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Challenges in Heart Failure Patients Discharge Plan: A Qualitative Study

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ABSTRACT

Introduction: Hospital readmission is one of the important reasons for inadequacy of discharge plan, which not only imposes extensive costs to patients and families but also increases workload of personnel and hospital crowd and leads to many challenges to the healthcare systems. The discharge plan is a nursing intervention aiming to prevent post-discharge problems. The study aimed to explain the challenges to the heart failure patients discharge plan.
Methods: The qualitative research via conventional content analysis was used in this study. The study was conducted in the Rajaie Cardiovascular Medical and Research Center. The challenges to the heart failure patient discharge plan was explained based on the analysis of experiences of patients, family caregivers, physicians, and nurses through semi-structured interview. Targeted sampling was continued based on inclusion criteria until the data was saturated.
Results: The challenges of this study include non-compliance with the treatment, lack of patient health literacy, inadequate motivation to continue treatment, complicated nature of heart failure, poor family roles, inadequacy in patient training, lack of discharge follow up system and defect in patients' social security.
Conclusion: Considering the challenges obtained from this study, we can take steps in optimizing the heart failure patients' discharge plan according to the needs and culture of our patients.

Key words: Discharge plan, Heart failure, Qualitative research

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INTRODUCTION

Heart failure is a common and costly disease with high rate of mortality and morbidity. About 2% of adults suffer from it in developing countries like Iran, and these rates increase by 6 to 10% in people over 65 [1]. In developed countries, approximately 1% to 2% of adults suffer from heart failure, and this increases by 10% in people over 70 [2]. The annual cost of caring for heart failure patients is estimated at around $ 20 billion, which is mostly related to frequent readmission [3]. Hospitals' failure in effective hospital-to-home transfer leads to negative results. The negative results include frequent readmission to the emergency ward and high rates of re-admission. Frequent readmission of heart failure patients increases the cost of care, decreases patient quality of life, and reduces patient safety [4].

The discharge plan is a nursing intervention aiming at preventing post-discharge problems [5]. The discharge plan includes a unique plan for transferring patients from hospital to home. The plan can be expanded beyond the health care system and includes post-discharge support [6]. Hospital discharge planning is a process through which different health teams in the hospital prepare the patient to safely transfer to home. When the discharge planning is done well, patients will be satisfied with the transfer and will have the support and knowledge they need to improve. But poor planning and incorrect communication can lead to patient dissatisfaction, error and harming patient, unnecessary care, and extra costs and readmission. Readmission within less than 30 days after discharge, which includes at least 12% of the total discharge, is considered as a failure in the discharge process [7]. Discussion about discharge with patients and their caregivers is rarely done and the literature addresses the poor attention to personal needs of vulnerable patients in the discharge plan [8]. In a study by Ubbink et al. the discharge criteria required for an

integrated discharge policy were obtained based on the experiences of caregivers and patients. This study pointed out that not only we need to have a discharge process, but also discharge criteria should be determined from the point of view of clinical experts and patients to have a standard discharge plan [9]. Hospital discharge for patients, caregivers and health professionals is a complex and challenging process [10].

Due to the importance of the effective discharge plan, many countries have developed guidelines and frameworks for the hospital discharge process. The components of discharge plan may vary from country to country due to differences in the health and social services system, difference in the nature of patients' needs and culture [11]. Recent studies have shown that there is no structured and effective discharge plan in Iranian hospitals. Health managers and policymakers are required to pay attention to the barriers to effective discharge plan to implement effective discharge plan according to them [12].

Therefore, due to the importance of the challenges to the discharge plan and its difference in various contexts, a qualitative study was conducted aiming to explain the challenges to the discharge plan for heart failure patients based on patients' experiences, family caregivers, physicians and nurses, to determine the challenges to the discharge plan.

