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ASSESSMENT OF OVERALL LEVEL OF COMPLIANCE SELF CARE AND ITS ASSOCIATE FACTORS TO TREATMENT AMONG HEART FAILURE PATIENTS IN ADULT EMRGENCY DEPARTEMENT AND CARDIAC REFERAL CLINIC AT TIKUR ANBESA SPECIALIZED HOSPITAL ADDIS ABABA,ETHIOPIA.

By

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ABREVATIONS

AAU - Addis Ababa University

ACC - American College of Cardiology

AHA – American Heart Association

CHF - Congestive Heart Failure

DCM - Dilated Cardio Myopathy

ESC - European Society of Cardiology

IHD - Ischemic Heart Disease

HF - Heart Failure

NYHA - New York Heart Association

RHD - Rheumatic Heart Disease

SSA - Sub Sahara Africa

TASH - Tikur Anbesa Specialized hospital

UK - United Kingdom

US - United States

WHO - World Health Organization

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Abstract

Background: Heart failure (HF) is a serious health care problem not only for patients and their family but also for society, as it contributes significantly to the enormous costs associated with the care of HF patients. Non-compliance with medication, diet and self-care behavior is very much common and contributes to worsening HF symptoms, in many cases leading to hospitalization, increase mortality, morbidity, and the need for hospital care.

Objective: - the main objective of this study is to assess overall level of compliance, the self-care behaviour and to determine its associated factors to treatment noncompliance among heart failure patients in adult emergency department and cardiac referral clinic at TASH.

Method and Materials: The study was a cross- sectional, descriptive, hospital based study that examines the level of compliance and self-care behavior among patient with heart failure in emergency department and cardiac referral clinic at Tikur Anbesa Specialized hospital between January 2015 and March 2015. For collecting relevant information data was collected using a pre-tested questionnaire and analyzed using SPSS computer software version 20.0.

Result; from the total number of respondents n=384 compliance with medications (85.2%), salt restriction diet(69.5%), fluid restriction (24.2%), exercise(57.6) and daily weight(1.0)

Conclusion; non- compliance with medication and self- care behavior was common in these population and most patients were found to be having inadequate awareness and understanding about self-care activities in the management of heart failure.

Recommendation; Education has demonstrated significantly improved compliance on medication and self- care behavior among patient with heart failure. And efforts are needed through research to improve compliance with medication and self- care behaviors of patients with heart failure at large in Ethiopia

Key Words; patient compliance, self-care behavior, heart failure

CHAPTER ONE

Introduction

1.1. BACK GROUND OF THE STUDY

Heart failure (HF) is a serious worldwide health problem with high rehospitalization and mortality rates (Koelling et al., 2004, Stewart et al., 2001). The one-year rehospitalization rate in patients with HF is about 50% (Johansen et al., 2003). [1]. Heart failure affects an estimated 23 million people worldwide [2], and leads to substantial numbers of hospitalizations and health care costs [3].

Heart failure is identified as a leading cause of hospitalizations, morbidity, mortality, and rising healthcare costs for nearly, 6.5 million people in Europe, 2.4 million people in Japan and recently also in sub-Saharan Africa suffer from HF. Heart failure places a heavy burden not only on patients and their families but also on society, through enormous use of health care resources. Overall population prevalence of approximately 1–3%, rising to approximately 10% in the very elderly. Following a first hospital admission for heart failure, patients have a 5-year mortality of 75% a survival rate worse than that for most forms of cancer .It impairs quality of life more than almost any other chronic medical problem. Hospital admissions for HF have increased markedly over the past two decades. HF now accounts for about 5% of all medical admissions and approximately 2% of total health care expenditure. Despite improvements in medical management, under-treatment is common. Because of the increase in survival after acute myocardial infarction and ageing of the population, the number of patients with HF will increase rapidly in most industrialized countries. Heart failure still poses one of the greatest health care challenges of the 21 st century. The greatest contributor to the costs of treatment and care for HF patients is hospitalization, which accounts for almost 70% of total costs [4].

Heart failure (HF) is a major global public health problem. Worldwide recognition and treatment of acute myocardial infarction (MI) and infection-related heart disease, such as rheumatic heart disease ischemic heart disease (IHD), hypertension, rheumatic fever and other valve disease, cardiomyopathy, cardiopulmonary disease, congenital heart disease, and other factors may all lead

to heart failure, either alone or in concert with other risk factors. The pattern of heart failure risk factors are likely to vary across world regions based on risk factor prevalence and quality of health care. Past reviews found that IHD is the predominant cause of heart failure in Western high income nations, non-ischemic cardiomyopathies and rheumatic heart disease more common in developing regions, and IHD particularly rare in sub-Saharan Africa [5,6,7]

Non-compliance with medication and diet contributes to worsening HF symptoms, in many cases leading to hospitalization.[8,9] In addition, the complexity of the treatment regimen is expected to result in a decrease in patient compliance.

Compliance has long been recognized as an important issue in health-care. In 1976, Sackett and Haynes published an important standard work on compliance in health care.[10] Nowadays, compliance still is an important problem in chronic disease in general [11] and it is also relevant in patients with HF .[12] Improvement of the medical options for HF patients has for most patients resulted in a complicated regimen. Non-compliance with medication, diet or fluid restriction decreases the efficacy of the treatment prescribed and exposes the patient to clinical destabilization, which can lead to increased HF symptoms. Stewart et al. [13]

1.2. STATEMENT OF THE PROBLEM

Heart failure is a common illness requiring multiple medications and significant self-care behavior. And it is an enormous economic impact on us health care system, owing to direct medical costs, disability and loss of employment. In complexity of care for heart failure puts the patient's at considerable risk for adverse outcome including hospitalization, worse quality of life and mortality.[14]

Many recurrences of cardiac failure occur because the patient does not follow the therapeutic recommendation, such as failing to follow the medication therapy properly, straying from dietary restrictions, failing to obtain adequate medical follow up, engaging in excessive physical activity, and failing to recognize recurring symptoms.[15]

Heart failure is a major public health problem on global overviews. The National Heart, Lung, and Blood institute's estimates that over 4.7 million Americans have congestive heart failure and

that about, 400,000 new cases are diagnosed each year. Over 200,000 Americans die of CHF every year. This translates into a huge depletion in terms of quality of life, productivity, and finances. Almost 1 million hospitalizations occur each year from heart failure.[15]

Heart failure seems to be mainly due to systolic dysfunction and occur as a major complication of high blood pressure in Africa and the first cause of hospital admission among those with hypertension in cardiology units. In general internal medicine services heart failure has been described as the 5^{th} to 6^{th} cause of admission.[15]

In Africa the clinical presentation is characterized by high proportion of symptomatic patients. More than 50% of patients, Present in stage III and IV of the NYHA functional classification clinical signs and symptoms. These are similar to those reported elsewhere, but are eliminated by the high prevalence of nonspecific feature .[16]

I have observed that noncompliance to medication, self-care beliefs, including inability to modifying their diet, more salt intake, inadequate maintenance of a healthy weight, smoking, and lack of getting regular exercise, is very much common in heart failure patients in our country Ethiopia especially in TASH. And most people have inadequate knowledge and belief about the seriousness of heart failure, noncompliance, compliance and the consequence associated. Bearing in mind this situation and the lack of study on this area in Ethiopia, it is necessary to assess the over all level of compliance and its associated factors to treatment among patient with heart failure

This study is expected to contribute for the target group on the need for life style adjustment and some modification in habits, work, and the need to compliance with therapy and most effectively the self-care behavior activities and beliefs that have significant impact on the re-hospitalization and associated psychological, social and physiological impairment.

1.3 Significance of the study

To increase compliance to medication in heart failure patients, communicating with educating and self-engagement of HF patients appear to influence their compliance behavior.

For a country like Ethiopia primary prevention would be the most essential aspect in order to create change in the health care system and related policy.

This study is considered necessary because it helps the early identification of heart failure in patients in whom heart failure was caused by noncompliance on medication, dietary factors, or self-care behavior. It also essential for primary preventive activities in a community, to counsel and educate such patients about the importance of proper self-care behavior and the necessity of medication compliance. It is also aimed to sensitize policy makers and planners to make a more detailed appraisal of trends of chronic non communicable disease on Ethiopia as a whole. It will benefit the local health official specifically those who are managing patient with the problem to educate, invoke and cooperate with their clients to improve knowledge gains among inadequate compliance patient with heart failure and to provide effective and quality care.

This study will find out whether the patients compliance, noncompliance and its associate factors are major contribute factors for heart failure or not.

The information obtained from the study is believed to be contributing to the development of an appropriate strategy for the prevention and control of the major heart failure among our citizen.

This study will have a great amount of importance to the health officials to provide better services against the risk of heart failure in hospital set up plus in the community on Standardize HF patient education throughout and hospital revise patient education tools to incorporate self-management skills. Also it will be bases for further research of the compliance the importance of knowledge and a change of patient beliefs in level of self-care among patient with heart failure.

This study will contribute a lot for the target grouped by implying the need for life style adjustment and some modification in habits, work, the need to compliance with therapy and most effectively the self-care activities and beliefs that have significant impact on the re-hospitalization and associated psychological, social and physiological impairment.

