

Patient Satisfaction: Evaluating Nursing Care for Patients Hospitalized with Cancer in Tehran Teaching Hospitals, Iran

Mehrnoosh Akhtari-Zavare (Corresponding author)

Department of Community Health, Universiti Putra Malaysia

Po box 43300, Serdang, Selongor, Malaysia

Tel: 60-1-7355-6753; 60-3-4252-5941 E-mail: akhtari_mehrnoosh@yahoo.com

Mohd Yunus Abdullah

Department of Community Health, Universiti Putra Malaysia

Po box 43300, Serdang, Selongor, Malaysia

E-mail: myunus@medic.upm.edu.my

Syed Tajuddin Syed Hassan

Department of Medicine, nursing unit, Universiti Putra Malaysia

Po box 43300, Serdang, Selongor, Malaysia

E-mail: tajuddin@medic.upm.edu.my

Salmiah Binti Said

Department of Community Health, Universiti Putra Malaysia

Po box 43300, Serdang, Selongor, Malaysia

E-mail: salmiah@medic.upm.edu.my

Mohammad Kamali

Department of rehabilitation management, Iran University of medical science

Po box 17445-183, Tehran, Iran

E-mail: mkamali@gmail.com

Abstract

Background: Patient satisfaction is used as an important indicator of quality care and is frequently included in healthcare planning and evaluation. A cross sectional study was conducted to examine the relationship between cancer patients' satisfaction with nursing care in order to assist nurses in defining more clearly their roles in 10 government teaching hospitals in Tehran, Iran.

Method: A proportional stratified sampling method was used and data were collected via face-to-face interviews based on a validated Patient Satisfaction Questionnaire (PSQ) within a 3 month period. A total of 384 cancer patients aged 14 years old and above was selected.

Result: The majority of respondents were males 201 (52.3%), age group 45-54 years 102 (26.4%); and with family monthly income US\$200-500, 234 (60.9%). The highest number and percentage 375 (97.7%) of respondents were admitted at general room, and 204(54.0%) of them were admitted at teaching hospital B of The University of Medical Science. The findings revealed that a vast majority of these respondents (82.8%) were satisfied with the nursing care provided to them, while the others (17.2%) were not. There was a significant relationship between patients' satisfaction and University's hospital, types of treatment ($P \leq 0.05$). Also; the University's hospitals was the best predictor for level of satisfaction.

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 relation. Further research is needed to study in-depth the socio-cultural and environment parameters relevant to patients' satisfaction of nursing care.

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

1. Introduction

Patient satisfaction is the patient's perception of care received compared with the care expected (Aiello et al 2003). During hospitalization, patient satisfaction represents a balance between the patient's perception and expectation of their nursing care (Han, 2003).

Patients' satisfaction with nursing care has been reported as the most important predictor of the overall satisfaction with hospital care and an important goal of any health care organization (Mrayyan, 2006). Therefore, dissatisfaction with the nursing care services may further lead to lower utilization of the nursing care services by the patients (Yunus *et al.*, 2004). For this reason, many researchers have acknowledged that patients' satisfaction is not simply a measure of quality, but the goal of health care delivery (Merkouris *et al.*, 1999).

In the same vein, from the cancer patients' opinion, nurses have a central role in offering emotional and psychological supports to people with cancer and their families in all settings, such as supporting the patient through diagnosis, and ensuring optimum care given to them. Hence, nurses must have the qualified professional knowledge, attitudes and skills in oncology and providing the informational, emotional and practical supports and help required by cancer patients (Liu *et al.*, 2005).

In the study conducted by Nikbakht-Nasrabadi *et al.* (2003), they reported that nursing in Iran involved professionals with specific scientific knowledge and practical skills. This knowledge and these skills are strongly influenced by the context in which nursing is practiced and taught and include socioeconomic and political forces, cultural images, and historical influences in Iranian society.