METHODOLOGY

In this study, qualitative research via conventional content analysis was used to explain the challenges to the discharge plan for heart failure patients. The study was conducted in the Rajaie Cardiovascular Medical and Research Center. This center is one of the largest heart hospitals in Asia and is a reference center for cardiovascular diseases throughout the country. One of the heart's internal groups in this center is the heart failure group. Many heart failure patients refer to the center. In this study, the challenges to the discharge plan for heart failure patients were explained based on the experiences of patients, patient' family caregivers, physicians and nurses by semi-structured interview. Participants were selected through purposive sampling based on inclusion criteria and the sampling continued until data saturation. 15 participants were interviewed.

Inclusion criteria

For patients: Admission with the diagnosis of decompensated heart failure, current admission for less than 30 days from the previous discharge, age 18 or older, having the consent to participate in the study.

For family caregivers: being the main caregiver for the patient at home and in hospital, having at least 6 months of patient care, being with patient during the hospitalization, having the consent to participate in the study.

For nurses: Having a bachelor's degree in nursing or higher, having at least 5 years of work experience with a heart failure patient, having consent to participate in the study.

For the physicians: having a heart failure fellowship and consent to participate in the study.

After receiving written informed consent, interviews with the participants began by researcher with general questions. The interviews were conducted according to what expressed by the participant and with clear questions, and considering the aim of the study to clarify the reasons for their various problems and aspects (Table 1).

Table 1: Question samples to explain the challenges to the discharge plan for heart failure patients

Participants	Question samples
Patients	What happened that you were re-admitted?
	Can you talk about what happened to you since the previous discharge to the moment that you are re-admitted?
	What problems did you experience during this period?
	Explain the cause of your readmission?
	What did doctors and nurses do to discharge you?
	Do you think what other things they could do and they didn't?
Caregivers	What happened that your patient have to be readmitted?
	What problems have you encountered since the previous discharge?
	What did doctors and nurses do to discharge your patient?
	Do you think what other things they could do and they didn't?
Physicians and Nurses	What plan do you have for discharging the patient and what do you do?
	Can you talk about your experience with the existing discharge plan and its challenges?
	How is the quality of the existing discharge plan?
	Explain the causes of readmission?
	What are the inhibitors and problems with the discharge plan for heart failure patients?

The interview continued until the participant stated that he had no other talk. Duration of interviews was at least 33 minutes and maximum 67 minutes.

The whole interview was recorded in coordination and permission from the participants. As soon as each interview was ended, the contents were written word by word on the paper. Qualitative content analysis with conventional approach was used to analyze the data. To analyze the content, three stages were used: preliminary, organizing and reporting the analysis process and the results [13]. The codes were extracted from the text of each interview and they were coded. Then, given the similarities and differences, the codes were placed in subcategories. Then the subcategories were combined

and the main categories were extracted. The MAXQDA 10 was used to analyze the data.

To increase credibility and trust, codes, interview text and list of categories were continuously reviewed by the research team and the results were verified and controlled by them. Member checking was also used to increase validity. In this way that at the end of each interview, researcher summarized information and then asked the participant to determine accuracy. This research was approved by the Ethics Committee of the University of Social Welfare and Rehabilitation Sciences (IR. USWR. REC. 2016. 89). First, the research permit from the Ethics Committee of the University of Social Welfare and Rehabilitation Sciences and then the letter of introduction were obtained from the University of Social Welfare and Rehabilitation Sciences to Rajaie Cardiovascular Medical and Research Center. After obtaining the permission and identification of qualified participants, informed and written consent was received from them for participation in the study and recording the interviews and the confidentiality of the information and non-use of the participants' name in all the stages of the research were emphasized. Participants were assured that they have the right to leave the research at each stage of the study.

RESULTS

Participants included 7 patients, 4 nurses, 2 physicians, and 2 caregivers. Most participants (60%) were women and their age was between 27 and 65 (M=47.4, SD=11.15). Nurses had at least 5 years of experience with a heart failure patient (Table 2).

