



**APPROPRIATE SELF-CARE PRACTICE AND ASSOCIATED FACTORS
AMONG ADULT HEART FAILURE PATIENTS ATTENDING FOLLOW
UP AT JIMMA UNIVERSITY MEDICAL CENTRE, JIMMA, SOUTH
WEST ETHIOPIA.**

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Appropriate Self-Care Practice and Associated Factors among Adult Heart Failure Patients Attending Follow up at Jimma University Medical Centre, Jimma, South West Ethiopia, 2017.

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Abstract

Back ground: Heart failure (HF) is a serious condition that places large demands on self-care. Failure to adhere with self-care recommendations is common and associated with frequent hospitalization. Understanding the factors that contribute for appropriate self-care practice is essential in developing effective health care interventions. Therefore the purpose of this study is to determine the magnitude of appropriate self care practice and associated factors among adult heart failure patients attending follow up at Jimma University Medical Centre.

Objective: To determine magnitude of appropriate self care practice and associated factors among adult heart failure patients attending follow up at Jimma university medical centre Jimma south west Ethiopia,2017.

Methods: A total of 362 respondents were sampled to be interviewed. Cross sectional study was conducted from February 1 – April 2 / 2017. Study participants were selected by using systematic random sampling techniques. Data was collected using interviewer administered structured questionnaires and check lists was used to review records of respondents. Data were entered in to Epi-data version 3.1 soft ware and exported to SPSS 21.0 for analysis. Multivariate logistic regression was used to identify factors associated with appropriate self care practice among heart failure patients.

Result: Two hundred fifty two (76.4%) of the respondents had appropriate self care practice. On multivariate logistic regression low educational status (AOR: 0.03 CI: 0.01, 0.09), and absence of co morbidities (AOR: 0.02, CI: 0.01, 0.10) were associated with appropriate self care practice.

Conclusion and recommendation: In this study the proportion of respondents with appropriate self care practice is low. Low educational status and presence of co morbidities were identified as predictors for appropriate self care practice. Further support should be provided to heart failure patients with low educational status and special attention should be given to patients with multiple co morbidities.

Key words: Heart Failure patients, appropriate self care, associated factors, Jimma, South West Ethiopia.

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Abbreviations

AAW.....	Africa American Women
CDC.....	Centre For Disease Control
CHF.....	Congestive Heart Failure
CI.....	Confidence Interval
COPD.....	Chronic Obstructive Pulmonary Disease
CVD.....	Cardio Vascular Disease
ESC.....	European Society of Cardiology
GBD.....	Global Burden of Disease
HF.....	Heart Failure
HFTSQ.....	Heart Failure Treatment Satisfaction Question
HTN.....	Hypertension
ICDS.....	International Code of Disease
JU.....	Jimma University
JUMC.....	Jimma University Medical Centre
NICE.....	National Institute for Health and Care Excellence in the UK
NYHA.....	New York Heart Association
SCP.....	Self Care Practice
UK.....	United Kingdom
USA.....	United States of America
WHO.....	World Health Organization

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CHAPTER ONE: INTRODUCTION

1.1 Back ground

Heart failure is a serious condition in which the heart is unable to pump enough blood to meet the needs of the body and leading some to describe it as pandemic. [1]

Self-care practice and adherence to treatment are multi factorial practice that have gained much attention and have become the topic of intense investigation over the years. However, many patients fail to adopt recommended self-care practice, and adherence to various self-care activities continues to be poor among HF patients. [2]

Self-care in heart failure (HF) is defined as positive behaviors leading to decisions and actions that an individual can take to help maintain clinical stability and cope with the disease .[3] Studies indicate that the inability of patients to recognize signs and symptoms of congestive episodes and the lack of knowledge and poor adherence to treatment, components that are considered self-care measures, are precipitating factors leading to decompensation of HF. [4, 5] Within this context, all self-care practice appear to be directly related to motivation, habits, and socio demographic and clinical characteristics, factors that may affect the way individuals live their lives. [6, 7]

Effective self-care practice has been linked to better health status, reduced readmission rates, decreased mortality rates, [8] and lower health care costs. [9]

In spite of the vital role played by self-care in the management of HF, many factors affect self-care among patients with HF, including patient characteristics (eg, age, health literacy, socioeconomic status, symptoms, and co morbidities), social support, psychological status (eg, depression and anxiety), and self-efficacy. [10]

The HF literature consistently demonstrates that appropriate self-care practice and adherence to recommended treatment decrease hospital readmissions and led to positive outcomes. [11]

Appropriate self care practice and adherence to recommended treatments and behaviors were less common in individuals with heart failure for example; in a study of 7242 person with heart

failure 10 % of the sample filled enough prescriptions to have daily heart failure medication for the year of follow up .[12]

Appropriate self-care practice results in decreased morbidity and mortality rates, increased quality of life and decreased health care costs as a result of decreased outpatient care and decreased rates of hospital readmission.[13] Lack of knowledge and adherence to self-care recommendations were also predictive risk factors of hospitalization and re-admission for patients with HF. [14]

To manage heart failure effectively patients need to engage in a number of appropriate self care practice including taking medications, monitoring symptoms, seeking help when required and eating and drinking healthy.[15]

In particular, improving and maintaining physical fitness can have a major impact on the ability of patients to engage in activities of daily living, such as preparing meals and using stairs. [16]

Difficulty in engaging effective self-care is manifested in patients with HF as low appropriate self care practice and non adherence to the recommended treatment plan and failure to seek treatment of escalating symptoms in a timely manner .[17]

1.2 Statement of the problem

Heart failure (HF) is one of the most common causes of hospitalization, hospital readmission, and death. Due to the complexity and long-term nature of HF regimens, the need for careful diet and weight management, and the importance of intervention in the early phases of decompensation, patient self-management is crucial in avoiding hospitalizations.[18] Unfortunately, many patients lack self-care skills .[19, 20]

In an African context, there is insufficient amount of data about appropriate self-care practice among patients with heart failure. However, some studies reported patient education about self care practice for heart failure (HF) is not optimal and patient's knowledge on HF medication and management and self care practice is also poor. [21, 22]

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 .[23]

Despite the importance of effective self-care, many patients do not adhere to preventive lifestyle practices (E.g. dietary restrictions or medication adherence), symptom monitoring, and care seeking for acute decomposition. 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. [24]

Experts on appropriate self-care practice recognize that knowledge is important, however not sufficient in attaining goals for level of self-care practice among heart failure patients. [25, 26, 27] Challenges to self-care are evident in 25%-50% of HF patients. [28, 29]

In order to successfully evaluate self-care practice, a clinical measure of self-care practice is necessary. [30] The Self-Care HF Index (SCHFI) instrument has been used to quantify level of self-care practice in HF patients in several published studies. [31]

The successful treatment regimen for HF is largely dependent on a patient's ability and willingness to carry out a series of complex and multifaceted self-care activities. However,

patients are often faced with the dreadful reality that many of these changes are difficult, if not daunting, to make.[32]

Appropriate and scientific self-care practice , including ability to modifying their diet, less salt intake, adequate maintenance of a healthy weight, cession of smoking, and getting regular exercise, is not common in heart failure patients in our country Ethiopia . And most people have inadequate knowledge and belief about the seriousness of heart failure, its self care and influencing factors. Bearing in mind this situation and the lack of comprehensive assessment and documentation in Ethiopia, it is necessary to assess the overall level of self care practice and associated factors among adult heart failure patients.

Therefore, the aim of this study was to determine the magnitude of appropriate self care practice and associated factors among adult heart failure patients who have follow up visit at JUMC and 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 beliefs and practice that have significant impact on the re-hospitalization and associated psychological, social and physiological impairment.

1.3 Significance of the study

Heart failure is becoming prevalent in most sub-Saharan African countries and the numbers of peoples at high risk of developing the disease are enormous. They are wide spread in Ethiopia but few studies were conducted to identify inappropriate self care practice and associated factors among heart failure patients.

Therefore this study was aimed to find out the magnitude of appropriate of self care practice and its associated factors among adult heart failure patients. The identification of gaps in the area of self care practice and associated factor among heart failure patients can guide policy makers to give emphasis towards this emerging issue and development of programs that play a key role in preventing and controlling cardiovascular disease.

The finding of this study will have a great amount of importance to the health professionals to provide better services against the risk of cardiac disease in hospital set up plus in the community on Standardize cardiac patient education throughout and hospital revise patient education tools to incorporate self-management skills.

Furthermore it will be bases for further research on the level of self care practice and associated factor among patient with cardio vascular disorder.

CHAPTER TWO: LITERATURE REVIEW

2.1 Appropriate self-care practice among heart failure patients

Several investigators have examined the self-care of patients with chronic illnesses other than heart failure (HF) and have described appropriate self-care and the process of self-care decision-making. [33] However, researchers are becoming increasingly aware of the need to describe and explain heart failure (HF)-specific self-care. Riegel and colleagues examined HF self-care decision-making, they defined decision-making as a cognitive process undertaken in response to signs and symptoms of HF, and then they developed and evaluated the psychometric properties of an instrument (the Self-Management of Heart Failure questionnaire) designed to measure this process. [34] Dimensions of the process measured by Self-Management of Heart failure instrument include the following: recognizing that a change in signs and symptoms is related to the illness; evaluating the change; implementing a selected treatment strategy; and evaluating the effectiveness of the treatment, ease of evaluating the treatment strategy, and self-efficacy to perform self-care management .[35]

Patients with heart failure (HF) who report more effective self-care have lower mortality and readmission rates than those who report poor self-care. A healthy lifestyle is a fundamental component of cardio vascular diseases (CVD) prevention and ideal cardiovascular health. In 2010, the American Heart Association (AHA) defined national goals for ideal cardiovascular health that included meeting lifestyle-related recommendations for physical activity and dietary behaviors, not smoking, and a body mass index (BMI) less than 25kg/m². [36]

There is growing awareness that adherence to appropriate self-care practice remains a substantial problem among people with HF who must follow a multi component treatment regimen. Poor adherence to self-care practice results in increased morbidity and mortality rates, decreased quality of life and increased health care costs associated with increased outpatient care and increased rates of hospital readmission . [37, 38]

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 New York Heart Association (NYHA) functional classification clinical signs and symptoms. These are similar to those reported elsewhere, but are eliminated by the high prevalence of nonspecific feature. [39]

World Health Organization (WHO) estimated in 2011 that 34% of Ethiopian population is dying from non-communicable diseases, with a national cardiovascular disease prevalence of 15% and this WHO estimation is comparable with East African countries, such as Kenya, Uganda, and Eritrea. The resulting double burden of non-communicable diseases, with higher prevalence of pre-existing communicable, maternal, perinatal and nutritional conditions, constrains the already-meager health resources and hinders economic development in Ethiopia .[40]

Similarly, Global Burden of Disease (GBD) studies estimated age-standardized death rates of 800 per 100,000 populations for non-communicable diseases in Ethiopia, of which higher death rates (approximately 450 per 100,000) were attributed to cardiovascular disease and diabetes, 150 per 100,000 attributed to cancer, and 100 per 100,000 to chronic obstructive pulmonary disease .[41]

These estimations were much higher than in many developed countries. Although these estimates of cardiovascular disease, cancer, diabetes mellitus, and chronic obstructive pulmonary disease look higher in Ethiopia, estimations by WHO and GBD studies are highly uncertain because the causes of deaths were predicted using cause-of-death models due to lack of information on the level of mortality or cause of death at the country level, which should be substantiated by national evidences. [42]

2.2 Factors associated with appropriate self-care practice for heart failure

Researchers tried to predict, factors that could impede or enhance self care practice. Most of these studies gave emphasis on the influence of socio-demographic, clinical and behavioral factors.

