

## Factors Associated with Level of Satisfaction in Nursing Care Among Cancer Patients at Teaching Hospitals of Tehran City, Islamic Republic of Iran

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### ABSTRACT

**Background:** Patients' satisfaction with their nursing care is an important issue in assessing the quality of nursing care. In Iran, cancer patients' satisfaction at teaching hospitals of Tehran City has not been investigated. **Aim:** A cross sectional study was conducted to determine the level and identify factors that contributed to patients' satisfaction in nursing care provided at selected teaching hospitals in Tehran City, Islamic Republic of Iran. **Method:** A proportional stratified sampling method was used and data were collected via face-to-face interview based on a validated Patient Satisfaction Questionnaire (PSQ). A total of 384 cancer patients aged 14 years and above were selected. **Result:** The majority of respondents were males (201, 52.4%), age group 45-54 years (102, 26.4%); employed (202, 52.6%) and with a family monthly income of US\$200-500 (234, 60.9%). The majority (314, 81.8%) of respondents were hospitalized between 2 to 5 days, and most (204, 54.0%) of them were admitted to teaching hospital B of The University of Medical Science.<sup>1</sup> A majority of the respondents (318, 82.8%) was satisfied with the nursing care provided, while the others (66, 17.2%) were not. Generally, most of the respondents were satisfied with the amount of information given by the nurses (294, 76.6%), technical quality (295, 76.8%), interpersonal relationship (371, 96.6%), and physical environment (267, 69.5%). There was a positive significant relationship between patients' satisfaction and type of hospital ( $\chi^2=4.985$ ;  $df=1$ ;  $p=0.026$ ,  $n=384$ ). Using the University's hospital type was found to be the best predictor for level of satisfaction. **Conclusion:** Most of the respondents were satisfied with the nursing care. However, the respondents suggested several improvements such as increasing the number of doctors, improving socio-environment factors in terms of privacy and interpersonal relationship, and improving on the existing facilities. Further research is needed to study in depth the socio-cultural and environment parameters which are relevant to patients' satisfaction with nursing care.

**Keywords:** Patients' satisfaction, Cancer patients, Nursing care, Islamic Republic of Iran.

### INTRODUCTION

The first attempt to evaluate patients' satisfaction with nursing care began in 1956 in the United States of America (USA).<sup>[1]</sup> Today, in developed countries such as the USA and United Kingdom, the measurement is a legal provision, and in many cases have become a mandatory requisite for renewing the hospital licence.<sup>[2,3]</sup>

Patients' satisfaction is a valid indicator of effectiveness and quality of care worldwide.<sup>[2,3]</sup> Experts in standard-setting organizations and consumer groups have begun to use patients' satisfaction for improving health care quality.<sup>[2]</sup> A quality assurance programme is considered inadequate if it does not include patients' satisfaction documentation and protocol.<sup>[2]</sup>

Patients' dissatisfaction with nursing care may impact negatively on health and illness behaviour. Patients who are dissatisfied with the nursing care they received are less likely to adhere to the recommended course of treatment or return for the needed follow-up visits.<sup>[4]</sup> Furthermore, dissatisfaction with nursing care may further lead to a lower demand of nursing care<sup>[5]</sup>, thus, overriding the importance of nursing care for hospitalized patients.

The Islamic Republic of Iran (Iran) has 28 provinces and a total population of 70,472,846 with 68 percent living in the city. The capital city, Tehran, has nearly 16 million residents.<sup>[6]</sup> Iran has a national health service, which employs over 70,000 nursing personnel who provide nursing care at general and specialist hospitals. In most health-care organizations in Iran, nurses are often the largest human resource and they play a major role.<sup>[7]</sup>

<sup>1,2</sup> For ethical purpose, this article will not specify which Iranian University of Medical Science

This study was conducted in Tehran city. There are 35 government general hospitals and 3 government specialist teaching hospitals in Tehran, these hospitals are related to the three main universities in the city: A Iranian University of Medical Science, B Iranian University of Medical Science, and C Iranian University of Medical Science<sup>[2]</sup>. The A Iranian University of Medical Science has 13 teaching hospitals and 15 non-teaching hospitals; while the B Iranian University of Medical Science has 12 teaching hospitals and 13 non-teaching hospitals.