The literature indicates that there are only a few reports of patients' satisfaction from developing countries, as compared to the high volume of publications on patients' satisfaction from developed countries (Bernhart *et al.*, 1999). In Iran, Patients' satisfaction is an important issue. Despite the high expenditure incurred and adequate facilities provided, it has been observed that patients are often not satisfied. It is crucial to satisfy patients because they are the main clients (Bahrapour & Zolala, 2005).

Also, Most of the Iranian surveys assess level of patients' satisfaction with physician (Hajifatahi *et al.*, 2008; Bahrapour *et al.*, 2005). There are a few studies about nursing care, and a few studies about patient satisfaction with nursing care among cancer patients admitted in teaching hospitals in Tehran.

One of the study conducted by Sadjadian *et al.* (2004) on 425 cancer patients in Iranian Center for Breast Cancer showed that, the majority of patients were satisfied with personnel skills. Eighty seven percentage of patients said nursing were polite, (89%) said nurses were helpful and kind. Moreover, the findings indicate that physical environment and nursing care are important components of patient satisfaction and should be included in the instruments that tend to measure patient satisfaction.

The study conducted by Rafii *et al.* (2007) on 250 patients who were hospitalized for medical conditions or surgical procedures in teaching hospitals of Iran University Medical of Science highlighted the caring behaviors of nurses and patient satisfaction with nursing care. They reported that the behavior and attitude of nurses will leave a nurse caring impression in the mind of patients. In their opinion, the basic caring behavior like friendly personality, kindness, fast response to the patients' needs and adequate time to provide care can increase patient satisfactions. Heavy workloads and severe staff shortages are common characteristics of Tehran educational hospitals. Moreover there were fewer nurses allotted to direct care. This contributed to changes in patients' perceptions of nursing care, hence led to reduced patients' satisfaction.

Furthermore, in the survey study conducted by Al-Mailam (2005) on 420 inpatients to determine the extent of their satisfaction with the overall care provided at the hospital showed that, the extent of overall patient satisfaction with the quality of care provided at the hospital to be quite high (Excellent, 74.7%; Very good, 23.7%). Individually, nursing care received the maximum patient satisfaction ratings (Excellent, 91.9%; Very good, 3.9%). A positive correlation ($r = 0.31$, $P = .01$) was noted between patients' perception of nursing care and their overall satisfaction with the health care provided at the hospital.

The aim of this study was to investigate the relationship between cancer patients' satisfaction with nursing care in order to assist nurses in defining more clearly their roles in 10 government teaching hospitals in Tehran, The findings of this study could be used for program planning as well as for monitoring and improving the nursing care services at the Teaching-hospitals of Tehran City, Islamic Republic of Iran.

2. Material and methods

2.1 Study sample and methods

A cross-sectional study was conducted in the oncology wards of 10 teaching-hospitals of two main government universities (A^{Note 1} University of Medical Science, B University of Medical Science) Tehran city, from November 2007 through January 2008. Tehran is the capital of Islamic Republic of Iran, with a population of 7,300,000 million and covers an area 1,648,000 square kilometers. In total, there are 35 government general hospitals and 3 government specialist hospitals in Tehran, which are related to the three main government universities in the city, namely A University of Medical Science, B University of Medical Science and C University of Medical Science.

A total of 384 respondents were identified and selected using proportional stratified random sampling. Firstly a total 10 teaching – hospitals that have oncology wards were selected. The sample size in each teaching -hospital was subsequently determined according to the proportion of the beds in oncology wards of each hospital. Then, we used the table of random numbers for selecting samples from each hospital.

Also, the sampling frame of this study was the registration list of cancer patients, admitted to the oncology ward from November 2007 to January 2008, at each selected teaching-hospital in Tehran, Iran. Patients selected for the study included those who were at least 2 days experience of hospitalization and aged 14 years and above, 14 is the adult legal age (adolescent-“baligh”) in Iran.

