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Health Man & Info Sci 2025, 12(3), 139–148

HMIS
Health Management and Information Science

Original Article

The Quality of Hospital Discharge from the Perspective of Stakeholders: A Case Study in Iran

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Abstract

Introduction: Today, the importance of hospital processes and the improvement of the quality level of hospital services are felt more pronounced than ever due to the rapid growth of technology. The satisfaction of patients and improving the quality of care is one of the important indicators in hospital care. The purpose of the current research is to determine the quality training of hospital discharge from the perspective of the beneficiaries.

Methods: This is an mixed method research study. The research community included patients and their companions and nurses. The sample size of the research was 277 patients, 286 patients' companions, and 114 nurses. Sampling of patients and their companions was done in the form of available sampling. Sampling nurses, the census method is used. In order to collect the required information a questionnaire called the Quality of Discharge Training Scale (QDTS).

Results: The average score of the quality dimensions of the discharge showed that most patients (11.07±5.09) and patient companions (11.75±5.15) need to be taught the content received from nurses were at the time of discharge. If the content received from the providers was not optimal from the point of view of patients (17.92±5.35) and patients' companions (17.77±5.25) and it is higher than the average.

Conclusion: The results indicate that patients and their companions require education regarding the information provided by nurses at the time of discharge. Managers should be aware of the unique characteristics of different departments, providing relevant guidance and assistance.

Keywords: Patient Discharge, Quality Discharge, Patient Education

Article History:
Received: 5 March 2025
Accepted: 15 June 2025

Please cite this paper as:
Behzadi Nezhad M, Jafari A, Bahrami MA. The Quality of Hospital Discharge from the Perspective of Stakeholders: A Case Study in Iran. Health Man & Info Sci. 2025; 12(3): 139-148. doi: 10.30476/jhmi.2025.103267.1227.

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Introduction

Today, the importance of the hospital, hospital processes and the improvement of the quality level of hospital services are felt more than ever due to the rapid growth of technology. The hospital is responsible for ensuring the health of patients, and the satisfaction of patients and improving the quality of care is one of the important indicators in hospital and nursing care and the main factor determining the quality of hospital services. In addition to facing the risks of hospitalization after discharge, patients also face serious risks, including the progression of the underlying disease to the creation of problems that did not exist before the patient was admitted to the hospital (1-4). Therefore, the period of discharge from the hospital is a critical time for the patient during hospitalization. Patients experience anxiety that they have insufficient understanding of discharge instructions, and the word discharge is associated with fear and anxiety for the patient. One of the important issues that reduce frequent visits and the duration of hospitalization is education and correct communication with patients. According to studies conducted in Iran, only 56.8% of patients received the training provided by care providers during discharge. They had information and knowledge, and other patients did not have enough knowledge (5, 6). The duty of hospitals is to ensure the discharge of patients from hospital care in an efficient and quality manner. This is due to the trend of shorter stays in hospitals and more social care and home

care, the increase in the number of high-risk and elderly patients, the period of recovery and recovery of patients after discharge without the benefit of continuous medical and nursing care, and the opportunity for planning It has reduced the discharge and education of patients and this issue has become increasingly important (7, 8).

Due to the lack of resources, medical issues, the limitations of health-medical centers, different reasons regarding the need to educate patients, during hospitalization and at the time of discharge for patients who have not yet regained their full health and continue treatment and They spend their convalescence at home, there is. The high quality of education will prepare the patient with problems after discharge and self-care at home, desire to take medications regularly, prevent re-hospitalization due to inadequate understanding of education and timely referral in emergency cases. Therefore, continuity of care and discharge planning in healthcare is a necessity. And considering the necessary facilities, suitable and experienced manpower, allocation of time and place, attention should be paid to this matter (6, 9). Teaching patients is one of the main responsibilities of nurses with the aim of gaining independence in self-care. Despite the knowledge of nurses about their responsibilities and duties, this importance is not understood by nurses and they should benefit from the principles of teaching patients by gaining understanding and skills (10).