CHAPTER TWO

2. LITERATURE REVIEW

Heart failure constitutes an important medical, social, and economic problem. Although reliable estimates are lacking in many countries, the prevalence of heart failure is estimated as 2%-3% of the adult population and increases with age. Over 26 million people suffer from heart failure around the world and over 3.5 million people are newly diagnosed with heart failure every year in Europe alone. The long-term prognosis associated with heart failure is worse than that associated with the majority of cancers, with 50%mortality after 4 years. Patients suffer disabling symptoms that often become refractory to treatment and need hospitalization, having the greatest negative impact on quality of life compared with other chronic conditions. The cost of medical care in billions of dollars.[17]

Heart failure (HF) is a major public health problem worldwide. The available data suggest that while the morbidity due to HF is great in many parts of the world, the etiologies differ. [18] The most common underlying cause of HF in high-income countries is coronary artery disease. [19] In sub-Saharan Africa (SSA), the predominant causes have traditionally been ascribed to rheumatic heart disease, hypertensive heart disease and cardiomyopathy. [20]

Recent data from the sub-Saharan African Survey of Heart Failure (THESUS-HF) underscore the significant contribution of hypertension. [21]

heart failure is a common condition and affects between 1 and 20 per 1000 of the general population the prevalence is strongly associated with age and for those aged more than 75 years, about 10% are affected. A study in 1998 from the General practice Research Database disclosed an age standardized mate of 10.2 and 8.5 per 1000 for males and females respectively in 1.4 million patients this study also confirmed a social gradient in the prevalence of heart failure that was more common in men (18%) and women (35%) living in the most deprived areas.(22).

Prevalence of heart failure increases steeply with age, so that while around 1% of men and women aged under 65 have heart failure, this increases to between 6 and 7% of those age 75 to 84 and between 12 and 22% of those aged 85 and over. (23)

According to current statistics from the American heart association, 80% of men and 70% of women under age 65 who are diagnosed with heart failure[24]

In Zimbabwe, while the proportion of hospital admission of patients with non-communicable diseases has decreased over time, patients with heart failure have continued to contribute about 6% of hospital admission. [25] In addition to that at the same period time, the proportion of death resulting from heart failure has significantly increased. Compared to studies from other part of the world, heart failure in Africa tends to occur at a much younger age with most cases recorded around the 5th and 6th decade. This young age reflect the major contribution of rheumatic valvular disease to heart failure, but could also be accounted for by the early onset and severity of hypertension among Blacks. As reported elsewhere, most African studies have uniformly described a male predominance among those with heart failure in Africa. Earlier reports from SSA highlight the major importance of rheumatic valvular diseases among causes of heart failure. However, recently published data favor hypertension as the dominant cause of heart failure in this part of the world. [26] Lessons from the changing epidemiology of heart failure in developed countries suggest that the burden of this disease will dramatically increase over the first half of this century.

Over the past 50 years at least 12 clinical studies have examined the etiology of heart failure in hospitalized Africans. [27] These studies disclose several features of the epidemiology of heart failure that are unique to sub-Saharan Africa. First, 98% of heart failure cases are due to non-ischemic causes, with hypertensive heart disease, rheumatic heart disease, and cardiomyopathy accounting for 65% of cases. The diagnosis of myocardial infarction was made in only 2% of cases, which confirms the observation that coronary artery disease remains uncommon in black Africa.[28]

second, the common causes of heart failure in sub-Saharan Africa, such as rheumatic heart disease, peripartum cardiomyopathy (PCM), and endomyocardial fibrosis (EMF) [29] present before middle age, whereas in developed regions of the world, heart failure is a disease of the elderly, with an average age of 76 years.[[30]]

The early presentation of heart failure in Africans has the potential to undermine national productivity as a consequence of the number of active life years lost by the most productive segment of the population.

The other third major cause of heart failure in Africans infectious diseases. The contribution of cor pulmonale and pericarditis to about 10% of cases of heart failure reflects the continuing impact of tuberculosis on heart disease. Cor pulmonale is mainly related to chronic post-tuberculosis lung disease, whereas pericarditis, which has been exacerbated by the HIV epidemic, is overwhelmingly due to active tuberculosis involvement. [31]

Population-based studies on the epidemiology of Heart failure in sub-Saharan Africans is mainly due to non-ischemic causes, such as hypertension, rheumatic heart disease, cardiomyopathy and pericarditis. The two endemic diseases that are major contributors to the clinical syndrome of heart failure in Africa are cardiomyopathy and pericarditis. The major forms of endemic cardiomyopathy are idiopathic dilated cardiomyopathy, peripartum cardiomyopathy and endomyocardial fibrosis. HIV infection is associated with occurrence of HIV-associated cardiomyopathy in patients with advanced immunosuppression, and the rise in the incidence of tuberculosis pericarditis. HIV-associated tuberculosis pericarditis is characterized by larger pericardial effusion, a greater frequency of myopericarditis, and a higher mortality than in people without AIDS [26].

In literature, it is reported that rheumatic heart disease, hypertension, chronic lung disease and pericardial disease are the main contributors to the aetiology of cardiac failure in sub-Saharan Africa, accounting for over 90% of cases. [[20] A study conduct in Cameroon the leading causes for CHF were due to valvulopathies (35%), cardiomyopathies(35%) and hypertension(15%) .**[32]**

Death from rheumatic heart disease In rural Ethiopia, the prevalence of RHD in school children is about 4·6 per 1000 and recent research showed a mean age at death of 25·9 years in hospital inpatients.[33]

Congestive heart failure (CHF) is a leading cause of hospitalization and mortality in the United States, affecting more than 5 million people at an expected cost of $34.8 billion in 2008. [34] The Centers for Medicare & Medicaid Services (CMS) has prioritized improved treatment of CHF, among other chronic conditions, through demonstrations and pilot programs for its beneficiaries. [35]

The prevalence of CHF is as high as 2.6% among Medicaid beneficiaries and 10.7% among those dually enrolled in Medicare and Medicaid (dual eligible) Patients with CHF account for a

disproportionate share of CMS spending. In 1999, 14% of fee-for-service Medicare beneficiaries with CHF accounted for 43% of total spending. [36]

Patients with CHF are generally at increased risk for heart attack, stroke, emergency department (ED) visits, hospitalization, and death.[38] To minimize their risk, most patients with CHF should use one or more drugs from different therapeutic subclasses, including loop diuretics, angiotensin-converting enzyme (ACE) inhibitors, angiotensin II receptor blockers, and beta-blockers.[39 ,40] However, medication non adherence is common among patients with CHF, and Medicaid beneficiaries' drug use is often inconsistent with practice guidelines.[41-43]

Despite evidence that poor adherence leads to higher hospitalization rates, few studies have examined the relationship between adherence and healthcare costs for patients with CHF, although hospitalization accounts for their highest share of expenditures. If higher CHF drug adherence is associated with lower hospitalization risk, it stands to reason that it is also associated with lower healthcare costs.[**44]**

Previous study shows that adherent beneficiaries were less likely to have a hospitalization (0.4 percentage points),had fewer hospitalizations (13%), had in excess of 2 fewer inpatient days (25%), were less likely to have an emergency department (ED) visit (3%),and had fewer ED visits (10%) than non-adherent beneficiaries. Total healthcare costs were $5910(23%) less per year for adherent beneficiaries compared with non-adherent beneficiaries. The relationship between medication adherence and healthcare costs was graded. For example, beneficiaries with adherence rates of 95% or higher had about 15% lower healthcare costs than those with adherence rates between 80% and less than 95%($17,665 vs. $20,747, P <.01). The relationship between adherence and total healthcare costs was even more stark when the most adherent beneficiaries.[45]

Study conducted among 502 HF patient in Netherland shows that overall 72% of the patient were compliant, and Compliance with medication and appointment keeping was high (.90%). And the other compliance with diet (83%), fluid restriction (73%), exercise (39%), and the last significantly lowering in weighing was only (35%). Among their finding Compliance related to knowledge was(OR ¼ 5.67; CI 2.87–11.19), and on their study compliance with weighing and exercise were low.

