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Patient Satisfaction with Nursing Care and Its Sociodemographic Predictors in Dialysis and Cardiac Care Units

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Abstract

Background: Patient satisfaction, as an important indicator of healthcare quality, is frequently assessed during planning and evaluation of health services. Satisfaction with nursing care is closely related to the quality of provided care and is affected by the patient's sociodemographic characteristics, physical and psychological status, and care expectations. This study aimed to determine patient satisfaction with nursing care and its sociodemographic predictors in dialysis and cardiac care units.

Methods: In this descriptive, correlational study, 313 patients, admitted to the dialysis and coronary care units, were recruited via random sampling. A patient satisfaction instrument was used to collect the data.

Results: The findings showed that 34.8% (n, 109) of patients were highly satisfied, 64.9% (n, 203) were moderately satisfied, and 0.3% (n, 1) was dissatisfied with nursing care. Gender, educational level, marital status, and medical history were not significantly associated with patient satisfaction. On the other hand, age, type of health insurance coverage, hospital unit, history of hospitalization, and length of hospital stay showed significant correlations with patient satisfaction.

Conclusions: Most cardiac care and dialysis patients had moderate to high satisfaction with nursing care. The patients' age, type of health insurance coverage, hospital unit, history of hospitalization, and length of hospital stay were the sociodemographic variables, affecting satisfaction with nursing care. Our findings suggest that patient satisfaction with nursing care is influenced by sociodemographic characteristics; however, future research is warranted to identify the key determinants and their predictive power.

Keywords: Patient Satisfaction, Nursing Care, Dialysis Unit, Coronary Care Unit, Sociodemographic Variables

1. Background

Evaluation of patient satisfaction is a priority of healthcare systems, which thrive to make the required changes in their system management. Identification of factors associated with patient satisfaction can help healthcare providers improve the level of care. Healthcare workers require information about the actual needs of patients. Therefore, there is a growing interest in patient satisfaction assessment to improve health systems (1).

Patient satisfaction is a combination of experiences, expectations, and natural needs of the patient. It is the outcome of a complex set of factors, necessary to coordinate a variety of services (including nursing, medical, and support services), as well as organizational units, and facilitate their development and progress (2). Nurses are the frontline healthcare providers, and their performance largely determines the quality of healthcare (3); therefore, they play an important role in improving the quality of services and increasing patient satisfaction (4).

Studies have increasingly assessed patient satisfaction with nursing care. A previous study showed that patient satisfaction is closely related to the provided care and is influenced by the patient's sociodemographic characteristics, physical and psychological status, and care expectations (5). The patients' expectations of nursing care are largely associated with their social status, age, educational level, and culture and are based on previous hospital experiences, nurses' support and respect, constant availability of nurses, and proper quality of care (4). In fact, the sociodemographic characteristics of patients can affect their expectations before, during, and after nursing care. Age, gender, race/ethnicity, language barriers, cultural differences, educational level, health status, and previous hospitalization are among factors affecting patient satisfaction (5).

The patient's age and gender may influence his/her perceptions of nursing care. In the literature, older male patients reported more satisfaction with nursing care. Also, patients with disabilities aged $\geq$ 65 years expressed more satisfaction with nursing care, compared to patients with disabilities $<$ 65 years (6). A study from Tehran, Iran by

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Akhtari Zavare (2011) showed that female and single patients had more negative perceptions of nursing care, compared to male and married patients, respectively. In contrast, male and married patients were more satisfied with nursing care, compared to female and single patients, respectively (7).

In addition, length of hospital stay and previous admission experiences affect patient satisfaction. Patients with more experience of hospitalization have more realistic expectations and consequently higher satisfaction. Patients rely on their own personal experiences or opinions of others when choosing a hospital (8). Also, the patient's sociocultural background and personality have effects on satisfaction with nursing care. Nonetheless, only continuous evaluation of patient satisfaction can help understand the role of these factors (4).

