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Original Article

Older Adults' Satisfaction with Hospital Medical Care as a Senior-Trusted Healthcare from Iran

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Abstract

Objectives: Assessing the satisfaction of older adults with hospital services is essential for improving healthcare facilities. In addition, the quality of healthcare services for older adults enhances their satisfaction and trust at medical centers. Therefore, this study aimed to investigate the satisfaction of older adults with hospital care at Tabriz university of medical sciences.
Design: A cross-sectional study.
Setting(s): Imam Reza, Sina, Shohada, and Nikookari hospitals.
Participants: Older adult patients.
Outcome Measures: Satisfaction of older adults with hospital services.
Results: The median age of the samples was 72 (67–81) years, and 211 (54.6%) out of 387 individuals were men. The overall satisfaction of older adults with the services in all hospitals was 91.4%. The highest patient satisfaction was the hospital staff's behavior (95.2%), particularly their respectful behavior (94.2%). The multivariable analysis demonstrated that referral type and potential caregiver among older people plays a significant role in their satisfaction.
Conclusions: Our findings confirmed the high satisfaction of older people with the services received in medical science hospitals in Tabriz. To further enhance their experience, it is recommended that patient waiting times, an essential factor affecting satisfaction, be reduced while improving comfort and communication facilities for older people. These changes could remarkably increase the overall satisfaction of this group with hospital services, guiding future improvements in healthcare.
Keywords: Patient satisfaction, Hospitals, Healthcare, Aged, Epidemiology

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Introduction

The trend of aging in populations across the globe and in Iran highlights the need for heightened strategic planning in order to elevate the quality of services available to older individuals.[1] Considering the projected doubling of the older adult population by 2030, policymakers and healthcare professionals must prioritize enhancing the efficiency and quality of healthcare services for older individuals to meet their increasing requirements.[2] It should be noted that the increasing elderly population will result in a higher prevalence of chronic non-communicable diseases,[2-6] a higher need for healthcare services, and more frequent hospital admissions among this age group.[7-9]

Several studies have investigated the satisfaction of older adults with hospital services and related issues in Iran.[5-7] Older adults are one of the largest groups of hospital care users and have more extended hospital stays than the other age groups.[5] The most frequently mentioned challenges by older people include expenses for certain uninsured medications, issues with booking medical appointments remotely, the high number of patients, and parking space.[6]

Measuring older people's satisfaction with hospital

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services can help identify weaknesses in service delivery to this age group.[8] The senior population faces challenges such as inequitable healthcare access and insufficient support. Moreover, older individuals are more inclined to follow through with their treatment when it aligns with their satisfaction, leading to superior health outcomes and continued adherence to treatment regimens.[2]

Demographic and socio-economic factors, particularly gender, income, marital status, and education, are significant drivers of dissatisfaction with formal healthcare utilization among older people with extremely low incomes [3]. Likewise, their satisfaction is influenced by various factors, including those related to the healthcare system, the patient, socio-economic conditions, and the specific nature of medical treatments.[9]

To the best of our knowledge, no study has so far measured older people's satisfaction with the services of major hospitals in East Azerbaijan Province, Iran. Therefore, this study aims to assess the level of satisfaction of this group of people with hospital care at Imam Reza, Sina, Shohada, and Nikookari hospitals affiliated with Tabriz University of Medical Sciences (TUOMS).

Methods

Design

This cross-sectional study randomly selected those in the 65 years and older admitted to the general wards of Imam Reza (general), Sina (general), Shohada (orthopedics), and Nikookari (ophthalmology) hospitals from the beginning of October 2023.

Inclusion Criteria

Eligible participants were adults aged ≥65 years who were admitted as inpatients to hospitals affiliated with TUOMS.

Exclusion Criteria

Unwillingness to participate, cognitive impairments, and hearing impairments that interfered with the interview were considered the exclusion criteria.