In India Heart failure is a common cardiovascular disease with high morbidity and mortality. Unlike western countries where heart failure is predominantly a disease of the elderly, it affects

younger age group. Important risk factors include coronary artery disease, hypertension, diabetes mellitus, valvular heart disease and cardiomyopathies. [46]

Study conducted in India the highest rate of compliance with use of diuretics 60%. Often patients are more compliant to drugs that cause symptomatic relief. Only about 50% and 43.4% were compliant to beta blockers and spironolactone respectively. Reason for under use may be these drugs affect more prognosticaly rather than reliving symptoms acutely. In their study inadequate prescription was the top most reason of medical non-compliance to treatment for heart failure as recommended by AHA. To some, inadequate prescription may even not be a true non- compliance as patients actually follow the prescription, which in itself is inadequate. In majority of the cases prescription of a tertiary care hospital were adequately written as compared to patient taken care by general practitioners. As a result shows with compliance Out of 267 patients 73 (27.3%) , while 194 (72.7%) were noncompliant. Various reasons of non -compliance were, inadequate prescription 20.2%, financial reasons 15.5%, 15.5% of the patients doesn't feel need of taking medication, miscommunication 15%, side effects 13.5%, non-availability of medication 11.4%, 7.3% other reasons and 1.1% medication were stopped due to other illness.[47]

Also another study shows that from baseline to 18-month follow-up, 77% to 91% were long-term compliance with diet and fluid restriction and ranged from 72% to 89%, respectively. In contrast, compliance with daily weighing (34% to 85%) and exercise (48% to 64%) was lower. New York Heart Association patient with functional class II were more often noncompliant with fluid restriction (odds ratio [OR] 1.97, 95% confidence interval [CI] 1.25 to 3.08). A lower level of knowledge on HF was independently associated with low compliance with fluid restriction (OR 0.78, 95% CI 0.71 to 0.86) and daily weighing (OR 0.86, 95% CI 0.79 to 0.94). [48]

WHO recent definition of compliance is the active role of the patient. In this definition, compliance is the extent to which the behavior corresponds with agreed recommendations from a health care provider **.**And the revised old definitions of adherence is 'the extent to which a person's behavior—taking medication, follow[ing] a diet, and/or executing lifestyle changes corresponds with agreed recommendations from a health care provider.[49]

Non- compliance may actual causes for hospitalization and readmission among heart failure patient specifically in older adults. Noncompliance is susceptible to the disease or its consequences. In addition to that patient must appreciate that the consequences of the disease could have a serious impact on their wellbeing. [50]

Patients are usually classified as being compliant or noncompliant. In reality compliance occurs at a level somewhere between the two with some advice being adhered to, but not all. Furthermore, it is a dynamic process which varies continuously as the patient monitors and assesses his or her compliance behavior and changes it accordingly. Patients who are compliant in one situation) may not be so in another and stimuli which have a positive influence on one individual may have a negative influence on or be of no consequence to another. Failure to take medication in the prescribed fashion may result in loss of treatment efficacy or overdose related side effects. These can in turn lead to the administration of further medication and the involvement of the patient in unnecessary diagnostic procedures or hospitalization. Patient non-compliance is therefore expensive in terms of time, money and resources and can adversely affect the relationship between the patient and doctor. [51]

Non-compliance in a patient is a complex problem particularly elderly people in the population, especially at risk from the dangers of non-compliance as the illnesses and conditions that they suffer from often require multiple and long-term therapy. Besides that have difficulties in communication and deficient, poor memory, deficient manipulative skills, as they may have chronic illness such as rheumatoid arthritis, hypertension and diabetes mellitus may complicate the situation.

In a prospective cohort study (N=431) higher readmission rates, more hospitalization days and a lower ejection fraction after 6 years were found in HF patients who were non-compliant with digoxin compared to patients who were compliant with the prescribed digoxin. Since the follow-up period was extremely long, other factors such as change in disease severity may have influenced the outcomes. [52]

There are ambiguous outcomes on differences in compliance between races In some studies, compliance was found to be higher in White American HF patients, in other studies, no differences were found between Black and White HF patients. [53]

Educational level and gender correlated significantly with compliance with medication; however, the data are contradictory. In the study of Artinian , patients with a lower educational level were more compliant; others found that educational level and compliance with medication were positively correlated with regard to gender; some studies found that women were more compliant than men other studies found inverse data Patients who took their medication regularly (with the same dose interval) had a higher overall compliance with medication than patients who took their medication with an irregular dose interval [54] *[*The determinant factors in compliant behavior are the demographic factors influencing compliance results the likely types of non-compliant patient; include, the elderly, the, women (especially mothers of high parity [55] noncaucasian races ,[56] and the unemployed .the second factor is condition or disease Areas of therapeutic medicine in which non-compliance has been shown to be a problem include conditions requiring prophylactic treatment, mild asymptomatic conditions, chronic illnesses, and conditions where the consequences of terminating treatment are delayed, such as epilepsy and psychiatric conditions, .[57]

The 3^{d} one is Social factors which have been shown to improve compliant behavior include positive attitudes of others in the community, especially family, friends and associates. The widowed, the single and those with language difficulties tend to exhibit poor levels of compliance.[58] the 4th one is Doctor-patient relationship Compliance is related to the quality, duration and frequency of interaction between the patient and doctor. Conversely, short, impersonal consultations where the patient's expectations remain unfulfilled have a harmful defect on compliance. The last factor is treatment regimen The route of drug administration, the appearance, color and taste of medication, the tablet size and the dosing regimen all influence compliance. [59]

Compliance of patients decreases with time and it is lower in long-term medications than in short-term medications. In depressive patients, compliance was shown to be 68% after 3 weeks of treatment, but this percentage decreased after 6, 9 and 12 weeks to 63%, 50% and 40% respectively

[60] . A compliance study conducted with short-term medications revealed an overall incidence of non-compliance of 26%. [61]

In general, compliance is an important problem in chronic diseases. [62] According to the HF guidelines of the (ESC) [63] and (AHA/ACC) [64] multiple medication (ACE inhibitors, diuretics, beta-blockers, spironolactone, digoxin) are beneficial for HF patients and should therefore be prescribed. Non-pharmacological life style changes such as fluid- and sodium restriction, daily weighing, adjustment of activity, quitting smoking and limitation of the amount of alcohol are requested. Several authors recognize the problem of noncompliance in HF; however, most publications focus mainly at compliance with medication and overlook other important lifestyle changes.

There is no data regarding the exact prevalence and incidence of heart failure in Ethiopia .With higher prosperity for cardiovascular disease and aging population the burden of HF is likely to be higher in comparison to Western population. Especially Rheumatic heart disease (RHD) is the most important cardiovascular disease in hospital practice in Ethiopia. However, the prevalence rate of RHD at the community level remains unknown. The current survey was undertaken to estimate its prevalence among schoolchildren of a central Ethiopian rural town (Butajira) .The finding with hospital-based reports that showed RHD to be a common disorder in clinical practice. At the same time, the lack of awareness about their disease noted among the cases is worrisome and deserves serious attention.[65]

Non-compliance with medications is one of the major factors in the failure of therapeutic programs in patients having a chronic disease. [10]

A study conduct among the magnitude of non-compliance with medications prescribed for patients with chronic illnesses such as tuberculosis, hypertension, asthma, diabetes, epilepsy and congestive heart failure ranges between 16.7% and 80% .[66]

In fact that the factors for non-compliance may vary from country to country and may contribute to the variations that exist among the reported values of non-compliance. With regard to the possible factors of non-compliance that are related to the patient, the disease, the drugs prescribed, the physician and the treatment environment [67]

There is no study in Ethiopia on the noncompliance of the patients with heart failure rather than study about noncompliance with drug regimens for chronic diseases. In their study the compliance with chronic rheumatic valvular heart disease was the highest (100%). [63]

2.1 Self-care behavior

Self-care in HF is a complex process characterized by engagement in secondary preventive practices (eg, salt and fluid restrictions, weighing oneself daily, adhering to prescribed medications), management of symptoms (eg, resting when feeling short of breath), and making decisions about the need for medical care (eg, seeking medical help when symptoms occur).[56]]

Despite the importance of effective self-care, many patients do not adhere to preventive lifestyle practices (eg, dietary restrictions or medication adherence), symptom monitoring, and care-seeking for acute decompensation. Inadequate self-care increases a patient's risk for hospitalization and poor clinical and quality of life outcomes. Poor adherence to treatment and HF-related self-care behavior exposes the patient to an increased risk of clinical instability and increased symptoms. [69] This can result in higher-than-expected hospital admission rates, which place a substantial (cost) burden on the healthcare system.[4]

In order to prevent the deterioration of the patient's condition, adherence to medication and other self-care behavior needs to be improved. Patient education and support for patients with heart failure (HF) to improve self-care behavior is the goal of many HF management programs. The effectiveness of these programs is often evaluated based on their effects on readmission, costs, and quality of life. [70,71]

Since there is an increasing call for a tailored approach in HF management, it is important to evaluate programs on outcomes such as symptom relief and self-care behavior. HF-related self-care behavior reflects the actions that HF Patient undertakes to maintain life, healthy functioning, and well**b**eing. It include behaviors like adherence to medication, diet and exercise, as well as self-management of symptoms, but it also refers to behaviors such as daily weighing to assess fluid retention and seeking assistance when symptoms occur.[72]

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To evaluate the effectiveness of interventions aimed at improving self-care, it is important to know if and how patients changed their self-care behavior as a result of such interventions. Identification of deficits in HF-specific behaviors can help health-care professionals improve patient education or support behavioral change. [**73]**

A study conduct on adequate health literacy is associated with higher heart failure knowledge and self-care confidence in hospitalized patients, the finding was (42%) was inadequate Health literacy or (19%) marginal for the majority of hospitalized HF patients .And the younger and those who had higher education level, HF knowledge scores, and HF self-care confidence were with adequate health literacy compared to those with inadequate health literacy. **[74]**

2.2 REHOSPITALIZATION

Heart Failure causes significant morbidity and mortality. Multiple trials have shown that self-care training can reduce HF-related hospitalizations [75]

Weight monitoring is an important element of HF self-care that enables patients to monitor their volume status. [76] Weight gain can often be the first sign of volume overload in patients with HF; if such weight gains are treated promptly, clinically significant HF exacerbations can be avoided. In clinical practice, self-reported measures are frequently used to assess whether patients perform components of HF self-care, including weight monitoring [77-78] .

