaction with the care of maternal care in Specialized Educational-Medical Centers in obstetrics and gynecological disease in Northwest, Iran

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### Abstract

**Introduction:** Patients satisfaction includes the assessment of healthcare which she/he received. This study aims at assessment of mothers' satisfaction with the care of maternal care in Specialized Educational-Medical Centers in obstetrics and gynecological disease in Northwest, Iran.

**Methods:** In an analytic-descriptive cross-sectional study, 1000 female patients who admitted in educational-medical centers of Northwest were studied during a 2 years period (2010-2012). They asked to fill a 34-item closed-answer questionnaire (ranking from very unsatisfied to very satisfied responses) following their discharge. Validity of the questionnaire was improved by gynecologist's experts comments, and reliability of the questionnaire were assessed by test-retest methods ( $\alpha = 0.946$ ).

**Results:** The satisfaction score (satisfied or very satisfied responses) were 61.2, 55.8, 61.8 and 59.5 percent for admitting process, primary care services, treatments and therapeutic interventions and overall, respectively. The satisfaction score for access to doctors was highest in the morning and lowest at the night shifts. The satisfaction score about the personnel's behavior was lowest during the night shifts. The satisfaction score about the residents' behavior was highest for the morning shifts. There was no significant difference between the three working shifts regarding psychological feelings, humanitarian respect, and issues like nutrition and private and public hygiene. There was a significant direct correlation between the mean score of satisfaction and patients' age (Spearman's  $\rho = 0.117$ ,  $P < 0.001$ ).

**Conclusion:** The satisfaction level of patients hospitalized in Northwest of Iran's Hospitals was intermediate. Planning new strategies in this regard with emphasis on the main limitations may improve the satisfaction rate in the future.

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### Introduction

Hospitals, which are inseparable parts of medical systems, have been responsible for health-care services in the society. In order to

provide better health-care services, medical ethics, and patients' rights should be observed.<sup>1-3</sup> The quality of services offered by the emergency room (ER) has public health

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importance<sup>4,5</sup> and reflects of the quality of hospital services and is crucial in the official evaluation of the hospital.<sup>6,7</sup> Patients have basic needs that are not completely met due to the sickness, and thus require others' assistance. More to the point, sickness arouses anxiety and a feeling of being uncomfortable and insecure. On this account, the hospital environment may become stressful for patients.<sup>2,3,8</sup>

Nowadays, satisfaction of patients serves a crucial role in health-care systems and is considered in the evaluation of health care services.<sup>9-11</sup> Evaluation programs can be valuable in improving the quality of health care and its delivery.<sup>12,13</sup> Attention to satisfaction of patients and its perpetual evaluation pave the way to achieve a top quality at hospitals.<sup>14,15</sup> Patient satisfaction is a key element in a patient cure and has been established as a goal of medical services at hospitals. Hospital services are to be germane to patient needs and led to patient satisfaction. Judgment of patients on health-care services is also important to managers and service providers of a hospital. Working shifts of hospital personnel can exert an impact upon the quality of provided services, the way of treatment towards patients, and thus satisfaction of patients.<sup>2,16-18</sup>

Considering to the importance of maternal service, this service must be delivered in the highest quality and according to highest standards, to guarantee mothers and infants health along with appropriate satisfaction. Satisfaction from services can be considered as a reliable index for quality of services.<sup>19</sup> Based on definitions, satisfaction is patient's statement reporting quality of service and relationship between caregiver and patient, which is measured by comparing quality services and patient's expectations.<sup>20</sup>

Women's satisfaction from maternal services and their qualities can be considered as an outstanding factor affecting mental health of family and society,<sup>21</sup> also it is considered as an index for quality and justice in women and infants health by health care authorities and health policy makers.<sup>3</sup> Therefore, the present study was set out to

the assessment of mothers' satisfaction with the care of maternal care in Specialized Educational-Medical Centers in obstetrics and gynecological disease in Northwest, Iran.

