

Cancer patients' satisfaction with communication and information given by nurses at teaching hospitals of Tehran, Iran

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Abstract

Background: Effective patient–professional communication can be of crucial importance to long-term psycho-social outcomes in patients with cancer. A cross sectional study was conducted to examine cancer patients' satisfaction with regard to various aspects of communication and information given by nurses.

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

Results: The majority of respondents were males (52.3%) and married (66.4%), working (52.6%) and age group 45-54 year (26.6%) with secondary education level (44.8%), and 53.1% of them admitted at teaching hospitals of government A University of Medical Science. The findings revealed that a vast majority of respondents (81.5%) were satisfied with communication and information given by nurses, while the others (18.5%) not. There was significant relationship between patients' satisfaction and age group ($p \leq 0.05$). Also, the age groups of 15-44 years old and married patients were the best predictors for level of cancer patients' satisfaction with communication, and information given by nurses.

Conclusion: Key findings are a number of issues with regard to information and communication which can be clearly improved within teaching hospitals of in Tehran city. The study concluded that patient– professional communication should be tailored to meet individual need.

Keywords: Communication, information given by nurse, patient satisfaction, cancer, Iran.

Introduction

One important objective frequently stressed in current patients care is to improve their satisfaction [1,2] and this is an important aspect of quality for any healthcare intervention [3,4,5].

According to Merkouris et al [6] patient satisfaction measurement can also be seen as a therapeutic intervention, an important criterion for making and evaluating organizational and administrative decisions [7,8]. Patient satisfaction with nursing services gains even more im-

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portance, owing to the nature of nursing, patients may judge the overall quality of hospital services on the basis of their perceptions of the nursing care received [7,8].

Establishing a clear communication and information is obviously a prerequisite for the patient's perception of satisfaction with the nursing care [9]. Cancer patients have the expectation that the nurses must provide adequate information about their diseases and progress during their stay in hospital, due to the fact that they lack adequate information related to their diseases and suitable treatment [10]. Moreover, in their opinion, nurses are the main source of informational support, and also can fulfil their needs for knowledge and information. Consequently, the nurses possessing information related to their diseases and treatment can help them to cope and adjust to their illnesses and decrease their fear and anxiety [10].

On the other hand, there is much agreement on the importance of effective communication in cancer care. It has been demonstrated that effective communication can reduce stress, feelings of anxiety and uncertainty in cancer patients. Conversely, ineffective communication can have adverse effects on patient compliance and can leave patients feeling anxious, uncertain and generally dissatisfied with their care [11].

Patients' satisfaction with health care providers is an important issue in Iran. Despite the high expenditure incurred and adequate facilities provided, it has been observed that patients are often not satisfied with health care providers [12]. It is crucial to satisfy patients because they are the main clients [12]. Rafii et al [13] 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 satisfaction. Heavy workloads and severe staff shortages are common problems in Tehran edu-

cational 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 [13].

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

Methods

A cross-sectional study was carried out in 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. Due to ethical purposes, the researcher will not specify The Iranian University of Medical Science, where the research took place. They are referred as A University of Medical Science and B University of Medical Science.

A total of 384 respondents were identified and selected by proportional stratified random sampling technique. In the first step a total of 10 teaching hospitals that have oncology wards selected as strata. Afterward sample size in each teaching -hospitals was determined according to the proportion of the beds in oncology wards in each hospital. We used the table of random numbers for selecting required sample from each hospital.

Furthermore, the sampling unit of this study was consisted of a cancer patient, with at least 2 days' experience of hospitalization for the treatment of cancer (postoperative, chemotherapy, or radiotherapy) and aged 14 years and above, admitted into and listed in the oncology ward of each selected teaching-hospital of Tehran city, from November 2007 to January 2008.

Data was collected through interviewing patients (face-to-face), using validated Patient

Table 1. Socio-demographic distribution of patients.