However, the most clinically meaningful way to evaluate adherence to weight monitoring is unclear. Using weight monitoring adherence measures to determine which patients are optimally performing HF self-care could help identify which patients may benefit from more intensive HF self-care training and support**.**

Heart failure has a high rate of readmission and hospitalization [79] patients has become an important component in order to increase the patients' self-care and compliance, which might improve quality of life and reduce health care costs .[80 -83]

Repeated emergency room visits and rehospitalization for HF patients common reasons include delay in symptom recognition, medication and dietary noncompliance, and lack of knowledge and skills for competent self-care. [84-86] Poor self-care, increased hospital admissions,[87] and increased mortality.[88]

Among those with HF, Murray (2009) also reported that risk of HF-related readmission was significantly higher among those with inadequate health literacy, even after controlling for clinically relevant risk factors.[89]

Aetiologies for CHF a study in South Africa were idiopathic cardiomyopathy (CMO)(31%), ischaemic CMO and hypertensive heart failure. Of the 24% diagnosed with ischaemic CMO[90]

CHAPTER THREE

3. OBJECTIVES

3.1. General Objective

To assess overall level of compliance, self-care and its associated factors to treatment among heart failure patients in adult emergency department and cardiac referral clinic at TASH.

3.2. Specific Objectives

1. To assess level of compliance to treatment regimen among heart failure patients in adult emergency department and cardiac referral clinic at TASH
2. To identify associated factors of self-care treatment compliance among heart failure patient in adult emergency department and cardiac referral clinic at TASH
3. To assess frequency of hospitalization of heart failure patients in adult emergency department and cardiac referral clinic at TASH
4. To identify the causes of heart failure in adult emergency department and cardiac referral clinic at TASH.

CHAPTER FOUR
4. METHODS AND MATERIALS

4.1. Study Area and Period

The study was conducted at Addis Ababa University Medical faculty of Tikur Anbessa specialized hospital. It is the biggest teaching, central and largest referral and tertiary level hospital in the country.

The hospital was established in 1965 E.C and run by ministry of health before it was handed over to Addis Ababa University in 1991 E.C. as a referral hospital. Tikur Anbesa Specialized Hospital provides the appropriate service in the internal medicine, surgical, pediatric, gynecological and obstetrics and rehabilitation department. The hospital provides a tertiary level referral treatment and is open 24 hours for emergency services. This study was conducted in Tikur Anbessa General Specialized hospital from January 2014 to May 2015 at emergency department and cardiac referral clinic.

4.2 Study design

A cross-sectional study was used to conduct this study in adult emergency department and cardiac referral clinic TASH.

4.3. Source Population

A source population were all patients who were present in Tikur Anbesa Hospital at the time of data collection and have follow up at the hospital.

4.4. Study Subjects

Patients who have a confirmed diagnosis of heart failure at any time in the past, in emergency department and attending a regular follow- up at cardiac referral clinic at Tikur Anbesa Specialized Hospital and those who were willing to participate in the study

4.5 Inclusion and Exclusion criteria

Inclusion criteria: - Patients who had a confirmed diagnosis of heart failure

- Those who were on treatment regimen for heart failure.
- Who were volunteer to participate in the study.

- Those who were visit emergency department and have regular follow up at cardiac referral clinic of TASH

-Those whose ages were 18 years old and above

Exclusion criteria: - Those who are critically ill and cannot talk.

- Patients who do not volunteer to participate in the study.

- Those who don't have confirmed diagnosis of heart failure.

- Those whose ages are less than 18years old

4.6 Sample size determination

The sample size in this cross sectional survey was determined using a single Proportion formula.

$$n = \frac{z^2_{\alpha/2}\, p(1-p)}{w^2}$$

Where, n =the required sample size

Z =standard score corresponding to 95% confidence interval

P = The estimated proportion of compliance in patients with heart failure assumed to be 50%

W = the margin of error (precision) 5%

Therefore

The sample size required for the study is estimated to be using the above formula where n is the sample size, Z is the standard normal deviation, set at 1.96 (for 95% confidence level), w is the desired degree of accuracy (taken as 0.05) and p, is the estimate of the proportion of our target population assumed to be 50%

Therefore, $n = \frac{(1.96)^2\ 0.5(1-0.5)}{(0.05)^2}$

$n = \frac{(1.96)^2\ (0.5 \times 0.5)}{(0.05)^2}$

= 384

4.7 Sampling techniques and Procedure

By using convenient sampling, a cardiac patient who visit adult cardiac referral clinic and adult emergency department and attend the hospital within a period of the data collection was interviewed. Study subjects were taken until the required number of sample is reached.

4.8. Methods of Data Collection

The data was collected by using structured questionnaire and interviewing study subjects by modifying the previous study and revising some litratures applied in related to the study, . Pretesting before the actual study was conducted in Tikur Anbesa Specialized Hospital by the investigator and the pretest result were not be included in the study. There were 2 data collectors of BSc nurses trained for 01 day on how to fill the data and handle the documents in accordance to the objective of the study. The questionnaire contains questions on the socio-demographic data, the overall level of compliance, self-care behavior, causes and its associated factors, severity of noncompliance and frequency of hospitalization among heart failure patients. Continuous monitoring and super vision had been done between data collection.

4.9 Instrument

Pre-tested and structured questionnaire for the assessment of overall level of compliance, self-care behavior and its associated factors were used.

4.10 Variable

Dependent variable

- ***Compliance, noncompliance, self-care behavior***

Independent variables

- ***Socio-demographic status (age, sex, marital status, education etc)***

4.11 Data Quality Control and management

To assure the quality of data, Careful modification of the data collection tool according to Ethiopian situation had been used. The data collection instrument format was developed in English version, translated to Amharic, and later translate back to English version by different individuals for its accuracy. Data collectors and supervisors were trained. During the data collection procedures, all the collected data were reviewed and checked daily for its completeness. The questionnaire was pretested in 10 % of the sample size before the actual data collection is conducted in hospital other than the research site.

4.12 Data Analysis and interpretation

The data collection tool was checked for completeness and internal consistency. And then the raw data was compiled, summarized, and analyzed by using SPSS version 20.1. The result was presented in tables and statements.

4.13. Ethical considerations

Ethical clearance was obtained from Addis Ababa University College of Health Sciences; School of Medicine, Department of Emergency Medicine. Before the data collection detail explanation was given about the purpose of the study to all patients involved in the study. Confidentiality was maintained by omitting their names and addresses on the questionnaire.

4.14. Dissemination of the result

The study result will be presented to Addis Ababa University, Faculty of Medicine Department of Emergency Medicine and documents were disseminated to all responsible bodies in the study area.

4.15 Operational definition

Heart failure: A person with confirmed diagnosis of heart failure. New York heart association functional classification will be used for classification of severity of symptom.

Functional classification of heart failure

The classes (I-IV) are:

Class I: cardiac disease, but no symptoms and no limitation in ordinary physical activity, e.g. no shortness of breath when walking, climbing stairs etc.

Class II: mild symptoms (mild shortness of breath and/or angina) and slight limitation during ordinary activity.

Class III: Marked limitation in activity due to symptoms, even during less-than-ordinary activity, e.g. walking short (20_100 distance)

Class IV: Comfortable only at rest. Severe limitations. Experiences symptoms even while *at rest*. Mostly bedbound patients.

Compliance is often defined as 'the extent to which a person's behavior (in terms of taking medication, following diet, or executing life style changes corresponds with agreed recommendations from a health care provider.

Self-care behaviors - self-care involves behavior such as taking medications, monitoring and interpreting symptoms, keeping appointments, and contacting health care providers when needed. And it is a naturalistic decision- making process that patients use in the choice of behaviors that maintain symptom monitoring and treatment adherence and the response to symptoms when they occur.

CHAPTER FIVE

RESULTS

5.1 Socio demographic characteristics

From the total number of 384 patients 141(36.7) male and 243(63.3) females.

