



## Effect of evidence-based nursing guidelines implementation on satisfaction of the patients hospitalized in cardiac care unit

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### ARTICLE INFO

Article type:  
Original article

Article history:  
Received: 24 Jan 2013  
Revised: 6 Aug 2013  
Accepted: 16 Dec 2013

Key words:  
Acute coronary syndrome  
Evidence-based nursing guidelines  
Patients' satisfaction

### ABSTRACT

**Aims:** Evidence-based nursing guidelines are important tools in increasing the quality of nurses' clinical work. Assessment of patient's satisfaction is one of the most important indicators of measuring quality of provided care to patients. This study has been done with the aim of determining the effect of evidence-based nursing guidelines implementation on satisfaction of the patients with acute coronary syndrome hospitalized in cardiac care unit (CCU).

**Methods:** This two-group clinical trial study was carried out in Hazrat Fatima (SA) hospital in Kerman on 90 patients in 2014. Before and after implementation of guidelines education program, patients' satisfaction rate was measured by patient's satisfaction standard instrument (PSI) and data was evaluated by SPSS<sub>19</sub> statistical software and by using mean and standard deviation descriptive statistics and t-test and chi-square inferential statistics.

**Results:** Patients satisfaction before intervention, with mean score of 104.2(9) was in moderate level and after intervention, with mean score of 116.4(52) was in good level of satisfaction  $p=0.000$ .

**Conclusions:** Evidence-based nursing guidelines implementation improved patients' satisfaction regarding nursing care. Therefore it is suggested to the officials and managers of hospitals and educational centers of health-treatment services to put evidence-based nursing guidelines education in their agenda.

Please cite this paper as:

Zamani Babgohari Kh, Mokhtari Nouri J, Khademolhoseini SM, Ebadi A. Effect of evidence-based nursing guidelines implementation on satisfaction of the patients hospitalized in coronary care unit. Iran J Crit Care Nurs. 2014;7(1):23-30.

### 1. Introduction

According to the world health organization, one of the main reasons of death in the world is cardiovascular disease (thirty percent of all death in the world). Almost 23.6 million people will die until 2030 due to cardiovascular

diseases. It is predicted that cardiovascular diseases will remain as the main cause of death [1]. In Iran coronary artery disease is the main cause of death and disability and it has high treatment cost.

Although there is no clear statistic regarding the prevalence of coronary artery disease, according to the done studies in Iran, death due to coronary artery disease has been increased to

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almost 20 to 45 percent [2]. Considering high prevalence of coronary artery Diseases, health care provider systems should try for improvement, treatment and taking care of these patients. Clinical team, especially nurses because of their important role in taking care of the patients should be coordinated with the latest developments regarding clinical cares and should keep their clinical information up to date [3].

Evidence-based nursing has been discussed in hospitals and related education centers in recent years. Evidence-based nursing means the best research evidences with clinical expertise and skills and considering patient's needs and situation [4]. Evidence-based nursing guidelines are the golden standards for providing nursing care by relying on the best research evidences, clinical experiences, expertise views, society standards, valid research evidences and patients' views and values [5] and they are the most important tools for evidence-based and effective clinical work to improve the quality of taking care of the patient [6].

Correct use of the evidences and findings of the research leads to improvement of the quality and makes the nurses accountable to their performance [7]. The amount of using evidence-based approach by considering its appropriate results is really inappreciable [8] and the need of cares quality improvement with evidenced-based method in nursing and health staff is suggested [9].

One of the indicators of nursing cares assessment is the level of patient's satisfaction of care [10]. Patient's satisfaction is one of the key indicators for determining quality of the provided care [11]. Nowadays, the main focus of the treatment process is the patients and patients' satisfaction of health services indicates this issue. Health staffs have the sense of responsibility for the patients' satisfaction and they are aware of the importance of accountability to biological, psychological and social needs of the patients [12].

Patient's satisfaction is an important tool both for care improvement and evaluation; so it is necessary to do some surveys in the society or in the centers repetitively for introducing better services and clear performance of health care systems [11].

Patient's satisfaction is a criterion for determining the effectiveness of medical treatments and care quality and it is an important factor in patients' compliance of treatment, treatment procedure and important behavioral changes. Researchers showed that patients' satisfaction of nursing cares increases patient's compliance of medical treatments and regular follow-up after discharge [13].

Studies in Iran regarding patients' satisfaction reported different results and it was not satisfactory specifically in education dimension. According to the conducted searches, the effect of evidence-based nursing guidelines implementation on patients' satisfaction was not measured so far; so the present study is done with the aim of determining the effect of evidence-based nursing guidelines implementation on patients' satisfaction.