Sample Size

Considering a satisfaction rate of 64.4% among older people with hospital services based on the study by Arab et al[10] and a confidence level of 95% with a margin of error of 4.78%, the sample size was calculated to be 387 individuals using the following formula:

$$n = (z)^2\, p\, (1 - p) / d^2$$

Instruments

The validated and reliable questionnaire developed by Arab et al [11] was utilized to collect the necessary information. This questionnaire includes general patient characteristics, hospital performance indicators, personal respondent demographics, and a satisfaction survey for older patients regarding hospital services. In addition, the satisfaction questionnaire is a 5-point Likert-type scale, ranging from "completely dissatisfied, dissatisfied, neutral, satisfied, to completely satisfied" rated on a scale from 1 to 5. Therefore, the average response score ranges from 1 to 5, where a score of 1 indicates complete dissatisfaction, while a score of 5 represents complete satisfaction. Further, scores below 60% are considered dissatisfied or neutral, while those above 60% are classified as satisfied or completely satisfied. The questionnaires were distributed among older patients during their hospitalization. Literate patients completed the questionnaire themselves. However, if they were uneducated, trained interviewers provided understandable explanations and recorded their responses accordingly.

Statistical Analysis

This study reported quantitative and qualitative data as means (standard deviations) and numbers (percentages), respectively. The normality of variables in each group was assessed using the Kolmogorov-Smirnov test. To examine differences between groups, the student's t-test and the chi-square test were used for continuous and discrete variables, respectively. Additionally, logistic regression analysis was employed for older adults' satisfaction predictors with hospital services and socio-demographics. Finally, SPSS (version 22.0) was utilized for comprehensive statistical analysis, and graphs were plotted using Prism software (version 9.4.1). A two-tailed P value less than 0.05 was considered statistically significant.

Results

Basic Information

This study investigated 387 older participants with a median age of 72 and an age range of 67–81. Of these, 211 individuals (54.6%) were male, and 176 (45.4%) were female. Approximately 47.1% of the participants were reported as illiterate. Regarding the marital status, 62.2% of older people were married, while others were single, divorced, widowed, or in other statuses (Table 1). In addition, insurance coverage was noted in 342 (88%) of the participants, including social security, health services, rural insurance, or other forms. Concerning occupation, 32% were retired, 9% were employed, and the others were unemployed. Moreover, the median duration of hospitalization was two days, ranging from 1 day to 6 days. Eventually, the cost incurred by older people was between 1,708,795 and 2,200,000 Iranian rials.

Relationship Between Older Patients' Satisfaction With Provided Services and Sociodemographic Indicators

Significant relationships were observed between older patients' satisfaction with hospital services and their sociodemographic indicators. Older patients referred by physicians exhibited higher satisfaction than those referred by health centers ($P = 0.02$, Table 1). Further, a significant relationship was found between patients' lifestyles and satisfaction levels. Older patients living with their spouses and children or solely with their spouses reported higher satisfaction, whereas those living alone or in other arrangements expressed higher dissatisfaction

Table 1. Sociodemographic Characteristics of Older Patients Participating in the Study and Their Satisfaction With Sociodemographic-Related Hospital Services