2.2 Instrument

The questionnaire was adopted and modified from a study done by Yunus *et al.* (2004). The questionnaire contains of 39 items which are related to Socio-demographic characteristics of the patients and the characteristics of their hospitals 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 all the 39 items. Patients' satisfaction were classified; into two categories satisfied and dissatisfied by using the demarcation threshold from formula:

$\{(total\ highest\ score - total\ lowest\ score) / 2\} + Total\ lowest\ score$ (Pitalika *et al.*, 2006).

The data was collected via face-to-face interviews, in which the translated Patients' Satisfaction Questionnaire (PSQ) in Persian was used to guide the researcher. All interviews were carried out by one of the investigators to standardize interviews and reduce interview biases. These patients were interviewed when they were in good situation (before their chemotherapy, radiotherapy, etc.). Each interview session took about 10 to 15 minutes, and the data collection process was conducted over a period of 12 weeks.

2.3 Ethical consideration

Before any attempt to collect data, approval to conduct the study was obtained from Medical Research Ethics Committee of the Faculty of Medicine and Health Sciences, Universiti Putra Malaysia. Then from the Dean of the Ministry of Health in Tehran as well as from the directors and head nurses of the selected teaching-hospitals in Tehran. Also, each participant (patient) was notified about the purpose of the study, the right to refuse to participate in the study, and anonymity and confidentiality of the information gathered. They were assured that they would not be penalized for not participating if they wished not to participate, and that their responses to the questions would have no effect on their care.

2.4 Data Analysis

Data was analyzed using statistical package for Social Science (SPSS) programme version 16. Normality tests were done and all of the quantitative data were found to be not normally distributed. Therefore, non-parametric test such as Chi-square were employed to determine association between the categorical independent variables (gender, age group, family monthly income, type of room, type of treatment, University's hospital) 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 (Chan, 2003). Binary logistic regression was subsequently conducted to predict the factors which influence the level of satisfaction.

3. Results

3.1 Response Rate

A total of 400 respondents were selected as the sample of 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%.

3.2 Descriptive statistic

Based on the result of this study that majority of respondents were males 201(52.3%), age group 45-54 year 102(26.6%); with family monthly income US\$ 200-500, 234(60.9%). Also, this table showed that most of the respondents admitted to general rooms 375(97.7%), treated for chemotherapy 259(67.4%), and the majority of respondents 204(53.1%) admitted at teaching hospitals of B University of Medical Science. (Table 1)

3.3 Respondents' Satisfaction on the Four Dimensions of Nursing Care

The result regarding respondents' satisfaction on the four dimensions of nursing care (information given by nurse, the interpersonal relationship between the nurses and patients, physical environment, technical quality of nurse) are presented in table 2. Generally, most of the respondents were satisfied with the amount of information given by the nurses 294(76.6%), interpersonal relationship 371(96.6%), technical quality 295(76.8%), and physical environment 267(69.5%). In overall, a vast majority of the respondents 318(82.8%) were satisfied with the nursing care received, while others 66(17.2%) were not satisfied.

(Table 2)

3.4 The Relationship between the Patients' Level of Satisfaction and Independent variables

The chi-square of independence was conducted to assess whether the level of cancer patients' satisfaction had a relationship with gender, age group, and family monthly income, type of room, type of treatment and University's hospitals. The results from the cross-tabulations analysis showed that there were no significant relationship between gender, age group, family monthly income and type of room with level of cancer patients' satisfaction (P value >0.05). However, there were significant relationship between University's hospitals with level of cancer patients' satisfaction ($\chi^2=4.985$, $df=1$, $p=0.026$, $n=384$). Furthermore, there was significant relationship between type of treatment with level of cancer patients' satisfaction ($\chi^2=8.128$, $df=2$, $p=0.017$, $n=384$).

(Table 3)

3.5 Predictor Variables of the level of Patients' Satisfaction

Logistic regression was done to determine predictors for the cancer patients' satisfaction on the nursing care they received. In the logistic regression analysis, categorical variables entered were gender, age group, family monthly income, type of room, type of treatment, University's hospital into the binary logistic regression. Results obtained showed that only University's hospital was associated significantly with level of patients' satisfaction.