### Methods

A cross-sectional study design was applied for the present study. 1000 patients hospitalized at Educational-Medical Hospitals, Specialized Centers in Obstetrics and Gynecology, Iran, were questioned. Ultimately, 998 patients responded to the questions (Response rate = 99.8%). Data collection was carried out from July 2010 to July 2012 (approximately 24 months). The studied target population included the whole patients hospitalized at mentioned hospital wards. A sample size of 960 patients was calculated using ratio analysis formula: With  $Z = 1.96$ ,  $d = 0.04$  and  $P = 0.050$ ; and considering validity of the study, a total of 1000 patients were chosen for the assessment.

$$n = \frac{z^2 \times (1 - p)}{d^2}$$

Subjects were questioned by a closed-answer questionnaire of satisfaction assessment.<sup>22</sup> English version of the questionnaire was translated into Farsi by one of the researchers, then it was retranslated into English to unveil vague and problematic parts. Validity of the questionnaire was improved by gynecologist's expert's comments, and reliability of the questionnaire was assessed by test-retest methods ( $\alpha = 0.946$ ).

Questionnaire included 34 questions, which follow in chronological order the steps from the time the patient is admitted to the hospital until discharge. The questionnaire also contained socio-demographic variables, including age, sex, educational level, professional status, and marital status. The response scale that we used had a varied number of options, ranging from 3-6. At the time of discharge, Illiterate patients or those who were not able to answer the questionnaire were assisted by their attendants or questioners.

Patients' satisfaction was ranked as very good and good, notwithstanding, weak and

very weak for their dissatisfaction. The patients' answers were scored as follows: very weak = 1, weak = 2, intermediate = 3, good = 4 and very good = 5. Information of patients was kept secret by the questionnaires wherein patients' names were not inserted. Thus, no informed consent was obtained from the patients. The present study was approved by an ethical committee of Tabriz University of Medical Sciences, Iran.

Data incorporated age, education level, job; age of spouse, education level of spouse, job of spouse, specific clinic that was visited, cause of visiting clinic, cause of hospitalization, duration of hospitalization (in days), the number of previous hospitalization, hospitalizing ward, hospitalization time, clinic staff, person in charge of patient hospitalization, responding to the questionnaire, satisfaction or dissatisfaction about each question, the score for each question. Data were defined as mean  $\pm$  standard deviation (SD), frequency and percentage. Data were analyzed using SPSS statistical package (version 16, SPSS Inc., Chicago, IL, USA).

Normal distribution was analyzed by using Kolmogorov-Smirnov test. Quantitative variables were compared by Samples T-test, one-way ANOVA or Kruskal-Wallis tests. In order to assess post hoc, Tukey post-hoc test were applied. Correlation between variables was analyzed by (rho) Spearman test.  $P \leq 0.050$  was considered statistically significant.

## Results

The average age of patients was  $26.7 \pm 7.9$  years. The youngest patient was a 13-year-old, be that as it may, the oldest one was 76. Other demographic characteristics of participants are shown in table 1. The mean duration of hospitalization was  $2.5 \pm 2.1$  days. The shortest duration of hospitalization was 1 day, in spite of the longest duration of hospitalization that was 30 days. The mean number of previous hospitalization of patients was  $0.6 \pm 0.8$  times. The minimum number of previous hospitalization of patients was zero, despite the maximum

number of previous hospitalization of patients that was 5 times.

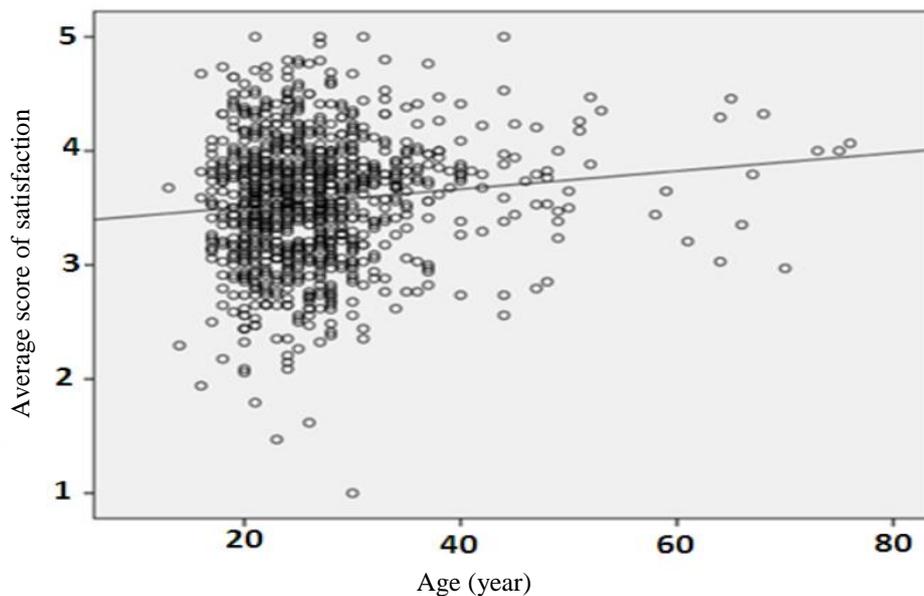
Figure 1 shows the distribution of the mean score of patients' responses to satisfaction assessment questionnaire. The average for the mean score given by each participant in responding to the questionnaire was  $3.6 \pm 0.5$ . Frequency and frequency percentage of the responses to each question of the satisfaction assessment questionnaire are illustrated in table 2.