Characteristics		N (%)	Dissatisfied or Indifferent	Satisfied	*P* Value
Age, median (IQR), year		72 (67–81)	73 (78–66.7)	72 (81–67)	0.706
Gender	Male	211 (54.5)	14 (6.6)	197 (93.4)	0.144
	Female	176 (45.5)	19 (10.8)	157 (89.2)	
Education	Illiterate	186 (47.1)	16 (8.6)	170 (91.4)	0.441
	Diploma	114 (30.9)	1 (9.0)	113 (99.1)	
	Associate degree	37 (9.4)	2 (5.4)	35 (94.6)	
	Bachelor's degree	40 (10.1)	5 (12.5)	35 (87.5)	
	Master's degree	10 (2.5)	2 (20)	8 (80)	
Marital status	Single	15 (3.8)	2 (13.3)	13 (86.7)	0.175
	Married	245 (62.2)	16 (6.5)	229 (93.5)	
	Divorced	7 (1.8)	1 (14.3)	6 (85.7)	
	Death of spouse	112 (30.2)	8 (7.2)	104 (92.8)	
	Others	8 (2)	0 (0)	8 (100)	
Employment status	Employed	37 (9.4)	2 (5.4)	35 (94.6)	0.524
	Retired	124 (31.6)	9 (7.3)	115 (92.7)	
	Unemployed	171 (43.6)	17 (9.9)	154 (90.1)	
	Housewife	15 (3.8)	0 (0)	15 (100)	
	Others	40 (11.5)	4 (10.0)	39 (60.0)	
Having insurance	Yes	342 (88.4)	29 (8.5)	313 (91.5)	0.130
	No	45 (11.6)	4 (8.9)	41 (91.1)	
Type of insurance	Health service	114 (30.4)	7 (6.1)	107 (93.9)	0.719
	Social security	138 (36.8)	14 (10.1)	124 (89.9)	
	Rural insurance	81 (21.6)	8 (9.9)	73 (90.1)	
	Aid committee	16 (4.3)	2 (12.5)	14 (87.5)	
	Armed forces	23 (2.9)	3 (9.1)	20 (90.9)	
	Accident insurance	8 (2.1)	0 (0)	8 (100)	
	Others	7 (1.9)	1 (14.3)	6 (85.7)	
Location	Urban	218 (56.3)	22 (7.7)	264 (92.3)	0.337
	Rural	169 (43.6)	17 (10.8)	152 (89.2)	
Referral	Yes	218 (26.2)	19 (7.8)	199 (91.3)	0.970
	No	169 (43.8)	14 (8.8)	155 (91.2)	
Type of referral	Doctor	199 (51)	8 (4)	191 (96)	0.023
	Health center	100 (25)	18 (18.0)	82 (82.0)	
	Other hospitals	37 (9)	2 (5.4)	35 (94.6)	
	Other cases	51 (13)	4 (7.8)	47 (92.2)	
Available bed	Yes	84 (18.3)	4 (5.9)	64 (94.1)	0.299
	No	303 (81.7)	30 (9.9)	273 (90.1)	
Hospitalization history	Yes	156 (40)	12 (7.7)	144 (92.3)	0.558
	No	231 (60)	19 (8.2)	212 (92.8)	
Potential caregiver	Alone	88 (22.3)	13 (14.8)	75 (85.2)	0.024
	Wife	129 (32.7)	8 (6.2)	121 (93.8)	
	Wife and children	120 (30.5)	5 (4.2)	115 (95.8)	
	Children	10 (2.5)	1 (10)	9 (90)	
	Others	40 (11.9)	6(14.9)	34 (85.1)	
Length of hospital stay		2 (6–1)	1 (2–1)	2 (6–1)	0.013
Amount of cost (thousand Iranian tomans)		570000 (1708795–220000)	600 (236.7-1800)	270 (150-757.7)	0.046

Note. IQR: Interquartile range. Continuous and qualitative variables are presented as medians (ranges) and frequencies (percentages), respectively.

($P=0.02$, Table 1). Furthermore, a meaningful association was identified between the length of hospital stay and older patients' satisfaction; those dissatisfied with the services experienced shorter hospital stays ($P=0.01$). Additionally, there was a significant correlation between hospital stay costs and older patients' satisfaction; more precisely, those dissatisfied with the services had incurred higher costs than others ($P=0.04$). Despite higher dissatisfaction among older female patients compared to males, no significant association was found between gender and satisfaction levels ($P=0.14$). Although satisfaction levels tended to decrease with the higher levels of education among patients, no statistically significant relationship was observed between education level and satisfaction ($P>0.05$, Table 1). Likewise, there were no significant associations between age, marital status, employment status, insurance status, type of insurance, place of residence, referral status, bed availability, or hospitalization history ($P>0.05$ for all).