Characteristics	n	%
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
Median & Inter Quarter Range	50 (26)	
Marital status		
Married	255	66.4
Single	85	22.1
Divorced & widowed	44	11.5
Occupation		
Working	202	52.6
Not working	182	47.4
Level of education		
Illiterate	106	27.6
Primary	54	14.1
Secondary	172	44.8
Higher education	52	13.5
University's hospital		
B University of Medical Science	204	53.1
A University of Medical Science	180	46.9

Satisfaction Questionnaire (PSQ). It was adopted and modified from Yunus et al. [14]. All interviews were carried out by one of the investigators to standardize interviews and reduce interview biases. The questionnaire contains of 27 items which are related to socio-demographic characteristics of patients, and two dimensions of nursing care, such as information given by nurse, interpersonal relationship. Standardized 5-point Likert scales ranging from strongly disagree to strongly agree (1 to 5 points) were used for all the 27 items. Patients' satisfaction were classified; in two categories satisfied and dissatisfied by using the demarcation threshold from formula:

$$\{(total\ highest\ score - total\ lowest\ score) / 2\} + Total\ lowest\ score\ [15]$$

Based on the proposal of the study, the Medical Research Ethics Committee of the Faculty

of Medicine and Health Sciences, UPM, had given an approval to the researcher to conduct the survey among the cancer patients admitted to the teaching-hospitals in Tehran. The approval was also obtained 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. A written consent was taken from each respondent before conducting the survey or filling the questionnaire. Patients 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.

Statistical analysis: Data was analyzed using SPSS version 16.0 (SPSS, Inc., Chicago, IL, USA). The normality of data was tested using Kolmogorov-Smirnov procedure. All the quan-

Table 2. Frequency distribution for satisfaction level within two dimensions of assessment for 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
*Overall	313	81.5	71	18.5

Note. *Based on this formula $(\text{Total highest score} - \text{total lowest score})/2 + \text{Total lowest score}$ [16] satisfaction level threshold was set at the score >117 .

titative data were found to be not normally distributed (p value $\leq .05$) 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, marital status, education, occupation, University's hospital) and categorical dependent variables. Validity of the Pearson's Chi-Square test was ensured when 0 cell (0%) has expected count less than five; otherwise we used the Fisher's Exact test [16]. Mann-Whitney U (MWU) procedure was employed to compare the differences with respect to age between two groups for level of satisfaction (satisfied and dissatisfied). Multiple logistic regressions were subsequently conducted to identify factors which predict the level of satisfaction.

Results

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

Socio-demographic characteristics: Table 1 shows the distribution of respondents based on their socio-demographic characteristics. Overall, the majorities were males 201 (52.3%), aged between 45 – 54 years old, with the median age of 50 (Inter-quartile range, IQR 26) with the minimum age of 14 and the maximum age

of 85 years.

Respondents' satisfaction with the two dimensions of nursing care: Table 2 shows that majority of these respondents 313 (81.5%) were satisfied with the nursing care provided for them, while the others 71 (18.5%) were not.

Generally, most of the respondents were satisfied with the amount of information given by the nurses 294 (76.6%), and interpersonal relationship 371 (96.6%).

Relationship between patients' satisfactions and socio-demographic characteristics of the respondents: Table 3 indicates no significant relationship exist among gender, marital status, occupation, level of education and University's hospital with level of satisfaction ($p > .05$). However, there was significant relationship between age group with level of satisfaction ($\chi^2 = 12.023$, $df = 4$, $p = 0.017$, $n = 384$).

Table 4 Indicates the results of the Mann-Whitney U (MWU) test for patients' age and level of satisfaction with nursing care. There was no significant difference in level of satisfaction and age ($p > .05$).

Predictor variables of the level of patients' satisfaction: Logistic regression was performed 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, marital status, occupation, level of education and university's hospital into the binary logistic regression. Results obtained showed that the age group 15-44 years old and married patients

Table 3. The relation between level of patients' satisfaction with independent variables (N=384).