Patients' satisfaction with health care providers is an important issue in Iran. Despite high expenditure incurred and adequate facilities, it has been observed that patients are often not satisfied with health care providers.<sup>[8]</sup> It is crucial to ensure patient satisfaction because they are the main clients.<sup>[8]</sup> The study conducted by Rafii *et al*<sup>[7]</sup> on 250 patients who were hospitalized for medical conditions or surgical procedures in the teaching hospitals of A University of Medical Science highlighted the relationship between the caring behaviour of nurses and patient satisfaction with nursing care. The investigators reported, based on behaviour and attitude of nurses, the patients will judge whether nurses are caring or not. In their opinion, basic caring behaviour such as friendly personality, kindness, fast response to patients' needs and adequate time to provide care can increase patients' satisfaction. Heavy workload and severe staff shortage are common problems in Tehran educational hospitals. To make matters worst, fewer nurses were assigned to direct care. This contributed to changes in patients' perceptions of nursing care, hence leading to reduced patients' satisfaction.<sup>[7]</sup>

A cross-sectional study by Hajifathali<sup>[9]</sup> in 2006 on 476 inpatients at the teaching hospital of Taleghani, Tehran city, showed that 83.3% of patients were quite satisfied with their hospital care and 91% of patients were satisfied with the physicians' and nurses' communication manner and treatment. However, only 27% of patients were satisfied with the nutritional status, and the percentage of patients recommending the hospital to their friends was 65%.<sup>[9]</sup>

To date, cancer patients' satisfaction with nursing care in Iran has not been studied.<sup>[10]</sup> A cross-sectional study conducted by Sadjadian *et al*<sup>[10]</sup> in 2001 on 425 women attending the Iranian Centre for Breast Cancer (ICBC) in Tehran showed that 82% of the women were satisfied with almost every aspects of care they received. They were satisfied with the personnel (nurses and staff) and stated that they were helpful, kind and polite. The findings also showed that physical environment and nursing care are important components of patient satisfaction and these should be included as instruments to measure patient satisfaction.<sup>[10]</sup>

### Aim

The aim of this study was to determine cancer patients' satisfaction with the nursing care; in terms of the information given by the nurses, the interpersonal relationship between the nurses and patients, the technical quality of the nurses, and the physical environment. The findings could be used for programme planning as well as for monitoring and improving the nursing care services at the teaching-hospitals of Tehran City, Iran.

## METHODOLOGY

A cross-sectional study was conducted in the oncology wards of 10 teaching-hospitals of two main universities (A University of Medical Science, B University of Medical Science) Tehran city, from November 2007 through January 2008.

All cancer patients aged 14 years and above, with at least 2 days experience of hospitalization for the treatment of cancer, were included in the study. Based on Sadjadian *et al*<sup>[11]</sup> study in 2002, patients' ages were grouped into five categories. Each patient was allowed to answer the questionnaire only once, irrespective of the frequency of hospitalization.

Respondents were identified and selected using proportional stratified random sampling. The sample size in each teaching-hospital was subsequently determined according to the proportion of beds in the oncology wards of each hospital. We then used the table of random numbers for selecting samples from each hospital.

Data was collected by interviewing patients (face-to-face), using validated Patient Satisfaction Questionnaire (PSQ) adopted and modified from Yunus *et al*<sup>[5]</sup>. The questionnaire contained 39 items which were related to socio-demographic characteristics of patients and four dimensions of nursing care such as information given by nurse, interpersonal relationship, technical quality of nurse, and physical environment. Standardized 5-point Likert scales ranging from strongly disagree to strongly agree (1 to 5 points) were used for each of the 39 items. Patients' satisfaction were classified into two categories, satisfied and dissatisfied, using the demarcation threshold from the formula:

$$\{(\text{total highest score}-\text{total lowest score})/2\} + \text{Total lowest score}^{12}$$

Data was analyzed using Statistical Package for Social Science (SPSS) program version 16. Data normality was tested using the Kolmogorov-Smirnov procedure. All the quantitative data were found to be not normally distributed (P value<0.05). Descriptive statistical analysis, which included frequency, median, inter quartile range (IQR) and

percentages was used to characterize the data. The chi-square test was conducted to determine association between the categorical independent variables (gender, age group, occupation, family income, hospital group, length of hospital stay) and categorical dependent variables. Validity of the Pearson's Chi-Square test was ensured when 0 cells (.0%) have expected count less than five; otherwise we used the Fisher's Exact test<sup>[13]</sup>. Mann-Whitney U (MWU) procedure was employed to compare the differences with respect to age, family income, and length of hospital stay, between two groups of level of satisfaction (satisfied and dissatisfied). Multiple logistic regression was subsequently conducted to identify factors which predict the level of satisfaction.

