

## RESEARCH ARTICLE

REASONS FOR READMISSION IN HEART FAILURE ,PERSPECTIVES OF  
PATIENTS, COPATIENT ,NURSES ,CARDIOLOGISTS AND RESIDENT  
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## Abstract

**Background:** Hospital readmissions remain a continued challenge in the care of the heart failure patient, To prevent future readmissions of patients with HF, it is important to fully understand the reasons for readmission by gaining insight on the reasons for readmission from different perspectives .

**Methodology:** Descriptive cross-sectional hospital based study was

Conducted in alshap teaching hospital in heart failure ward aimed to identify perspective of patients, copatient ,cardiologists, resident doctors and nurses about reasons for HF readmission using structured interview Questionnaire with 12 HF patient's ,12 Copatient , 3 cardiologists , 29 resident doctors and 45 nurses work with HF patient .

**Results :** the result of the study showed that the non adherence to medications is most important reasons of readmission from all perspective, nurse (95%) ,cardiologist (100%),resident doctor (100%),patient (58.4%),copatient (75%), all perspective of health care provider are same about reasons of readmission due to other medical disease ,Respondents reported that readmissions could probably have been prevented if adherence were higher, patients requested help earlier, and adequate multidisciplinary professional help were available.

**Conclusion:** the study concluded that first and the aoutmost reasons for readmission was non-adherence to medications patients need to improve adherence and optimize medications regimen , The second cause of readmission was the other comorbid condition and patient need to be treated by multidisciplinary approach inform of collaboration with other medical specialists.

**Key Words:** Heart failure , Readmission,Reasons,Perspectives.

## 1. INTRODUCTION

### 1.1 Background

Heart failure (HF) is a progressive disease associated with recurrent hospital admissions, hospital readmissions remain a continued Challenge in the care of the heart failure patient.(Ponikowski,etal,2016).

Heart failure is a global disease; the prevalence of heart disease is shown to be high about 1.3% in China, 6.7% in Malaysia, 1.0% in Japan, 4.5% in Singapore, 0.12% to 0.44% in India, 1.0% in South America, and 1.0% to 2.0% in Australia.(Svarese ,etal,2017).

The Sudan Household Survey (SHHS) reported a prevalence of 2.5% for heart disease in Sudan. (Suliman,2011).The heart diseases HD incidence in Khartoum, Aljazeera, White Nile, Red Sea, and West of Sudan was 40%, 25%, 20%, 10% and 5% respectively. The Congestive Heart Failure representing 15% respectively.(Omer ,etal,2016).

Heart failure is primarily a condition of older people, and thus the widely recognized 'ageing of the population' also contributes to its increasing incidence. (Benjamines,etal,2018).

Heart failure is the primary reason for 12 to 15 million clinic visits and 6.5 million hospital-days each year.<sup>[6]</sup>Recurrent hospitalization is a major quality of life and cost issue. (Mudge ,etal,2010).

Patients are particularly prone to re-admission, with reported rates as high as 50% within 6 months of discharge. However, patients who have had an acute hospitalizationWith heart failure continue to have a high rate of Symptomatic relapse, with up to 25% readmitted within 3 months.(Mudge ,etal,2010).

Although small gains have been made over the past 5 years, still more than 20% of patients are readmitted within 30 days and up to 50% by 6 months.(O connor,etal,2017).

Hence, understanding Reasons for readmission from different perspectives (patient, copatient ,cardiologists, resident doctors and nurses) help to optimize the future management of patients with HF, prevent future readmissions of patients with HF, guide preventative efforts and save costs .

This study is going to identify to reasons of readmission of heart failure patients from perspectives of patients, copatient, nurses, cardiologists and resident doctors.

## 2- Patients and methods

### Study design:

Descriptive cross-sectional hospital based study.

### Study area:

The study was conducted in alshap teaching hospital , established in 17 November 1959,governmental hospital, located in Khartoum state bordered by faculty of nursing science university of Khartoum and Khartoum teaching hospital ,consist of cardiac department and respiratory department , critical care unit ,intermediate care unit ,respiratory intensive care unit ,asthma care unit , respiratory ward ,cardiac ward emergency department

### Study population:

The participant for this study included patients of heart failure ,copatient, health care worker and record of patients .

**Inclusion criteria:**

- Heart failure patients readmitted to hospital and copatient who sign consent form to participate in research conduction .
- Cardiologists, resident doctors and nurses work with HF patient and sign consent form to participate in research conduction .

**Exclusion criteria:**

- Readmission for a planned procedure (eg, elective implantable cardioverter-defibrillator placement).
- First admission for patient newly diagnosed by heart failure.

**Sampling method:**

Simple random sample was used for all participants .