## 2. Methods

This is a before and after clinical trial study that was done for 90 patients hospitalized in CCU of Hazrat Fatimah hospital of Kerman in 2013 and 2014. 45 patients were in pre-intervention group (control group) and 45 patients were in post-intervention group (experimental group). Inclusion criteria for the patients included; patients hospitalized in CCU with diagnosis of acute coronary syndrome that were hospitalized more than 24 hours, they have the ability of communication, they are not involved with long-term complication of associated diseases and also they were not hospitalized because of surgery. Sampling of the patients was done through convenient non-probable method.

Used tools in this study are dichotomous. The first part of the questionnaire is demographic features of the samples and the second part is the valid patient's satisfaction instrument PSI).

For measuring patient's satisfaction nursing care quality questionnaire was used. This questionnaire was modified and translated to Persian by Hajizadeh [14] and some minor changes were done by Jolayee.

The initial questionnaire contains 25 questions and three sub-scales (technical-professional care, trust and education to the patient) that one question is added to it in revision. Every question was ranked from completely agree (score 5) to completely disagree (score 1) according to five-part Likert spectrum. Fourteen questions were positive and 12 questions were negative and their scores were calculated inversely. Score less than 78 was evaluated dissatisfied, 78 to 104 moderate satisfaction and over 104 complete satisfaction. After the changes, this questionnaire was used by Jolayee et al. and for confirming content validity, it was given to 10 faculty members who had expertise in this field and their suggestions were considered in the questionnaire modification [15].

This questionnaire had been used in other studies such as Hajinejad et al. in 2008 [16] and its validity and reliability were confirmed for the last studies. Reliability of the patient's satisfaction instrument was confirmed by Jolayee et al. (2011) through re-test by correlation coefficient of 0.92. Also reliability of the questionnaire was calculated cronbach alpha 0.90 by Jolayee et al. [14].

Patients' satisfaction questionnaire was completed by the patients and in the case of patient's illiteracy or low literacy, the questionnaire was completed by the researcher. Patients were ensured that the information will remain confidential. Also patients' written consent was taken for freely participation in the study. For doing the research, after taking permission from the educational managers and authorities of the hospital, questionnaires were completed before the intervention. For doing the intervention, since care guidelines implementation was according to the nursing procedure, registration forms of process steps including treatment sheet, nursing care sheet,

nursing report sheet, discharge instruction sheet were attached to the patients' medical records. Evidence-based nursing guidelines, nursing process and the method of documenting its steps were educated to the nurses theoretically in the workshop by one of the faculty members of nursing college of Baqiyatallah Medical Sciences University during four two-hour sessions. Initially, the project was performed for two months educationally. During this time, the researcher controlled the records by her constant presence and the modifications were done by the help of members of the research team and the nurses were given feedback, then sampling was started after intervention. At the end of the sampling, the collected data in control and experimental group was assessed and compared by SPSS<sub>19</sub> statistical software and by using mean and standard deviation descriptive statistics and inferential statistics of independent-t and chi-square.

### 3. Results

Patients of the study were in the age range of twenty to eighty years old. The mean age of the patients before intervention was 59.98 (10.92) and after intervention was 62.69 (11.07) and the duration of patients' hospitalization before and after intervention was reported 3.51 (1.05) and 3.31 (1.55) respectively. In terms of gender in both stages most of the patients were women (60 percent). Independent t-test and chi-square showed that control and experimental groups regarding three variables of age, gender and the time of hospitalization are the same ( $p > 0.05$ ). also chi-square test showed that two control and experimental groups were same regarding education level, marital status, hospitalization history and family history ( $p > .05$ ) (Table 1). Comparison of the patients in both groups before and after intervention regarding the situation at the time of discharge showed significant difference ( $p < .05$ ) (Table 2).

Data analysis of the patients' satisfaction instrument through independent t-test showed that the mean score of the patients' overall satisfaction before intervention was 104.2 (9)

and after intervention was 116.4 (52) and significant difference  $p < 0.05$  was observed statistically (Table 3).