Based on the results patients hospitalized at the teaching-hospitals of the B University of Medical Science were 1.85 (1/0.540) times more likely to be satisfied with nursing care [OR=0.540, 95% CI= 0.297-0.985] as compared to those who were hospitalized at teaching-hospitals A University of Medical Science. The Nagelkerke R^2 revealed that about 11% of the variation in the level of cancer patients' satisfaction was explained by this logistic model.

4. Discussion

The findings from this study indicated that a vast majority (82.8%) of the respondents were satisfied with almost all aspects of nursing care they received. The results reported here could be explained in several ways. One explanation is that the structure of the questionnaire was limited in indicating underlying factors. On the other hand, the high satisfaction could be attributed to the fact that usually non-satisfied patients do not complete the questionnaire (Kinnersley *et al.*, 1996).

As far as cultural issues are concerned, finding a high satisfaction rate is not surprising because people in Iran usually are not very critical when evaluating a service which they received. Proper communication and politeness are the two important concerns of people in Iran (Sadjadian *et al.*, 2004).

A similar study conducted by Sadjadian *et al.* (2004), in the Iranian Centre for Breast Cancer, included the cultural issues of the Iranian patients, they found that 82% of these patients were satisfaction. Also, this finding is similar with the finding of Davidson *et al.* (2005) on 430 patients with the six most commonly diagnosed cancers in Northern Ireland. The latter study showed over 70% of the patients was satisfied with the various stages of their care during the hospitalization.

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

The results of this study showed that no relationship was found between gender and patients' satisfaction. This finding is consistent with a descriptive, correlation study conducted by Chan and Chau (2005) in one urban acute

hospital in Hong Kong, who suggested that the gender of the patients did not affect their overall satisfaction. In contrast, in the study conducted by Brian *et al* (2002) on 684 inpatients those receiving nursing and surgical care for cardiovascular, respiratory, urinary and locomotors system diseases at Nancy University Hospital in northeast France reported men tended to be more satisfied than women from the nursing and daily care, medical care, information, hospital environment.

A previous study by Pitaloka *et al* (2006) on 150 women in HUKM hospital in Kuala Lumpur reported no significant relationship between age and patients' satisfaction. Their finding is similar with the result of this study. This result contradicts with the findings of the studies by (Akhbari *et al.* 2006; Johansson *et al.*, 2002; Hajifathali *et al.*, 2008). They reported that age was associated with the patients' satisfaction, and older patients were found to report a slightly higher satisfaction than younger patients. A likely explanation to their finding is that older people could be placing greater value on the nursing care they receive when their own need of care is at its greatest.

Pascoe 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. This could be due to the fact that most of patients were living in the urban area; hence there was no difference in their expectations, regardless of whether they were from families with high or low income (Pitaloka *et al.*, 2006). This result is similar with the previous study conducted by Sadjadian *et al.* (2004) on 425 cancer patients between July and November 2001 in Iranian Center for Breast Cancer in Tehran City. In their study, they proposed that no relationship existed between family income and patients' satisfaction. However, Patrick *et al.* (1983) studied 1245 respondents in London reported that patients with lower income were less satisfied with the nursing care they received.

4.2 Level of Patients' Satisfaction according to type of rooms in the wards

No relationship was indicated for the type of rooms and patients' level of satisfaction in the current study. This could be explained by the number of private rooms available at the teaching-hospitals, i.e. lesser as compared to the amount of general rooms (Ministry of Health and Medical Education, 2009). In the same vein, some of the teaching-hospitals did not have a specialist ward for cancer. Hence, cancer patients were admitted into the general rooms most of the time. This is contradicted with the result of a study by Brian *et al.* (2002), in which it was reported that patients, admitted in private rooms, were found to be more satisfied with the nursing care rendered to them.