Table 2: Demographic characteristics of participants

Row	Participant	Gender	Age	Job	Education
1	Patient 1 (p1)	Man	49	Teacher	Bachelor
2	Patient 2 (p2)	Female	59	Housewife	Diploma
3	Patient 3 (p3)	Man	62	Businessman	Diploma
4	Patient 4 (p4)	Female	56	Housewife	Under diploma
5	Patient 5 (p5)	Female	57	Housewife	Diploma
6	Patient 6 (p6)	Man	6 5	Accountant	Bachelor
7	Patient 7 (p7)	Female	51	Housewife	Under diploma
8	Doctor 1 (d1)	Man	40	Heart failure fellowship	Heart specialist
9	Doctor 2 (d2)	Female	39	Heart failure fellowship	Heart specialist
10	Nurse 1 (n1)	Female	27	Nurse	Bachelor
11	Nurse 2 (n2)	Female	32	Nurse	Bachelor
12	Nurse 3 (n3)	Female	38	Nurse	Bachelor
13	Nurse 4 (n4)	Man	49	Nurse	Masters
14	Caregiver 1 (f1)	Female	45	Housewife	Diploma
15	Caregiver 2 (f2)	Man	42	Employee	Masters

26 subcategories and 8 main categories were extracted as the challenges to the heart failure patient discharge plan in this study. In Table 3, we briefly describe them.

Table 3: Main categories and subcategories of challenges to the heart failure patient discharge plan

Main categories	Subcategories
Non-compliance with treatment	Non-compliance with the medication regime
	Non-compliance with the diet
	Non-compliance with follow-up treatment after discharge
	Self-treatment
Lack of patient health literacy	Knowledge constraints
	Inappropriate attitude of patient to chronic disease
	Not understanding the importance of implementing discharge orders
Insufficient motivation to continue treatment	Disappointment of the patient to continue treatment
	Tiredness of family with chronic disease
	Losing motivation due to the chronic nature of the patient
The complex nature of heart failure	The presence of diseases at the same time
	The progressive nature of the disease
The poor role of family	The family's poor participation in care
	lack of attention to the main caregiver in the training process
Failure in patient training	Incomprehensiveness of disease management education content
	Lacking enough time to train the patient
	Inadequacy of the time to train patient
	Training in inappropriate space
	Inappropriate current training method
	Forgetting the post-discharge orders
	Not having a unique training plan
Failure of Discharge follow up system	disconnection of the patient and treatment team after the discharge
	Poor monitoring the discharge process
Defective patient social security	Defective social support
	The financial burden of the disease
	Lack of access to specialized medical facilities in some cities

Main categories in Table 3 can be described as follows:

Non-compliance with treatment

Almost all participants believed that non-compliance with treatment was one of the main challenges to the heart failure patient discharge plan. This category included the following subcategories: non-compliance with the drug regime, non-compliance with the diet, non-compliance with post-discharge treatment follow-up and self-treatment. "I eat low-salt and low-fat foods," says a 51-year-old woman in non-compliance with diet: "but I eat too much liquid; the doctor did not say eat a little, so I eat too much and I get sick. So I do not know many things. I just know I have to eat low salt and low fat". One of the doctors says about non-compliance with the drug and food diet: "The most important problem in our patients is the non-compliance with the drug and food diet". A female nurse says about the non-compliance with post-discharge treatment follow-up: "The patient does not follow his treatment seriously, that is, they are not like a patient who had a stroke or undergoes operation, and tries to comply with his diet and visits the doctor regularly". Self-medication and arbitrary use of medication is one of the issues that lead to non-compliance with treatment. One of the doctors says in this regard: "Another point is mixing several

medications together, mixing drugs prescribed by several cardiologists, cardiologists' medications with the urologists' and neurologists' drugs, and the combination of these with the medications he uses arbitrary cause problems".

Lack of patient health literacy

Participants pointed to the lack of patient health literacy as one of the challenges to the discharge plan. This category includes subcategories like knowledge limitation, patient's wrong attitude to chronic disease, and lack of understanding the importance of implementing discharge orders. A 62-years-old male patient says regarding the knowledge limitation: "The most important thing is that most people in our country who suffer from illness have low literacy; I mean they don't have medical information, they should be trained practically, so their level of knowledge about the disease will be improved". One of the doctors in this regard says: "The problems with these patients are the non-compliance with medication and food diet because they do not know what to do because of lack of knowledge". A female nurse says about the wrong attitude of patient to chronic disease: "Sometimes patients do not know that their disease is chronic and should always observe it because of their low level of literacy, that is, they think that they will be fine after a while, and they don't accept the lifestyle change forever". One of the female nurses says regarding the lack of understanding the importance of performing discharge orders, "I think precisely that due to their self-medication problems they are not aware of the importance of, for example, Furosemide they take or we tell him how it is important to take it twice a day, perhaps because they are not trained".