2.2.1 Socio demographic factor

Age

Study conducted in Michigan USA showed that there was statistically significant association between age and appropriate self care practice. With respect to age, younger patients were less likely to talk to the doctor when anxious about worsening symptoms ($r = -0.204, P .03$) or when nauseated ($r = -0.234, P .01$), whereas older patients were more consistent in keeping doctor's appointments ($r = 0.229, P.018$) and meeting the demands of the therapeutic regimen by taking

pills every day ($r = 0.297$, $P = .002$), taking pills as the doctor prescribed ($r = 0.196$, $P = .04$), refilling prescriptions on time ($r = 0.292$, $P = .002$) .[43]

Gender

The influence of gender on self-care was explored by different scholars. Although males and females exhibited equal medical adherence (self-care maintenance), females had lower self-care confidence and engaged less in self-care management and showed less accurate symptom interpretation than males. However, males had stronger social support than women and more positive perspectives on their lives and their ability to perform a self-care role than women. [44]

Findings indicated that women had significantly worse physical functioning than men with mean basic activities of daily living (ADL) scores for women versus men being 91.9 versus 94.3 ($p < 0.01$), and mean intermediate ADL scores being 30.8 versus 37.3 ($p < 0.01$) .[45]

Similar study conducted in South Africa showed that men tended to be more compliant to treatment than women (OR 1.8, 95% CI: 0.61–5.14; $p = 0.294$) without approaching significance. [46]

Some studies have reported degrees of sex variation in the prevalence of cardiac disease. A Study done in Vietnam showed men were often more hypertensive (which is one of the cardiovascular diseases and the leading risk factor for heart failure) than women .[47] Another study in Addis Ababa, Ethiopia showed significant association among marital status, work status, duration of heart failure and its treatment and medication adherence .[48]

Educational status

Effective self-care of HF may impose heavy demands on health-related literacy or the ability to understand or act on health information, which may influence adherence and ability to engage in self-care. [49]

Previous studies have shown that persons with low literacy skills are more likely to have poorer health status, poor working knowledge of HF and its treatment, poorer self-care abilities (eg, medication adherence), reduced use of preventive service, and increased hospitalization and healthcare costs. [50]

Study conducted in USA showed that there was statistically significant association between appropriate self care practice and educational status. Participants with at least a high school education had greater self-care practice than participants who did not complete high school (OR=0.25; 95 % CI 0.12-0.57; p=0.002). [51]

Average monthly income status

Many study shows that there was statistically significant association between income status of the patient and their self care practice. A study conducted in Turkey identified, statistically significant association between self care practice for heart failure and income level (OR= 0.297; 95% CI - 0.132-0.666; p<0.001) and presence of any other chronic disease. [52] Similar study shows low-income individuals, ethnic minorities, and persons in rural areas are disproportionately hindered by literacy barriers and also face significant adherence and self care barriers. [50]

2.2.2 Personal characteristics or Behavior

The lack of knowledge of CHF patients, especially regarding diet and salt restriction, and misconceptions about CHF and its symptoms leading to failure of understanding of the relationship between disease and symptoms, were prominent themes as barriers to self-care in the reviewed studies. Misconception due to insufficient knowledge was associated with self-care challenges in all aspects including medical and dietary adherence, weighing, symptom recognition, treatment performance and help-seeking. Excessive alcohol consumption, cigarette smoking, physical inactivity, low socioeconomic status, and increased heart rate are clinical factors consistently associated with heart failure. [53]

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 (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). [54]

2.2.3 Family support and health care givers

Supportive environments, either mutual from other patients or from family, neighbors, nurses and physicians facilitated self-care in terms of self-care confidence, adaptation with disease and reducing anxiety, adherence to treatment and food regimen, symptom management, positive outlook, and motivation to obtain information and care for own selves .[55]

Poor self-care was associated with poor family support; also, respecting patients and acknowledging their values encouraged them to follow health regimens. In contrast, poor communication skill of care givers and lack of trust health care professionals prevented patients from seeking information required for self-care. Applying traditional teaching methods and not spending sufficient time with patients to train them about self-care or a failure to teach them practically were other reported problems .[56]

A study by Berkman showed that lack of emotional support was significantly associated with high mortality in older patients following an acute myocardial infarction (OR= 2.9; 95% CI, 1.2 to 6.9), after controlling for covariates. In their study, patients who had no one on whom to rely for emotional support were at risk for death twice that of those who had 2 or more sources for support (p = 0.02) .[57]

2.2.4 Clinical factors

Many individuals with heart failure suffer from other chronic conditions. [58] Two thirds of people with heart failure have at least two or more co-morbidities. People 65 and older with heart failure have 5 or more co-morbidities. The most common co-morbidities among persons with heart failure include hypertension, hypercholesterolemia, kidney disease, diabetes, and obesity. [59]

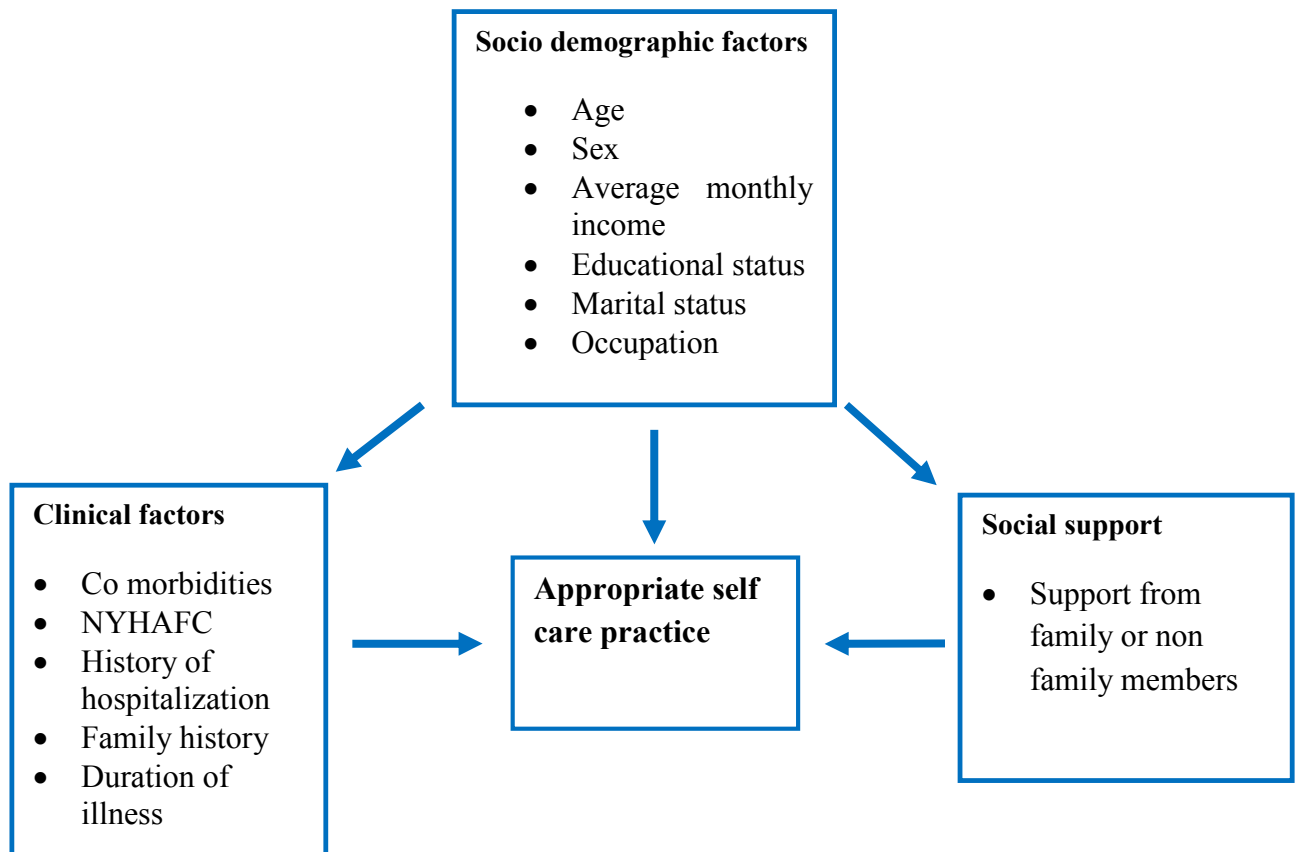
Co-morbidities impede heart failure self-care by causing individuals to spend time and energy managing many diseases that often require additional medications, dietary restrictions, and self-care regimens .[60]

People with more severe heart failure may be less likely to uptake self care behaviors compared to those with less severe heart failure, knowing a person's level of severity may be beneficial in developing more tailored self-care interventions .[61]

Study conducted among 502 HF patient in Netherland shows that overall 72% of the patient were compliant 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%). [62, 63]

In Ethiopia, self-care practice is little studied and the variables that influence self-care practice are still little explored in this population, which motivated this study. Knowing inappropriate self-care practice and associated factors for heart failure in samples of clients with HF contributes to the understanding of this phenomenon and so that health care provider and other policy maker recognize behaviors that need to be modified or added for a better disease control and consequently, a better quality of life for HF people.