Variables	Level of satisfaction				total N	χ^2	df	P-value
	satisfied		not satisfied					
	N	%	N	%				
Gender								
Male	159	79.1	42	20.9	201	1.620	1	0.203
Female	154	84.2	29	15.8	183			
Total	313	81.5	71	18.5	384			
Age group								
< 15	20	66.7	10	33.3	30	12.023	4	*0.017
15-44	79	90.8	8	9.2	87			
45-54	81	79.4	21	20.6	102			
55-64	68	76.4	21	23.6	89			
> 65	65	85.5	11	14.5	76			
Total	313	81.5	71	18.5	384			
Marital status								
Married	202	79.2	53	20.8	255	4.908	2	0.086
Single	70	82.4	15	17.6	85			
Divorced & widow	41	93.2	3	6.8	44			
Total	313	81.5	71	18.5	384			
Occupation								
Working	161	79.7	41	20.3	202	0.924	1	0.336
Not working	152	83.5	30	16.5	182			
Total	313	81.5	71	18.5	384			
Level of Education								
Illiterate	88	83	18	17	106	0.579	3	0.901
Primary	45	83.3	9	16.7	54			
Secondary	139	80.8	33	19.2	172			
Higher education	41	78.8	11	21.2	52			
Total	313	81.5	71	18.5	384			
University's hospital								
B University of Medical Science	172	83.9	33	16.1	205	1.670	1	0.196
A University of Medical Science	141	78.8	38	21.2	179			
Total	313	81.5	71	18.5	384			

were the best predictors for level of cancer patients' satisfaction with communication, information given by nurses.

Based on the results, the married respondents were 3.777 times more likely to be dissatisfied with the nursing care [OR= 3.777, 95% CI= 1.041-13.698] as compared to those who were divorced and widowed. Similarly, The results showed that in terms of the age groups, patients with age groups 15-44 years old were (1/0.171=5.84) 5.84 times more likely to be sat-

isfied with the nursing care [OR=0.171, 95% CI= 0.050-0.592] as compared to those with age group <15 years old. The Nagelkerke R2 revealed that about 8% of the variation in the level of cancer patients' satisfaction was explained by this logistic model.

Discussion

The findings from this study indicated that a vast majority (81.5%) of the respondents were satisfied with the nursing care provided at the

Table 4. Level of satisfaction in selected independent variables.

Variable	Level of satisfaction		Z	P-value
	Satisfied Median (IQR)	Not satisfied Median (IQR)		
Age	50(26)	50(16)	-0.057	0.955

selected teaching hospitals. This result was similar to the finding in the study by Akhbari et al. [17] (conducted at the teaching-hospitals of Tehran University) which demonstrated that 79.5% of the patients being studied were satisfied with the nursing care.

The possible explanations for the high percentage of the respondents, who were satisfied with the nursing care, could be the patients' poor social, cultural and educational background, since patients were not fully familiar with their right [18]. As far as cultural issues are concerned, finding a high satisfaction rate is not surprising because people in Iran are not very critical when appraising a service [18].

A previous study by Margolis et al. [19] 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 Foss [20] 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 relationship between age and patients' satisfaction which is similar to the findings of Hajifathali et al [21] conducts between April 2006 and August 2006 on 476 inpatients who received hospital care at the teaching hospital of Taleghani, in Tehran city. In contrast, in the study conducted by Pitaloka et al. [15] in HUKM hospital in Kuala Lumpur no relationship between satisfaction and age, was shown

In term of marital status, this study revealed no relationship between this variable and patients' satisfaction. One of the possible explanation for the non-significant finding lies in the number of divorced and widowed patients, which was much lesser as compared to the married ones. This result is similar with the study by Hall & Dornan [22] but it contradicts with the result yielded by Akhbari et al [17].

In terms of occupation, the results of this study demonstrated no relationship between occupation and patients' satisfaction. The non-significant association was probably because of the similarity in the expectations of the groups (i.e. lower expectation). This finding agrees with the study conducted by Sadjadian et al.

Table 5. Factors predicting the level of patient satisfaction.

Factors associated with patients' satisfaction	B	SE	Sig.	Exp(B)	95.0% C.I. for Exp(B)	
					Lower	Upper
Marital status				*(1)		
Divorce & widow	1.329	0.657	0.043	3.777	1.041	13.698
Married						
Age group				*(1)		
<15 years old	-1.764	0.632	0.005	0.171	0.050	0.592
15-44 years old						
Constant	-2.000	1.419	0.159	0.135		

* Note. Numbers 1 refer to reference group. Nagelkerke $R^2 = 0.08$.