Inadequate motivation to continue treatment

Participants said that inadequate motivation to continue treatment was one of the challenges to the discharge plan that its subcategories included the patient's disappointment to continue treatment, family tiredness from chronic disease, and losing motivation due to the chronic nature of the disease. A 56-year-old female patient says about the patient's disappointment for continuing treatment: "I know well that I won't be well anymore, why I should suffer myself, I want to eat whatever I like for the rest of my life". A female nurse says in this regard: "I feel that they have no hope for future, I think this is very effective, they do not care much about their treatment, and they do not insist to take the medication properly". One of the male nurses says regarding the family's tiredness of the chronic disease: "Unfortunately, some heart failure patients will be tired with their family because their course of treatment progress fast, it is as if they are rejected by family". The 49-year-old male patient says about losing motivation because of the chronic nature of the disease, "I've got so sick that I'm bored, I'm tired so much that everybody tell me eat that don't eat this". Also, one female nurse says in this regard, "They do training for a while, but then they leave it because they get tired, they say what its benefit is we did it all, what's will be the end finally".

The complex nature of heart failure

Some participants point to the complex nature of heart failure as one of the challenges that includes the following subcategories: simultaneous diseases and its progressive nature. One of the doctors says about the simultaneous presence of diseases: "Another point is that sometimes the patient has other diseases in addition to heart failure, which makes the conditions harder and may combine several medications together, and he does not know what to do after discharge and how to take medicine and might be readmitted". He also says in relation to the progressive nature of the disease". Another case is occurrence of a new story and advancing the patient's condition. One of the challenges is that our patients are so advanced. They have very low EF, they often need inotrope use, and they often need high doses of Furosemide".

Poor role of family

This category includes the subcategories as: families' poor participation in the care and lack of attention to the main caregiver in the training process. A male nurse says in relation to the poor participation of the family in care. "There are some patients who have nobody to be with them in hospital and home and give them medicine, or be able to learn the trainings". One of the doctors says about the lack of attention to the main caregiver in training process: "Often, the patient cannot learn, there must be someone with him. Relatives often are not educated, sometimes the caregiver is educated but he is not the main caregiver. For example, suppose once his son is with him who learns very well, but he lives in another city; he transfers them to his mother defectively, for example to his mother who is going to take care of his father; and many patients spend much time at the next appointment in the clinic or hospital to see if we can complete the training we've taught him last time".

Failure in patient training

Another challenge was the failure in patient training. Participants referred to the incomprehensiveness of training content about disease management, lack of adequate time for patient training, the inadequacy of the timing for training patient, training in inappropriate space, the inappropriateness of the current teaching method, forgetting the post-discharge orders, and lack of a unique training plan as subcategories. One of the doctors says about the incomprehensiveness of the training content on disease management, "What I think about it the most, is the challenge to heart failure patient discharge plan, mostly lacking the necessary training on how to take the drug, how to control the salt, how to deal with warning signs, how to refer next time, and finding the right person who is responsible for, in other words, he does not know at all who is the accountable person. Poor he just comes again". And then, he says

on the inappropriateness of the training timing to the patient: "I am completely disagreed that the patient is going to be discharge and he is in hurry and tired, his relatives are pursuing his discharge, so we train him. He cannot concentrate at all, he is going to reach his flight or get in the car, he is thinking about hospital accounting. Training may be done later". A female nurse says about lack of adequate time to train patient: "We want to teach the patient a very large amount of information, for example, in half an hour, 40 minutes, the one who does not have right information, he cannot listen when he is going home, he doesn't know what to do". She continues about inappropriate space: "The ward is busy, and every moment something new happens in it, since we only train in ward, it may be crowded and there is no opportunity". The male nurse says about inappropriateness of current training method: "Our training method might not be well that the patient doesn't learn, so it's better to use picture and practical training". A 56-year-old female patient says about forgetting post-discharge orders: "When we go home, we forget what we do. As long as we are at the hospital, you and doctor tell us something but we forget, we cannot remember. When we get discharged, there is no one to teach us". One female nurse says about lacking a unique training plan: "I think it's better if we take into account individual differences and give more precise explanation depending on the person or his family's literacy, or give more training in the form of pamphlets or booklets, because there are patients who are more aware and more observant in different fields".