2.3 Conceptual Framework for the factors associated with appropriate self care practice



Source: Adopted after reviewing several literature by principal investigators.

Figure 1: Conceptual framework for appropriate self care practice and associated factor among heart failure patients.

CHAPTER THREE: OBJECTIVES OF THE STUDY

3.1 General objective

- ❖ To determine magnitude of appropriate self care practice and associated factors among adult heart failure patients attending follow up at Jimma university Medical Centre, south west Ethiopia,2017.

3.2 Specific objective

- ❖ To determine magnitude of appropriate self care practice among adult heart failure patients on follow up.
- ❖ To identify factors associated with appropriate self care practice among heart failure patients attending follow up at JUMC.

CHAPTER FOUR: METHOD AND MATERIAL

4.1. Study area and period

The study was conducted in Jimma University Medical Centre which is located in Oromia regional state in Jimma town 357 Km southwest of Addis Ababa, capital of Ethiopia. Currently the hospital has a bed capacity of around 432 with a total of nearly 1,000 hospital staffs. It provides services for approximately 9,632 inpatients, 5,000 emergency cases and 80,000 outpatient attendants each year. Currently 1473 heart failure patients were on follow up. The study was conducted at chronic disease follow-up clinic of Jimma University Medical Centre, from February 1- April 2 /2017.

4.2 Study design

- Facility based cross sectional study design was used.

4.3. Population

4.3.1 Source population

- ❖ The source population was all adult heart failure patients who were attending follow up at Jimma University Medical Centre.

4.3.2 Study population

- ❖ Selected adult heart failure patients who were attending follow up at chronic care clinic of Jimma University Medical Centre.

4.4 Inclusion and exclusion criteria

4.3.1 Inclusion criteria

- ❖ All heart failure patients who were 18 years and older and were on follow up at least for six months period before commencement of the study was recruited.

4.3.2 Exclusion criteria

- ❖ Patients who were critically ill and who were unable to give information by themselves.

4.5 Sample size determination

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

$$n = \frac{\left(Z_{1-\alpha/2}\right)^2 P(1-P)}{d^2} \quad \text{Where, } n = \text{the required sample size}$$

Z = standard score corresponding to 95% confidence interval with value of 1.96

P = the estimated proportion of self care practice in patients with heart failure assumed to be 69 % from previous similar study conducted in Tikure Anbesa hospital of Addis Ababa Ethiopia.[64]

W = the margin of error (precision) 5%

The sample size required for the study was estimated by using the above formula

$$n = \frac{(1.96)^2 \cdot 0.69(1-0.69)}{(0.05)^2} = \underline{\underline{329}}$$

Also, sample size was calculated for the second objectives using Epi-info software as follows at 95% CI and power (80%):

Table 1: Sample size calculation for associated factors for the study on appropriate self care practice and associated factor among adult heart failure patients attending follow up at Jimma university medical center, 2017.

S.NO	Factors associated with inappropriate self care practice (reference group)	Ratio of unexposed to exposed	% of outcome in unexposed group	AOR	Calculated sample size	Reference
1	Marital status(married)	1	87.43	0.42	318	[65]
2	Co morbidity(none)	1	89.07	0.38	278	[65]
3	NYHAFC(III&IV)	1	8.8	3.791	162	[66]
4	Duration of HF(>1 year)	1	92	0.351	232	[66]

Since maximum sample size was 329 by considering **10 %** non-respondent's rate; the final sample size was **362** patients with heart failure.

4.6 Sampling Procedure

Systematic random sampling method was used to select patients who were > 18 years and older. After obtaining list of adult heart failure patients, sampling frame of study subjects were prepared according to the chronic follow up unit recording order. Study participants were selected by their names and card numbers from the cardiac clinic patient registration book. Individual patient card was traced.

4.7 Study variables

4.7.1 Dependent variables

- ❖ Appropriate Self care practice.

4.7.2 Independent variables

- **Socio demographic factors:** age, sex, occupation, income educational and marital status, support from family and non family members,
- **Clinical factors:** co-morbidities, NYHAFC, duration of heart failure, family history of heart failure and history of hospitalization.
- **Social support :** support from family or non family members

4.8 Data collection tools and procedures

Data were collected through face to face interviewing techniques using interviewer administered questionnaires and records of the interviewed patients were reviewed. The questioner had three subparts namely socio demographic, health profile, and self care related questionnaires. Self care of heart failure index version 6.2 was used to assess Self care related questions. The questionnaires was initially prepared in English then translated in to Amharic by individual who are fluent in both languages then translated back to English by different person to insure consistency. The data were collected by five trained Bsc nurses and supervised by one B.sc nurse.

4.9 Data quality assurance

To assure quality of data 2 days training was given for both data collectors and supervisor. Before the questionnaires was used in the actual data collection, pre-test was done on 5 % of the total sample at Tercha general hospital chronic follow up clinic and appropriate modification was done. The collected data was checked for completeness and consistency by the principal investigator and supervisor on daily basis.

4.10 Measuring self care practice

The self-care practice was evaluated using Self-Care of Heart Failure Index- v 6.2 (SCHFI). The SCHFI is a self-care measure composed of 22 items (each item of the scale ranges from 1 to 4) divided into three subscales: self care maintenance (10 items) or 44 points, self-care management (6 items) or 24 points and self-care confidence (6 items) 24 points. The scores for each domain calculated from the transformation of the pure scores. Higher scores (≥ 70 out of 88 points) reflect appropriate self-care and scores < 70 points indicate inappropriate self-care practice. According to the guidelines for use of the SCHFI, the “self-care management” subscale was applied only to patients who reported difficulty to breath or swelling in the ankles in the month prior to data collection period. [67]

4.11 Data analysis procedure

The collected data were checked for its completeness manually, edited, coded, and cleaned then entered in to Epi-Data version 3.1 and analyzed using SPSS version 21.0. Descriptive statistics including, mean, percentage and standard deviation was used to describe data on self care practice. Logistic regression was used to identify associated factors among the explanatory

variables. Bivariate analysis were used to select candidate variables to insert into multivariable logistic regression at p-value < 0.25 and finally on multi variable logistic regression, variables which have significant association were identified as factors associated with the outcome variables on the basis of odds ratio with 95% confidence interval and p-values < 0.05.

4.12 Ethical consideration

Research authorization letter was obtained from department of Epidemiology, Institute of Health Jimma University. By providing the recommended letter, permission letter was obtained from the JUMC administrator to carry out the study. Before conducting the interview adequate information concerning the study purpose was verbally explained to the study subjects. Before the interview consent from the participant was obtained and they were thanked at the end of the interview. Participant granted free will to withdraw from interview at any time based on their interest. Each respondent was given informed verbal consent after they were being told the purpose and procedures. All responses were kept confidential and anonymous.

4.13 Dissemination plan

The finding will be presented and submitted to department of Epidemiology, Institute of Health Jimma University, and Jimma University Medical Centre and to other concerned governmental and nongovernmental organizations. In addition possible effort will be made to present the finding in various professional meeting and the manuscript will sent for publication

4.14 Operational definitions

Self-Care of Heart Failure Index (SCHFI). The SCHFI is a self-report measure developed by American cardiologist association comprised of 22 items rated on a 4-point response scale and divided into 3 subscales. (Self care maintenance, self care confidence, and self care management)

Appropriate care practice: Are those who scored below cut of points for SCFHI (≥ 70 %).

Self-care maintenance refers to patient's ability to adhere to treatment advice given.

Self-care management: referring to an active, deliberate decision-making process involved in understanding changes in symptom when they occur and managing the symptoms as per the treatment advice given.

Self-care self-confidence: referring to patients' level of confidence in performing self-care practice

Social support for self care practice: the aspects of getting socio economic and psychological support from family or non family members which promote health or buffer stress including financial aid, emotional caring or concern and information.

CHAPTER FIVE: RESULT

5.1 Socio demographic characteristics

Among 362 heart failure patients planned to be interviewed 330 patients was interviewed with response rate of 91.2%. Of 330 respondents 181 (54.8%) were females. Two hundred thirty four (70.9 %) of the respondents were married. The median age of the respondent was 48 year with, SD: 16.22 years. Forty six (13.9%) were government employee and Twenty seven (8.2 %) were unemployed. Two hundred twenty seven (68.8%) were getting <1000 Ethiopian Birr per month and the mean monthly income was 1177.01 Ethiopian Birr. One hundred sixty four (49.7%) of the respondents did not get support from family or non family members. Educationally 154(46.7%) of the respondents were illiterate (unable to read and write) (**Table 1**).

Table 2: Socio demographic characteristics of adult heart failure patients (N=330). Jimma, Ethiopia, 2017.

Variables		N=330	%
Gender	Male	149	45.2
	Female	181	54.8
Marital status	Married	234	70.9
	Single	35	10.6
	Widowed	41	12.4
	Separated	12	3.6
	Divorced	8	2.4
Social support for self care	Yes	166	50.3
	No	164	49.7
Education	Illiterate	154	46.7
	Primary school	63	19.1
	Secondary school	45	13.6
	College and above	68	20.6

Table 1 :(continuation)

Occupation	Student	16	4.8
	Self employed	101	30.6
	Government employee	62	18.8
	Un employed	25	7.6
	House wife	68	20.6
	farmers	50	15
	Others (merchant, broker)	8	2.4
Average monthly income	<1000 birr per month	227	68.8
	1000-2000 birr per month	43	13.0
	2000-3000 birr per month	18	5.5
	>3000 birr per month	42	12.7

5.2 Clinical characteristics

Seventy (21.2%) of the respondents had experienced heart failure for more than five years. . One hundred eighty six (56.3%) of the respondent had co-morbidities and hypertension was the commonest co morbidity 119(36.1 %), followed by kidney disorder (13%) and hypertension plus kidney disorder (10.6%). One hundred eighty six 186(56.4 %) of the respondent had history of admissions and 4.2 % of the respondents had history of admission for more than three times. (Table 2)

Table 3: Clinical characteristics of the participants (N=330). Jimma, Ethiopia, 2017.