**Sample size:**

Total coverage

**Data collection tools:**

Data collected from patients who diagnosed with HF and they had been readmitted to alshap teaching hospital ,through Questionnaire the patient's , Copatient ,cardiologists, resident doctors and nurses. The data collected by the researchers. The questionnaire included of three parts, first part demographic data of patients, second part perspective about reasons of readmission, third part perspective about preventive measures of readmission of heart failure patients .

**Data analysis methods:**

Data entered, cleaned,coded and analyzed by SPSS version 20. Descriptive statistics in term of frequency tables with percentage and graphs ,Means and standard deviations measures with relevant graphical representation for Quantitative data.

**Ethical considerations:**

Approval was taken to conduct this from faculty of nursing science university of Khartoum then federal ministry of health and hospital managers of alshap teaching hospital. All steps are consistent with the ideals and legal standards and rules, participants have right to voluntary informed consent.

Participant has right to withdraw at any time without any deprivation.

Participant has right to no harm (privacy and confidentiality by using coded questionnaire). Participant has right to benefit from the researchers knowledge and skills. Questionnaire will be filled with the participants in their rest time without any interruption to their work.

**3. Results**

In this descriptive cross-sectional hospital based study was done to identify to reasons of readmission of heart failure patients from perspectives of patients, co patients, nurses, cardiologists and resident doctors included 12 HF patient's ,12 Co patients , 3 cardiologists , 29 resident doctors and 45 nurses.

**Table (1) shows distribution of patient according to their heart failure ejection fraction: (N=12)**

heart failure ejection fraction	Frequency	Percent
HFrEF<40%	8	66.7
Valid HFpEF>50%	4	33.3
Total	12	100.0

**Table (2) shows distribution of patient according to their New York Heart Association (NYHA) classification : (N=12)**

NYHA Classes	Frequency	Percent
I	1	8.3
II	4	33.3
Valid III	6	50.0
IV	1	8.3
Total	12	100.0

**Table (3) shows distribution of patient according to their comorbidity disease availability: (N=12)**

Comorbidity disease	Frequency	Percent
NO	2	16.7
Valid YES	10	83.3
Total	12	100.0

**Table (4) shows distribution of patient according to their previous readmission to hospital: (N=12)**

previous readmission to hospital	Frequency	Percent
1 to 4 readmission	4	33.3
Valid > 5	8	66.7
Total	12	100.0

**Table (5) shows distribution of patient according to their adherence with follow up schedule: (N=12)**

compliance with follow up schedule	Frequency	Percent
Adherence	8	66.7
Valid non adherence	4	33.3
Total	12	100.0

**Table (6) shows distribution of patient according to their adherence to treatment: (N=12)**

patient adherence to treatment	Frequency	Percent
Adherence	6	50.0
Valid non adherence	6	50.0
Total	12	100.0

**Table (7) shows distribution of patient according to their adherence to diet restriction: (N=12)**

patient adherence to diet restriction	Frequency	Percent
Adherence	6	50.0
Valid non adherence	6	50.0
Total	12	100.0

**Table (8) shows distribution of patient according to their adherence to fluid restriction: (N=12)**

patient adherence to fluid restriction	Frequency	Percent
Adherence	7	58.3
Valid non adherence	5	41.7
Total	12	100.0

**Table (9) show Perspectives of patients (N=12), copatient (N=12), nurses(N=45) , cardiologists (N=3) and resident doctors(N=29) about reason of readmission of heart failure patient:**

<b>Reason of readmission of heart failure patient</b>	Patient	Copatient	nurses	Cardiologist	Resident Doctors
Worsening of heart failure	16.7%	-	31.2%	33.4%	24.1
Other medical health problem such as arrhythmia, ischemia, pulmonary disorders, renal insufficiency, and anemia	58.4%	58.4	66.7%	66.7%	98.5%
Non adherence to medication	58.4%	75%	95%	100%	100%
Non adherence to diet	8.4%	33.4%	48.9%	-	17.3%
Non adherence to fluid restriction	8.4%	16.7	42.3%	33.4%	13.7%
Non optimal medication regimen	-	-	31.2%	33.4%	24.1%
Inadequate discharge plan	-	-	26.7%	33.4%	10.3%
Delay in seeking help	-	-	44.5%	-	27.5%
Emotional problem	8.4%	8.4%	40%	-	3.5%
Environmental factor such as weather condition	-	-	20%	-	3.5%
Insufficient proficient help	-	-	28.9%	-	6.8%
knowledge deficit	-	-	44.5%	-	34.1%
did not know the reason for readmission	-	-	8.9%	-	-
No follow up	-	8.4%	24.5%	-	6.8%
Other reason such as ,financial problem	-	-	8.9%	-	13.8%