[18] on 425 cancer patients in Iranian center for breast cancer in Tehran City.

This study also discovered that there was no relationship between the level of education and patients' satisfaction. This could probably be due to the location of the study, i.e. it was conducted at selected hospitals in the urban area, as people with various level of education might share a similar expectation when receiving nursing care. In contrast, the study conducted by Bahrampour and Zolala [12] reported that education was a determining factor in the level of satisfaction (with the highest satisfaction score gauged for those who were illiterate and the lowest for those with a university degree).

In terms of the patients' preference of hospital, there was a relationship between patients' preference and level of patients' 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) [23]. 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. Nevertheless, 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 Wilkes et al. [24] emphasized the nurses' need for ongoing education on cancer care, pain management, counseling, and family-centered caring.

In term of information given by nurses, the findings from this study indicated that (76.6%) of the respondents were satisfied with information given by nurses. According to Johansson et al. [9] the patients emphasized on the importance of receiving adequate information, and a need for the information they received to increase their satisfaction. In this respect, studies have shown that most cancer patients want to know about their diseases, prognosis, possible

treatments and relevant side-effects [9]. In the context of this study, many factors might have contributed to the patients not receiving sufficient information. One reason for the insufficient information reaching the patient could be the weak pedagogical skills on the part of the nurses or the nurses' increasing workload.

The level of satisfaction, in the interpersonal aspect of the selected teaching-hospitals of Tehran, was quite high (96.6%). The results of the finding showed that most of the respondents were satisfied with all aspects of their interpersonal relationship, but more than half of these patients were found to be not satisfied with the item called "Nurses seem discontent as if they are forced to take care of you". This had probably occurred because cancer patients are rather sensitive to the non-verbal aspects of the nurses' behavior, such as smiles [9]. Moreover, some patients stated that the nurses would stand at the end of their beds (rather than sitting on the beds) when they were talking to them. This was implied that the nurses were in a hurry and had no interest to know about detailed information of the patients. Hence, nurses should be more aware of their non-verbal language. This is supported by Coulehan and Block [25] who reported a similar finding.

Conclusion

This study found that most of the respondents were satisfied with the nursing care, though they suggested there are a number of issues with regard to information and communication which can be clearly improved in teaching hospitals of Tehran city. The paper concluded that patient-professional communication should be tailored to meet individual need.

Nonetheless, 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 program to educate the nurses needs to be institutionalized.

Recommendations for futures studies

This study had identified the factors influencing the patients' satisfaction from their point of view. Further research should be done to assess the satisfaction of the health care providers. Also, there is a need to improve the socio-environment, mainly in term of privacy and interpersonal manner, in the nursing care provided by the selected teaching-hospitals to improve patients' overall satisfaction. Consequently, further research is also needed to study on the socio-cultural and environmental issues of the patient care at the teaching-hospitals.

Limitation

This study is that it assigned patients' satisfaction with some aspects of the nursing care (i.e. the information given by the nurses, interpersonal relationship between nurse and patient). Nevertheless, some confounding factors such as (availability, accessibility, financial aspect, medical care) which not indicated in this study may impose some effects on the level of patients' satisfaction.

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References

1. Krowinski W J, Steiber S R. Measuring & managing patient satisfaction. San Francisco, CA: Jossey Bass Publishers; 1998. pp. 56-66.
2. Co JPT, Ferris TG, Marino BL. Are hospital characteristics associated with parental views of pediatric inpatient care quality? *Pediatrics* 2003; 111: 308-314.
3. Bengoa R, Kawar R, Key P, Leatherman S, Saturno P. 'Quality of Care' in a process of making strategic choices in health systems. Geneva: World Health Organization Press; 2006.
4. Oakland J. Oakland on quality management. Ox-

ford: Elsevier Butterworth-Heinemann; 2004. pp.223.

5. Sofaer S, Firminger K. Patient Perceptions of the Quality of Health Services. *Annual Review of Public Health* 2005; 26: 513-59.