The age of the patients between 18-29 were 134(34.9%) and between 30-39 were 67(17.4%). Most of the respondents were orthodox 275(71.6%) followed by Muslim 71(18.5%) . And about 162(54.9%) respondents were married and 211(42.2%) were single. And most respondents were Amhara 153(39.8%), followed by Oromo 103 (26.8%). And about 68(17.7%) of respondents were illiterate and 34(8.9%), while 95(24.7%) had attend secondary school. And about 101(26.3%) respondents were employee while 23(6%) were unemployed and 107(27.9%) respondents were students. (see Table 1)

Table 1. Percentage distribution of respondents by their socio- demographic characteristics, January 2015 -February 2015, TASH, A.A Ethiopia

AGE		FREQUENCY N=384	PERCENTAGE %
	18-29	134	34.9
	30-39	67	17.4
	40-49	54	14.1
	50-59	54	14/1
	60 and above	75	19.5
Sex	Male	141	36.7
	Female	243	63.3
Marital status	Married	162	54.9
	Single	211	42.2
	Divorced	11	2.9
Religions	orthodox	275	71.6
	Muslim	71	18.5
	Protestant	34	8.9
	Catholic	4	1.0
Ethnicity	Maharani	153	39.8
	Oromo	103	26.8
	Gurage	85	22.1

	Tigrea	28	7.3
	Others	15	3.9
Educational level	Illiterate	68	17.7
	Literate	34	8.9
	Primary school	93	24.2
	Secondary school	95	24.7
	Higher education	94	24.5
Occupation	employee	101	26.3
	unemployed	23	6.0
	merchant	21	5.5
	House wife	63	16.4
	Farmer	19	4.9
	Retiree	50	3.0
	Student	107	27.9

5.2 Response of study participants related to their diagnosis of heart failure

Among participants with confirmed diagnose of heart failure 329(85.7%) were an aware of the causes of heart failure. Among them hypertension, valvular stenosis 57(14.8%), 155(40.4%) respectively were accounted. About 65(16.9%) of the subjects were confirmed with diagnosis of heart failure less than one year and followed by 88(22.9%) 1-3 years. In respondents questions related to symptoms 353(91.9%) of were able to mention the typical features & heart failure 299(77.9%) experiences S0B on activity, 119(31%) were said persistent cough, Among the importance care that should take by patient, they mentioned heart failure patients should take adequate rest 250(65.1%) and 193(50.3%) were said limited exercise. About 357 (93%) of patient had received advice from health care provider, (see table 2)

Table 2.percentage distribution of respondents by their diagnosis of heart failure patients. **January 2015-February** 2015 TASH ,A.A Ethiopia

Duration confirmed Dx with heart failure		frequency	Percentage
	< one year	65	16.9
	1-3 years	88	22.9
	3-6 years	99	25.8
	6-9 years	44	11.5
	>9 years	88	22.9
Sign & symptoms notice by patient	Shortness of breath on activity	299	77.9
	Persistent cough	119	31.1
	Gain in weight	37	9.6
	Swelling of ankle and legs	185	48.2
	Easily fatigability	166	43.2
Importance care should be take	Adequate rest	250	65.1
	Limited exercise	193	50.3
	Salt restriction	55	92.4
	Daily weighing	43	11.2
	Using more pillows	178	46.4
Cares that told by physician	Self -weight behavior	39	10.2
	Salt restriction diet	349	90.9
	Limited alcohol consumption	111	28.9
	Fluid intake restriction	28	7.3
	Fatty food restriction	181	47.1

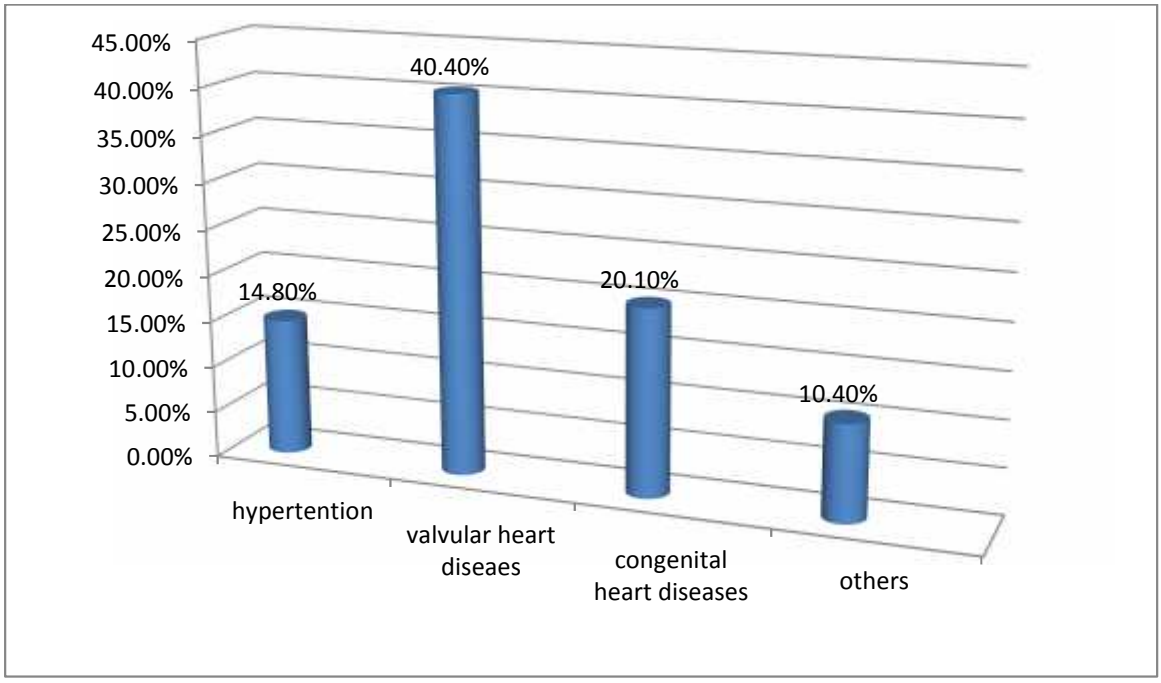

Figure.1. percentage distribution etiology of heart failure in the total population

5.3 Response of study participants on self -care Behavior

From the total study subjects (42.4%) said they do not exercise. In relation to tolerance physical exercise (54.7%) of patients can work normally, and 79(20.6 %) can climb stairs. Related to monitoring weight From the total study subjects 188(49.0%) were do weigh, Among them 4(1.0%) were daily weigh. 267(69.5%) of patients restrict salt in diet while 117(30.5%) of were avoid salt completely in their diet.89 (23.2%) and patients use fluid four glasses per day and 93(24.2%) were use fluid above four glasses per day, Almost all patient 373(97.1%) use pillow at sleep. Almost all respondents do not perform strenuous exercise 359(93.5%). 63(16.4%) of patients visit the physician every one month and 67(17.4%) every two month and only 4(1%) were mentioned visited the physician depends on their condition. 380(99%) of patients seek visit clinic on appointment and 150(39.1%) were said when they feel pain (SOB. (see Table3)

Table 3. Percentage distribution of respondents by their self -care abilities on heart failure. January 2015 - February 2015 TASH A.A Ethiopia.

Tolerate physical exercise		**frequency**	**Percentage**
	can work normally	**210**	**54.7**
	Can climb stairs	**79**	**20.6**
	Can walk far distance	**111**	**28.9**
Monitoring weight	**Daily**	**4**	**1.0**
	Every other day	**4**	**1.0**
	Once a week	**11**	**2.9**
	Once a month	**20**	**5.2**
	Rarely	**117**	**30.5**
	others	**32**	**8.3**
Use salt in diet	always	**63**	**16.4**
	Most of the time	**9**	**2.3**
	sometimes	**22**	**5.7**
	occasionally	**58**	**15.1**
	Always but a small amount	**114**	**29.7**
Fluid per day	**One glass**	**53**	**13.8**
	Two glass	**89**	**23.3**
	three glass	**44**	**11.5**
	Four glass	**93**	**24.2**
	Above four glass	**100**	**26.0**
	others	**5**	**1.3**
Number of pillow using	**one**	**239**	**62.2**
	two	**105**	**27.3**
	three	**25**	**6.5**
	more than three	**4**	**1.0**
Visiting physician	**By appointment**	**380**	**99.0**
	When feel pain(sob)	**150**	**39.1**
	When finish medication	**69**	**18.0**

*Multiple answer was possible.

5.4 Response study participants on compliance on medication

350 (91.1%) of patients have been on drug therapy, among them 201(52.3%) were taking drug in the form of tablet, while 20(5.2%) were taking in the form of injection. (33.1%) of patients were take medication for three months and (22.4%) were for one month and only 8.3% were for unspecific days. Related to interrupt on taking medication patient on average out of 30 days (26.5%) of patient were said stopping taking their medication at least for more than seven days, while (10.4%) of patients at least for less than five days of duration .Reasons related to stop their medications (5.5%) of respondents were said when they feel better. (See Table 4)

Table 4 . Percentage distribution of respondents by their compliance on taking medication on heart failure. January 2015 - February 2015 TASH A.A Ethiopia

Taking prescribed medication		**frequency**	**Percentage**
	tablet	**201**	**52.3**
	Injection	**20**	**5.2**
	Both tablet & injection	**126**	**32.8**
Duration taking medication	**One month**	**86**	**2.92.4**
	Two month	**61**	**15.9**
	Three month	**127** **42**	**33.1**
	Six month	**36**	**10.9**
	>Six months	**32**	**9.4**
	others		**8.3**
Taking medication	**Exactly as Dr prescribed**	**327**	**85.2**
	feeling very weak	**8**	**2.1**
	Feel pain(sob)	**4**	**1.0**
	As need as	**5**	**1.3**
	others	**40**	**10.4**
Reasons for stop medication		**Frequency**	**Percentage**
	Getting better	**21**	**5.5**
	Finish medication	**30**	**7.8**
	Forgetting	**40**	**10.4**
	Told by physician	**15**	**3.6**
	others	**45**	**11.7**
Forget days of medication out	**< 5 days**	**40**	**10.4**

of 30 in average	**Five days**	**14**	**3.6**
	Six days	**1**	**0.3**
	Seven days	**2**	**0.5**
	>Seven days	**103**	**26.5**