The most common complications of unsafe discharge are related to drug ambiguities or complications related to drugs. In two studies by Alan Forster et al., it was shown that about 20% of patients had complications caused by unsafe discharge, of which about 70% were related to problems It was medicine. Also, in the first study, 25% and in the second study, 30% of people had symptoms and problems with temporary disability. Also, 3% of people in both studies suffered permanent disability and 3% died due to unsafe discharge. Also, these studies showed that more than 50% of complications were preventable (11, 12). Victoria Moore's study investigated the causes of unsafe discharge in various articles and databases and suggested that one of the most common causes of unsafe discharge is the communication disorder between the patient and the medical team, such as the non-participation of the patient's companions during discharge, lack of proper communication between the patient and the medical team. There is a hospital team and an after-hospital care team (13).

One of the most important reasons for the communication problem is the lack of a proper case summary and proper treatment plan after discharge (5-7). In a study conducted in Ottawa, Canada, it was shown that in 792 patients, only 15% of the patients had a summary of the case discharged from the hospital (14).

In another study in the Netherlands, 52% of hospital doctors and 63% of general practitioners were dissatisfied with the transfer of hospital information to doctors. In a study conducted by Coleman et al. in 2005, it was shown that 14.1% of patients had at least one medication ambiguity when they were discharged from the hospital (15).

Patient understanding of key aspects of post-discharge care is poor and written documentation does not adequately reflect patient understanding of post-discharge care. In a study conducted by Laura Hortiz et al. in the United States, it was shown that 59.6% of patients could accurately describe their diagnosis in post-discharge interviews, and 32.6% of patients who scheduled appointments after After recovery, only 43.9% of patients remembered the details of each session accurately (16).

Reducing readmissions has the potential to improve quality of life and the financial well-being of healthcare systems. The cost of unplanned readmissions in the United States is $15-20 billion per year (17). In a study conducted by Jenks et al., it showed that 19.6% of Medicare patients who were discharged from the hospital were readmitted within 30 days, and 34% were readmitted within three months after discharge, which is 50.2% Of the patients who were readmitted one month after discharge, during the period between discharge and readmission (18). Therefore, the transfer from the hospital is a vulnerable period with side effects and the final discharge is not the end of the hospital's obligations, but the care providers promote a safe and efficient transfer through proper discharge planning and effective communication with patients and their family members, and the gap between Complete inpatient and post-discharge care (19).

According to the mentioned cases, it is necessary to improve the quality of the process of providing health care to patients at the time

of discharge. There have been studies that have examined the quality of the hospital discharge process, but it is clear that there are still challenges in providing healthcare to patients at the time of discharge. Therefore, knowing the weaknesses and strengths and problems during and after discharge can help to improve and focus for the discharge of patients, comply with self-care, improve clinical results and reduce complications and costs of care.

Methods

This is an analytical, applied and cross-sectional research study conducted in 2023. It was conducted in Imam Khomeini Hospital, Kangan County, Bushehr Province. The hospital was selected because it was a referral hospital. The research community included patients, their companions, and care providers. The sample size for the patients' and patients' companions' community was determined by considering that the study population included all patients and patients' companions on a daily basis at the time of discharge from the hospital, considering α=0.05 (type I error), d=0.06, and P=0.05, using the Cochran formula, the sample size for the patients' group was at least 267 patients and the companions' group was at least 267 people. The sample size for the nurses' community was also determined by the census method, given that the study population included all hospital nurses. The inclusion criteria for patients and their companions required a minimum level of literacy and a willingness to participate in the study. For care providers, given that the study population encompassed all individuals delivering medical care in the hospital, a census method was employed to determine the sample size. The inclusion criteria for care providers included a minimum of two years of work experience in the hospital and a willingness to participate in the study. Data collection was conducted using a questionnaire administered through face-to-face interviews with patients and their companions at the time of discharge, as well as with care providers. After obtaining informed consent, the questionnaires were provided to the individuals for completion.

To gather the necessary information for this research, a questionnaire featuring closed-ended questions was utilized. The data for this study were collected using the Quality Discharge Training Scale that has been published in Marquette University (20). To assess the face validity of the questionnaire, it was translated into Persian, and the content validity of the questionnaire was also examined using the Content Validity Ratio (CVR) designed by Lavsheh. To calculate this ratio, the opinions of 10 experts were used. In order to examine the reliability of the questionnaire, 30 questionnaires were completed separately by patients, companions, and care providers, and their reliability was examined by calculating the Cronbach's alpha coefficient. (Table 1).