4.3 Level of Patients' Satisfaction according to type of treatment

Based on the findings, the patients receiving chemotherapy were found to be more satisfied with the nursing care as compared to those who underwent other types of treatment. The results of this study showed that there was a significant relationship between the level of satisfaction and the type of treatment received. One possible explanation for the significant finding is that patients who came for the other types of treatment (radiotherapy, surgical, etc.) could have been waiting for them for a long time. Sometimes, the radiotherapy machine could have been broken down; as a consequent, they had to wait for the hospitals to get the machine repaired. At the same time, the situation of the patients after radiotherapy is never better. A majority of patients experienced nausea and vomiting, pain, tiredness, as well as hair loss in radiated area. Consequently, these side effects had not only caused discomforts and unpleasantness, but they might limit a patient's ability to achieve the best outcome from the treatment, i.e. by preventing the delivery of therapy at its optimal dose and time.

4.4 Level of Patients' Satisfaction according to university's hospitals

In terms of the University's hospitals, this study showed that there was a relationship between the University's hospitals and the patients' level of satisfaction. This could be due to the number of beds especially for cancer patients at teaching hospitals of B University of Medical Science (130 beds), which had more than at teaching hospitals of A University of Medical Science (85 beds) (Ministry of Health and Medical Education, 2009). As a result, the provision of specialist nursing care, for the patients with cancer and their families, provided at teaching hospitals of A University of Medical Science was lesser than that of teaching hospitals of 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 supports (financial, nutrition, education etc.) for patients and their family (Ministry of Health and Medical Education, 2009).

The particular finding is similar with the results of a study by Mohan *et al* (2005) which compared urban and rural population in Sydney, Australia. They reported that the provision of the nursing care, for patients with

cancer and their families at non-specialist hospital ward setting, was confronting and emotionally draining. Thus, proper training and education, for the non-specialist nurses in caring for their cancer patients and their families, should be emphasized.

On the other hand, Logistic regression showed that University's hospitals are the predictor for level of cancer patients' satisfaction. This result is similar with the study conducted by Bahrampour *et al.* (2005) on 3017 patients hospitalized in hospitals in Kerman. They results showed that, type of hospital, ward, and education were significant.

5. Conclusion

This study found that most of the respondents were satisfied with the nursing care. Findings from a recent study showed that university's hospital had relationship with overall satisfaction. It seems that physical environment and specialist care are the most important issues to Iranian patients (Sadjadian *et al.*, 2004).

However, the respondents suggested that several factors such as improving socio-environment in term of privacy and interpersonal manner in the care, and improving the facilities of the teaching-hospitals, should be taken into consideration in order to improve the overall satisfaction.

Also, higher level of patience and use of appropriate communication skills may increase patients' level of satisfaction towards nursing care, and these also help the nurses to be more satisfied in their work. Consequently, a programme to educate the nurses needs to be institutionalised.

Finally, this study also showed that the patients, admitted in teaching hospitals of government B University Medical Science, were more satisfied as compared to those admitted to teaching hospitals of government A University Medical Science. Nevertheless, further research is also needed to find the reasons why those patients admitted to teaching hospitals of government A University Medical Science had higher level of satisfaction, which also indicated the need to improve the interpersonal manners and socio-cultural aspects of patients' care.

6. Limitation

There are several limitations to the design of this study. One limitation is related to the selection bias. This was due to the fact that the participation in the study was based on voluntary basis, usually those voluntary are satisfied and don't have complain from the nursing care. Consequently increase the result of satisfaction from nursing care.

On the other hand, a sample of 384 cancer patients is not big enough to detect any significant association between socio-demographic characteristics and level of patients' satisfaction.

Acknowledgements

We would like to thank all the patients who took part in the study and gratefully acknowledge the management officer and staff of Faculty of Medicine and Health Science, Universiti Putra Malaysia, and all teaching hospitals in Tehran city that involved in this study.