According to table 2, the mean of satisfaction rate concerning responding to the questionnaire was  $59.5 \pm 6.2\%$ . The highest rate of satisfaction with responding to the questionnaire was 69.4%, in spite of the lowest level of satisfaction that was 45.0%. The mean satisfaction rate of patients with hospitalization at any time (regardless of shifts for hospitalization) was  $61.2 \pm 5.9\%$ ; even so, the lowest and highest rates were 50.2 and 69.6%, respectively. The mean satisfaction rate of patients with the provision of primary caregiving services was  $55.8 \pm 5.9\%$ . For aforesaid satisfaction, the lowest rate was 45.0%, although the highest rate was 62.0%. The mean satisfaction rate of patients with the provision of therapeutic services was  $61.8 \pm 5.7\%$ . The lowest rate for this satisfaction was 50.2%, although the highest rate was 69.4%. There was a positive weak and significant correlation between the total mean score of questionnaire of patient satisfaction and age (Spearman's rho = 0.117,  $P < 0.001$ ). The total mean score of the questionnaire of patient satisfaction was not significantly correlated to duration of hospitalization (Spearman's rho = 0.017,  $P = 0.595$ ). There was no significant correlation between the total mean score of questionnaire of patient satisfaction and the number of previous hospitalizations (Spearman's rho = 0.048,  $P = 0.233$ ). Correlation between other demographic indices and satisfaction is shown in table 3.

Table 4 provides a breakdown pertaining to patients' satisfaction with access to doctor, behavior of doctors and personnel, feeling psychological security, and humanitarian respect and issues such as diet, private and public health.

**Table 1. Demographic characteristics**

Variable	Variable level	n (%)
Mothers education	Under diploma	686 (66.3)
	Diploma degree	272 (27.5)
	Associate degree	12 (1.2)
	Bachelor degree	49 (4.9)
	Doctorate degree	1 (1.0)
Spouses education	Under diploma	564 (58.1)
	Diploma degree	246 (25.3)
	Associate degree	41 (4.2)
	Bachelor degree	113 (11.6)
	Master degree	3 (0.3)
Hospitalized ward	Doctorate degree	4 (0.4)
	Surgery	245 (24.6)
Causes of visiting the surgery ward	Obstetrics	749 (75.4)
	Caesarian	211(21.1)
	Ovarian cyst	28 (2.8)
Clinic staffs in hospitalization were	Myomectomy	6 (0.6)
	Head nurses	421 (42.3)
	Nurses	574 (57.7)
Mothers job	Housewives	889 (90.8)
	Self-employed	5 (0.5)
	High school or university students	10 (1.0)
	Employees	57 (5.8)
	Other	19 (1.9)
Spouses job	Self-employed	476 (48.9)
	Teachers	175 (18.0)
	Employees	166 (17.0)
	Jobless	69 (7.1),
	Farmers	27 (2.8)
Causes of hospitalization	Other	85 (8.5)
	Parturition	719 (72.0)
	Curettage	30 (3.0)
Time of hospitalization	Morning	382 (38.3)
	Evening	360 (36.1)
	Night	256 (25.7)
Doctors in charge of hospitalization were	Specialized doctors	364 (36.5)
	Residents	634 (63.5)