The respondents answered the questions of this questionnaire on a five-point Likert scale (1: very high, 2: high, 3: moderate, 4: low, 5: very low). After completing the questionnaires, the average score of each question and the dimensions of the questionnaire were calculated. The analysis method was using spss25 software and descriptive statistics including mean, standard deviation, frequency and percentage. The data of this research was designed using the following dimensions and questionnaires:

1- Questionnaire of demographic factors containing (variables of age, sex, level of education)

2- The score questionnaire of the required content and received content: including 6 two-part questions

3- Evaluation of teaching skills and effectiveness: including 13 questions

4- Comparison of required content score and received content

Results

The results of the statistical description about the gender variable of patients, companions and participating nueses indicate that out of a total of 277 statistical samples of patients, 39.7% (110 people) were male, 60.3% (167 people) were female, from the total 286 statistical samples of patients' companions, 58% (166 people) were men, 42% (120 people) were women, and out

Table 1: Reliability study of research questions

	Number of questions	Cronbach's alpha coefficient
Patients	25	0.90
Companions	25	0.81
Nurses	19	0.94

of the total 114 statistical samples of nurses, 15.8% (18 people) were men, 84.2% (96 people) were women. The age of most of the patients is 40.1% (111 people) and the age of most of the companions is 38.1% (109 people) is 35 years and above, and the age of most of the providers is in the age range (26-30) of 35.1% (40 people). The results showed that most patients, 67.5% (187 people) and companions, 54.9% (157 people), had a diploma or lower education level, and most of the nurses had bachelor's education, 93% (106 people). Most of the patients 77.6% (215 people), companions 81.1% (232 people) and nurses 71.1% (81 people) were married. Most of the examined patients were unemployed, 48.4% (134 people) and most of the companions were employed, 58.4% (167 people). Also, a higher percentage of the investigated patients were hospitalized in the gynecological surgery department, 23.8% (66 people), and no patient was examined in the pediatric department and NICU due to the lack of inclusion criteria. A higher percentage of patients with social security insurance 58.1% (161 people), as well as a higher percentage of patients (48%) and companions of the patient (50.3%) assessed the patient's health status as good at the time of discharge. In terms of employment relationship, most of the nurses, 49.1% (156 people), were employed officially. Also, nurses were employed in the departments of general surgery, gynecological surgery, pediatrics, ICU, CCU, NICU, emergency hospitalization, maternity hospital, operating room, and a higher percentage of providers were employed in the operating room department (26.3% (30 people). The mean and standard deviation of the score of the quality dimensions of the discharge process from the perspective of patients, patient companions and nurses showed that most patients (11.07±5.09) and patient companions (11.75±5.15) need to be taught the content received from nurses were at the time of discharge. If the content received from the providers was not optimal from the point of view of patients (17.92±5.35) and patients' companions (17.77±5.25) and is lower than the average. If most nurses (13.29±4.37) were satisfied with the quality of the content they provided to patients and companions at the time of discharge and it was favorable. and the evaluation of teaching skills and effectiveness from the perspective of patients (33.82±10.23) and patients' companions (31.83±11.26) and nurses were not reported at an optimal level (28.60±7.62) and It is lower than average. (Tables 2, 3, 4).

A higher percentage of patients (58.1 percent), patient companions (52.8 percent) and nurses (49.1 percent) evaluated the discharge quality as average. And from their point of view, the performance status of the discharge quality has been moderately high (Table 5).

The Kruskal-Wallis correlation test was used for the age and education variables, and the Mann-Whitney correlation test was used for the gender variable. The results of the correlation analysis of discharge quality from the patients' perspective with age variables showed that there is no significant relationship between the variables (age, gender and level of education) and discharge quality in all three dimensions. ($P<0.05$). The results of the correlation analysis of

Table 2: The average score of the quality of discharge from the perspective of the patients

Dimensions	Minimum	Maximum	Average	Standard deviation
Content required at the time of discharge	6	30	11/07	5/09
Content received at the time of discharge	6	30	17/92	5/35
Evaluation of teaching skills and effectiveness Average	13	65	33/82	10/23

Table 3: The average score of the quality of discharge from the perspective of the patient's companions

Dimensions	Minimum	Maximum	Average	Standard deviation
Content required at the time of discharge	6	30	11/75	5/15
Content received at the time of discharge	6	30	17/77	5/25
Evaluation of teaching skills and effectiveness Average	13	65	31/83	11/26