Variables		N=330	%
Duration with heart failure	<1 year	91	27.6
	1 to 5 years	169	51.2
	>5 years	70	21.2
Do you have Co morbidity	No	106	32.1
	Yes	224	67.9
Co-morbidities	Hypertension	119	53.1
	Diabetes mellitus	5	2.2
	Kidney disorder	43	19.2
	HTN+DM	4	1.8
	HTN+KD	35	15.6
	COPD	10	4.5
	Others (pneumonia)	8	3.6

Table 2: continuation

NYHAFC	I	63	19.1
	II	72	21.8
	III	116	35.2
	IV	79	23.9
History of hospitalization	Yes	186	56.4
	No	144	43.6
	Total	330	100
Family history of heart failure disease	Yes	29	8.8
	No	301	91.2

5.4 Descriptive statistics of the three sub scales of Self-Care Heart Failure Index

The mean scores on the subscales of the Self-Care of Heart Failure Index indicated inappropriate self-care practice (self-care maintenance: 22.92 % (SD =7.9), self care management: 13.34 % (SD = 6.36) and self-care confidence: 14.25 % (SD= 6.16). (Table 4, 5 &6)

Table 4: Descriptive statistics of the Self-Care of Heart Failure Index, version 6.2 of self-care maintenance subscale (N=330). Jimma, Ethiopia, 2017.

Categories	Mean	SD	Median
Self care maintenance [N=330]			
1. Do you weigh your self	2.37	1.09	2.00
2. Do you check if your ankles is swollen	2.39	1.07	2.00
3. Do you try to avoid getting sick (be vaccinated against flu, avoid contact with sick people)?	2.37	1.05	2.00
4. Do you practice any physical activity?	2.37	1.11	2.00
5. Are you assiduous in the consultations with the doctor or nurse?	2.42	1.20	2.00
6. Do you ingest a low-salt diet?	2.40	1.05	2.00
7. Do you exercise for 30 minutes?	1.81	1.00	2.00
8. Do you forget or fail to take any of your medicines?	2.12	.03	2.00
9. Do you request foods with little salt when eating out or visiting someone?	2.38	1.06	2.00
10. Do you use a system (pillbox, reminders) to remind you about your medicines?	2.29	1.13	2.00
Mean score - self-care maintenance	22.92	9.79	20

Table 5: Descriptive statistics of the Self-Care of Heart Failure Index, version 6.2 of self-care management subscale (N=234). Jimma, Ethiopia, 2017.

Categories	Mean	SD	Median
Self-care management [N=234]			
11. How quickly did you recognize them as symptoms of heart failure?	2.14	1.01	2.00
12. Reduce the salt at your diet	2.22	1.02	2.00
13. Reduce fluid intake	2.38	1.04	2.00
14. Take a further diuretic	2.20	1.02	2.00
15. Contact your doctor or nurse for guidance	2.30	1.05	2.00
16. Think of one of the above features you tried the last time when you had trouble to breath or swollen ankles. Are you sure this feature helped you?	2.10	1.20	2.00
Mean score - self-care management	13.34	6.36	12

*The data of the self-care management subscale were lower because this scale was administered only to patients with heart failure symptoms in the last month.

Table 6: Descriptive statistics of the Self-Care of Heart Failure Index, version 6.2 of self-care confidence subscale (N=330). Jimma, Ethiopia, 2017.

Categories	Mean	SD	Median
Self-care confidence[N =330]			
17. Be free of the heart failure symptoms?	2.40	1.02	2.00
18. Follow the recommended treatment	2.40	1.03	2.00
19. Evaluate the importance of your symptoms?	2.42	1.04	2.00
20. Recognize changes in health, if they occur?	2.43	1.00	2.00
21. Do something that can relieve your symptoms?	2.30	1.02	2.00
22. Assess whether a drug works?	2.30	1.05	2.00
Mean score - self-care confidence	14.25	6.16	12.00

5.5 Magnitude of appropriate self care practice

On the three sub scales of self care of heart failure index 76(23%), 19(8.12%) and 128 (38.9%)of the respondents had shown appropriate self care maintenance, self care management and self care confidence respectively. Over all 78(23.7%) had appropriate self care practice and 252 (76.4%) of the respondents had shown inappropriate self care practice.

5.6 Factor associated with appropriate self care practice among heart failure patients

On bivariate logistic regression analysis the finding showed that age, marital status, educational status, monthly income, social support, severity of the disease, history of hospitalization, duration of the disease, family history of the disease and occupation of the respondents were significantly associated with the outcome variable at p^* value < 0.25 . (Table 7) Nevertheless on multivariate logistic regression model, only two of the candidate variables were found to be significantly associated with appropriate self care practice at P^* value < 0.05 .

On multivariate logistic regression analysis, educational status and presence of co morbidities were showed statistically significant association with appropriate self care practice. (Table 8)

Regarding educational status respondents who attended secondary school completed an below were 97 times less likely to practice appropriate self care compared to respondents who attended college and above [AOR, 0.03, CI: 0.01,0.09, $P^* < 0.001$].

Concerning co morbidities patients with co morbidities were about 98 times less likely to practice appropriate self care compared to patients without co morbidities [AOR: 0.02, CI: 0.01,0.10, $P^* < 0.001$]

Table 7: Factor associated with appropriate self care practice on bivariate binary logistic regression

Variables	Appropriate Self care practice		COR(95% CI)	P*value
	Yes	No		
	Number, %	Number, %		
Educational status				
Secondary school completed & below	17(6.5)	243(93.5)	1	<0.001
Certificate	5(71.4)	2(28.6)	0.03(0.01,0.12)	<0.001
College and above	54(88.5)	7(11.5)	0.01(0.00,0.02)	<0.001
Co morbidities				
Yes	2(1)	200(99)	1	<0.001
No	74(58.7)	52(41)	0.01(0.00,0.03)	
Age of the respondents				
>65 years	5(1)	45(99)	1	0.073
18-34 years	25(39.7)	38(60.3)	0.17(0.06,0.48)	0.001
35-65 years	46(21.4)	169(78.6)	0.41(0.15,1.09)	0.001
Family history of heart failure				
Yes	11(37.9)	18(62.1)	1	0.053
No	65(21.7)	234(78.3)	2.20(0.99,4.89)	
Smoking status of the respondents				
Yes	10(37)	17(63)	1	0.080
No	66(22)	235(78)	2.09(0.21,1.09)	
Duration of the disease				
>5 years	8(11.6)	61(88.4)	1	0.029
< 1 year	27(29.7)	64(70.3)	0.31(0.13,0.74)	0.031
1 to 5 years	41(24.4)	127(75.6)	0.41(0.18,0.92)	0.008

Continuation of table 6:

Variables	Appropriate Self care practice		COR(95% CI)	P*value
	Yes	No		
	Number, %	Number, %		
Social support				
Yes	75(45.2)	91(54.8)	1	<0.001
No	1(0.61)	161(99.4)	0.01(0.00,0.06)	
Marital status				
Married	49(21.1)	183(78.9)	1	0.004
Single	17(48.6)	18(51.4)	0.28(0.14, 0.59)	0.001
Widowed	7(17.1)	34(82.9)	1.30(0.54, 3.11)	0.555
Divorced	3(15)	17(85)	1.51(0.43, 5.39)	0.519
History of hospitalization				
Yes	30(16.2)	155(83.8)	1	0.001
No	46(32.2)	97(67.8)	0.41(1.45, 4.14)	
Average monthly income				
<1000 Ethiopian birr	6(2.7)	219(97.3)	1	<0.001
1000-2000 Ethiopian birr	26(56.5)	20(43.5)	0.02(0.01,0.07)	<0.001
2000-3000 Ethiopian birr	47(78.3)	13(21.7)	0.01(0.00,0.21)	<0.001

Table 8: Factors associated with appropriate self care practice among heart failure patients who were on follow up at Jimma University Medical Centre, South West Ethiopia, 2017.

Variables	Appropriate Self care practice		COR(95% CI)	AOR(95% CI)
	Yes	No		
	Number, %	Number ,%		
Educational status				
Secondary school completed & below	17(6.5)	243(93.5)	1	1
Certificate	5(71.4)	2(28.6)	0.03(0.01,0.12)*	0.08(0.01,0.59)***
College and above	54(88.5)	7(11.5)	0.01(0.00,0.02)***	0.03(0.01,0.09)***
Co morbidities				
Yes	2(1)	200(99)	1	1
No	74(58.7)	52(41)	0.01(0.00,0.03)***	0.02(0.01,0.10)***

*p-value< 0.05, **p-value<0.01, *** p-value<0.001

CHAPTER SIX: DISCUSSION

Patients with HF did not fully take on in self-care practice such as daily weighing, eating a low sodium diet, getting regular physical activity, and maintaining current body weight.

In this study the proportion of respondents with appropriate self care practice was found 23.6% which is lower than other studies conducted in Nguyen General Hospital, Vietnam in which the proportion of respondents with appropriate self care practice was 52.9 %, [68] and University, Hamilton, Canada, in which the proportion of respondents with appropriate self care practice was 60%. [69]

The low proportion of appropriate self care practice could be due to the socioeconomic characteristics of our study population and the difference in the accessibility of service provision in our study setting.

In this study valvular heart disease (41.5 %) is the commonest cause followed by hypertension (31.5 %), which is in line with the finding of similar studies conducted in Cardiac Centre in Shisong, Cameroon where valvular heart disease was the commonest cause (14.6%),[70] and National Cardiothoracic Centre, Accra, Ghana, where hypertension was the commonest cause (21.3%). [71]

23.9 % of participants were living with the severest form of the disease (NYHA stage IV) which is higher than similar study conducted in Michigan California where the proportion of respondents with severest form of the disease were 13.3 %, [72], the high proportion of respondents with severest form of the disease might be associated with the late health seeking behaviour in our environment and its associated late diagnosis.

In this study, the mean scores obtained for the scales of self-care maintenance, self-care management and self-care confidence of the SCHFI were all below 70 % which is the minimum limit score indicative of in-appropriate self-care practice.

Self care maintenance (22.92; SD=9.79), and self-care confidence (14.25; SD=6.16) of this study patients were lower than similar study conducted in the State of Rio Grande do Sul of Brazil were, self-care maintenance (47.0; SD=28.3) and self-care confidence (58.0; SD=25.5). [73] In spite of possible cultural differences the low mean scores in the three subscales of self care of

heart failure index might be associated with lack of integrated patient and family centered health promotion activities that enhance appropriate self care practice among those special population groups and socio economic characteristics of study population together with the late health seeking behaviour of patients in our environment.