#### 4. Discussion

Patients' satisfaction score was improved by education and implementation of evidence-

Table 1: Frequency distribution of the patients' demographic features in two groups before and after intervention

Frequency	Criteria	Control group Number (percent)	Intervention group Number (percent)	test	Significant level
Gender	Male	18 (40)	18 (40)	Chi-square	$\chi^2 = 0.000$ $p = 0.99$
	Female	27 (60)	27 (60)		
Educations	Illiterate	26 (57.8)	24 (53.3)	Chi-square	$\chi^2 = 62.7$ $p = 0.106$
	Lower than diploma	8 (17.8)	14 (31.1)		
	Diploma and higher	11 (24.4)	7 (15.6)		
Marital status	Married	43 (95.6)	45 (100)	Chi-square	$\chi^2 = 2.04$ $p = 0.15$
	Single	2 (4.4)	0		
Employment status	Housewife	23 (51.1)	23 (51.1)	Chi-square	$\chi^2 = 0.910$ $p = 0.634$
	Employee	13 (28.9)	16 (35.6)		
	Self-employed	9 (20)	15 (16.7)		
Hospitalization history	Have	31 (68.9)	33 (73.3)	Chi-square	$\chi^2 = 0.216$ $p = 0.642$
	Doesn't have	14 (31.1)	12 (29.7)		
Family history	Have	26 (58.8)	22 (48.9)	Chi-square	$\chi^2 = 0.714$ $p = 0.398$
	Doesn't have	19 (42.2)	23 (51.1)		
Age	Year	59.98 $\pm$ 10.92	62.69 $\pm$ 11.07	Independent t	$t = 1.169$ , $df = 88$ , $p = 0.245$
Hospitalization time	Number of the hospitalization days	3.51 $\pm$ 1.05	3.31 $\pm$ 1.55	Independent t	
				$t = 0.715$ , $df = 88$ , $p = 0.476$	

Table 2: Frequency distribution of the patients' situation at the time of discharge in two groups

The situation at the time of discharge	Group	Control group Number (percent)	Intervention group Number (percent)	Chi-square test
Feeling weakness and lethargy		14 (31.1)	3 (6.7)	$\chi^2 = 9.229$ $p = 0.010$
Feeling healthy		31 (68.9)	42 (93.3)	

Table 3: The mean of patient's satisfaction of nursing cares in the two groups

Group	Control M $\pm$ SD	Intervention M $\pm$ SD	Independent t-test
Patient's satisfaction areas			
Professional technical	28.86 $\pm$ 3.3	33.51 $\pm$ 2	$T = -7.9$ , $p = 0.000$
Trust	52.9 $\pm$ 4.5	57 $\pm$ 2.7	$T = 5.2$ , $p = 0.000$
Education	22.3 $\pm$ 3.7	25.8 $\pm$ 2.8	$T = 4.9$ , $p = 0.000$
Complete satisfaction	104.2 $\pm$ 9	116.4 $\pm$ 52	$T = -7.7$ , $p = 0.000$

based nursing guidelines. Comparison of the patients' satisfaction level according to the studies in recent years shows that by passing times, patients' satisfaction level of nursing services is decreasing, it can be due to increased awareness of patients about their rights and health cares and as a result their increased expectations of health care delivery system.

Regarding patients' satisfaction level before intervention, findings of the present study were in consistent with the findings of the study of Jolayee et al. in Tehran [15], Ghamri Zareh et al. [17] and Jolayee et al. in different cities [18]. While the results before intervention are not in consistent with the results of Aazami and Akbarzadeh [19], Hajiban et al. [20] and Ebrahimnia et al. [21], in these studies patients' satisfaction level of nursing services was reported high.

Regarding the results after intervention, these findings are in consistent with the findings of the study of Gelikomen et al. that assessed relationship between patients' satisfaction and following clinical guidelines [22] and the study of Novipour et al. that measured satisfaction of the surgery ward patients before and after intervention [23]. Also Mikayeel evaluated the effect of performing pain management guidelines in children in a before and after experimental study; results of the study had a positive effect on satisfaction of the patients or their parents [13].

Also study of Alana on surgery patients showed that educating guidelines of treatment to the patients, surgery result, cares after surgery and follow-up after discharge caused high satisfaction in the patients [24].

In the present study, the achieved scores in different areas of satisfaction showed significant difference between groups before and after intervention: scores of all the areas were increased after intervention and it shows that evidence-based nursing guidelines implementation had remarkable effect on patients' satisfaction increase. In this study, patients in "trust subscale" had the highest

score from patient's satisfaction instrument. This finding is in consistent with the study of Jolayee et al. [15], but it is not in consistent with the study of Hajinejad et al. [14], Woulf et al. [25] and Azizi et al. [26].

In the mentioned studies, patients announced their highest consent of professional-technical care. The reason of high satisfaction of the patients of trust in this study can be related to the intervention, since evidence-based guidelines can be known as golden standards for providing safe and compassionate care [27] and nursing process causes effective relationship between patient and nurse and increases participation in self-care [7].