6. Merkouris A, Ifantopoulos J, Lanara V, Lemonidou C. Patient satisfaction: a key concept for evaluating and improving nursing services. *Journal of Nursing Management* 1999; 7:19-29.

7. Scardina SA. SERVQUAL: a tool for evaluating patient satisfaction with nursing care. *Journal of Nursing Quality Assurance* 1994; 8: 38-46.

8. Yellen E, Davis GC, Ricard R. The measurement of patient satisfaction. *Journal of Nursing Care Quality* 2002; 16: 23-29.

9. Johansson P, Olieni M, Fridlund B. Patient satisfaction with nursing care in the context of health care: a literature study. *Scandinavian Journal of Caring Sciences* 2002; 16: 337-334.

10. Liu J, Mok E, Wong T. Caring in nursing: investigating the meaning of caring from the perspective of cancer patients in Beijing, China. *Journal of Clinical Nursing* 2005; 15: 188-196.

11. Butow PN, Brown RF, Cogar S, Tattersall MHN, Dunn SM. Oncologists' reactions to cancer patients' verbal cues. *Psychosocial Oncology* 2002; 11: 47-58.

12. Bahrapour A, Zolala F. Patient satisfaction and related factors in Kerman hospitals. *Eastern Mediterranean Health Journal* 2005; 11(5-6): 905-912.

13. Raffi F, Hajinezhad ME, Haghani H. Nurse caring in Iran and its relationship with patient satisfaction. *Australian Journal of Advanced Nursing* 2007; 26: 2.

14. Yunus MA, Nasir MMT, Nor Afiah MZ, Sherina MS, Faizah MZ. Patient satisfaction: a comparison between government and private clinics in Mukim Labu, Sepang, Selangor. *Malaysian Journal of Public Health Medicine* 2004; 4(2): 6-11.

15. Pitaloka D, Rizal AM. Patients' satisfaction in antenatal clinic hospital Universiti Kembangan Malaysia. *Journal of Community Health* 2006; 12: 8-16.

16. Chan YH. Biostatistics 103: Qualitative Data – Tests of Independence. *Singapore Medical Journal* 2003; 44(10): 498-503.

17. Akhbari F, Hosseini M, Arab M, Chozokly N. Study of effective factors on inpatient satisfaction in Hospitals of Tehran University of medical science. *Public Health Research Institute* 2006; 4(3): 25-36.

18. Sadjadian A, Kaviani A, Yunesian M, Montazeri A. Patient satisfaction: a descriptive study of a breast care clinic in Iran. *European Journal of Cancer Care* 2004; 13: 163-168.

19. Margolis S, Al-Marzouqi S, Revel T, Reed RL. Patient satisfaction with primary health care services in the United Arab Emirates. *International Journal of Health Care Quality* 2003; 15(3): 241-249.

20. Foss C. Gender bias in nursing care? Gender-related differences in patient satisfaction with the quality of nursing care. *Scandinavian Journal of Caring Sciences* 2002; 16(1): 19-26.

21. Hajifathali A, Ainy A, Jafari H, Markazi Moghadam N, Kohyar E, Hajikaram SH. In-patient satisfaction and its related factors in Taleghani University hospital, Tehran, Iran. *Pakistan Journal of Medical Research* 2008; 24(2): 274-277.

22. Hall JA, Dornan MC. Patient socio-demographic characteristics as predictors of satisfaction with medical care: a meta-analysis. *Social Science & Medicine*, 1990; 30: 811-818.

23. Ministry of Health and Medical Education, Iran. (2009). [Accessed 2009 August 13]. Available from <http://www.behdasht.gov.ir/index.aspx?siteid=1&pageid=10970&newsview=6269>.

24. Wilkes LM, Ogunsiyi O, Walker A. Caring for patients with cancer in non-specialist wards: the nurse experience. *European Journal of Cancer Care* 2005; 14: 256-263.

25. Coulehan J.L, Block M.R. *The Medical Interview: Mastering Skills for Clinical Practice*. 4th ed. Philadelphia: F.A. Davis Company; 2001. pp. 186-190.