5.5 Respondents frequency of hospitalization

From the total 217(56.5%) of patients admitted hospital. Among them 101(26.3%) have been admitted to hospital once, followed by (16.1%) of them twice and only 6(1.6%) patient were said just kept at emergency and discharged on the same day. (See Table 5)

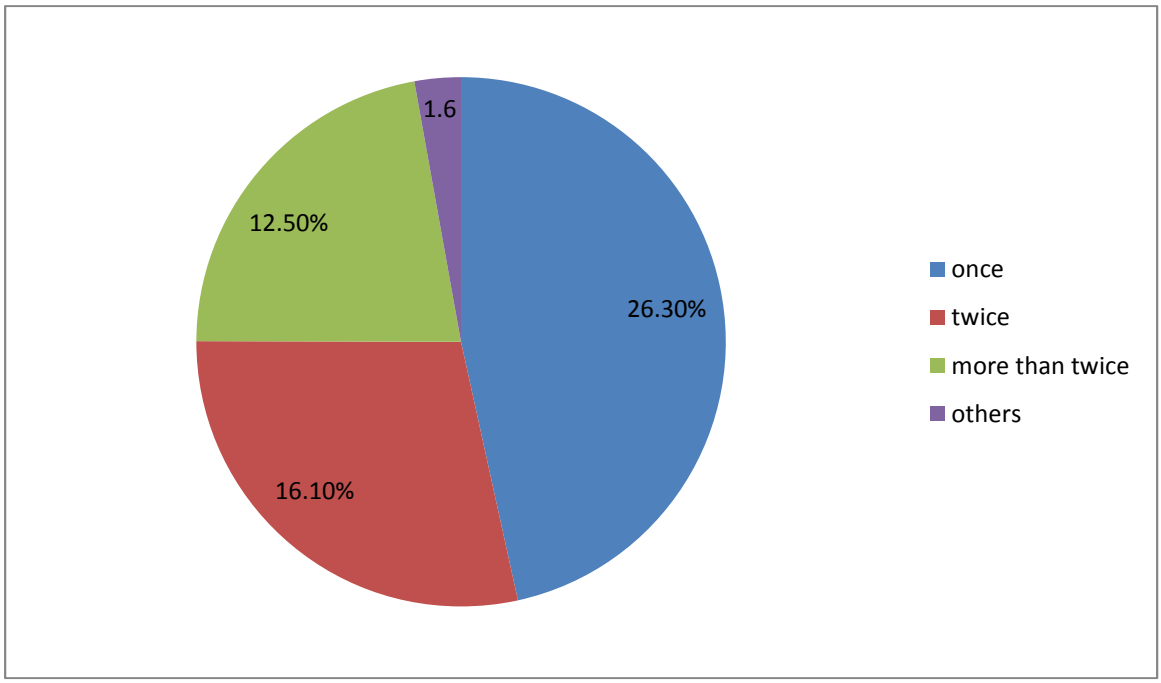

Figure-2:- . Percentage distribution of respondents by their hospitalization on heart failure, January 2015- February 2015 TASH A.A Ethiopia.

CHAPTER SIX

Discussion

This study reveals that the occurrence of HF among male and female have difference with 36.7% in male and females 63.3%.,giving a male to female ratio of 0.58:1.72.

In contrast, research conduct in South Africa Seweto there were more men [n = 109 (55%)] than women [n=91 (45%).[90]

In this study peak age groups of the study participants were (18-29) 384/134(44.9%) and the mean age of study participants were 39.7 (_+ 18) at high risk for heart failure. Similarly, a study in Cameroon at St. Elizabeth Catholic General Hospital Of these patients, 462 aged between 8 and 80 years (mean 42,5±18 years old) were diagnosed with HF.[32] From various observation compared to studies from other parts of the world , heart failure in Africa(since there is no study done in Ethiopia) tends to occur at a much younger age.
In contrary, Study in US 80% of men and 70% of women under age 65 who are diagnosed with heart failure.[79] This might be due to in a sedentary life style and chronic disease in developed and also inappropriate early treatment and prevention of predisposing factors in developing country.

In my study most of the patients (85.7%) were recognizing of what was the cause of heart failure, among them (40.4%) valvular stenosis, (14.8%) hypertension and (20.1%) were congenital heart diseases.
Consistently, research conducted in Zimbabwe is reported that rheumatic heart disease, hypertension, chronic lung disease and pericardial disease are the main contributors to the aetiology of cardiac failure in sub-Saharan Africa, accounting for over 90% of cases. [20] similar finding in Cameroon the leading causes for heart failure were due to valvulopathies (35%), cardiomyopathies(35%) and hypertension(15%).**[32]**

Similarly, Study in South Africa Seweto etiologies for HF were idiopathic Cardiomyopathy(31%) (CMO), ischaemic CMO(24%), hypertensive heart(22%) failure and valvular CMO (7%). [90]

In our study finding related to knowledge level and adherence behavior of patients with HF (92%) of patients were able to recognize the typical feature of heart failure and the frequently reported symptoms by the patients were 77.9% shortness of breath on activity; 92.4% knew to restrict salt, and 65.1% were said adequate rest. About (93%) of patients had received advice from health care providers, and had been sufficient awareness but had not performed the medical advice of health care providers.

Though daily weighing of body is important to determine the amount of fluid retention in patients with heart failure and the result indicates the patients did not recognize it as a part of management. For better outcome the patients are expected to reduce their daily salt intake to 1gm and their fluid intake not more than 1 liter per day.

Concerning compliance with medication, my study subject demonstrated high compliance rates in prescribed medication (85.2%) and appointment keeping (98.9%) in this study population. Similarly, a study conduct 502 HF pt in Netherland shows overall 72% of patients were compliant with medication taking (98.6%) and appointment keeping (95%).

Compliance with fluid restriction in my study (24.2%)was considerably lower than the rates in other studies (73%). The lowest compliance rate in this study was found in regularly weighing; only (1%) of patients weighed daily or at least every other day ,and reasons for not weighing was most of the patient do not knew that they should weigh .This low compliance rate related to weight also had been reported in other studies in Netherland, 35% of the patients who weighed at least three times a week. Reasons for not weighing were related to motivation (6%), forgetting (5%), and not knowing that they should weigh. in fact were not monitoring weight it might be of misunderstandings and wrong interpretation of regimen. (14%). In this study compliance with exercise (54.7%),is higher than other study in Netherland (39%),[79]

Despite the poor findings related to self-care behaviors patients about (7%) respondents said they had not received any health information related to heart failure. Most of patients mentioned they have been to restrict their salt intakes (90.9%), and while as discuss above majority of patients have been using salt in their diet. It was observed there was a gap between patients receiving and retaining information on self- care for heart failure supplied by health care provider.

Among those patients that were under this study 26.3% were hospitalized at least once, 16.1% twice and 12.5% were more than twice and only 1.6 % were kept at emergency and discharged on the same day, while 43.5% have never been admitted to hospital in relation to heart failure. With the low level of self- care behavior and inadequate knowledge, that hospitalization rate is remain high.

By contrast, in one study shows that adherent beneficiaries were less likely to have a hospitalization (0.4 percentage points),had fewer hospitalizations (13%), had in excess of 2 fewer inpatient days (25%), were less likely to have an emergency department (ED) visit (3%),and had fewer ED visits (10%) than non-adherent beneficiaries.[47] Similarly, 5.8% of total hospital admissions in Cameroon were due to heart failure [24]

A study in Zimbabwe, while the proportions of hospital admission of patients with heart failure have continued to contribute about 6% of hospital admission. In addition to that at the same period time, the proportion of death resulting from heart failure has significantly increased.[25]

The finding of my research indicates that (30.5%) of patients avoid salt from their diet completely,(69.5%)did not restrict salt, which implies that majority of patients did not recognized salt restriction important in HF management.

A study conducted in US that non-compliance was and knowledge of prescribed medication on heart failure patients indicated that non-compliance was common in heart failure patient as were short coming in patients` knowledge of prescribed medication.[10]

In this finding about 327(85.2%) were receiving medical treatment among the total study subject . Among this, 141(40.1%) of patients had interrupted taking medication and common reason mention was that they stopped taking medication because they through they were held in the absence of symptoms (11.7%) and (10.4%) giving different reasons like forgetting, financial reasons non-availability of medication which still indicate poor adherence medical therapy.

Consistently, a study in India shows with compliance Out of 267 patients 73 (27.3%) , while 194 (72.7%) were noncompliant. Various reasons of non -compliance were, inadequate prescription 20.2%, financial reasons 15.5%, 15.5% of the patients doesn't feel need of taking medication, miscommunication 15%, side effects 13.5%, non-availability of medication 11.4%, 7.3% other reasons and 1.1% medication were stopped due to other illness.[49]

Having knowledge about heart failure is very important that patient with heart failure. Heart failure is a common illness requiring multiple medication and significant self-care. Self- care management also require that patients recognize a change (such as edemas) evaluate the change , decide to take action implement treatment strategy also it requires following advice of providers to take medication, eat a low sodium diet, exercise engaged in preventive behavior, and actively monitor themselves for sign and symptoms.

CHAPTER 7

Strength and limitation of the study

Strength

-The findings of this study can be used as a bases line data to help improving and planning compliance to medication, overall self-care behavior and its associated factors among patient with heart failure.