Exercise is commonly recommended by cardiologists to promote both primary and secondary cardiac arrest disease (CAD) prevention, but in this study along with the items of the self-care maintenance subscale, the lowest average scores were observed for the practice:- Which asks patients whether they exercise for 30 minutes or not. These findings is in line to those of other studies, showing that low levels of physical activity, among HF patients, Faculty of Health Sciences Linkoping University [74] and Oakland University, Rochester, Michigan, USA. [75] In spite of potential cultural differences the low level of physical activity might be due to activity intolerance and exacerbation of symptoms to efforts, common in HF patients, and lack of programmes promoting physical activity among HF patients, in our environment.

On the self-care management scale, which deals with patient's responses to the symptoms when they occur, the mean score were (13.34%) was higher than the study conducted among the model of Australians population where (12.0%), [76] and the study conducted in Thailand (5.0%) [77], but lower than it was found for samples of Italians (24.4%) [78], and Chinese populations (34.9%). [79]

The item "How quickly did you recognize them as symptoms of heart failure?" and "Are you sure this feature helped you?" had the lowest scores in the self-care management scale (**Table 5**), which may have contributed so that the mean score on this scale has fallen far below appropriate, as observed in similar study conducted by US national institute of health. [80]

In the self-care confidence scales the items "Assess whether a drug works?" and "Do something that can relieve your symptoms?" were among the lowest scores as observed in similar study conducted in School of Nursing, University Tor Vergata, and Rome, Italy .[81]

In the current study there was no statistically significant differences between men and women in self care practice, ($P > 0.05$), which is in line with study conducted on Medication adherence, self-care practice and knowledge on heart failure in Soweto urban South Africa where no statistically significant differences was observed between men and women [82], but not

consistent with study conducted by University of Pennsylvania where higher self care practice was observed among women's [83], In spite of possible cultural difference the difference might be due to socioeconomic difference of the study participants.

This study also identified that there was statistically significant association between low educational status of the patients and appropriate self care practice ($P*0.001$) which is supported by the finding of similar study conducted in six hospitals in Southern California showed schooling ($P*0.009$) as a predictor of self care practice. [84]

Higher education levels are associated with better learning capabilities and superior recognition of worsening symptoms [85]; furthermore, higher education levels are linked to high self-efficacy with respect to the ability to appropriate self-care practice. [86] Therefore, patients with higher education levels may more easily engage in self care and obey with regimens consistently compared with patients with low educational status.

Another important finding of this study was the presence of co-morbidities showed statistically significant association with appropriate self care practice ($p* < 0.01$), which was supported by the finding of similar study conducted in the United State s. [87]

This might be due to the presence of multiple co-morbidities would make it difficult for patients to differentiate symptoms of HF from those of other co-morbidities, which may result in a setback in seeking medical assistance for worsening symptoms. [88]

Limitation of the study

Self reported nature of the practice of patients. Scarcity of reference materials on specific topic with regard to Ethiopia which this study fails to benefit from previous experience.

CHAPTER SEVEN: CONCLUSION AND RECOMMENDATION

CONCLUSION

In this study the proportion of heart failure patients with appropriate self care practice has been shown low. Self care practice is indispensable for patients with heart failure for achieving the best possible treatment outcomes. Patients with heart failure did not effectively engage in appropriate self care practice such as daily weighing, regular exercise, sodium restriction, and maintaining present body weight.

Factors like low educational status and presence of co morbidities were identified as significant factors associated with appropriate self care practice.

RECOMMENDATION

Public and private health institutions and other stake holders should strengthen institution and community based regular health education program in a manner to respect the patients' level of understanding about the importance of appropriate self care practice; emphasizing the importance of medication adherence, diet and physical activity.

Public awareness on the importance of adult education for patients with the condition should be encouraged by governmental and nongovernmental organizations.

Health care professional and public health programs must hold new responsibilities to enumerate, training, and helping patients with low educational status in developing skilled health care practices to help them in managing their conditions.

Patients and family should have to engage in self care practice in regular basis, therefore patients should have got awareness of their condition, its treatment and the necessary skills that help them to maintain their psychosocial and physiological functioning from health care providers.

Service provider at each level should strengthen follow-up and continuity of care for patients with multiple co morbidities and low educational status to improve their self-care practice in order to obtain better treatment outcomes.

REFERANCE

1. Ambrosy AP, Fonarow GC, Butler Jet al. the global health and economic burden of hospitalization for heart failure: lesson learned from HHF registries. *J Am Coll Cardiol* 2014;63: 1123-33.
2. Artinian NT, Magnan M, Sloan M, Lange P. Self-care behaviors among patients with heart failure. *Heart Lung* 2012;31:161–172. [PubMed: 12011807]
3. Riegel, D. K. Moser, S. D. Anker et al., “State of the science: promoting self-care in persons with heart failure: a scientific statement from the American heart association,” *Circulation*, vol. 120, no. 12, pp. 1141–1163, 2011.
4. P. M. Chriss, J. Sheposh, B. Carlson, and B. Riegel, “Predictors of successful heart failure self-care maintenance in the first three months after hospitalization,” *Heart and Lung*, vol. 33, no. 6, pp. 345–353, 2012.
5. J. Arcand, J. Ivanov, A. Sasson et al., “A high-sodium diet is associated with acute decompensated heart failure in ambulatory heart failure patients: a prospective follow-up study,” *American Journal of Clinical Nutrition*, vol. 93, no. 2, pp. 332–337, 2011.
6. B. Riegel, C. S. Lee, and V. V. Dickson, “Self care in patients with chronic heart failure,” *Nature Reviews Cardiology*, vol. 8, no. 11, 2011 pp. 644–654.
7. J. M. Rockwell and B. Riegel, “Predictors of self-care in persons with heart failure,” *Heart and Lung*, vol. 30, no. 1, 2011.pp. 18–25.
8. Van der Wal MH, van Veldhuisen DJ, Veeger NJ, Rutten FH, Jaarsma T. Compliance with non-pharmacological recommendations and outcome in heart failure patients. *Eur Heart J*. 2010;31(12):1486–1493.
9. Lorig KR, Holman HR. Self-management education: history, definition, outcomes, and mechanisms. *Ann Behav Med*. 2003;26(1):1–7.
10. Griva K, Ng HJ, Loei J, Mooppil N, McBain H, Newman SP. Managing treatment for end-stage renal disease – a qualitative study exploring cultural perspectives on facilitators and barriers to treatment adherence. *Psychol Health*. 2012;28(1):13–29.

11. Rich MW, Vinson J, Sperry JC, et al. Prevention of readmission in elderly patients with congestive heart failure: results of a prospective, randomized pilot study. *J Gen Intern Med* 1993; 8:585–590.
12. Lloyd-Jones D, Adams R, Carnethon M, et al. Heart disease and stroke statistics – 2009 update: a report from the American Heart Association Statistics Committee and Stroke Statistics Subcommittee. *Circulation*. 2009;119:410–528
13. Munger MA, Van Tassell BW, LaFleur J (2007) Medication non-adherence: an unrecognized cardiovascular risk factor. *MedGenMed* 9: 58.
14. Schwarz KA, Elman CS (2003) Identification of factors predictive of hospital readmissions for patients with heart failure. *Heart Lung* 32: 88-99.
15. Sagar VA, Davies EJ, Briscoe S, et al. Exercise-based rehabilitation for heart failure: systematic review and meta-analysis. *Open Heart*. 2015;2(1):e000163.
16. Tu RH, Zeng ZY, Zhong GQ, et al. Effects of exercise training on depression in patients with heart failure: a systematic review and meta-analysis of randomized controlled trials. *Eur J Heart Fail*. 2014;16(7):749–57.
17. Struthers AD, Anderson G, MacFadyen RJ, Fraser C, MacDonald TM. Non adherence with ACE inhibitors is common and can be detected in clinical practice by routine serum ACE activity. *Congest Heart Fail*. 2001;7:43Y46.
18. Jovicic A, Holroyd-Leduc Jm, Straus SE. Effects of self management intervention on health outcomes of patients with heart failure ; a systematic review of randomized controlled trial. *BMC Cardiovasc Disord* 2006, 6:43.
19. Vander Wal MH, Jaarsma T, Moser DK, et al. Compliance in heart failure patients; the importance of knowledge and beliefs. *Eur Heart J* 2009; 27:434.
20. Moser DK, Doering LV, Chung ML. Vulnerabilities of patients recovering from an exacerbation of chronic heart failure. *Am Heart J* 2013; 27:434.
21. Ohene Buabeng K, Matowe L, Plange-Rhule J (2014) Unaffordable drug prices: the major cause of non-compliance with hypertension medication in Ghana. *J Pharm Pharm Sci* 7: 350-352.

22. Dracup K, Moser DK, Pelter MM, Nesbitt T, Southard J, et al. (2014) Rural patients' knowledge about heart failure. *J Cardiovasc Nurs* 29: 423-428.
23. McAlister F, Stewart S, Ferrua S, McMurray J. Multidisciplinary strategies for the management of heart failure patients at high risk for admission. A systematic review of randomized trials. *J Am Coll Cardiol* 2013;44:810–819.
24. Chriss, P.M., Sheposh, J., Carlson. B., Reigel, B. Predictors of successful HF self-care maintenance in the first three months after hospitalization *Heart & Lung*. 2012; 33(6); 345-53.
25. Tierney, S., Mamas, M., Skelton, D., Woods, S., Rutter, M. K., Gibson, M., et al. What can we learn from patients with HF about exercise adherence? A systematic review of qualitative papers. *Health Psychology*. 2011; 30(4): 401.
26. Khatibzadeh S, Farzadfar F, Oliver J, Ezzati M, Moran A. Worldwide risk factors for heart failure: A systematic review and pooled analysis. *Int J Cardiol* 2012; 23:112.
27. Shively, M.J., Gardetto, N.J., Kodiath, M.F., Kelly, A., Smith, T.L., Stepnowski, C., Maynard, C., Larson, C.B. Effect of patient activation on self-management in patients with HF. *Journal of Cardiovascular Nursing*. 2013; 28(1): 20-34.
28. Buck, H.G., Lee, C.S., Moser, D.K., Albert, N, M., Lennie, T., Bentley, B., Worrall-Carter, L., Riegel, B. Relationship between self-care and health related quality of life in older adults with moderate to advanced HF, 2012; 26:126.
29. Cameron, J., Worrall-Carter, L., Driscoll, A., Stewart, S. Measuring self-care in chronic HF: A review of psychometric properties of clinical instruments. *Journal of Cardiovascular Nursing*. 2009; 24(6).
30. Riegel, B., Carlson, B., & Glaser, D. Issues in cardiovascular nursing: Development and testing of a clinical tool measuring self-care management of HF. *Heart & Lung*. 2013; 29(1): 4-14.
31. Riegel, B. Self-care of HF: What is the state of the science? *Journal of cardiovascular nursing*. 2008; 23(3): 187-189.
32. Khatibzadeh S, Farzadfar F, Oliver J, Ezzati M, Moran A. Worldwide risk factors for heart failure: A systematic review and pooled analysis. *Int J Cardiol* 2012.