Table 4: The average score of the quality of discharge from the perspective of the nurses

Dimensions	Minimum	Maximum	Average	Standard deviation
Content received at the time of discharge	6	47	13/29	4/37
Evaluation of teaching skills and effectiveness Average	13	65	28/60	7/62

Table 5: The Status of discharge quality performance from participants' perspective

Participants	Patients		Patient companions		Nursing	
Quality of hospital discharge	**Number**	**Percentage**	**Number**	**Percentage**	**Number**	**Percentage**
Weak	61	22	58	20/3	5	4/4
Medium	161	58/1	151	52/8	56	49/1
Very good	53	19/1	62	21/7	45	39/5
No answer	2	0/7	15	5/2	8	7

the discharge quality from the perspective of the patient's companions with age variables showed that there is a significant relationship between the age variable and the discharge quality score in all three dimensions (P<0.05). And with the increase in the average age, the understanding of the patients' companions about the quality of the discharge process has increased. The results of the correlation analysis of the quality of the discharge process from the perspective of the patient's companions with the variables of gender and level of education showed that there was no significant relationship between the variable of the level of education and the score of the quality of discharge in all three dimensions (P<0.05).

Discussion

In this study, the average and standard deviation of the quality of care received in the hospital from the point of view of all three groups of participants showed that the participants were satisfied with the quality of care during hospitalization and it was at an optimal level. Also, in this study, most of the patients and the patient's companions believed that the performance status of discharge quality was average and the level of understanding of patients and companions about the quality of discharge was reported to be average, while most of the nurses believed that the performance status of the discharge quality was in have reported an average to high limit. In this study, the mean and standard deviation of the scores for the dimensions of discharge quality from the perspective of patients and companions showed that most of them needed to be taught the content received from nurses at the time of discharge. If the dimension of the content received from the providers and the dimension of the evaluation of the skill and effectiveness of the training is not at the optimal level and is lower than the average. However, the field of evaluation of skills and effectiveness of training from the point of view of all three groups of stakeholders has not been reported to an optimal level. Also, the results of the correlation test between the dimensions of the quality of the discharge process from the perspective of patients and companions and the variables of age, education and gender showed that there is no significant relationship between all three variables and the three domains of the patients' questionnaire, and the patients' understanding of the quality of discharge has not changed in all three dimensions. However, in the results of the correlation test of the patient's companions, there is a significant relationship between the dimensions of discharge quality and the age variable, and with the increase in the average age of the patient's companions, the perception of the quality of the discharge process has increased. However, there is no significant relationship with the variables of education and gender, and the understanding of the companions about the quality of discharge has not changed. This study showed that there is a difference between the views of nurses and patients and companions on the quality of discharge and the average score of nurses on the quality of discharge is higher than that of patients and companions.

Yang Miao and his colleagues (2020) in a study titled Quality analysis of discharge instruction among 602 hospitalized patients in China used a demographic questionnaire and a quality scale of discharge education as in the present study to collect data. In this study, most of the married patients were over 60 years old, male, had a high school education, and were unemployed. The results of the research showed that the average of the received content dimension was higher than the average of the required content dimension in most cases and the patients were satisfied with the quality of discharge, but the average of the skill and effectiveness of training was lower than the overall average. Also, Yang et al. concluded that the level of patients' understanding of the quality of discharge was moderately high (21). The findings of this study are the same with

the results of the present study regarding the demographic variables of the patients, including marriage, education and employment status, but the average of the required content dimension of the participants of the present study is higher than the average of the received content dimension, and the patients had a greater need for the quality of discharge education. If most providers were satisfied with the quality of the content they provided to patients and companions at the time of discharge, it was desirable. And both researches have reported that the level of understanding of the patients and their companions about the quality of discharge is moderately high.

In a study by Wei Kai (2020) and his colleagues, they examined the readiness of parents for hospital discharge in children with acute leukemia in a cross-sectional study in China. And to collect the data, they used questionnaires for training the quality of discharge and preparation for discharge. The results of the research showed that the average dimension of required content was lower than the dimension of received content. Wei Kai et al concluded that the parents' readiness for discharge was at a high level and they had the ability to care for their patient after discharge (22). The findings of this study are different from the results of the present study regarding the comparison of the average of the two dimensions of required content and received content in this study with the results of the present study, but in both studies, the preparation and understanding of the patient's companions was reported at a high level.