With this background in mind, the present study aimed to determine patient satisfaction with nursing care and its sociodemographic predictors in dialysis and cardiac care units (CCUs). To the best of our knowledge, little or no research has been performed in Iran on patient satisfaction with nursing care and its sociodemographic predictors in dialysis units and CCUs.

2. Methods

This descriptive, correlational study was performed to determine patient satisfaction with nursing care and its sociodemographic predictors in dialysis units and CCUs. The study protocols were approved by the Medical research and ethics committee of Mazandaran University of Medical Sciences (Sari, Iran). We adhered to the declaration of Helsinki guidelines on ethical principles for medical research involving human subjects.

The study population consisted of all adult patients, admitted to the dialysis units or CCUs of any teaching hospital (six hospitals), affiliated to Mazandaran University of Medical Sciences. The sample size was estimated to be 313 at 95% confidence level, 5% margin of error, and alpha level of 0.05. The patients were randomly sampled in each hospital if they met the inclusion criteria: 1, willingness to participate in the study; 2, age $\geq$ 18 years; 3, being conscious, coherent, and oriented to time, person, and place; 4,) ability to read and write in Persian; 5, being hospitalized in CCU for at least 24 hours (9); and 6, undergoing dialysis for at least six months (10).

Patient satisfaction with nursing care was measured using a patient satisfaction instrument (PSI) at the beginning of each nursing shift. PSI has been adapted and validated in Persian by Hajinezhad (11). This instrument contains 27 items, scored on a five-point Likert scale: 1, totally disagree; 2, disagree; 3, uncertain; 4, agree; and 5, totally agree. Scores below 78 indicate dissatisfaction, scores $\geq$ 78 and $<$ 104 indicate moderate satisfaction, and scores $\geq$ 104 are indicative of satisfaction. The overall satisfaction was calculated for each patient by dividing the sum of scores by the number of responses (11). According to Cronbach's alpha, PSI has high internal consistency (0.9). The Persian version of this instrument has been widely applied by Iranian researchers (11).

All patients received an information sheet, explaining the study objectives, researchers' contact details, participant's right to withdraw from the study without any reason, and confidentiality/anonymity of all personal information provided by the participant. Written informed consents were obtained from the participants; there was also a brief explanation on how to complete the questionnaire. To ensure anonymity and confidentiality, the completed questionnaires were returned in a sealed box.

All data were collected by the corresponding author of this study. It should be mentioned that none of the researchers were involved in the clinical care of patients. Certain measures were taken to avoid duplication of samples at each hospital. Sampling of CCU patients was performed once a week, while sampling of dialysis patients was performed on two consecutive days per week until saturation.

Data were analyzed using SPSS version 20 (SPSS Inc., Chicago, IL, USA). Statistical analysis was performed using tabulated descriptive statistics (mean, standard deviation, and minimum/maximum values) for quantitative data and frequency tables for qualitative data. Gamma test was used to detect any relationship between patient satisfaction and educational level, age, and length of hospital stay. Fisher's exact test was also used to evaluate the relationship between patient satisfaction and gender, marital status, type of health insurance coverage, hospital unit, medical history, and history of hospitalization.

3. Results

More than half of patients (56.2%; n, 176) were male, with the mean age of 53.88 $\pm$ 12.53 years (range, 21 - 87 years). More than three-quarters of patients (75.1%; n, 253) had a high-school diploma or lower education. Nearly half of the patients (49.5%; n, 155) were covered by the social security insurance. Most patients had a previous admission experience in the CCU (72%) or dialysis unit (94%), while 82.7% (n, 259) had a history of cardiac or kidney disease (Table 1).