33. Weiss J. Self-care decision making in clients with diabetes and hypertension. In: Funk S, Tornquist EM, Leeman J, Miles MS, Harrell JS, editors. Key aspects of preventing and managing chronic illness. New York: Springer; 2012. p. 175-82.
34. Lloyd-Jones DM, Hong Y, Labarthe D, et al. Defining and setting national goals for cardiovascular health promotion and disease reduction: the American Heart Association's strategic Impact Goal through 2020 and beyond. *Circulation*. Feb 2 2010;121(4):586-613.
35. Riegel B, Carlson B, Glaser D. Development and testing of a clinical tool measuring self-management of heart failure. *Heart Lung* 2009; 29(1):4-12.
36. Munger MA, Van Tassel BW, LaFleur J (2009) Medication non-adherence: an unrecognized cardiovascular risk factor. *MedGenMed* 9: 58.
37. Van der Wal MH, Jaarsma T, van Veldhuisen DJ (2012) Non-compliance in patients with heart failure; how can we manage it? *Eur J Heart Fail* 7: 5-17.
38. Schwarz KA, Elman CS (2013) Identification of factors predictive of hospital readmissions for patients with heart failure. *Heart Lung* 32: 88-99.
39. Andre Pascal Kengne, Anastase Dzudie et. al Heart failure in sub-Saharan Africa: A literature review with emphasis on individuals with diabetes *Vasc Health Risk Manag*. Feb 2008; 4(1): 123– 130.
40. Berhane Y, Mariam H, Kloos H, editors. Addis Ababa: Shama Books; 2009. Epidemiology and ecology of health and disease in Ethiopia; pp. 704–47.
41. Abegunde DO, Mathers CD, Adam T, Ortegon M, Strong K. The burden and costs of chronic diseases in low-income and middle-income countries. *Lancet*. 2007; 370:1929–38.
42. Tesfaye F, Byass P, Wall S. Population based prevalence of high blood pressure among adults in Addis Ababa: uncovering a silent epidemic. *BMC Cardiovasc Disord*. 2009; 9:39. doi: 10.1186/1471-2261-9-39
43. Nancy T. Artinian, PhD, RN, Morris Magnan, PhD, RN, a Michelle Sloan, RN, MSN, and M. Patricia Lange, RN, PhD, Detroit, Michigan: Self-care behaviors among patients with heart failure:2012;25-234.
44. Shuldham C, Theaker C, Jaarsma T, Cowie MR. Evaluation of the European Heart Failure Self-care Behaviour Scale in a United Kingdom population. *J Adv Nurs* 2007;60:87-95.

45. Ni H, Nauman D, Burgess D, Wise K, Crispell K, Hershberger RE. Factors influencing knowledge of and adherence to selfcare among patients with heart failure. *Arch Intern Med* 2009;159:1613-19
46. Verena Ruf, Simon Stewart, Medication adherence, self-care behavior and knowledge on heart failure in urban South Africa: *Cardiovasc J Afr* 2010; **21**: 86–92
47. Hareri HA, Abebe M, Asefaw T. Assessments of adherence to hypertension managements and its influencing factors among hypertensive patients attending black lion hospital chronic follow up unit, Addis Ababa, Ethiopia-a cross-sectional study. *Int J Pharm Sci Res* [Internet]. 2013; 4(3):1086–95.
48. Van H, Bypass P, Chuck N, and Wall S: Gender differences in prevalence and socioeconomic determinants of CVD: findings from the WHO STEPs survey in a rural community of Vietnam. *J Hum Hypertension* 2009, 20(2):109–115.
49. Morrow D, Clark D, Tu W, et al. Correlates of health literacy in patients with chronic heart failure. *Gerontologist* 2010;46:669–676
50. Morrow DG, Weiner M, Steinley D, Young J, Murray MD. Patients' health literacy and experience with instructions: influence preferences for heart failure medication instructions. *J Aging Health* 2007;19:575–593.
51. Aleda M. H. Chen, Pharm.D: Health Literacy and Self-Care of Patients with Heart Failure *J Cardiovasc Nurs*. 2011 November; 26(6): 446–451.
52. Uzun S, Kara B, Yokuşoğlu M, Arslan F, Yilmaz MB, Karaeren H. The assessment of adherence of hypertensive individuals to treatment and lifestyle change recommendations. *Anadolu Kardiyol Derg.* 2009;9(April 2006):102–9.
53. Kenchaiah S, Narula J, Vasan RS. Risk factors for heart failure. *Med Clin North Am.* 2014 Sep; 88(5):1145-72.
54. Pascoe GC: Patient satisfaction in primary health care: a literature review and analysis. *Eval Program Plann* 2009, 6:185-210
55. Stamp KD, Machado MA, Allen NA. Transitional Care Programs Improve Outcomes for Heart Failure Patients: An Integrative Review. *J Cardiovasc Nurs* 2013

56. Jeffrey S. Berger, MD, MS; Laine Elliott, MS; Dianne Gallup, MS; Sex Differences in Mortality Following Acute Coronary Syndromes; JAMA. 2009;302(8):874-882. doi:10.1001/jama.2009.1227
57. Rockwell J, Riegel B. Predictors of self-care in persons with heart failure. Heart Lung 2011; 30:18-25.
58. Watson, K., & Summers, K. M. (2009). Depression in patients with heart failure: clinical implications and management. [Review]. *Pharmacotherapy*, 29(1), 49-63.
59. Wong, C. Y., Chaudhry, S. I., Desai, M. M., & Krumholz, H. M. (2011). Trends in comorbidity, disability, and polypharmacy in heart failure. *Am J Med*, 124(2), 136-143.
60. Zavin, A., Daniels, K., Arena, R., Allsup, K., Lazzari, A., Joseph, J., Forman, D. E. (2012). Adiposity facilitates increased strength capacity in heart failure patients with reduced ejection fraction. *Int J Cardiol*
61. Riegel, B., Moser, D. K., Anker, S. D., Appel, L. J., Dunbar, S. B., Grady, K. L., Outcomes, R. (2009). State of the science: promoting self-care in persons with heart failure: a scientific statement from the American Heart Association. [Review]. *Circulation*, 120(12), 1141-1163
62. Corotto PS, McCarey MM, Adams S, Khazanie P, Whellan DJ. Heart failure patient adherence: epidemiology, cause, and treatment. *Heart Fail Clin* 2013;9:49-58
63. Carol J. Hope, Jingwei Wu, Wanzhu Tu, James Young, Michael D. Murray *Am J Health Syst Pharm*. 2012;61(19).
64. Sonia Tole, assessment of overall level of compliance self care and its associate factors to treatment among heart failure patients in adult emergency department and cardiac referral clinic at Tikur Anbesa specialized hospital. 2015; 62(30).
65. David K, Macmarco DK, Pelter MM, J, et al. (2014). Self care practice and associated factors among rural heart failure. *J Cardiovasc Nurs* 29: 423-428.
66. Sewagegn N, Fekadu S, Chanie T (2015) Adherence to Self-Care Behaviours and Knowledge on Treatment among Heart Failure Patients in Ethiopia: The Case of a Tertiary Teaching Hospital. *J Pharma Care Health Sys* S4-001. doi:[10.4172/2376-0419.S4-00](https://doi.org/10.4172/2376-0419.S4-00)

67. Vellone E, Riegel B, D'Agostino F, Fida R, Rocco G, Cocchieri A, et al. Structural Equation Model Testing the Situation-specific Theory of Heart Failure Self-Care. *Adv Nurs* doi:
68. Huyen NN, PornchaiJullamate, and WareeKangchai (2011) Factors related to Self-care Behaviors among Older Adults with Heart Failure in Thai Nguyen General Hospital, Vietnam; *J. Adolesc Health*103:366-371
69. Harkness K, Heckman GA, Akhtar-Danesh N, Demers C, Gunn E, McKelvie RS. Cognitive function and self-care management in older patients with heart failure. *Eur J Cardiovasc Nurs.* 2014;13(3):277-84.
70. Tantchou Tchoumi Jacques Cabralet al Occurrence, a etiology and challenges in the management of congestive heart failure in sub-Saharan Africa: experience of the Cardiac Centre in Shisong, Cameroon *The Pan African Medical Journal.* 2011;8:11
71. Amoah AG, Kallen C. Aetiology of heart failure as seen from a National Cardiac Referral Centre in Africa. *Cardiology* 2012; 93(1-2): 11-8.[33]
72. Jean M. Rockwell, MS, RN, CCRN,a and Barbara Riegel, DNSc, RN, CS, FAAN,b Lansing, Michigan, California; Predictors of self-care in persons with heart failure. 2014;29(7):325-25
73. Ávila CW, Riegel B, Pokorski SC, Camey S, Silveira LCJ, Rabelo-Silva ER. Cross-cultural adaptation and psychometric testing of the Brazilian version of the Selfcare of Heart Failure Index version 6.2. *Nurs Res Pract.*[Internet] 2013 [acesso 20jan 2014]. Disponível em: <http://www.ncbi.nlm.nih.gov/pubmed/21382750>
74. Jaarsma T, Stromberg A, Gal TB, Cameron J, DriscollA, Hans-Dirk D et al. Comparison of self-care behaviors of heart failure patients in 15 countries worldwide. *Educ Couns.* 2013; 92(1):114-20
75. Britz JA, Dunn KS. Self-care and quality of life among patients with heart failure. *J Am Acad Nurse Pract.* 2010;22(9):480-7.
76. Cameron J, Worrall-Carter L, Driscoll A, Stewart S. Measuring self-care in chronic heart failure: a review of the psychometric properties of clinical instruments. *J Cardiovasc Nurs.* 2009;24(6):E10-22
77. Lee CS, Suwanno J, Riegel B. The relationship between self-care and health status domains in Thai patients with heart failure. *Eur J Cardiovasc Nurs.* 2009;8(4):259-66