**Figure 1. Distribution of mean score of patients' response to satisfaction assessment questionnaire**

**Table 2. Patients' responses to questionnaire**

Question type	Response question	Very good	Good	Intermediate	Weak	Very weak
Information and medical care (12 items)	Doctors' explanations of the	105 (10.5)	508 (51)	236 (23.7)	117 (11.7)	31 (3.1)
	Doctors' interest in patients'	99 (9.9)	540 (54.2)	267 (26.8)	72 (7.2)	19 (1.9)
	Doctors' care of patient	104 (10.4)	587 (58.9)	216 (21.7)	74 (7.4)	15 (1.5)
	Global assessment of the information	95 (9.6)	563 (56.8)	249 (25.1)	74 (7.5)	11 (1.1)
	Explanations at discharge	107 (10.8)	497 (50.1)	301 (30.3)	67 (6.7)	21 (2.1)
	Doctors' care	109 (10.9)	443 (44.5)	302 (30.3)	103 (10.3)	39 (3.9)
	Patients' need to ask for information about the health condition	101 (10.1)	339 (40.1)	307 (30.8)	141 (14.2)	48 (4.8)
	Doctors' professional training	109 (11.0)	431 (43.4)	310 (31.3)	114 (11.5)	28 (2.8)
	Patients' opinion of doctors' explanations	130 (13.1)	502 (50.7)	266 (26.9)	69 (7.0)	23 (2.3)
	Discharge report	124 (12.6)	506 (51.5)	265 (27)	64 (6.5)	24 (2.4)
	Explanations about treatment	149 (15.1)	511 (51.8)	233 (23.6)	56 (5.7)	38 (3.9)
	Doctors' use of technical words	128 (13.0)	440 (44.6)	303 (30.7)	88 (8.9)	27 (2.7)
Nursing Care (8 items)	Nurses' care	122 (12.3)	487 (49.2)	271 (27.4)	83 (8.4)	26 (2.6)
	Nurses' empathy	122 (12.3)	478 (48.3)	286 (28.6)	83 (8.4)	21 (2.1)
	Nurses' care of patients	124 (12.5)	462 (46.7)	263 (26.6)	99 (10.0)	41 (4.1)
	Nurses' professional training	128 (13.0)	521 (52.8)	233 (23.6)	81 (8.2)	23 (2.3)
	Nurses' interest in patients' questions	165 (16.7)	507 (51.4)	225 (22.8)	61 (6.2)	29 (2.9)
	Global assessment of the care	101 (10.4)	446 (46.1)	263 (27.3)	116 (12)	40 (4.1)
	Contradictory orders	79 (8.2)	430 (46.1)	307 (31.8)	112 (11.6)	36 (3.7)
	Nurses' explanations of the disease	105 (10.9)	494 (49.4)	263 (27.2)	78 (8.1)	27 (2.8)
Comfort (6 items)	Room conditions for the patient	119 (12.3)	476 (49.1)	266 (27.5)	80 (8.3)	28 (2.9)
	Global assessment of the physical conditions of the hospital	126 (13)	410 (42.4)	303 (31.3)	96 (9.9)	32 (3.3)
	Quality of the food	103 (10.7)	537 (55.6)	240 (24.9)	69 (7.2)	16 (1.7)
	Room comfort for the family	86 (8.9)	520 (53.8)	266 (27.5)	75 (7.8)	19 (2.0)
	Sleep disturbance due to environmental conditions	96 (10.1)	445 (46.2)	304 (31.6)	94 (9.8)	23 (2.4)
	Hour patients were awakened	101 (10.5)	432 (44.9)	287 (27.6)	121 (12.6)	32 (3.3)
	Visitors disturbed by staff	138 (14.3)	476 (49.3)	242 (25.1)	74 (7.7)	36 (3.7)
Visiting (4 items)	Visiting hours	125 (13.0)	492 (51.1)	233 (24.2)	80 (8.3)	32 (3.3)
	Time the visitors spent in the room	123 (12.8)	462 (48.1)	277 (28.8)	65 (6.8)	34 (3.5)
	Quantity of visitors	68 (7.0)	389 (40.2)	263 (37.5)	120 (12.4)	28 (2.9)
	Privacy during examination or tests	62 (6.4)	373 (39.1)	378 (39.1)	122 (12.6)	31 (3.2)
Privacy and cleanliness (4 items)	Privacy on the way to testing	63 (6.5)	392 (40.5)	352 (36.4)	131 (13.5)	29 (3.0)
	Toilet cleanliness	73 (7.5)	481 (49.7)	300 (31.0)	89 (9.2)	25 (2.6)
	Room cleanliness	73 (7.5)	485 (50.1)	274 (28.3)	105 (10.8)	31 (3.2)