Our analysis showed that 34.8% (n, 109) of patients had complete satisfaction with nursing care, 64.9% (n, 203) had moderate satisfaction, and 0.3% (n, 1) was dissatisfied with nursing care (Table 2). The findings indicated that patient

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Table 1. Sociodemographic Characteristics of Patients

Characteristics	Values[a]
Age, y	53.88 ± 12.53
< 30	6 (1.9)
31 - 40	49 (15.6)
41 - 50	64 (20.45)
51 - 60	111 (35.45)
> 60	83 (26.6)
Duration of hospitalization, days	2.92 ± 3.05
< 3	171 (54.6)
4 - 5	90 (28.5)
6 - 7	36 (11.6)
> 7	16 (5.3)
Gender	
Male	176 (56.2)
Female	137 (43.8)
Level of education	
PhD	3 (1)
Master's degree	7 (2.2)
Bachelor's degree	47 (15)
Under graduate	21 (6.7)
High school	123 (39.3)
Below high school	112 (35.8)
PhD	3 (1)
Marital status	
Single	15 (4.75)
Married	251 (80.25)
Divorced	11 (3.5)
Widower	4 (1.28)
Widow	32 (10.22)
Units	
Hospital-A dialysis unit	56 (17.9)
Hospital-B dialysis unit	47 (15.0)
Hospital-C dialysis unit	33 (10.4)
Hospital-C CCU	44 (14.1)
Hospital-B CCU-1	45 (14.4)
Hospital-B CCU-3	54 (17.3)
Hospital-B CCU-4	34 (10.9)
History of hospitalization	
Yes	256 (81.79)
No	57 (18.21)
History of disease	
Yes	259 (82.7)
No	54 (17.3)

[a] Values are expressed as No. (%) or mean ± SD.

satisfaction with nursing care was not significantly associated with gender (P = 0.894), educational level (P = 0.674), marital status (P = 0.325), or medical history (P = 0.270). There was a significant relationship between patient satisfaction with nursing care and age (P = 0.0002), type of health insurance coverage (P < 0.001), hospital unit (P < 0.001), history of hospitalization (P < 0.001), and length of hospital stay (P = 0.034).

Self-insured patients were less satisfied with nursing care, compared to those who were covered by the social security insurance. The satisfaction level of patients covered by the social security insurance was 2.2 times higher than that of self-insured patients. Fisher's exact test confirmed a significant difference in satisfaction between the two groups (P < 0.001). The results of Fisher's exact test also indicated a significant difference in satisfaction between CCU and dialysis patients (P < 0.001).

The mean score of complete satisfaction with nursing care for dialysis patients (42.43%; n, 60) was higher than that of CCU patients (29.5%; n, 49). In dialysis patients, the lowest level of satisfaction was reported by patients admitted to the dialysis unit of hospital B (22.4%), while the highest level of satisfaction was reported by patients admitted to the dialysis unit of hospital A (62.5%). In CCU patients, the lowest level of satisfaction (13%) was recorded for patients admitted to CCU-3 of hospital B, while the highest level of satisfaction (44%) was attributed to patients admitted to CCU-4 of hospital B.

The gamma test showed a significant relationship between age and patient satisfaction; in fact, older patients (particularly ≥ 30 years) were more satisfied with nursing care, compared to younger patients (P = 0.0002). The results of Fisher's exact test revealed that history of hospitalization was significantly associated with patient satisfaction; in other words, patients without a previous admission experience were more satisfied with nursing care, compared to patients with a history of hospitalization (P < 0.001).

Furthermore, the gamma test indicated that increased length of hospital stay could decrease patient satisfaction with nursing care (P = 0.034). The Fisher's exact test also demonstrated that the satisfaction level of patients with shorter hospital stays or without previous admission experiences was five times higher than that of patients with longer hospital stays (P < 0.001).

4. Discussion

Patient satisfaction with nursing care is a major indicator of nurses' success in delivering services (12). Higher levels of patient satisfaction may encourage patients to adhere to treatment regimens, which can improve their outcomes (13). On the other hand, improving the quality of hospital services delivered to patients can create a positive perception about the hospital in the minds of patients (14).