-Positive response was considered to increase the reliability of the results.

-Primary data was used to conduct the study

Limitation

-Lack of recent literature review

-Lack of resource like money and time

Conclusion

Based on the finding the following conclusion can be drawling

Inadequate compliance with medication and other life style recommendation is a major problem in patient with heart failure.

-Interventions that can increase compliance and prevent HF related readmissions in order to improve the quality of life of patients with HF need to be tested.

-many patients were found to be having inadequate awareness and understanding about self-care activities in the management of heart failure.

There is a gap between patients` knowledge and practice of self –care behavior and information provided by health care providers.

Recommendation

-Education has demonstrated significantly improved compliance on medication and self- care behavior among patient with heart failure

-Essential promotion of compliance and self-care is need for better assessment of patients by care provider.

-Medical centers have adopted varies strategies to manage costs and to prevent unnecessary hospitalization.

-More research should be done in Africa especially in Ethiopia.

-Efforts are needed through research to improve compliance with medication and self- care behaviors of patients with heart failure at large in Ethiopia.

-A multidisciplinary management programme and home based intervention can reduce readmission rates and length of hospital stay in heart failure patients.

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Annexes

Annex 1 Subject Information sheet

ADDIS ABABA UNIVERSITY

College of Health Sciences, Department of Emergency Medicine, Graduate studies Program

Background

Noncompliance with medication, diet and self-care behavior is very much common and contributes to worsening HF symptoms, in many cases leading to hospitalization, increase mortality, morbidity, and the need for hospital care.

Aim of the study

This questionnaire is meant to collect information that will be used as MSc project for Sonia Tole at Addis Ababa University, College of Health Sciences, Department of Emergency Medicine Graduate studies Program. I will be undertaking research on a topic entitled assessment of overall level of compliance, self-care and its associated factors among heart failure patient in adult emergency department and cardiac referral clinic at TASH .The purpose of this research project is to address (1) level of compliance to treatment regimen among heart failure patients, (2).The

associated factors for the noncompliance and (3) the self-care behavior and frequency of hospitalization among heart failure patients .

Benefit and risks

Even though there is no immediate benefits from the study to the study population, the findings of the study will help to identify the reasons of non-compliance, level of knowledge on compliance and noncompliance and identify the gaps if there is any. It also will help for future planning of improvement of communication between health care provider and patients and providing effective health education to the heart failure patients. There is no risk to the participants of this study except the time they spend for interview which will take about 25 minutes.

Confidentiality

I would like to assure you that your name will not be mentioned in the questionnaire and the information that you will give me will be kept confidential and only used for research purpose and you are kindly asked to give real information honestly. And if you do not want to participate you have full right to refuse at any time. But the information that you will give me is quite useful to achieve the objective of the study. Your participation is voluntary and there is no effect on services that you or any member of your family receives for your refusal to participate. The study will be helpful to improve the overall compliance, self-care behaviors patients with heart failure.

If you have any question related to this or the objective of the study you can call to Sonia Tolle on 0943875007

We would like to thank you in advance for your information

Consent form

I confirm that i have received verbal information. I have understood the subject information of the study and had the opportunity to discuss the study and questions. I agree to participate in this research study by signing and dating.

Respondent’s signature…….

Date……

Annex 2 Data collection forms

I. Socio-demographic information

1. **Age in year _____**
2. **Sex** **Male** ☐ **Female** ☐
3. **Religion**

   Orthodox ☐ **Catholic** ☐ **Others** ☐

   Muslim ☐ **Protestant** ☐
4. **Ethnic group**

   Amhara ☐ **Oromo** ☐ **Others** ☐

   Gurage ☐ **Tigre** ☐
5. **Educational back ground**

   a) **Illiterate (cannot read and write)** ☐

   b) **Can read and write** ☐

   c) **Primary school** ☐

d) **High school** ☐

e) **Other_____**

6. **Occupation**

a) **Government employee** ☐

b) **Merchant** ☐

c) **House wife** ☐

d) **Farmer** ☐

e) **Other** ☐

1. How long since being diagnosed with heart failure**?**

One month ☐

Two months ☐

Six months ☐

One year ☐

a) **Above** ☐

2.Do you know the causes of the disease?

Yes ☐ **No** ☐

3 If yes, what are the causes?

a) **Hypertension** ☐

b) **Valvular stenosis** ☐

c) **Congenital heart disease**

d) **Others(please specify)----------**

4 Can you mention the sign and symptoms of the disease?

Yes ☐ **No** ☐

5 If yes, what are the important symptoms?

a) Shortness of breath on activity ☐

b) Persistent cough ☐

c) Gain in weight ☐

d) Swelling of ankles and legs ☐

e) Fatigue after minor exertion ☐

f) All ☐

g) Others ----------

6 . What is the important care you should take?

- **a) Adequate rest** ☐
- **b) Limit exercise** ☐
- **c) Salt restriction** ☐
- **d) Daily weighing** ☐
- **e) Using more pillows** ☐
- **f) All** ☐
- **g) Others_____**

7. Have you been told about the cares that you should take by health worker?

Yes ☐ **No** ☐

8. If yes, what were these cares that you should take?

a. A self-weights behavior

b. Salt restriction diet

c. Limiting alcohol consumption

d. Fluid intake restriction

e. all

f. Others (please specify)

ii. Level of self-care behavior taken by patients

9. Do you exercise?

Yes ☐ **No** ☐

10. If yes, how much can you tolerate?

- **a) Can work normally** ☐
- **b) Can climb stairs** ☐
- **c) Can walk far distance** ☐
- **d) Others** ☐

11 do you weigh?

Yes ☐ **no** ☐

12. if yes, how often do you monitor your weight?

a. daily

b. every other day

c. twice a week

d. once a week

e .once a month

f . rarely

13. Do you use salt in your diet?

Yes ☐ No ☐

14. If yes, how often do you use salt in your diet?

a. Always

b. Most of the time

c. sometimes

d. occasionally

e. other

15. Do you measure how much you drink per day?

Yes ☐ **no** ☐

16. If yes how much do you drink per day (please mention it…….

17. Do you take regular medication for the diseases prescribed by physician?

Yes ☐ **No** ☐

18. If yes, for how long do you take medication?

a) **For one month** ☐
b) **For two month** ☐
c) **For three month** ☐
d) **More than three month** ☐

19 .How often do you take your medication?

a. as exactly as your doctor prescribes

b. when feeling very weak

c. when you feel pain

d. as i need as

e. other (please specify…….

20. Have you ever stopped taking medication?

Yes ☐ **No** ☐

21. If yes, what were the reasons to stop taking your medication?

a) When getting better ☐

b) When finish medication ☐

c) Forgetting ☐

d) Told by physicians ☐

e) You do not think you need it ☐

f) Other (please specify) ----------

22. From one month medication, how many days out of 30 on average do you forget taking

(Please mention it……

23. Do you use pillow at sleep?

Yes ☐ **No** ☐

24. If yes, how many pillows you use?

a). one ☐

b). two ☐

c). three ☐

d). more than three ☐

25. Have you ever been admitted to hospital?

a) Yes ☐ **b) No** ☐

26. If yes how many times?

a) Once ☐

b) Twice ☐

c) More ☐

27. Can you perform strenuous exercise?

Yes ☐ **No** ☐

28. How often do you visit your physician?

a) **Once a month** ☐
b) **Every two months** ☐
c) **Every six months** ☐
d) **Other (please specify) ----------**

29. Under what circumstances do you visit your physician?

a) **By appointment** ☐
b) **When you have pain** ☐
c) **When finishing medication** ☐
d) **Other (please specify) ----------**

Annex 3. Information sheet and consent form in Amharic

በአዲስ አበባ ዩኒቨርሲቲ የጤና ሳይንስ ኮሌጅ

<u>የድንገተኛ ህክምና ትምህርት ክፍል</u>

በጥቁር አንበሳ አጠቃላይ ስፔሻላይዝድ ሆስፒታል በድንገተኛ እና በተመላላሽ የልብ ህክምና ክፍል ለሚመጡ የልብ ህመሞን ታካሚዎች የተዘጋጀ መጠይቅ፤

ጤና ይስጥልኝ፡ ስሜ---------- ይባላል እኔ በአዲስ አበባ ዩኒቨርስቲ የድንገተኛ ህክምና ትምህርት ክፍል የሁለተኛ ዲግሪ ተመራቂ ተማሪ ስሆን በአሁኑ ሰዓት የመመረቂያ ፅሁፌን በጥቁር አንበሳ ሆስፒታል ለሚመጡ የልብ ህመምተኞች ስለበሽታው ያላቸው ጥንቃቄ እና ግንዛቤ ምንያህል እንደሆነ እንዳላቸው ለመረዳት የተዘጋጀ መጠይቅ ነው::