\*Data was shown as frequency (%)

**Table 3. Correlation between demographic indices and satisfaction**

Variable	Variable level	Total mean score of questionnaire	P
Time of hospitalization	Morning	3.6 ± 0.6	0.518
	Evening	3.6 ± 0.5	
	Night	3.5 ± 0.6	
Education	Under diploma	3.6 ± 0.6	0.009
	Diploma	3.5 ± 0.5	
	Associate	3.7 ± 0.6	
Hospitalization wards	Bachelor or higher	3.5 ± 0.5	0.012
	Surgery	3.6 ± 0.5	
	Obstetrics	3.6 ± 0.6	
Clinic staffs	Head nurse	3.6 ± 0.6	0.594
	Nurse	3.6 ± 0.5	
Doctors in charge	Specialized doctors	3.5 ± 0.6	0.135
	Residents	3.6 ± 0.5	

\*Data was shown as frequency (%)

**Table 4. Satisfaction rate of patients based upon working shifts**

Parameter	Satisfaction rate	Morning shift	Evening shift	Night shift	P
Access to doctor	Very weak	29 (2.9)	40 (4.1)	36 (3.7)	> 0.001
	Weak	61 (6.2)	116 (12.0)	112 (11.6)	
	Intermediate	225 (22.8)	264 (27.3)	307 (31.8)	
	Good	507 (51.4)	446 (46.1)	430 (44.6)	
	Very good	165 (16.7)	101 (10.4)	79 (8.2)	
Satisfaction	Unsatisfied/Indifferent	315 (31.9)	420 (43.4)	455 (47.2)	> 0.001
	Satisfied	672 (68.1)	547 (56.6)	509 (52.8)	
Personnel behavior	Very weak	27 (2.8)	28 (2.9)	32 (3.3)	0.032
	Weak	78 (8.1)	80 (8.3)	96 (9.9)	
	Intermediate	263 (27.2)	266 (27.5)	303 (31.2)	
	Good	494 (51.1)	476 (49.1)	410 (42.4)	
Satisfaction	Very good	105 (10.9)	119 (12.3)	126 (13)	0.005
	Unsatisfied/Indifferent	315 (31.9)	374 (38.6)	431 (44.6)	
	Satisfied	599 (61.9)	595 (61.4)	536 (55.4)	
Resident behavior	Very weak	19 (2.0)	23 (2.4)	32 (3.3)	> 0.001
	Weak	75 (7.8)	94 (9.8)	121 (12.6)	
	Intermediate	266 (27.5)	304 (9.8)	276 (28.7)	
	Good	520 (53.8)	445 (46.2)	432 (44.9)	
Satisfaction	Very good	86 (8.9)	97 (10.1)	101 (10.5)	0.002
	Unsatisfied/Indifferent	360 (37.3)	421 (43.7)	429 (44.6)	
	Satisfied	606 (62.7)	542 (56.3)	533 (55.4)	
Psychological security and humanitarian respect	Very weak	36 (3.7)	32 (3.3)	34 (3.5)	0.426
	Weak	74 (7.7)	80 (8.3)	65 (6.8)	
	Intermediate	242 (25.1)	233 (24.2)	277 (28.8)	
	Good	476 (49.3)	492 (51.1)	462 (48.2)	
	Very good	138 (14.3)	125 (1.3)	123 (12.8)	
Satisfaction	Unsatisfied/indifferent	352 (36.4)	345 (35.9)	376 (39.2)	0.287
	Satisfied	614 (63.6)	617 (64.1)	585 (60.9)	
Diet, private and public health	Very weak	28 (2.9)	31 (3.2)	29 (3.0)	0.961
	Weak	120 (12.4)	122 (12.6)	131 (13.5)	
	Intermediate	363 (37.5)	363 (37.5)	352 (36.4)	
	Good	389 (40.2)	389 (40.2)	392 (40.5)	
	Very good	68 (7.0)	68 (7.0)	63 (6.5)	
Satisfaction	Unsatisfied/indifferent	511 (52.8)	511 (52.8)	512 (52.9)	0.563
	Satisfied	457 (47.2)	457 (47.2)	455 (47.1)	