Also, Noorhayati his colleagues (2019) in a cross-sectional descriptive study on surgical nurses who were purposefully selected from the general surgery departments of four public hospitals in Indonesia, investigated the perception of surgical nurses towards the quality of discharge training and to collect data such as research They have used the discharge education quality questionnaire. Most of the participants were women. The total average quality score of the discharge education perceived by the surgical nurses was at the average level regarding the two main areas (required and received information), the area of the amount of received information was reported to have a higher score than the required one. The findings of this study showed that the quality of discharge education perceived by surgical nurses is at an average level (23). The findings of this study are similar to the results of the present study regarding patients' understanding of the quality of the discharge process. However, regarding the comparison of the average of the two domains of required content and received content in Noorhayati's study, it is different from the results of the present study, and in the present study, the average information required by patients at the time of discharge is more than the received information, and patients and companions felt more need than the received content. Also, in this research, the highest level of dissatisfaction is about the amount of receiving information regarding the management of the patient's emotions after going home, the amount of training regarding medical treatments and drugs, the amount of receiving information regarding emergency contact after discharge, and The views of most of the companions show the highest average level of dissatisfaction at the time of discharge to the extent of receiving information about the care of the patient after going home, and the highest average satisfaction in both groups of patients and companions is related to the nurses listening to them during the hospitalization period.

In another study, Horwitz his colleagues (2013) examined the quality of discharge practices and patient understanding in an academic medical center of patients aged 65 and older who were hospitalized due to acute coronary syndrome, heart failure or pneumonia and were discharged from the hospital. They concluded that patient perceptions of discharge care quality and self-rated perceptions were high, written discharge instructions were generally comprehensive but not consistently clear, and patient understanding of key aspects of post-discharge care was poor (16). Written documentation does not adequately reflect the patient's understanding of discharge care. The results of the present study regarding the understanding of the patients and their companions about the performance status of the quality of discharge were average and their level of understanding of the quality of discharge was reported to be average. In this study, the average dimensions of the quality of the discharge process from the perspective of patients and companions showed that most of them needed to be taught the content received from the nurses at the time of discharge. If the dimension of the content received from the providers and the dimension of the

evaluation of the training's skill and effectiveness are not at the desired level and are different. But regarding the level of understanding of patients, it is the same.

Mijan Guan (17) and his colleagues also investigated the relationship between the quality of discharge education, readiness for hospital discharge and the health outcomes of hysterectomy patients in a cross-sectional manner in China using the discharge quality education questionnaire like the present study. In this study, the total score of hysterectomy patients was at an average level. The score of each dimension was also in the medium to high level, which shows the effectiveness of discharge training for hysterectomy patients, but there is still a need for further improvement. The participants were older people who were relatively illiterate and had limited access to professional knowledge. Gan et al. concluded that medical staff should conduct discharge training for hysterectomy patients according to their individual characteristics and needs and provide accurate, appropriate, standardized and efficient introductions and guidance (24). The results of this study are the same regarding the age of most patients and companions. Also, in this study, the average score for the dimensions of the quality of the discharge process from the perspective of patients and companions showed that most of them needed to be taught the content received from the nurses at the time of discharge. If the dimension of the content received from the providers and the dimension of the evaluation of the training's skill and effectiveness are not at the desired level and are different. But regarding the level of understanding of patients, it is the same.

Also, Boge and his colleagues (2019) in a study aimed at investigating the relationship between discharge conversation and discharge quality by measuring the experiences of elderly patients, which was conducted cross-sectionally. They came to the conclusion that there is a significant relationship between the discharge conversation in the hospital by measuring more positive experiences of the patients, which indicated an increase in the quality of care during hospital discharge, and the discharge conversation with the quality of discharge care, and people who had a discharge conversation gave a higher score to the quality of care at discharge (25). The increase in the criteria of positive patient experiences is related to the results of the research regarding the level of need of patients and companions for the discharge conversation and receiving information.