## RESULTS

A total of 400 respondents were selected for the study. However, 16 respondents (4.20%) refused to participate, and hence, 384 cancer patients were interviewed in this study. The response rate derived in this study was 95.5%.

### *Socio-demographic characteristics*

Table 1 shows the distribution of respondents according to their gender and age. Overall, the majority were males (201, 52.3%), aged between 45 – 54 years old, (102, 26.6%), were working, (202, 52.6%), and with family monthly income of US\$ 200-500(234, 60.9%).

Table 1 also shows that more (204, 53.1%) respondents were admitted to the teaching hospitals of B University of Medical Science, and 314 (81.8%) of the respondents were hospitalized between 2 to 5 days.

**Table 1.** Socio-demographic data of patients

Characteristics	Frequency (n=384)	Percentage (%)
Gender		
Male	201	52.3
Female	183	47.7
Age group(years)		
14-15	30	7.8
15 – 44	87	22.7
45 – 54	102	26.6
55 – 64	89	23.2
> 65	76	19.8
Occupation		
Working	202	52.6
Not working	182	47.4
Family income (US\$)		
< 200	83	21.6
200-500	234	60.9
>500	67	17.5
Hospital group		
B University of Medical Science	204	53.1
A University of Medical Science	180	46.9
Length of hospital stay(days)		
2 - 5	314	81.8
>5	70	18.2

**Table 2.** Characteristics of Patients

Patient Characteristics	Median	IQR
Age	50	26
Family Income (US \$)	350	220
Length of hospital stay	3	2

Table 2 shows that the median age was 50 years (Inter-quarter range, IQR 26). The minimum age was 14 years and the maximum age was 85 years. The median income was US \$350 (IQR US \$220), with a minimum of US \$100 and a maximum of US \$1200. The median length of hospital stay was 3 (IQR 2) with a minimum of 2 days and a maximum of 26 days.

#### *Respondents' Satisfaction with the Four Dimensions of Nursing Care*

Table 3 shows that majority of these respondents (318, 82.8%) were satisfied with the nursing care provided to them, while the others (66, 17.2%) were not. Generally, most of the respondents were satisfied with the amount of information given by the nurses (294, 76.6%), technical quality (295, 76.8%), interpersonal relationship (371, 96.6%) and physical environment (267, 69.5%).

**Table 3.** Frequency distribution of level of satisfaction within four dimensions of assessment of Nursing Care

Level of satisfaction	Satisfied		Not satisfied	
	Freq.	%	Freq.	%
Information given by nurse	294	76.6	90	23.4
Interpersonal relationship	371	96.6	13	3.4
Technical quality	295	76.8	89	23.2
Physical environment	267	69.5	117	30.5
*Overall	318	82.8	66	17.2

\*Based on this formula  $(\text{Total highest score} - \text{total lowest score})/2 + \text{Total lowest score}$ ,<sup>12</sup> satisfaction level threshold was set at the score >117.

#### *Patients' Suggestions on How to Improve the Nursing Care*

In this study, the participating patients were requested to offer suggestions to improve nursing care at the hospitals. Suggestions received included that nurses should smile more often (100, 26.0%), be more patient when giving the service (95, 24.7%), give patients information related to their diseases during hospitalization (104, 27.1%), and give more attention to their patients (85, 22.1%).

#### *Relationship between Patients' Satisfaction and Socio-demographic characteristics of the respondents*

Table 4 indicates no significant relationship between gender, age group, occupation, family monthly income, and length of hospital stay, with level of satisfaction ( $P > 0.05$ ). However, there was a significant relationship between the hospital group and level of satisfaction ( $\chi^2 = 4.985$ ,  $df = 1$ ,  $p = 0.026$ ,  $n = 384$ ).

Table 5 indicates the results of the Mann-Whitney U (MWU) test for selected patient characteristics and level of satisfaction with nursing care. There was no significant difference in level of satisfaction ( $P$  value > 0.05) at each the following variable; age, family monthly income, and length of hospital stay.