78. Cocchieri A, Riegel B, D'Agostino F, Rocco G, Fida R, Alvaro R, et al. Describing self-care in Italian adults with heart failure and identifying determinants of poor selfcare. *Eur J Cardiovasc Nurs*. 2015;20 [Epub ahead of print].
79. Tung HH, Chen SC, Yin WH, Cheng CH, Wang TJ, Wu SF. Self care behavior in patients with heart failure in Taiwan. *Eur J Cardiovasc Nurs*. 2012;11(2):175-82.
80. Harkness K, Heckman GA, Akhtar-Danesh N, Demers C, Gunn E, McKelvie RS. Cognitive function and self-care management in older patients with heart failure. *Eur J Cardiovasc Nurs*. 2014;13(3):277-84.
81. Vellone E, Riegel B, Cocchieri A, Barbaranelli C, D'Agostino F, Glaser D, et al. Validity and reliability of the caregiver contribution to self-care of heart failure index. *J Cardiovasc Nurs*. 2013;28(3):245-55.
82. Verena Ruf, Simon Stewart, Sandra Pretorius, Karen Sliwa; Medication Adherence, Self-Care Behaviour And Knowledge On Heart Failure In Urban South Africa: The Heart Of Soweto Study; *Cardiovasc J Afr* 2010; 21: 86–92
83. Seongkum Heo, Debra K. Moser Terry A. Lennie and Barbara Riegel: Gender Differences in and Factors Related to SelfCare Behaviors: A Cross-Sectional, Correlational Study of Patients With Heart Failure; 45 (12), 1807-1815. <http://dx.doi.org/10.1016/j.ijnurstu.2008.05.008>
84. Rockwell JM, Riegel B. Predictors of self-care in persons with heart failure. *Heart Lung* [Internet]. 2011[cited 2014 Jun 20];30(1):18-25. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/11174364>
85. Sui X, Gheorghide M, Zannad F, Young JB, Ahmed A. A propensity matched study of the association of education and outcomes in chronic heart failure. *Int J Cardiol*. 2008; 129(1):93–99. [Chinese.]
86. Chen AM, Yehle KS, Albert NM, et al. Relationships between health literacy and heart failure knowledge, self-efficacy, and self-care adherence. *Res Social Adm Pharm*. 2014;10(2):378–386.
87. Dickson VV, Buck H, Riegel B. A qualitative meta-analysis of heart failure self-care practices among individuals with multiple comorbid conditions. *J Card Fail*. 2011;17(5):413–419.

88. Moser DK, Dickson V, Jaarsma T, Lee C, Stromberg A, Riegel B. Role of self-care in the patient with heart failure. *Curr Cardiol Rep.* 2012; 14(3):265–275.

JIMMA UNIVERSITY

COLLEGE OF PUBLIC HEALTH DEPARTMENT OF EPIDEMIOLOGY

Annex 1: Subject Information Sheet

My name is _____ I am here on behalf of **Mitiku Tamene** student of Jimma University College of public health department of epidemiology. He is conducting a research on ‘assessment of self care practice and influencing factor for heart failure clients who has follow up visit at Jimma university specialized teaching hospital . He received permission from Jimma University College of public health department of epidemiology and Hospital administrators to conduct this study. You are selected by simple random sampling method to participate in this study because you currently attending heart failure follow up. Your participation is purely based on your willingness .You have the right to choose not to take part in this study. If you choose to take part, you have the right to stop at any time. If you are willing to participate or refuse or decide to withdraw later, you will not be subjected to any ill-treatment. If you agree to participate in the study, you will be asked to answer some questions about yourself, and self care practice. The interview with you will take about 20 minutes. The study will help u to practice the recommended self-care practice to prevent further complications. It can also provide base line data for policy makers and other researchers for further improvements of education related to heart failure. The information that you provide will be kept confidential by using only code numbers and locking the data. Do not give your name. No one will have access to the non-coded data except the principal investigator and the data will not be used for purposes other than the study. Your willingness and active participation is very important for the success of this study.

Address: Cell phone 0912685954

Questionnaires ID_____

Annex 2: Informed Consent Form

Based on the understanding of the information I gave you, are you willing to participate in this study? A) Yes B) No (1) If yes, I will continue and 2) if no I will skip to next participant after writing the reasons of refusal.

Respondent Signature _____ Date _____

Interviewer Name _____ Signature _____

Questionnaires number _____

Date of interview _____ Starting time _____ Completed _____

Result of interview A) Completed B) Not completed C) Partially completed D) Refused

Checked by Supervisor: Name _____ Signature _____

Address: Cell phone +251 (0) 912685954, Email: tamene74@gmail.com

Instruction: circle all the possible answers of the respondent from the choice provided.

Annex 3: Questionnaire (English version)

Part one: socio economic /demographic conditions

S.N	Question	Response
Q101	Age	_____ Years
Q102	Sex	1. Male 2. Female
Q103	Marital status	1.Married 2.Single 3. Widowed 4. separated 5. Divorced
Q104	Educational level	1.Illiterate 2.Can read and write 3.Primary school 4.Secondary school 5.College graduate or above
Q105	Occupation	1. Student 2. Self employed 3. Government Employed 4. Unemployed 5.Housewife 6.Other(Specify)_____
Q106	Did you got support for self care from family or non family members	1. Yes 2. No
Q107	Average monthly Income in Ethiopian Birr	_____ birr

Part Two: Health Profile Questions

S.no	Questions	Response
Q201	How long since being diagnosed with heart failure?	_____
Q202	Do you have co morbidities	1. Yes 2. No
Q203	Do you smoke	1 yes 2 no
Q204	Do you have history of alcohol intake	1 yes 2 yes

Q205	Do you have Family history of heart failure	1. Yes 2.No
Q 206	Have you attended health education for HF	1. No never 2. Yes sometimes 3. yes regularly
Q207	Do you have history of admission for heart failure?	1.Yes 2. No
Q208	If yes, for Q207 for how many times did you admitted?	1. Once 2. Twice 3. >three times

Part three: self-care of heart failure index

Section A: self care maintenance

S.no	Activities	Possible responses						
		Never rarely	or	Sometimes	Frequently	Always or daily		
1	Weigh yourself?	1		2		3		4
2	Check your ankles for swelling?	1		2		3		4
3	Try to avoid getting sick (e.g., flu shot, avoid ill people)?	1		2		3		4
4	Do some physical activity?	1		2		3		4
5	Keep doctor or nurse appointments?	1		2		3		4
6	Eat a low salt diet?	1		2		3		4
7	Exercise for 30 minutes?	1		2		3		4
8	Forget to take one of your medicines?	1		2		3		4

9	Ask for low salt items when eating out or visiting others?	1	2	3	4
10	Use a system (pill box, reminders) to help you remember your medicines?	1	2	3	4

Section B: self care management

In the past month, have you had trouble breathing or ankle swelling? Circle one.

- 1 No
- 2 Yes

If you had trouble breathing or ankle swelling in the past month...

(Circle one number)

S.no	Activities	Possible responses				
		I did not recognize it	Not Quickly	Somewhat Quickly	Quickly	Very Quickly
11	How quickly did you recognize it as a symptom of heart failure	0	1	2	3	4

If you have trouble breathing or ankle swelling, how likely are you to try one of these remedies?

S.no	Activities	Possible responses			
		Not Likely	Somewhat Likely	Likely	Very Likely
12	Reduce the salt in your	1	2	3	4

	diet				
13	Reduce your fluid intake	1	2	3	4
14	Take an extra water pill	1	2	3	4
15	Call your doctor or nurse for guidance	1	2	3	4

Think of a remedy you tried the last time you had trouble breathing or ankle swelling,

(Circle one number)

S.no	Activities	Possible responses				
		I did not try anything	Not Sure	Somewhat Sure	Sure	Very Sure
16	How sure were you that the remedy helped or did not help?	0	1	2	3	4

Section c: Self care confidence

In general, how confident are you that you can:

S.no	Activities	Possible response			
		Not Confident	Somewhat Confident	Very Confident	Extremely Confident
17	Keep yourself free of heart failure symptoms?	1	2	3	4
18	Follow the treatment advice you have	1	2	3	4

	been given?				
19	Evaluate the importance of your symptoms?	1	2	3	4
20	Recognize changes in your health if they occur?	1	2	3	4
21	Do something that will relieve your symptoms?	1	2	3	4
22	Evaluate how well a remedy works?	1	2	3	4

ጅማ ዩኒቨርሲቲ ህብረተሰብ ጤና ሳይንስ ኮሌጅ

Annex 4: Questioner (Amharic version)

የተጠያቂው / መላሾች የመረጃ ቅፅ

እንደምን አደሩ / ዋሉ :: ስሜ _____ ይባላል። ከዚህ የመጣሁት የጅማ ዩኒቨርሲቲ ህብረተሰብ ጤና ሳይንስ ኮሌጅ የሁለተኛ ዲግሪ ተማሪ የሆነውን ተማር ምትኩ ታመነን ወክቤ ነው። የሁለተኛ ዲግሪውን ለመመረቅ የግል ጤና አጠባበቅ ልምድና ተያያዥ ወሳኝ ጉዳዮችን በተመለከተ በጅማ ዩኒቨርሲቲ ሆስፒታል ላይ የልብ ድካም ህመም ክትትል በሚያደርጉ ግለሰቦች ሲሆን ከጅማ ዩኒቨርሲቲ እና ከሆስፒታሉ አስተዳዳሪ ፍቃድ አግኝቶ የምርምር ጥናት እየሰራ ነው። እርስዎ የተመረጡት በዚህ ተቋም የልብ ድካም ህመም ክትትል በማድረግ ላይ ስለሚገኙ ነው። በአጠቃላይ እድሜያቸው ከ 18 አመት በላይ የሆኑ የልብ ድካም ህመምን ይሳተፋሉ። የእርስዎ ተሳትፎ ሙሉ በሙሉ የእርስዎ ፈቃደኝነት ላይ የተመሰረተና በጥናቱ መሳተፍ ያለመሳተፍ ሙብት አለዎት። ለመሳተፍ ፈቃደኛ ከሆኑ በኋላም በፈለጉት ጊዜ ማቋረጥ ወይም ማቆም ይችላሉ። በጥናቱ ባለመሳተፍ የሚደርስብዎ ጉዳት የለም። በጥናቱ ለመሳተፍ ከተሰማሙ ስለራሰዎ የግል ጤና አጠባበቅ ልምድ እስከ 20 ደቂቃ ልወስድ የሚችል የተወሰኑ ጥያቄዎች እንጠይቁታለን። ከጥናቱ ተገቢውን የልብ ድካም ህመም የግል ጤና አጠባበቅ ልምድ እንዴት ማሻሻል እንዳለብዎ ይረዳሉ። ከዚህም በተጨማሪ የጥናቱ ውጤት የልብ ድካም ህመምን የግል ጤና አጠባበቅ ልምድ ይበልጥ ለማሻሻል ለሎች ተመራማሪዎች በዚህ ዙሪያ ለሚሰሩ አካላት እንደ መነሻ ያገለግላል።