Kolivand and his colleagues (2015) also conducted a cross-sectional descriptive study with the aim of determining patient satisfaction with the quality of education and concluded that patients had a high level of satisfaction with the quality of patient education, which indicates a valuable indicator for determining the quality of hospital services. Also, there was no significant relationship between patient satisfaction and gender, age and level of education (26). In the current study, the level of satisfaction of patients and companions with the quality of the discharge process has been reported to be moderately high. Also, there is no significant relationship between the dimensions of the quality of the discharge process from the patients' point of view in the variables of age, education and gender. However, between the dimensions of the quality of the discharge process from the perspective of the companions with the variables of age, education and gender, it showed that there is a significant relationship between the age variable and the quality score of the discharge process, but there is no significant relationship with the variables of education and gender.

Based on the results of the current study, Mahalli and his colleagues (2018) in a study aimed at determining the educational performance of nurses from the perspective of patients with the clinical governance approach, who conducted a descriptive analysis, concluded that the level of satisfaction of patients with the educational performance of nurses was average and It has not been in a favorable condition (27) which is similar to the results of the study regarding patients and companions. In this study, most of the patients believed that the highest level of dissatisfaction was about the amount of receiving information regarding the management of the patient's emotions after going home, the amount of training regarding medical treatments and drugs, the amount of receiving information regarding emergency contact after discharge. and the greatest satisfaction is related to nurses listening to patients during hospitalization. And most of the attendants believed that the highest level of dissatisfaction at the time of discharge from the patient's attendants was related to the amount of

information they received about the care of the patient after going home and the highest average satisfaction was related to the nurses listening to the conversations of their attendants and their patients during Inpatient period is assigned.

Mardani and his colleagues (2011) conducted a cross-sectional descriptive study on nurses and patients in the form of available sampling with the aim of comparing the importance and implementation of patient education services from the perspective of nurses and patients. The results showed that the score of nurses was higher compared to the score of patients regarding the importance of patient education and from their point of view, patient education was implemented according to educational needs (28). Based on these results and in line with the findings of the current research, the score of nurses on the quality of discharge in both dimensions, the amount of information provided to the patient and companions, and the quality and effectiveness of teaching, is higher than the score of patients and companions, which indicates a greater feeling of need from patients and Companions at the time of discharge. Also, in this study, the mean and standard deviation of the quality of care received in the hospital from the perspective of the patients and caregivers showed that the participants were satisfied with the quality of care received during their patient's stay in the hospital and it was at the desired level. However, the average score of the quality of care in the hospital from the point of view of nurses has been lower than that of patients and companions.

Conclusion

This study was conducted with the aim of determining the quality of hospital discharge from the perspective of stakeholders: a case study in Iran. The results of the study showed that most of the patients and companions believed that the performance status of discharge quality was average, and the level of understanding of patients and companions about the quality of discharge was reported as average. This is while most of the nurses believed that the performance status of discharge quality was moderately high.

Suggestions

1-Investigating the quality of discharge education in specific groups of patients by type of disease and ward of hospitalization

2- Investigating the level of patients' understanding and awareness of their condition at the time of discharge

3-Investigating the impact of patients' demographic factors, including Gender, age, education, employment and marital status on patients' readiness for discharge

4-Investigating the effect of training care providers at the time of discharge on patients' quality of life and self-care after discharge

5- Coordination of all medical personnel and provision of coherent information to patients and companions and strengthening the patient's self-care spirit after discharge

6- Assigning a trained individual to follow up on the patient's condition after discharge and respond to patients' concerns and anxiety

7-Educating patients and companions in accordance with their understanding and culture

8-Holding training classes to update nurses' information

Limitations

1-Using a questionnaire to determine the quality of discharge education

2- Less awareness among hospital staff about the concept of discharge education quality

Data Availability Statement

The datasets generated and/or analysed during the current study are not publicly available due [reason why data are not public] but are available from the corresponding author on reasonable request.

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Acknowledgment

We thank the patients and their families and nurses who participated in this study. We would also like to appreciate the full cooperation of the hospital officials.

Ethical Approval and consent to Participate

This article is the result of a master's thesis approved by the ethics committee of Shiraz University of Medical Sciences with the code IR.SUMS.NUMIMG.REC.1401.105 from the Vice-Chancellor of Research and Technology

of Shiraz University of Medical Sciences and Medical Services. Informed consent was obtained from all participants. And all methods were performed in accordance with the relevant guidelines and regulations.

Conflict of Interest

There are no conflicts of interest.

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