This study showed that satisfaction with nursing care was at an average level for most patients. Other studies conducted in Iran indicated that the majority of patients

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Table 2. Patient Satisfaction with Nursing Care

Patient Satisfaction Level	CCU	Dialysis Ward	Total
Dissatisfaction (< 79)	0	1 (0.6)	1 (0.3)
Moderate level of satisfaction (79 - 104)	128 (70.5)	75 (56.63)	203 (63.57)
High level of satisfaction (≥ 105)	49 (29.5)	60 (42.77)	109 (36.1)

admitted to different hospital wards were moderately satisfied with nursing care (12-14). However, some studies from Iran found that most patients in different hospital wards were completely satisfied with nursing care (15-18). In this regard, Hajian (2007) in Babol, Iran, Seyf Rabiei and Shahidzadeh Mahani (2007) in Hamadan, Iran, and Seidi et al. (2005) in Tehran showed that most patients were completely satisfied with nursing care in different hospital wards (16-18).

Comparison of the results of studies on patient satisfaction with nursing care in Iran has revealed a reduction in patient satisfaction with nursing care in recent years (7, 9, 19). This decline may be partly due to the patients' increased awareness of their rights and the consequent increase in their expectations of the healthcare system. It may also reflect the poorer quality of health services delivered to patients, which may stem from the shortage of nurses at hospitals and their low level of job satisfaction (20). This highlights the need to identify the factors, which lead to dissatisfaction with hospital services, and to respect patients' rights and expectations of care as the main recipients of nursing services (21).

Patient satisfaction with the quality of nursing care differs from one country to another. Mtiraoui et al. (2002) reported that most patients hospitalized in six units of a hospital in Tunisia were highly satisfied with hospital services. Overall, 70% of patients admitted to male and female internal medicine wards, emergency wards, CCUs, dialysis wards, and surgery wards reported complete satisfaction. In addition, they found that patients with a better health status at discharge were more satisfied with nursing services (22). Janssen et al. (2013) examined the satisfaction of patients admitted to the internal medicine and surgical wards of six hospitals in Germany and found that 90% of patients were completely satisfied with nursing care (23).

In addition, Saaiq and Zaman (2006) in Pakistan measured satisfaction with various aspects of hospital care among neurosurgical patients and concluded that staff behavior was the highest rated area, while management was the lowest rated area of hospital services. They also found that dissatisfaction was more frequently reported by young patients, educated clients, males, and patients' relatives (24). In this regard, a study by Chan and Chau in Hong Kong (2005) found that 85% of patients were satisfied with nursing services in the emergency ward (25). Furthermore, in a study by Lee et al. (2008) from Canada, 91.7% of patients admitted with acute myocardial infarction were satisfied with the overall care (26).

Healthcare management should address effective factors in patient satisfaction with healthcare so as to improve and maintain a high level of patient satisfaction. Managerial attention to factors causing patient dissatisfaction and attempts to resolve these issues are seriously taken into consideration in developed countries (22). Factors contributing to patient dissatisfaction with healthcare, such as low nurse-to-patient ratio and high nursing workload, should be considered in the design of effective strategies to increase patient satisfaction with hospital care (26).

Studies demonstrate that geographical and cultural factors are important predictors of patient satisfaction. Therefore, they can account for the differences in patient satisfaction with the quality of nursing care in different countries (22, 24, 26). On the other hand, our analyses did not indicate a correlation between educational level and patient satisfaction. However, patients with educational levels higher than high-school diploma were 2.5 times less satisfied with nursing care, compared to those with less than high school diploma ($P = 0.006$).

Other studies have shown that patient satisfaction is inversely related to the level of education; the highest level of dissatisfaction was reported in individuals with university degrees (21, 24). This difference could be a result of variations in the expectations of the two groups. The observed difference between highly educated and less educated individuals in their satisfaction can arise from different levels of expectations. Joolaee et al. explained this difference by pointing to the fact that individuals with higher education have larger social networks and greater access to information resources. Therefore, people with higher education can clearly discern deficiencies and failures, which can lead to their dissatisfaction (12).