Predictive Role of Sociodemographic Variables in Older Patients' Satisfaction With Hospital Services

Variables with $P<0.03$ in the regression model were included after conducting the two-variable analysis. Based on the results of the two-variable analysis, gender, referral type, bed availability, potential caregiver, and length of hospital stay were included in the multivariable regression model. The multivariable analysis revealed that referral through healthcare centers significantly reduces older patients' satisfaction with hospital services compared to physician referrals ($P=0.03$). It was further found that having potential caregiver among older people plays a significant role in their satisfaction, whereby living with spouses and children increases their satisfaction with hospital services by approximately tenfold compared to living alone ($P=0.03$, Table 2).

Comparison of Satisfaction Among the Studied Hospitals

Statistically significant differences were observed in the satisfaction levels of older patients across the hospitals under investigation ($P=0.01$). Post hoc analysis (Figure 1 and Table 3) further revealed that this difference stemmed from variations between Sina and Shohada hospitals ($P=0.005$), as well as between Nikookari and Shohada Hospitals ($P=0.009$).

A satisfaction rate of 91.4% was reported after evaluating older patients' overall satisfaction with the services provided across all studied hospitals. The highest overall satisfaction was observed among patients at Imam Reza and Shohada Hospitals (97% and 96.9%, respectively), followed by Nikookari and Sina hospitals (86% and 84%, respectively).

According to the obtained data (Table 4) and the overall satisfaction of the studied older patients, the highest satisfaction was reported regarding the behavior and manner of hospital staff (95.2%) and their respectful behavior (94.2%). Additionally, the highest dissatisfaction among older patients was related to waiting times (26.1%), followed by amenities and communication facilities (23.5%). Across all four hospitals examined in this study, the highest satisfaction among older patients was consistent with the behavior and manner of hospital staff (Table 4).

Discussion

In general, statistically significant differences were observed in the satisfaction levels of older patients among the studied hospitals. The overall satisfaction of older patients with the services provided in the studied hospitals was reported as 91.4%. In addition, the highest satisfaction among older patients was with the behavior

Table 2. Regression Coefficients and Adjusted Odds Ratios for Older Adults' Satisfaction With Hospital Services With Sociodemographic Indicators Derived From Logistic Regression Analysis

Characteristics		β Coefficient	*P* Value	Adjusted OR	95% CI	
					Lower	Upper
Gender	Male			Ref.		
	Female	-0.475	.358	.622	.226	1.714
Type of referral	Doctor			Ref		
	Health center	-1.424	.036	.241	.064	.911
	Other hospitals	-.311	.741	.733	.116	4.630
	Other cases	-.874	.258	.417	.092	1.897
Available bed	Yes			Ref		
	No	-.065	.928	.937	.228	3.855
Potential caregiver	Alone			Ref		
	Wife	.436	.471	1.546	.473	5.051
	Wife and children	2.326	.035	10.240	1.183	88.612
	Children	.635	.369	1.887	.473	7.538
	Others	19.007	.999	179657760.7	.000	----
Length of hospital stay		.040	.428	1.041	.942	1.150

Note. OR: Odds ratio; CI: Confidence interval.

and manner of hospital staffs and their respectful behavior. However, the highest dissatisfaction among older patients was related to waiting times, followed by amenities and communication facilities. Based on the results, significant correlations were found between the type of referral of older patients, having potential caregiver, length of stay in the hospital, expenses incurred, and their satisfaction.

Older patient satisfaction with services provided in the public hospitals affiliated with Isfahan University of Medical Sciences was estimated at 56.4%.[12] In a systematic review by Esfahani and Nezamdust, the highest satisfaction rates among teaching hospital patients in Tehran were observed in 2009 (65.1%), while the lowest rate was detected in Ahvaz in 2015.[13] The satisfaction observed in the current study may be due to differences in data collection times and hospital type (academic vs. non-academic).