References

- Aiello, A., Garman, A., & Morris, B. S. (2003). Patient satisfaction with nursing care: A multilevel analysis. *Journal of Quality Management in Health Care*, 12 (3), 187-191.
- Akhbari, F., Hosseini, M., Arab, M., & Chozokly, N. (2006). Study of effective factors on inpatient satisfaction in Hospitals of Tehran University of medical science. *Scientific Journal of School of Public Health and Institute of Public Health Research*, 4(3), 25-36.
- Al-Mailan, F.F. (2005). The Effect of Nursing Care on Overall Patient Satisfaction and Its Predictive Value on Return-to-provider Behavior: A Survey Study. *Quality Management in Health Car*, 14(2), 116-120.
- Bahrampour, A., & Zolala, F. (2005). Patient satisfaction and related factors in Kermand hospitals. *Eastern Mediterranean Health Journal*, 11(5&6), 905-912.
- Bernhart, M.H., Wiadnyana, I.G.P., Wihardjo, H., & Pohan, I. (1999). Patient satisfaction in developing countries. *Social Science and Medicine*, 48, 989-996.
- Brian, S., Nguyen Thi, P.L., Empereur, F., & Guillemin, F. (2002). Factors determining inpatient satisfaction with care. *Journal of Social Science & Medicine*, 54(4), 493-504.
- Chan, J.H., & Chau, J. (2005). Patient satisfaction with triage nursing care in Hong Kong. *Journal of Advanced Nursing*, 50(5), 498-507.

- Chan, Y.H. (2003). Biostatistics 103: Qualitative Data – Tests of Independence. *Singapore Med J*, 44(10), 498-503.
- Davidson, R., & Mills, M.E. (2005). Cancer patients' satisfaction with communication, information and quality of care in a UK region. *European Journal of Cancer Care*, 14, 83-90.
- Hajifathali, A., Ainy, A., Jafari, H., Markazi Moghadam, N., Kohyar, E., & Hajikaram, S.H. (2008). In-patient satisfaction and its related factors in Taleghani University hospital, Tehran, Iran. *Pak J Med Sci*, 24(2), 274-277.
- Han, C. H. (2003). Measuring patient satisfaction as an outcome of nursing care at a teaching hospital of Southern Taiwan. *Nursing Care Quality Journal*, 18 (2), 143 -150.
- Iswall, E., Rooke, L., & Hamrin, E. (1997). Quality indicators in clinical nursing. A review of literature. *J Adv Nurs*, 25, 6-17.
- Jafar, A. A., & Muayyad, M. A. (2003). Patients' satisfaction with nursing care in Jordan. *International Journal of Health Care Quality Assurance*, 16 (6/7), 279- 286.
- Johansson, P., Olieni, M., & Fridlund, B. (2002). Patient satisfaction with nursing care in the context of health care: a literature study. *Scand J Caring Sci*, 16, 337-334.
- Kinnersley, P., Stott, N., Peters, T., Harvey, I., & Hackett. (1996). A comparison of methods for measuring patient satisfaction with consultation in primary care. *Family Practice*, 13, 41-45.
- Liu, J., Mok, E., & Wong, T. (2005). Caring in nursing: investigating the meaning of caring from the perspective of cancer patients in Beijing, China. *Journal of Clinical Nursing*, 15, 188-196.
- Merkouris, A., Ifantopoulos, J., Lavara, V., & Lemonidou, C. (1999). Patient satisfaction: a key concept for evaluating and improving nursing services. *Journal of Nursing Management*, 7, 19-28.
- Ministry of Health and Medical Education, (2009). [Online] Available: <http://www.behdasht.gov.ir/index.aspx?siteid=1&pageid=10970&newsview=6269>. (August 13, 2009).
- Mohan, S., Wilkes, L.M., Ogunsiji, O., & Walker, A. (2005). Caring for patients with cancer in non-specialist wards: the nurse experience. *European Journal of Cancer Care*, 14, 256-263.
- Mrayyan, M.T. (2006). Jordanian nurses' job satisfaction, patients' satisfaction and quality of nursing care. *International Nursing Review*, 53, 224-230.
- Nikbakht-Nasrabadi, A., Emami, A., & Parsa Yekta, Z. (2003). Nursing experience in Iran. *International Journal of Nursing Practice*, 9, 78-85.
- Pascoe, G.C. (1983). Patient satisfaction in primary health care: a literature review and analysis. *Eval Prog Plan*, 6,185-210.
- Patrick, D.L., Scrivens, E., & Charlton, J.R. (1983). Disability and patient satisfaction with medical care. *Medical Care*, 21(11), 1062-1075.
- Pitaloka, D., & Rizal, A.M. (2006). Patients' satisfaction in antenatal clinic hospital Universiti Kembangan Malaysia. *J Community Health*, 12, 8-16.
- Rafii, F., Hajinezhad, M.E., & Haghani, H. (2007). Nurse caring in Iran and its relationship with patient satisfaction. *Australian Journal of Advanced Nursing*, 26, 2-7.
- Sadjadian, A., Kaviani, A., Yunesian, M., & Montazeri, A. (2004). Patient satisfaction: a descriptive study of a breast care clinic in Iran. *European Journal of Cancer Care*, 13,163-168
- Vouri, H. (1987). Patient satisfaction- an attribute or indicator of the quality of care? *Quality Review Bulletin*, 13(3), 106-108.
- Ware, J.E., & Davies, A.R. (1983). Behavioral consequences of consumer dissatisfaction with medical care. *Evaluation and Program Planning*, 6(3&4), 291-297.
- Yunus, M.A., Nasir, M.M.T., Nor Afiah, M.Z., Sherina, M.S., & Faizah, M.Z. (2004). Patient satisfaction: a comparison between government and private clinics in Mukim Labu, Sepang, Selangor. *Malaysian Journal of Public Health Medicine*, 4(2), 6-11.