Bahador et al. also showed in their study that patient in intensive care unit had more satisfaction in terms of trust in compare with other units of the study and it is because of time spent for taking care of the patients, more relationships with the patients due to absence of the relatives, limitations of the meetings and necessary nursing measures regarding reducing patients' stress and anxiety [28].

Regarding the effect of trust on satisfaction, Ching Sheng et al. (2013) in a evidence-based clinical study showed that understanding the quality of services among the patients have positive effect on their satisfaction, also Ching Chi writes by quoting from Foustier: "understanding the quality of services have positive and significant effect on the customer's trust; totally medical services staff should develop relationship of trust with the patients in order to increase patients' satisfaction" [29].

Joseph et al. showed that trust has positive and direct effect on the satisfaction result [30]. Researchers stated that trust creates a sense of greater value to the customer. Sense of greater value to the customer causes decrease of cost and increase of customer's satisfaction [29]. Trust is an important factor in keeping relationship between service provider and the customer's satisfaction [31]; regarding this issue, David in his study showed that person-centered care means care providers give importance to the patient as a person; it

increases selection of the same center again by the patient to 71 percent [32].

According to the study of Ching Sheng, increased sense of trust is due to understanding services quality; in this study patients had more satisfaction of the provided services quality that shows the effect of evidence-based nursing guidelines implementation on the care quality increase.

In this study patients' satisfaction of professional-technical care before intervention was higher than moderate and after intervention it was stated complete. This finding indicates the effect of evidence-based guidelines implementation on the quality increase of the nursing cares.

In the present study the least score of satisfaction was given to the education by the patients, this finding is in consistent with the study of Jolayee et al. [15], Woulf et al. [25], Hajinejad et al. [14], Negarandeh et al. [33] and Azizi et al. [26]. Tailver reported that shortage of nurse in the hospital and forcing them to do medical actions and nursing cares that lead to having less time for educating patient is the reason of lack of ideal satisfaction of the education [34]. Also in the study of Kalich et al., patients at the time of discharge indicated that lack of enough education is one of the factors leading to patient's re-hospitalization [35]. In the study of Omidvari et al. also most of the patients' satisfaction was because of nurses' explanations about necessary issues [36].

Benmourdchay et al. that measured the effect of educating guidelines at the time of discharge on the situation of orthopedic patients stated that this method improves patients' satisfaction and also pain management and makes better performance status [37]. In the same study, Madarshahiban et al. evaluated the effect of education through evidence-based method on the level of patients' satisfaction and the results were increase of satisfaction in all the areas especially in education [38]. Madarshahiban stated that more patients' satisfaction of

education is due to more reading of the students in answering and educating patients.

Study of Momeni et al. in 2013 in Lorestan, Chaharmahal-o Bakhtiari and Markazi showed that educational activities of the students beside patients' bed increased their satisfaction [39].

Moderate satisfaction of the patients regarding education is due to inadequate attention of the nurses to education. Educating patient increases the level of patient's satisfaction and finally life quality and this issue is the main aim of health group activities [40]. Improvement of educating patients in nursing part does not only need education equipment, institutional facilities and professional education, but also it can improve care quality and as the result, patient's satisfaction of care [41]. Providing oral or written information about preventing or controlling disease increases patients' satisfaction [42].

Educating health to the patient is one of the most time-consuming and repetitive dimensions of providing health services and meaning while, it is one of the most important dimensions of providing health services. Patients are very eager to achieve information about their situation, but unfortunately, in most of the cases due to the shortage of time and high number of the patients, educational aspect of taking care of the patient is ignored [43]. People's view and attitude, especially of nurses are not affectless in this regard and it seems that if the named people have positive attitude towards this issue, the first step in improving this important issue will be taken [44].

## 5. Conclusions

Evidence-based nursing guidelines implementation in taking care of the patients increases patients' satisfaction level of nursing cares. So it is necessary that the authorities and educational managers of the hospitals ,in addition of having information regarding the importance of evidence-based guidelines as the valuable standards in providing services, develop and perform necessary strategies for implementing this important issue.

## 6. Acknowledgments

This article is extracted from a thesis approved by Baqiyatallah Medical Sciences University in Tehran in 2013 and 2014 with financial support of cardiovascular research center of Baqiyatallah Medical Sciences University. In this regard we thank and appreciate financial assistance of deputy of research of the University. Also we thank and appreciate Hazrat-e Fatimah hospital administrator, managers Kerman specially the head nurse and all the nurses working in coronary care unit that helped us sincerely in collecting information and better performance of this project.

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