Our study revealed that patient satisfaction was not significantly associated with gender, which is in line with the findings of a study by Azami (14). The results of this study also showed that patients over 30 years were significantly more satisfied with nursing care. In this regard, Chan and Chau found that patients over 60 years were more satisfied with nursing services (25). In contrast, Saaiq

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et al. reported higher satisfaction in patients, aged 15 - 45 years (24). Akhtari-Zavare found no significant correlation between age and satisfaction (7). The association of patient satisfaction with age in the present study may be a result of improved education for younger patients or their tendency to freely criticize hospital services.

There was no significant association between patient satisfaction and marital status in the present study. In addition, no significant relationship was reported between medical history and patient satisfaction; these findings are consistent with earlier research (26, 27). However, contrary to previous studies (14, 25), patient satisfaction was found to be significantly related to type of health insurance coverage. In our study, patients with social security insurance were more satisfied with nursing care. This finding may be related to the fact that the majority of patients were covered by the social security insurance (5, 14, 20).

The present results showed that patient satisfaction was significantly associated with the type of hospital unit. It is difficult to compare our results with those published in the literature, as no similar study has been conducted on patient satisfaction in CCUs and dialysis units. In this regard, Joolaee et al. examined patient satisfaction with nursing care in a variety of hospital wards (excluding emergency departments, ICUs, CCUs, dialysis units, pediatric wards, and psychiatric wards) and found the highest satisfaction among patients admitted to the internal medicine wards (12).

Patient satisfaction with care was also reported to be significantly associated with ward settings in a study on cancer patients from five European countries and Taiwan. This study showed the highest satisfaction among patients of surgical wards (28). Differences were reported by Bredart et al. (2007) in the satisfaction of patients from different wards in European and Asian countries; the highest level of patient satisfaction was reported in surgical wards (28). In addition, Jorgensen et al. (2009) reported a significant difference in satisfaction among different hospital wards (29); this finding could be attributed to the difference in the nature of nursing and healthcare needs of patients.

Additionally, our study indicated that patients with no history of hospitalization were more satisfied with nursing care. In fact, patients with a history of hospitalization may have more information about clinical practices and quality of hospital services; therefore, they set more realistic expectations for their hospital stay. These patients claim that this type of information plays an important role in their satisfaction (13). However, it is not logical to compare our results with those of similar studies considering the differences in samples; cultural differences; variations in nursing workload in private and public hospitals or different wards; differences in healthcare systems; and variations in research methodologies.

This study had some potential limitations. We gathered data on patients admitted to public hospitals, which usually provide lower quality services than private hospitals in Iran. Another potential limitation is that the study sample is not representative of patients admitted to dialysis units and CCUs, as patients from lower socioeconomic classes are frequently admitted to public hospitals; therefore, it is important to keep these limitations in mind when interpreting the results. Notwithstanding these limitations, this study provides valuable insights for both nurses and health policymakers, who intend to effectively manage dissatisfaction with hospital care. In addition, our findings can make important contributions to the literature on patient satisfaction with nursing care.

4.1. Conclusion

This study showed that the level of patient satisfaction with nursing services was average in the surveyed hospitals. Therefore, level of patient satisfaction should be regularly monitored to improve hospital services. When patient satisfaction of nursing services is average, training of hospital staff, particularly nurses, and motivating them to promote patient satisfaction should be the priorities of hospital management. It should be noted that in the competitive healthcare market, medical institutions will be more successful if they pay attention to the satisfaction of their clients. In our study, no significant relationship was observed between patient satisfaction and gender, educational level, marital status, and medical history. On the other hand, age, type of insurance coverage, hospital ward, history of hospitalization, and length of hospital stay were significantly associated with patient satisfaction. Future research should determine the relationship between these factors and patient satisfaction and focus on factors affecting nursing performance in CCUs and dialysis wards. Moreover, further research is needed to determine and compare patient satisfaction in governmental and private hospitals. Similar studies are also recommended as part of a continuing process to evaluate the quality of services in all Iranian hospitals and to improve the quality of services.

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Footnote

Conflicts of Interest: The authors declare no conflicts of interest.

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