**Table 4.** Relationship between level of patients' satisfaction with independent variables (n=384)

Variables	Level of satisfaction				total Freq.	$\chi^2$	df	P-value
	satisfied		not satisfied					
	Freq.	%	Freq.	%				
<b>Gender</b>								
Male	165	82.1	36	17.9	201	0.155	1	0.694
Female	153	83.6	30	16.4	183			
Total	318	82.8	66	17.2	384			
<b>Age group</b>								
< 15	22	73.3	8	26.7	30	3.597	4	0.463
15-44	72	82.8	15	17.2	87			
45-54	82	80.4	20	19.6	102			
55-64	76	85.4	13	14.6	89			
> 65	66	86.8	10	13.2	76			
Total	318	82.8	66	17.2	384			
<b>Occupation</b>								
Working	166	82.2	36	17.8	202	0.12	1	0.729
Not working	152	83.5	30	16.5	182			
Total	318	82.8	66	17.2	384			
<b>Family income (US\$)</b>								
< 200	73	88	10	12	83	2.004	2	0.367
200-500	191	81.6	43	18.4	234			
> 500	54	80.6	13	19.4	67			
Total	318	82.8	66	17.2	384			
<b>Length of hospital stay</b>								
2-5days	264	84.1	50	15.9	314	1.933	1	0.164
> 5days	54	77.1	16	22.9	70			
Total	318	82.8	66	17.2	384			
<b>Hospital group</b>								
B University of Medical Science	178	86.8	27	13.2	205	4.985	1	0.026
A University of Medical Science	140	78.2	39	21.8	179			
Total	318	82.8	66	17.2	384			

\* p&lt;0.05

**Table 5.** Level of satisfaction at each of three independent variables

Variables	Level of satisfaction		Z	P-value
	Satisfied Median (IQR)	Not satisfied Median (IQR)		
Age	50(24)	48(34)	-1.53	0.126
Family Income (US \$)	350(228)	389(150)	-0.304	0.761
Length of hospital stay	3(2)	4(2)	-1.801	0.072

### Predictor Variables of the Patients' Satisfaction

Logistic regression was done to determine predictors for the cancer patients' satisfaction with the nursing care they received. In the logistic regression analysis, categorical variables entered were gender, hospital group, occupation, age, family income, and length of hospital stay. Results obtained showed that only hospital group was associated significantly with level of patients' satisfaction.

Table 6 shows that patients hospitalized at the teaching hospitals of the B University of Medical Science were 2.109 (1/0.474) times more likely to be satisfied with nursing care [OR=0.474, 95% CI= 0.299-0.928] as compared to those who were hospitalized at teaching-hospitals A University of Medical Science.

The amount of variance in the level of the patients' satisfaction predicted by variables was small (maximum of 6%) in the binary logistic regression, because of other confounding factors affecting the result. Also, this result indicates that this significant characteristic could be relatively trivial for the study findings, despite being statistically significant. The study reported here confirms the conclusion of Hall and Dornan<sup>[14]</sup> in that the relationship between overall satisfaction and patients' demographic variables is extremely small, even when statistically significant.

**Table 6.** Factors which predict the Level of Patient Satisfaction

Factors associated with patients' satisfaction	B	S.E	Sig.	Exp(B)	95.0% C.I. for Exp(B)	
					Lower	Upper
Hospital group						
A University of Medical Science					*(1)	
B University of Medical Science	-0.642	0.289	0.027	0.474	0.299	0.928
Constant	-0.436	0.587	0.457	0.353		

\*Note: Number 1 refer to reference group

Nagelkerke R<sup>2</sup> = 0.053

## DISCUSSION

The findings from this study indicated that a vast majority (318, 82.8%) of the respondents were satisfied with the nursing care provided at the selected hospitals. A similar study by Akhbari *et al*<sup>[15]</sup> indicated that level of patients' satisfaction in their study was higher. Their study on 400 patients who received nursing care at the surgical wards in the teaching-hospitals of Tehran University of Medical Science reported 79.5% of respondents were satisfied with the overall services. The finding reported in this paper is similar to that of Davidson *et al*<sup>[16]</sup> in which 70% of cancer patients in Northern Ireland reported satisfaction with nursing care during hospitalization.

In Iran, patients were satisfied with the nursing care perhaps due to their poor social, cultural and educational background, and not knowing their rights as patients. Hence, they placed minimum expectations on the nursing care. Culturally, a high satisfaction rate is not surprising because Iranian people are usually not critical when evaluating a service which they received. Pleasing etiquette in communication and politeness are the two characteristics of Iranians.<sup>[10]</sup> Another possibility is that the non-satisfied patients did not respond.<sup>[17]</sup>

### Level of Patients' Satisfaction According to Socio-demographic characteristics

A previous study by Margolis *et al*<sup>[18]</sup> on 281 general patients who received primary care in 2001 at Al-Ain, reported no significant relationship between gender and patients' satisfaction. Their findings were similar to the result of this study. In contrast, in the study conducted by Brian *et al*<sup>[19]</sup>, men tended to be more satisfied than women when assessing nursing and daily care, medical care, information and hospital environment. On the other hand, the study conducted by Foss<sup>[20]</sup> in 2002 showed that female patients were less content with all aspects of nursing care when compared with male patients.