<u>የዚህ ጥናት ዓላማ</u>

ምንም እንኳ ከጥናቱ አፋጣኝ የሆነ ጥቅም ባይገኝም የጥናቱ ውጤት ግን ለልብ ህመማን ወሳኝ እና የልብ ህመማን ማድረግ ያለባቸውን ጥንቃቄ እና የችግሩን ክፍተት ለማወቅ ያስችላል :: በተጨማሪም በጤና ባለሙያዎች እና በልብ ህመማኑ መሀል ያለውን ክፍተት ለመሙላት እድል ይሰጣል :: የሚጠየቁት ጥያቄዎች በቀላሉ ሊመልስዋቸው የሚችሉ ናቸው መልስዎን በነፃነት መመለስ እንዲችሉ ስሞትን መፃፍ (መጥቀስ) አያስፈልግም:: ነገር ግን ስለህመሞዎ ያሎትን ጥንቃቄ ምንያህል እንደሚያደርጉ ለማወቅ የእርስዎን ታማኝ ምላሽ እፈልጋለሁ :: የሚሰጡት መረጃ ሚስጥራዊነቱ የተጠበቀነው::ይህ መጠይቅ የሚሞላው ፍቃደኛ በሆኑ ሰዎች ብቻ ነው:: ነው::ነገርግን የሚሠጡን መረጃ ችግሩን ለማሻሻል ለሚደረገው ጥረት ከፍተኛ ጠቀሜታ አለው::

ጥናቱን በተመለከተ ጥያቄ ካለዎት በዚህ ስልክ ቁጥር ወደ ሶንያ ጦሌ ደውለው መጠየቅ ይችላሉ ::ስልክ :-0943 87 50 07

<u>የስምምነት ውል</u>

ይህንን ጥናት የሚያጠናው (የምታጠናው) ግለሰብ ባስረዳኝ (ችኝ) መሰረት በፍቃደኝነት በጥናቱ ላይ ለመካፈል በፊርማዬ አረጋግጣለው ::

ፍቃደኛ ነኝ ----------

ፍቃደኛ አይደለሁም ----------

ቀን ----------

ከበሽታው ጋር የተያያዘ ግንዛቤ

1 የልብ ህመም እንዳለብዎት ከታወቀ ስንት ጊዜ ሆነው?

ሀ. አንድ ወር ☐ ሐ. ስድስት ወር ☐ ከዚያ በላይ ☐

ለ. ሁለት ወር ☐ አንድ ዓመት ☐

2 የልብ ህመምን የሚያመጡትን ምክንያቶች ያውቃሉ?

ሀ. አውቃለሁ ☐ ለ. አላውቅም ☐

3. መልስዎ አዎ ከሆነ ዕባክዋን ምክንያቱን ይጥቀሱ

ሀ. የደም ግፊት ☐

ለ. የደም ቧንቧ መጥበብ ☐

ሐ. ጭንቀት ☐

☐

መ. ሌላ

4. የበሽታውን ምልክቶች ያውቃሉ?

ሀ. አዎ ☐ ለ. አላውቅም ☐

5. መልስዎ አዎ ከሆነ ምልክቶችን ይጥቀሱ

ሀ. የትንፋሽ ማጠር ☐

ለ. ያማቆረጥ ማሳል ☐

ሐ. የሰውነት ክብደት መጨመር ☐

መ. የእግር ማበጥ ☐

ሠ. ሁሉም ☐

ረ. ሌላ ☐

6 .የልብ ድካም ያለበት ሰው ምን አይነት ጥንቃቄዎችን መውሰድ አለበት?

ሀ. በቂ ዕረፍት ማድረግ ☐

ለ. ዕንቅስቃሴን መቀነስ ☐

ሐ. ጨው መቀነስ ☐

መ.የሰውነት ክብደት መለካት ☐

ሠ. በመኝታ ጊዜ የትራስን ቁጥር መጨመር ☐

ረ. ሁሉም ☐

ሰ. ሌላ ☐

7.ማድረግ ሥለሚገባዎት ጥንቃቄ ከጤና ባለሞያ የተሰጠዎት ትምህርት አለ?

ሀ. አዎ ☐ ለ. የለም ☐

8. መልስዎ አዎ ከሆነ ምን አይነት ጥንቃቄ አድርገው ያውቃሉ?

ሀ. ክብደትን መለካት

ለ. ጨውመቀነስ

ሐ. የመጠጥ መጠንን መቀነስ

መ. ፈሳሽ መቀነስ

ሠ .ሁሉንም አደርጋለሁ

ረ. ሌላ

በህመምተኛው (ዋ) የሚወሰዱ ጥግንቃቄዎች

9. የእለት ዕንቅስቃሴ ያረጋሉ?

አዎ ☐ አላደርግም ☐

10 መልስዎ አዎ ከሆነ ምን ያህል እንቅስቃሴ ማድረግ ይችላሉ?

ሀ. የእለት ተግባሪትን ያለምንም ችግር መስራት ☐

ለ. ደረጃ መውጣት ☐

ሐ. ሩቅ መንገድ መሔድ ☐

መ. ሌላ ☐

11. ክብደትዎን ይለካሉ?

ሀ. አዎን ለ. አይደለም

12.መልስዎ አዎ ከሆነ በየስንት ግዜ ክብደትዎን ይለካሉ?

ሀ.በየቀኑ

ለ.በየሶስት ቀን

ሐ.በሳምንት ሁለት ቀን

መ..በሳምንት አንድ ቀን

ሠ.በወር አንድ ቀን

ረ.አልፎ አልፎ

13.በምግቦት ውስጥ ጨው ይጠቀማሉ?

ሀ. አዎ ☐ ለ. አልጠቀምም ☐

14) መልስዎ አዎ ከሆነ አጠቃቀምዎ እንዴት ነዉ?

ሀ.ሁልጊዜ

ለ.አብዛኛዉን ጊዜ

ሐ.አንድአንድ ጊዜ

መ..አልፎ አልፎ

ሠ.ሌላ

15 በቀን ምን ያህል ፈሳሽ እንደሚወስዱ ያዉቃሉ?

16.መልስዎ አዎ ከሆነ በቀን ምን ያህል ፈሳሽ ይወስዳሉ ? (እባክዎን ይጥቀሱት)…….

17.በሀኪም የታዘዙ ለህመምዎ የሚወስዱት መድሀኒት አለ?

ሀ. አዎ ☐ ለ. የለም ☐

18 .መልስዎት አዎ ከሆነ ለምን ያህል ጊዜ?

ሀ. ለአንድ ወር ☐

ለ. ለሁለት ወር ☐

ሐ. ለሶስት ወር ☐

መ. ከሶስት ወር በላይ ☐

19. መድሃኒትዎነ እንዴት ነዉ የሚወስዱት?

ሀ. ሐኪም እንዳዘዘልኝ

ለ .በጣም ሲደክመኝ

ሐ..ህመም ሲሰማኝ

መ. ባስፈለገኝ ግዜ

ሠ .ሌላ (እባክዎን ይጥቀሱት)…….

20. መድሀኒትዎን ከመውሰድ አቋርጠው ያዉቃሉ?

ሀ. አዉቃለሁ ☐ ለ. አላዉቅም ☐

21. መልስዎት አዎ ከሆነ መድሀኒት ያቋረጡበት ምክንያት ይጥቀሱ?

ሀ. ሲሻለኝ ☐

ለ. መድሀኒት ሲያልቅ ☐

ሐ. በመርሳት ☐

መ. ሀኪም ነግሮኝ ☐

ሠ. ሌላ ☐

22. ከሚወስዱት የአንድ ወር መድሃኒት ዉስጥ በአማካይ ከ 30 ቀናት ላይ ለምን ያህል ቀን እረስተዉ ያዉቃሉ?

ሀ. 5 ቀን

ለ. .6 ቀን

ሐ. 7 ቀን

መ. ከዚያ በላይ

23. በመኝታ ጊዜ ትራስ ይጠቀማሉ?

ሀ. አዎ ☐ ለ. አልጠቀምም ☐

24 .መልስዎ አዎ ከሆነ ምን ያህል ትራስ ይጠቀማሉ?

ሀ. አንድ ☐ ሐ. ሶስት ☐

ለ. ሁለት ☐ መ. ከሶስት በላይ ☐

25. ሆስፒታል ተኝተው ያውቃሉ?

ሀ. አዎ ☐ ለ. አላውቅም ☐

26. መልስዎ አዎ ከሆነ ምን ያህል ጊዜ?

ሀ. አንድ ጊዜ ☐ ለ. ብዙ ጊዜ ☐

ለ. ሁለት ጊዜ ☐

27. ከበድ ያለ የሰውነት እንቅስቃሴ አድርገው ያውቃሉ?

ሀ. አዎ ☐ ለ. አላውቅም ☐

28. ሀኪም የሚነበኞት በየስንት ጊዜ ነው?

ሀ. በየወሩ ☐ ለ. በየሁለት ወር ☐

ሐ. በየስድስት ወር ☐ ሌላ ☐

29. ወደ ሐኪምዎ የሚመጡት በምን ዓይነት ሁኔታ ነው?

ሀ. በቀጠሮ ☐ ሐ. መድሀኒት ሲያልቅ ☐

ለ. ህመም ሲሰማዎ ☐ መ. ሌላ ☐

DECLARATION

I Sonia Tole, The principal investigator of this study do there by declare that this thesis is original work and that it has not been submitted partially or in full by any other person for an aware of a degree in any other institution.

Principal Investigator_____sign_____date_____

Advisorname_____sign_____date_____