ለማንኛውም አይነት ጥያቄ ዋና አጥኚውን ማነጋገር ይችላሉ። ሞባይል፡ 09 12685954

የስምምነት መጠየቂያ/ማረጋገጫ ቅጽ

ከላይ በሰጠዎት መረጃ መሰረት በዚህ ጥናት ለመሳተፍ ፈቃደኛ ነዎት 1. አዎ(ቃለ መጠይቁን ቀጥል) 2. አይ
አይደለሁም(ምክንያቱን ፅፈህ ወደሚቀጥለው ተሳታፊ እለፍ)

መላሽ/ተሳታፊ

ፊርማ _____ ቀን _____

ጠያቂ

ስም _____ ፊርማ _____

የመጠይቁ ቁጥር _____

መጠይቁ የተካሄደበት ቀን _____

መጠይቁ የተጀመረበት ሰዓት _____ መጠይቁ የተጠናቀቀበት ሰዓት _____

የቃለ መጠይቁ ዉጤት 1. ሙሉ በሙሉ የተሞላ 2. በከፊል የተሞላ 3. ምንም ያልተሞላ

በተቆጣጣሪዎች ተረጋግጧል :: ስም _____ ፊርማ _____

ለማንኛውም አይነት ጥያቄ ዋና አጥኚውን ማነጋገር ይችላሉ:: ሞባይል: 0912685954

ክፍል አንድ፡ ማህበራዊና ኢኮኖሚያዊ ሁኔታ

ተ.ቁ	ጥያቄዎች	አማራጭ መልሶች
101	እድሜ	_____ ዓመት
102	ጾታ	1. ወንድ 2. ሴት
103	የጋብቻሁኔታ	1. ያገባ/ያገባች 2. ያላገባ/ያላገባች 3. ባል የሞተባት/ሚስት የሞተችበት 4. የተለያየ/የተለያዩች(ግን የልተፋቱ) 5. የተፋታ/የተፋታች
104	የትምህርት ደረጃ	1. መፃፍና ማንበብ የማይችል 2. መፃፍና ማንበብ የሚችል 3. አንደኛ ደረጃ 4. ሁለተኛ ደረጃ 5. ሰርትፊኬት 6. ኮሌጅ/ዩኒቨርሲቲና ከዚያ በላይ
105	የስራሁኔታ(ከአንዴ በላይ መልስ መስጠት ይቻላል)	1. ተማሪ 2. የግል ስራ 3. የመካገስት ስራተኛ 4. ስራ የለለው 5. የቤት እመቤት 6. ካለ ይጠቀስ_____
106	ከቤተሰብዎ ወይም ከሌሎች ተገብው እንክብካቤና ድጋፍ ይደረግልዎታል ?	1. አዎ 2. አይደረግልኝም
107	የቤተሰብዎ ወርሃዊ ገቢ ምን ያህል ነው?	_____ ብር

ክፍል ሁለት፡ የጤና ሁኔታ የተመለከቱ ጥያቄዎች

ተ.ቁ	ጥያቄዎች	አማራጭ መልሶች
201	የልብ ህመም እንዳለብዎት ከታወቀ ስንት ጊዜ ሆነው?	_____
202	ለሎች ተጋዳኝ በሽታዎች አለብዎትን	<ol style="list-style-type: none"> 1. አዎ 2. የለብኝም 3. አላውቅም
203	ስጋራ አጭሰው ያውቃሉ	<ol style="list-style-type: none"> 1 አዎ 2 አላውቅም
204	አልኮል መጤጥ ጤጥተው ያውቃሉ	<ol style="list-style-type: none"> 1 አዎ 2 አላውቅም
205	በቤተሰብዎ የልብ ህመም ያለበት ሰው አለን	<ol style="list-style-type: none"> 1. አዎ 2. የለም 3. አላውቅም
206	ስለ ልብ ህመም የጤና ትምህርት ተሰጥተዎት ያውቃልን	<ol style="list-style-type: none"> 1. አያውቅም 2. አንዳንዴ 3. በመደበኛነት
207	ከዝህ በፍት በልብ ድካም ምክንያት ተኝተው ታክመው ያውቃሉ	<ol style="list-style-type: none"> 1. አዎ 2. አይ
208	ለጥያቄ ቁጥር 207 መልስዎ አዎን ከሆነ ምን ያህል ጊዜ ተኝተው ታክመዋል	<ol style="list-style-type: none"> 1. አነንድ ጊዜ 2. ሀለት ጊዜ 3. ከ3 ጊዜ በላይ

ክፍል ሦስት፡ በሀመምተኛው / ዋ የሚወሰዱ ጥንቃቄዎች መለኪያ

Section A: self care maintenance

ተ.ቁ	ተግባራት	ምላሾች			
		አላደርግም	አንዳንድ ጊዜ	በተደጋጋሚ	ብዙውን ጊዜ/በዩ ቀኑ
1	ክብደትዎን ይለካሉ ?	1	2	3	4
2	የእግርዎትን እብጠት ይከታተላሉን ?	1	2	3	4
3	በተጓዳኝ በሽታዎች ላለመያዝ ጥንቃቄ ያደርጋሉ ?	1	2	3	4
4	የእለት ዕንቅስቃሴ ያረጋሉ?	1	2	3	4
5	በጤና ባለሙያዎች የምስጥዎትን ቀጠሮ ያከብራሉን ?	1	2	3	4
6	አነስተኛ መጠነ ያለ ጨው ይጠቀማሉን	1	2	3	4
7	የአካል ብቃት እንቅስቃሴ ለ 30 ደቅቃ ያደርጋሉን?	1	2	3	4
8	መድሀኒትዎን ከመውሰድ አቋርጠው ያውቃሉ??	1	2	3	4
9	እቤትም ሆነ ከቤት ውጭ ስመገቡ አነስተኛ ጨው ይጠቀማሉ?	1	2	3	4
10	መድሐኒት የምወስዱበትን ሰዓት ለማስታወስ የተለያዩ ዜዴዎችን ይጠቀማሉ	1	2	3	4

Section B: self care management

ባለፈው ወር የእግር እብጤት ወይም የአተነፋፈስ ችግር ገጥመዎት ያውቃል ;

1. አልገጠመኝም
2. አዎ

የአተነፋፈስ ወይም የእግር እብጤት ገጥመዎት ከሆነ በመቀመል ከተዘረዘሩት አማራጮች አንዱን ያክብቡ

ተ.ቁ	ተግባራት	ምላሾች				
		አላስተውልም	አልፎ አልፎ	ብዙውን ጊዜ	በፍጥነት	በጣም በፍጥነት
411	የእግር እብጤት የልብ ህመም ምልክት መሆኑን እንደት ይረዱታል	0	1	2	3	4

የአተነፋፈስ ወይም የእግር እብጤት ስገጥመዎት ምን ዓይነት ጥንቃቄ ይወስዳሉ

ተ.ቁ	ተግባራት	ምላሾች			
		አላደርግም	አንዳንድ ጊዜ	ብዙውን ጊዜ	ዘወትር
412	የጨው መጠን መቀነስ	1	2	3	4
413	የፈሳሽ መጠን መቀነስ	1	2	3	4
414	ተጨማሪ ፈሳሽ መውሰድ	1	2	3	4
415	የጤና ባለሙያ መጥራት	1	2	3	4

የእግር እብጠትና የአተነፋፈስ ችግር በገጠመህ ጊዜ የተጠቀምካቸውን የግል ጥንቃቄዎችን እያሰብክ የሚከተሉት መልሳቸው፣

(Circle one number)

ተ.ቁ	ተግባራት	ምላሾች				
		ምንም አልሞከርኩም	እርግጠኛ አይደለሁም	የተወሰነ/መጠኑ	እርግጠኛ	በጣም እርግጠኛ
416	የአተነፋፈስ ችግር በገጠመህ ጊዜ ያደረሰው ጥንቃቄ እንደረዳዎ ምን ያህል እርግጠኛ ነህ?	0	1	2	3	4

Section C: Self care confidence

በወሰዱት ጥንቃቄ ምን ያህል እርግጠኛ ነህ?

ተ.ቁ	ተግባራት	ምላሾች			
		እርግጠኛ አይደለሁም	በመጠኑ	በጣም እርግጠኛ ነኝ	እጅግ በጣም እርግጠኛ ነኝ
417	የልብ ድካም ህመም ስመት እንዳይሰማዎ ጥንቃቄ አድርገው ያውቃሉ ?	1	2	3	4
418	የሚሰጠዎትን የባለሙያ ምክር ይጠብቃሉ?	1	2	3	4
419	የሚሰማዎትን የህመም ምልክት አስተውለው ያውቃሉ ?	1	2	3	4
420	በጤናዎ ላይ የምታዩውን ለውጥ አስተውለው ያውቃሉ ?	1	2	3	4
421	ህመም ስሰማዎ ማስታገሻ ወስደው ያውቃሉ ?	1	2	3	4
422	የወሰዱት ማስታገሻ ምን ያህል ጠቅመዎታል ?	1	2	3	4

Annex 5: Check list for reviewing common co morbidities

S.no	co morbidities	Tally	Total

Annex 6: Check list for reviewing common causes

S.no	causes	Tally	Total