The findings of this study showed that there was no relationship between age and patients' satisfaction. This is similar to the findings of Pitaloka *et al*<sup>[12]</sup> which involved 150 women receiving antenatal care in HUKM, Kuala Lumpur. In contrast, in the study conducted by Hajifathali *et al*<sup>[13]</sup> on inpatients who received hospital care at the teaching hospital of Taleghani, in Tehran city, age was associated with patients' satisfaction. Older patients reported a slightly higher satisfaction than younger patients. A likely explanation of their finding is that older people could be placing greater value on the nursing care they received when their own need for care is at its greatest.

In terms of occupation, the results of this study demonstrated no relationship between occupation and patients' satisfaction. This finding is similar to that of the study conducted by Sadjadian *et al*<sup>[10]</sup> on 425 cancer patients in Iranian



Center for Breast Cancer in Tehran City. The non-significant association was probably because of the similarity in the expectations of the groups (i.e. lower expectation).

Pascoe<sup>[21]</sup> in 1983 reported that patients with higher income tended to be less satisfied with nursing care. On the contrary, results of this study showed that there was no relationship between the family monthly income of the patients and their overall satisfaction with nursing care. Perhaps most patients were living in the urban area; hence there was no difference in their expectations.<sup>[21]</sup> This result is similar with the previous study by Sadjadian *et al*<sup>[10]</sup> However, Patrick *et al*<sup>[22]</sup> studied 1245 respondents in London and reported that patients with lower income were less satisfied with the nursing care they received.

#### *Level of Patients' Satisfaction According to Hospital Groups*

In terms of the patients' preference of hospital, this study showed that there was a relationship between patients' preference and patients' level of satisfaction. This could be due to the number of beds especially for cancer patients at the B University of Medical Science (130 beds), compared with the A University of Medical Science (85 beds).<sup>[23]</sup> Consequently, the provision of specialist nursing care, for the patients with cancer and their families, provided at A University of Medical Science was lesser than that of the B University of Medical Science. Also, at B University of Medical Science, there are two charity wards (35 beds) for cancer patients, which provided extra support (financial, nutrition, education etc.) for patients and their family. Moreover, a cross sectional study by Mohan *et al*<sup>[24]</sup> emphasized the nurses' need for ongoing education on cancer care, pain management, counseling, and family-centered caring.

#### *Level of Patients' Satisfaction According to Length of Hospital Stay*

The majority (314, 81.8%) of respondents were admitted for 2-5 days, and there was no relationship between length of hospital stay and the patients' level of satisfaction. All the respondents could have realized that they were admitted into the government teaching hospitals. At the same time, they might feel that they would receive a much better quality of treatment for cancer, at low price, at these selected hospitals. Similarly, they were also not given any chance to transfer to other hospitals because of their economic status. Consequently, they did not change their expectations of the nurses and other facilities during their hospitalization. The result of this study contradicts those of Bahrapour *et al*<sup>[8]</sup> on 3017 general patients at hospitals in Kerman, Iran. The latter study showed that the level of satisfaction was significantly related to the duration of hospitalization, and the level of satisfaction increased with longer hospitalization. The reason given was that patients might have become familiarized with the services, the environment, and medical staff.

### **CONCLUSION**

This study found that most of the respondents were satisfied with the nursing care, though they suggested some improvements especially with respect to interpersonal relationship. Higher level of patience and use of appropriate communication skills may increase patients' level of satisfaction towards nursing care. This also helps the nurses to be more satisfied with their work. Consequently, there is a need to improve the education program for the nurses.

The study also showed that patients of B University Medical Science were more satisfied compared to those of A University Medical Science. Further research is still needed to answer the question, why patients admitted to B University of Medical Science were more satisfied as compared to those admitted to A University Medical Science. This also indicated the need to improve interpersonal relationship and socio-cultural aspects of the patients' care.

### **LIMITATIONS**

There are several limitations; one is selection bias due to voluntary participation. Usually those who volunteer are satisfied with nursing care. Moreover, a sample of 384 cancer patients may not be adequate to detect significant association between socio-demographic characteristics and patients' satisfaction. Admittedly, the researcher did not measure mental and behavioural status of the nurses. During data collection, nurses could be in an agitated state due to job stresses such as workload and time constraints. Naturally, nursing care would have been affected.

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