Failures of discharge follow up system

The failure in the discharge follow up system is identified as one of the main challenges to the discharge plan. Participants pointed to the disconnection of the patient and treatment team after the discharge and the poor monitoring over the discharge process as subcategories. A 59-year-old female patient says regarding the disconnection of the patient and treatment team after the discharge: "When we get discharged, there's no one to teach us, there's no one to support us. Direct contact is very important, when I see I cannot breathe I want to call the doctor or the secretary to easily ask him. I do not know if I should go to the hospital or not. I wait so that I cannot breathe anymore. It would be much better if there was anyone to ask him". A doctor says regarding the poor monitoring of the discharge process: "We should have someone as discharge officer to monitor the discharge and check the one who is required to do that".

Defects in patient social security

Defect in social security is one of the main categories, which includes following subcategories: the financial burden of disease, defect in social support and lack of access to specialized medical facilities in some cities. A 51-year-old female patient says about the financial burden of the disease: "When I have no money to go to doctor or take my medicines, so I go to hospital when I feel so bad". One doctor says about the financial burden of the disease: "There is another challenge. That is the cost of their medications is very high and the volume of their insurance book is low. Somebody should follow it and put it as a special illness, so the size of their insurance book become more and their financial burden become less". One of the patient caregivers, a 45-year-old woman says about the defect in social support: "Insurers cannot support the patient so much that we feel comfortable that they pay the costs, woe betide if you're not insured at all, you cannot test". A 49-year-old male patient says about the lack of access to specialized medical facilities in some cities: "I have to come here from Rasht for treatment, and then should travel, I should spend much money, and I have life-threatening risks. If planning is okay, this hospital should be there, I should not travel anymore, so there must be a planning".

DISCUSSION

The challenges extracted from this study were the experiences of patients, caregivers, and treatment staff regarding the challenges to the heart failure discharge plan based on their experiences during hospital readmissions. In the future studies, we could design an effective discharge plan based on the conditions, needs and culture of heart failure patients.

Challenges experienced by participants include non-compliance with treatment, lack of patient health literacy, inadequate motivation to continue treatment, complicated nature of heart failure, poor family role, failure in patient training, failure of discharge follow up system and defect in the social security of patients.

Non-compliance with the treatment was one of the main challenges to the patient discharge plan, which disrupted the discharge plan. Bickmore et al. write that inadequate preparation for discharge by various studies suggests that less than half of the patients who are discharged know the diagnosis of the disease and the purpose for medicine therapy. Approximately 20% of patients discharged from US hospitals are readmitted within less than 90 days, and about one-third of these cases can be prevented. The main reasons for these problems are poor health literacy, lack of understanding of drug take and drug complications, and poor treatment compliance [14]. Non-compliance with treatment is one of the main reasons for re-admission that is associated with self-care behaviors [15]. Researchers estimate that about 50% of patients with chronic diseases do not take their medication as prescribed. Non-compliance with treatment is due to lack of patient knowledge and skills and lack of support [16].

Lack of health literacy was identified as one of the challenges to the discharge plan, which is consistent with the findings of other studies. Morrow et al., state that nearly half of the people in United States do not have enough health literacy, which challenges the health system. Low health literacy is associated with poor

health status, less caring knowledge, less self-care ability and compliance with treatment, greater readmission and increased care costs [17]. In a qualitative study conducted by Wong et al., most participants stated that one of the patient-related factors, which are a potential barrier to the discharge plans, is the patient's lack of knowledge about drug therapy [10].