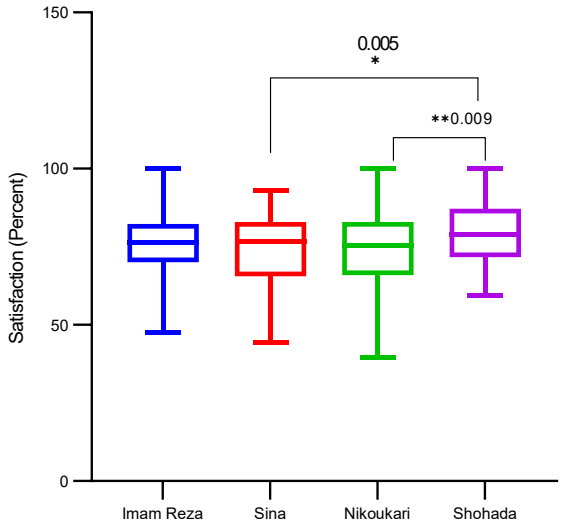

Figure 1. Comparison of Overall Satisfaction Levels Among Older Patients at Imam Reza, Sina, Nikookari, and Shohada Hospitals

Older patients' satisfaction levels demonstrated a strong correlation with their having potential caregiver. More precisely, those living with their spouses and children or with their spouses reported higher satisfaction, whereas those living alone or in other circumstances expressed higher dissatisfaction. This could be attributed to family members' supportive role and involvement in caring for older people in hospital environments. Accordingly,

Table 3. Comparison of Overall Satisfaction Levels Among Older Patients Across the Studied Hospitals

		Satisfaction (%)	*P* Value
Hospital	Imam Reza	75.53 (69.64-82.25)	0.019*
	Sina	76.75 (65.07-82.92)	
	Nikoukari	75.12 (65.15-82.84)	
	Shohada	78.49 (71.45-86.66)	

Note. *Independent-samples Kruskal-Wallis test.

Table 4. Absolute and Relative Frequency Distribution of Older Patients Based on Satisfaction Levels With Eleven Satisfaction Factors in the Studied Hospitals

Items	Category	Total Frequency (%)	Imam Reza Hospital	Sina Hospital	Nikoukari Hospital	Shohada Hospital
The behavior of the medical staff	Dissatisfied/indifferent	19 (4.8)	8 (8.1)	4 (4.0)	7 (7.1)	0 (0.0)
	Satisfied	368 (95.2)	91 (91.9)	95 (96.0)	92 (92.9)	90 (100.0)
Comfort and communication facilities	Dissatisfied/indifferent	91 (23.5)	23 (23.2)	16 (17.5)	24 (24.2)	28 (28.6)
	Satisfied	296 (76.5)	76 (76.8)	75 (82.5)	75 (75.8)	70 (71.4)
Respectful behavior	Dissatisfied/indifferent	23 (5.8)	6 (6.1)	5 (5.6)	11 (11.1)	1 (1.0)
	Satisfied	364 (94.2)	93 (93.9)	86 (94.5)	88 (88.9)	97 (99.0)
Provision of understandable information	Dissatisfied/indifferent	58 (14.9)	11 (11.1)	21 (23.1)	20 (20.2)	6 (6.1)
	Satisfied	329 (85.1)	88 (88.9)	70 (76.9)	79 (79.8)	92 (93.9)
Respect	Dissatisfied/indifferent	64 (16.5)	16 (16.2)	11 (12.1)	14 (14.1)	23 (23.5)
	Satisfied	323 (83.5)	83 (83.8)	80 (87.9)	85 (85.9)	75 (76.5)
Waiting period	Dissatisfied/indifferent	101 (26.1)	17 (17.2)	18 (19.8)	38 (38.4)	28 (28.6)
	Satisfied	286 (73.9)	82 (82.8)	73 (80.2)	61 (61.6)	70 (71.4)
Cleanliness and discretion	Dissatisfied/indifferent	88 (22.8)	21 (21.2)	38 (41.8)	27 (27.3)	2 (2.0)
	Satisfied	299 (77.2)	78 (78.8)	53 (58.2)	72 (72.7)	96 (98.0)
Implementation of on-time services	Dissatisfied/indifferent	61 (15.7)	11 (11.1)	31 (34.1)	17 (17.2)	2 (2.0)
	Satisfied	326 (84.3)	88 (88.9)	60 (65.9)	82 (82.8)	96 (98.0)
Assistance and problem solving	Dissatisfied/indifferent	63 (16.2)	10 (10.1)	20 (21.9)	24 (24.2)	9 (9.2)
	Satisfied	324 (83.8)	89 (89.9)	71 (78.1)	75 (75.8)	89 (90.8)
Medical access and facilities	Dissatisfied/indifferent	68 (17.5)	21 (21.2)	25 (27.5)	17 (17.2)	5 (5.1)
	Satisfied	319 (82.5)	78 (78.8)	66 (72.5)	82 (82.8)	93 (94.9)
Safety	Dissatisfied/indifferent	53 (13.7)	8 (8.1)	24 (26.4)	20 (20.2)	1 (1.0)
	Satisfied	334 (86.3)	91 (91.9)	67 (73.6)	79 (79.8)	97 (99.0)
General satisfaction	Dissatisfied/indifferent	33 (8.6)	3 (3.0)	14(15.4)	13 (13.1)	3 (3.1)
	Satisfied	354 (91.4)	96 (97.0)	77 (84.6)	86 (86.9)	95 (96.9)