Note

Note 1. For ethical purpose, this article will not specify which Iranian University of Medical Science

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
Family monthly income (US\$)		
< 200	83	21.6
200-500	234	60.9
>500	67	17.5
Type of rooms in the wards		
General	375	97.7
Private	9	2.3
Type of treatment		
Chemotherapy	259	67.4
Radiotherapy	36	9.4
Others	89	23.2
University's hospital		
B University of Medical Science	204	53.1
A University of Medical Science	180	46.9

Table 2. 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 $(\text{Total highest score} - \text{total lowest score}) / 2 + \text{Total lowest score}$, satisfaction level threshold was set at the score > 117.

Table 3. Relationship between level of patients' satisfaction with independent variables (n=384)

Variables	Level of satisfaction				total	x ²	df	P-value
	satisfied		not satisfied					
	Freq.	%	Freq.	%				
Gender								
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			
Age group								
< 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			
Family income (US\$)								
< 200	73	88.0	10	12.0	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			
Type of room								
General	311	82.9	64	17.1	375	*N/A	1	0.656
Private	7	77.8	2	22.2	9			
Total	318	160.7	66	39.3	384			
Type of treatment								
Chemotherapy	224	86.5	35	13.5	259	8.128	2	*0.017
Radiotherapy	27	79.4	7	20.6	34			
Others	67	73.6	24	26.4	91			
Total	318	239.5	84	60.5	384			
University's hospital								
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<0.05

*Fisher exact test=0.65

Table 4. Factors which predict the Level of Patient Satisfaction

Factors associated with patients' satisfaction	B	S.E	Sig.	Exp(B)	95 % C.I. for Exp(B)	
					Lower	Upper
University's hospital						
A University of Medical Science				*(1)		
B University of Medical Science	-0.615	0.306	0.045	0.540	0.297	0.985
Constant	-0.164	1.163	0.888	0.849		

*Note: Number 1 refer to reference group

Nagelkerke $R^2 = 0.105$