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Self-Care Practices among Adult Clients Re-Admitted With Congestive Cardiac Failure at Parirenyatwa Central Hospital, Zimbabwe

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ABSTRACT

Majority of clients with congestive cardiac failure have poor prognosis leading to long hospital stay and mounting hospital charges. Congestive cardiac failure imposes an increasingly heavy burden on health care systems in Zimbabwe since there is an increase in number of clients re-admitted with this condition. The aim of the study was to determine self-care practices (adherence to treatment and life style practices) among adults re-admitted with congestive cardiac failure at Parirenyatwa group of hospitals. ***Materials and Methods:*** *A descriptive quantitative design was used. Probability, simple random sampling was used to select 30 participants. A scheduled questionnaire with questions to gather data of interest was used and self-care practices was rated using the Likert scale. Data was analyzed using the Statistical Package of Social Sciences version 20 and frequencies, mean and percentages were determined.* ***Results:*** *The minimum score obtained was 1(5%) and the maximum score was 20 (100%) The average score was 9 (30%).Four (13, 3%) of the respondents had high self-care practices (lifestyles and adherence to treatment), 9 (30%) had moderate self-care practices and 17 (56, 7%) had low self-care practices.* ***Discussion:*** *The majority had low self-care practices. Possible attributing factors to low adherence rate were alcohol consumption and lack of such resources like transport and money to buy medication. Self-care practices are important activities to maintain clinical stability especially adherence to the medication, diet and exercise regimens and social habits are very important to reduce hospital re-admissions.* ***Conclusion:*** *Clients with congestive heart failure were re-admitted due to poor self-care practices following discharge.*

Keywords: *Congestive cardiac failure, self -care practices*

INTRODUCTION

Congestive Cardiac Failure (CCF) is the state in which muscles in the heart wall gets fade and enlarge, limiting heart pumping of blood. The ventricles of heart can get inflexible and do not fill properly between beats and later the heart fails in fulfilling the demand of blood in body and as a consequence a person starts to have difficulty in breathing [1]. This clinical syndrome characterized by typical symptoms such as difficult in breathing, ankle swelling and fatigue that will be accompanied by signs which include elevated jugular venous pressure, peripheral edema and pulmonary crackles. These are caused by structural or functional cardiac abnormality, resulting in a reduced cardiac output and elevated intra-cardiac pressures at rest [2]. It is also characterized by impairment in the heart's ability to pump and expel body fluid [3].

There are several factors that lead to re-admission of clients with CCF once discharged from hospital. Some of them include dysrhythmias, septicemia, renal failure and pneumonia [4]. According to the previous study done in USA, out of 744 clients admitted with congestive heart failure, 26% and 38% clients were re-admitted within 30 and 60 days following discharge, respectively [5]. The re-admissions were due to poor adherence with recommended self-care practices among adults with CCF after discharged from hospital [6].

There is an increase in re-admission for CCF in South Africa because of the increasing conventional risk factors which include smoking, a diet high in salt and saturated fat and lack of physical exercise [7]. Poor self-care practices was also the cause of re-admission to clients with CCF in addition to the factors above [8].

Clients re-admitted with CCF face psychological, social and economic impacts and about 10% of the clients are facing these impacts. Forty-seven percent (47%) of clients re-admitted experience some degree of cognitive decline [9]. CCF can result in acute cardio renal syndrome (type 1) which is worsening renal function in patients with congestive heart failure and it occurs in 25-37% of patients with CCF [10].

Despite advancements in pharmacological therapy, CCF remains the leading cause for hospital re-admission globally [11]. In America approximately 35 million patients with congestive cardiac failure are discharged from hospitals every year and one quarter (25%) of these clients are re-admitted within 30 days after hospital discharge [12]. The re-admissions cause a huge burden to the nation as well as to the health care system, $12 billion to $44 billion is used every year to care for these clients [13]. Many clients (20-50%) are re-admitted in hospitals with CCF and most re-admissions occur in 2 weeks to 6 months following hospital discharge [14].