living alone may negatively impact both physical and psychological health, potentially disrupting individuals' perception of their environment.[14]

A significant correlation was observed between the expenses incurred by older patients at hospitals and their satisfaction levels, indicating that patients dissatisfied with the services provided had higher financial burdens than others. Eshraghi's findings emphasized the major concerns of older patients regarding hospital expenses and the costs of medications not covered by insurance.[6] Similarly, in the study by Tajvar et al, high service costs, self-medication, and lack of insurance were among significant reasons for older individuals' lack of seeking healthcare.[15] Based on their report, the highest satisfaction among older patients was related to the behavior of doctors and healthcare providers, while the lowest satisfaction was associated with the cost of outpatient services.

However, in the study on older patient satisfaction with services provided in the affiliated public hospitals of Isfahan University of Medical Sciences, no significant association was found between financial issues and patient satisfaction.[12]

Patient satisfaction results from desirable performance by healthcare providers and reflects positive patient experiences. Improving patient trust through enhancing satisfaction levels is one of the primary goals in healthcare systems.[16-18] Furthermore, healthcare providers and policymakers use patient satisfaction rating to measure and report the quality of care.[11,19] It is noteworthy that patient satisfaction is a significant correlate of trust in medicine.[12,13]

The strengths of this study were its multicenter nature and relatively adequate sample size, which provided a clear picture of older patient satisfaction with TUOMS-affiliated hospital services and its various dimensions. However, its limitation included its reliance on only four hospitals affiliated with TUOMS. Another limitation of our study relates to the issue of sparse data problem across some stratas. Therefore, future researchers can expand their study to include more hospitals for a broader perspective.

Conclusions

The results of this study indicated high satisfaction among older patients with the services received at hospitals affiliated with TUOMS. Addressing issues such as reducing patient waiting times and improving amenities and communication facilities for older patients could significantly enhance overall satisfaction. Nonetheless, future research can focus on regularly monitoring older patient satisfaction at intervals and designing appropriate interventions based on previous findings in order to improve identified weaknesses and assess their effectiveness.

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Author contributions

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Data Availability Statement

The datasets used and/or analyzed during the current study are available upon a reasonable request from the corresponding author.

Ethical approval

This research was approved by the Research Ethics Committee of Tabriz University of Medical Sciences, Iran (IR.TBZMED.REC.1399.1032). All methods were performed in accordance with the relevant guidelines and regulations of the Declaration of Helsinki. In addition, informed consent was obtained from all participants before taking part in the study.

Conflict of interests

The researchers have no conflict of interests.

Consent for Publication

Not applicable.

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