**Table (10) show Perspectives of patients (N=12), copatient (N=12), nurses(N=45) , cardiologists (N=3) and resident doctors(N=29) about measures to prevent a Heart failure readmission:**

<b>To prevent readmission of heart failure</b>	Patient	copatient	Nurses	cardiologist	Resident Doctors
Improving adherence to medication ,diet and fluid restriction	7.5%	91%	95%	66.7%	86.3%
Optimization medication regimen	-	-	26.7%	33.4%	58.6%
Adequate discharge planning	-	8.4%	37.8%	33.4%	37.9%
More follow up visit	8.4%	8.4%	57.8%	33.4%	48.3%
Seek help earlier	-	16.7%	37.8%	33.4%	27.6%
Education on recognizing sign and symptom of worsening heart failure	-	-	64.5%	66.7%	51.7%
Other measure such as heart failure clinic ,control of comorbidity disease ,vaccination to patient ,financial support , psychologist to patient ,written instruction on discharge ,HF Center distributed equally	-	-	35.6%	33.4%	37.9%

## Discussion

Studying the different perspectives of health care providers, patients, and copatient add to the understanding of reason of HF readmissions. On the basis of these insights, relevant interventions for the management of patients with HF can be undertaken to prevent future readmissions.

The researchers found that readmissions rate is high (66.7% ) of patient participate in study readmitted to hospital more than five readmission ,(33.3%)readmitted between one to four readmission ,most of patient have comorbidity disease (83.3%),that indicate Comorbidity is an important factor related to the readmission of patients with HF, agreed with previous study found that two thirds of all readmissions in the COACH study were attributed to other cardiovascular reasons or non-cardiovascular reasons (Annema,etal,2009) , also agree with previous studied found that the major underlying clinical causes for readmission were: cardiomyopathies, hypertensive heart disease, rheumatic heart disease and pericardial disease (Maro,etal,2009), the researcher found that all perspective of health care providers are same about reasons of readmission due to other medical diseases such as arrhythmia ,ischemia, pulmonary disorders, renal insufficiency ,and anemia nurse (66.7%), cardiologist (66.7%),resident doctor (98.5%) .

As previously shown, no adherence is an important issue in HF management.The researcher found that , no adherence to medication ,diet and fluid restriction,one of the most important factors related to readmission, ( 50%) of patient nonadherence to treatment,(50%) of patient nonadherence to diet restriction,(41.7%) patient nonadherence to fluid restriction, in perspective of heath care worker , patient and copatient are same found that non adherence to medication is most important reason of readmission , nurse (95%) ,cardiologist (100%),resident doctor (100%),patient (58.4%),copatient (75%).

Also on perspective of health care worker non-optimization of medication different from patient and copatient, non-optimization of medication play important role in readmission nurses (31.2%) cardiologist (33.4%) ,resident doctors (24.1%), agree with previous study ,found that Patients who prescribed all evidence based medications and achieved their target doses were only 4.9% and this group of patients has shown the lowest readmission rate . (Suliman,etal,20).

Some respondents described that a substantial part of the readmissions were solely due to worsening HF ,nurses ( 31.2% ) , cardiologists( 33.4%), resident doctor (24.1% ). Other factors that were reported to be related to the readmissions primarily included delay in seeking help,

Emotional problem, Environmental factor such as weather condition, No follow up , and patient knowledge deficit.

Perceived reason for readmission often leads to the choice of interventions, the perception of the health care worker , even in combination with the perception of the patient, is taken into account, Improving adherence to medication ,diet and fluid restriction would be the main focus to reduce readmission, nurse( 95%) ,cardiologist (66.7), also in perception of health care worker Optimization medication regimen is important to prevent readmission ,From the perspective of health care worker an additional action (eg, education on recognizing signs and symptoms of worsening HF) would probably be undertaken nurse (64.5%), cardiologist (66.7%) ,resident doctor (51.7%). Also other prevented measure take in account Adequate discharge planning, More follow up visit, Seek help earlier, in addition health care provider take in account control of comorbidity disease ,vaccination to patient ,financial support , psychologist to support patient , written instruction on discharge and construction of heart failure clinic.



## Conclusion

The study concluded that first and the outmost reasons for readmission was non-adherence to medications patients need to improving adherence and optimization medications regimen , The second cause of readmission was the other medical disease and patient need to be treated by multidisciplinary approach inform of collaboration with other medical specialists. perceptions of patients and copatient about reasons for readmission can be as important as the perception of health care providers; this information can be helpful to further optimize future HF management programs. Finally, insufficient professional help ,and knowledge deficit were reported as reason for readmission that indicate advising and counseling are important to prevent readmissions.

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