\*Data was shown as frequency (%)

Chi-square test indicated that satisfaction rate in patients hospitalized in morning shifts was higher than that of in patients

hospitalized in evening shifts, and in evening shifts, it was higher than that of patients hospitalized in night shifts (P < 0.001).

## Discussion

In the present study, we assess satisfaction rate of patients with the provision of primary caregiving and therapeutic services at educational-medical hospitals (specialized centers in obstetrics and gynecology in Northwest). 998 patients completed the satisfaction questionnaire. According to the present survey, 61.2% of patients were satisfied with the time of hospitalization; 55.8% of patients were satisfied with quality of provision of primary caregiving services; 61.8% of patients were satisfied with quality of provision of therapeutic services. Altogether, 59.5% of patients hospitalized at Northwest hospitals were satisfied with the provision of services, that is, quality of primary caregiving and therapeutic services and overall. It is worth noting that contradictory results pertaining to this case exist in the literature. Hajian studied satisfaction rate of patients at educational hospitals in Babol, Iran.<sup>23</sup> 615 patients completed the satisfaction rate questionnaire at the time of discharging from hospitals; and consequently a satisfaction rate of 94.0% was reported.<sup>23</sup>

Yaghmaie et al. investigated the satisfaction rate of patients at hospitals belonging to Arak University of Medical Sciences, Iran, and demonstrated a satisfaction rate of approximately 63.2%.<sup>24</sup> In an investigation performed by Seif Rabie and Shahidzadeh, 400 patients visiting governmental hospitals in Hamedan, Iran, were studied and a satisfaction rate of roughly 72.0% was found among patients.<sup>25</sup> Omidvari et al. assessed satisfaction rate of patients at ERs of hospitals of Tehran University of Medical Sciences, Iran.<sup>26</sup> The authors studied 153 patients and demonstrated a satisfaction rate of about 44.0%.<sup>26</sup>

In an investigation carried out by Zafarghandi and Rezaei, patients' satisfaction was analyzed at the time of reception at Tehran hospital.<sup>27</sup> A total of 1378 patients were questioned in his study. 76.0% of patients were satisfied; nonetheless, 14.6 and 9.4% of patients were partially satisfied and

unsatisfied.<sup>27</sup> In a study by Jafari et al., the satisfaction rate of patients at health-care centers of Shahid Beheshti University of Medical Sciences, Tehran, was assessed. In this study, 280 patients completed the satisfaction rate questionnaire, and a satisfaction rate of 87.5% was reported.<sup>28</sup> Ansari et al. studied the satisfaction of patients visiting health-care centers of Iran University of Medical Sciences, Tehran. They assessed 1260 patients and demonstrated a satisfaction rate from 38.6-85.1% at different wards.<sup>29</sup>

Howbeit, in a similar study, Azami and Akbarzadeh reported a satisfaction rate of over 90.0% at hospitals of Iran University of Medical Sciences.<sup>30</sup> Sarchemi and Sheikhi studied 993 patients at ERs of Ghazvin hospitals, Iran, and reported a satisfaction rate of approximately 98.4%.<sup>31</sup> Moreover, Mosadeg Rad reported a satisfaction rate of over 90.0% in Ghazvin hospitals.<sup>2</sup> Golafrouz et al. studied 914 patients hospitalized at Sabzevar hospitals, Iran, and mentioned a satisfaction rate of 7.6%.<sup>32</sup> In an investigation by Javadi et al. at Isfahan hospitals, Iran, a satisfaction rate of nearly 82.8% was shown.<sup>33</sup>