Insufficient motivation to continue treatment is another challenge posed by participants. Riegel et al., state that depression is one of the important factors associated with treatment compliance. Other reasons for non-compliance with treatment include costs, patient's attitude toward drug therapy and the effect of medications on sexual function [18]. Greenhalgh et al., writes the diagnosis of heart failure is associated with a sense of frustration. Some heart failure patients deny their disease and avoid learning about it. Depression, anxiety and cognitive disorder are much more common in heart failure patients than other people, and these are associated with poor compliance with self-management plans [19].

Participants pointed to the complex nature of heart failure as one of the challenges to the discharge plan. Alosco et al. noted that the severity of disease and the presence of simultaneous diseases are associated with poor compliance with treatment in heart failure patients [20].

In this study, participants pointed to the poor role of family as a challenge to the discharge plan. Ågren et al., write that self-care responsibilities are passed to the patient and his caregivers at the time of discharge. Patient caregiver has a crucial role in improving compliance with treatment, encouraging self-care behaviors, lifestyle changes, and improving the patient's condition. Loneliness only increases the risk of mental stress, and is often associated with poor compliance with treatment and frequent readmissions [21]. Mennuni et al., (2017) write that family members or caregiver are key members in patient care and should receive information required about the patient's clinical conditions and support in the patient's discharge and care plan [22]. While in the present study, participants stated that the existing discharge plan does not pay attention to the participation and the status of family and caregiver.

Failure in patient training was a major challenge to the discharge plan. Participants stated that discharge training was done on the day of discharge and there was not enough time to learn and believed that the time, duration, method, and content of education were not appropriate. Gholizadeh et al. noted that the discharge plan in Iran's health system is not executed as a process, but rather an action that is done at the last opportunity, i.e. at the time of discharge, rather than since the admission, and this leads to poor quality [23]. This is consistent with the findings of the present study, which considers that the poor timing of patient training is one of the challenges to the discharge plan. Kripalani et al. report that 49% of patients experience at least one error in continuing the drug take or follow-up after the discharge process. Most of these errors are due to poor communication between the treatment team and the patient [24]. Carroll et al., writes one of the aspects of a successful discharge plan is coordination and training, without which the discharge plan will not succeed [5].

Failure in the discharge follow up system was identified as one of the main challenges, and participants considered the disconnection of the treatment team with patient as a major contributor to the failure of the discharge plan, while in a study by Cherlin et al., on myocardial infarction patients, differences in the discharge process were shown in hospitals with better performance. These include the start of the discharge plan since the admission, the use of specialized services, specification of the patient's follow-up plan before discharge, the patient's and family's education, and connection with the patient's doctor about the admission and follow-up plan [25]. Wong et al., argued that the connection between patient and healthcare professionals and considering the patients' needs after discharge is a major factor in the discharge plan [10]. Muus et al., write that post-discharge follow-up can improve patient's positive outcomes and cause the care provider diagnose the worsening symptoms of the patient in a timely manner, control the compliance of the patient with discharge orders and regulate the medications [26].

Participants raised defects in social security as one of the challenges to the discharge plan, and considered the non-compliance with post-discharge orders is related to financial problems and lack of insurance support. Findings show that patients' financial problems and high costs of illness lead to non-compliance and treatment failure. In a study by Wong et al., , poor post-discharge services and the time interval in which post-discharge support are as a major social barrier to effective discharge plan, which reflects defects in communication, resource allocation, and covering patient's needs [10]. Joynt et al., write studies have shown that socioeconomic status affects the rate of readmission in heart failure patients [27].

CONCLUSION

By identifying the challenges to the discharge plan, this study showed that the current discharge plan needs to be reviewed and upgraded. Considering the challenges of this study, we can take steps to optimize the discharge plan of heart failure patients according to the needs and culture of our patients.

LIMITATIONS

This study was carried out only at the Rajaie Cardiovascular Medical and Research Center in Tehran

as one of the main state specialized cardiology centers and sampling from other heart centers in Tehran or other provinces was impossible. This restrains the generalizability of results to other centers that either publicly or privately provide specialized cardiac services.

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CONFLICT OF INTEREST

Authors declare there is no conflict.

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