In a study carried out by Masoud et al., patient's satisfaction at Kashan hospitals, Iran, was studied and a satisfaction rate of over 90.0% was reported.<sup>34</sup> Bahramoour and Zolala investigated satisfaction rate of patients at Hospitals of Kerman University of Medical Sciences, Iran, and pointed to a satisfaction rate of 50.0% among patients.<sup>35</sup>

As mentioned above, the satisfaction rates of patients with health-care services vary in Iranian studies. There may be some plausible explanations to justify these contradictory results, in addition to differences in the quality of provision of services in caregiving centers. One of the most important explanations can be a lack of a unified questionnaire for assessment of satisfaction rate. In spite of the fact that the contexts of most of questionnaire are similar, the outcomes vary, and thus, comparison under equal circumstances is not possible. Utilization of Likert questionnaire can be one of the best approaches for assessment of patients' satisfaction in this regard. In the present study,

we used a Likert questionnaire. The only difference in our questionnaire was the choice of intermediate satisfaction. Furthermore, validity and reliability of this questionnaire and coverage of various aspects of patients' satisfaction were remarkable. Another contributing factor is the satisfaction of patients with various wards, for instance, ER and internal medicine ward. In the current study, we assessed female visitors of therapeutic and educational hospitals.

A literature search revealed no similar study at obstetrics and gynecology hospitals in Iran. In addition, we showed that patients' satisfaction differs at surgery and obstetrics wards (with higher satisfaction at surgery ward); therefore, further investigation is required in this regard in order to provide a possibility for comparison. Satisfaction rate with health-care services was demonstrated to be different in females and males. In a preceding research, the satisfaction rate of females with health-care services was shown to be lower than that of males. A justification for this is that females feel free to talk about health-care systems more frequently than males.<sup>25</sup>

Another crucial cause in this regard is the patients' differences (excepting gender difference). In this regard, the role of age and education level (socio-cultural status) has been highly discussed. In the current study, there was a positive and significant correlation between satisfaction rate and age of patients (the older patients, the higher satisfaction). It was previously shown that there was a direct association between satisfaction rate with health-care services and age of patient.<sup>36-39</sup> In our study, there was a significant difference between satisfaction rate and educational level in that patients with an associate degree were the most satisfied. The results of Bahramoour and Zolala corroborated our results in this regard.<sup>35</sup>

It should be mentioned that the association of satisfaction rate with educational level was not similar in all studies. It was shown in some studies that an increase in educational level, and thereby, the

heightening the knowledge about patient's right and heightening expectation level, gives rise to lowered satisfaction rate.<sup>27,31</sup> Taking into account of the fact that there is not much difference in socio-cultural status among female patients visiting educational (governmental) obstetrics and gynecology hospitals in Iran, further investigations provide results that are more exact and thus lead to a clear insight in this regard. More to the point, it was demonstrated that the satisfaction rate of patients in big cities is lower than that of patients in small cities. This may be due to a difference in cultural, social and economic factors.<sup>23</sup> Similarly, the number of previous hospitalization and duration of hospitalization were associated with satisfaction rate of patients. Some studies demonstrated a direct association between these two variables; some, however, showed an indirect association in this regard.<sup>23,27,35</sup>

In the present study, the number of previous hospitalization and duration of hospitalization were not correlated with satisfaction rate of patients. One of the most important parameters affecting satisfaction rate of patients is working shift of personnel. In the present study, we assessed aforementioned parameter and found that the patients' satisfaction rates with access to doctors and personnel and behavior of doctors and personnel in evening or night shifts were significantly less than that of patients in morning shifts. Omidvari et al. carried out an investigation in Tehran and reported that satisfaction rate of patients decreases significantly from 23 pm to 7 am.<sup>26</sup> There is no doubt that long working hours of doctors and nurses affect the quality of caregiving services and behavior toward patients; nevertheless, appropriate programming in this regard may enhance the satisfaction rate.

### **Conclusion**

Considering the findings of the present study and in order to derive higher satisfaction rates at hospitals, attending to the following suggestions would be beneficial.

- 1- Decreasing weekly working hours of doctors and personnel at hospitals.
- 2- Avoiding continuous working shifts for doctors and personnel.
- 3- Increasing the number of doctors and personnel in order to heighten the satisfaction rate of patients.

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## Conflict of Interests

Authors have no conflict of interest.

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