Hospitalization due to CCF is a global problem, over 1 million such hospitalizations occur annually in the United States of America (USA) and a similar number is reported in Europe [4]. These authors found that 37, 49% clients were re-admitted with CCF in USA. CCF is one of the most common diagnoses for re-admission in developed countries and accounts for 1 –3% of all admissions and it is a quarter of all 30-day re-admissions in clients above 65 years [15]. The authors further explained that it represents a substantial clinical and economic problem and half of hospital re-admissions are associated with co-morbidities, poly-pharmacy and disabilities. CCF is the leading contributors of disease burden in older people and 30, 3% of the total burden occurs in people aged 60 years and older [16]. Over 5 million people in the United States are affected by congestive cardiac failure and at a cost of $10–38 billion every year [17].

The main public health problem in the Sub Saharan Africa is due to CCF, being responsible for 30% of worldwide deaths, with 80% of these deaths occurring in low- and middle-income countries such as Zimbabwe and Zambia [18]. According South African Heart Association (SA

Heart) National Council in South Africa, CCF led to a large burden to the country and leads to suffering of the patients. Congestive cardiac failure re-admission causes substantial costs to society and the healthcare system [19]. In the study done in western Kenya, 41% of clients were re-admitted with CCF [20].

Congestive Cardiac Failure imposes an increasingly heavy burden on health care systems in Zimbabwe since there is an increase in patients readmitted with this condition [21]. According to the Heart Foundations of Zimbabwe, CCF is one of the lethal cause of deaths in Zimbabwe especially in women and it accounts for 32% hospital re-admissions.

The number of clients re-admitted with CCF are increasing at Parirenyatwa Group of Hospitals despite the wide spread health education in different media. According to Parirenyatwa statistical records as from January 2015 to November 2017, it showed an increase from 10% (1/10) to 40% (4/10) clients re-admitted with CCF in medical wards at Parirenyatwa Hospital.

Despite the health education and improved health facilities in terms of availability of drugs and better technology, there is still an increased number of clients re-admitted with CCF. According to Parirenyatwa statistical records, there is a rise from 10% in 2015 to 40% in 2017 of clients re-admitted with CCF. Out of all (100%) clients admitted with CCF, 40% (4/10) of them were re-admissions, hence the need to determine self-care practices among adult clients aged 40-80 years re-admitted with congestive cardiac failure in medical wards (C5 and C6) at Parirenyatwa Group of Hospitals.

Conceptual Framework

A conceptual framework is an abstract and logical configuration that guides development of a study and enables the researcher to link their findings to nursing body of knowledge (Burns & Grove, 2010). For this study, Orem's Self-Care model will be used. Orem's self-care model describes a configuration where a nurse assists a client to maintain an adequate level of self-care with which the degree of nursing intervention depends on the degree to which the client is able to meet self-care need [22]. Concepts in the model are self-care, self-care agency, self-care demand and self-care deficit as depicted in Fig. 1 below:

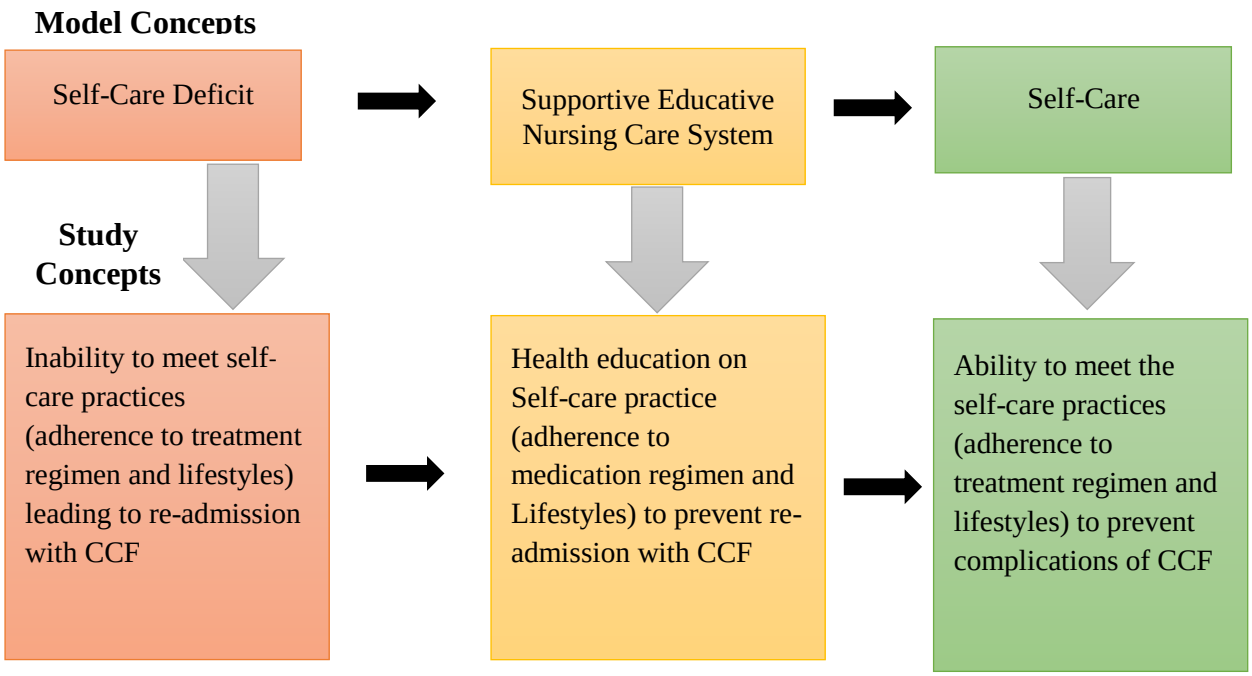

Figure 1:*Modified conceptual framework adapted from Dorothea Orem. (1991)*

MATERIALS AND METHODS

A descriptive research design was used to guide the study. Descriptive study design provides numerical data which can be analyzed using statistical methods and it provide true picture of the study phenomenon. Magnitude of the problems regarding the study variables can be depicted. [23].

This study was conducted at Parirenyatwa central hospital, medical wards after obtaining ethical approval from the Joint Parirenyatwa Ethics Committee. It is a central government hospital located in the capital city of Zimbabwe, Harare. Parirenyatwa central hospital is one the largest referral hospital in Zimbabwe catering for clients in whole nation thus making a representative sample because there are many people with different characteristics. Convenient sampling method was used to recruit participants a total of 30 adult clients (both males and females) aged 40-80 years readmitted with CCF in medical wards (C5 and C6) at Parirenyatwa.

Data was collected using a structured 3 sectioned questionnaire. The items in section A included participant's demographic characteristics, section B assessed practices regarding lifestyles of CCF. A Likert scale was used to calculate scoring of the self-care practices regarding adherence to lifestyles. It consisted of four responses and a single score was awarded for a best practice and none was awarded for the unexpected response. Each question had a total of one score. The questionnaire had eight questions for adherence to lifestyles and had a total of eight scores.

Section C had five questions, which include adherence rate to medication, strategies put in place to foster adherence to medication, and support systems put in place in view of the condition, strategies taken to maintain health and treatment taken to manage the condition. Pre-test for instrument was done in order to examine its validity.

RESULTS

Participants Demographic Characteristics

The study comprised of 12 (40%) males and 18 (60%) females whose age was between 40-50 years. A total of 15(5%) were married, 9(30%) widowed, 3 (10%) divorced, 1(3, 3%) cohabiting and 2(6, 7%) were on separation. The majority 18(60%) of the participants were Christians, 2(6.7%) were Islamic and 10(33.3%) were traditionalists. The majority of the participants 23 (77) had attained some formal education. Seven (23%) were unemployed, 5(17%) were formally employed, 2(7%) were self-employed and 17(57%) were retired. Out of 30 patients, 12(40%) lived in urban high density, 4(13%) lived in urban low density, 9(30%) lived in rural communal areas, 3(10%) lived in commercial farming area, 2(7%) lived in resettlements and none lived in mining area.

Table 1: *Participants demographic characteristics (N=30).*

Variable	Frequency	Percentage%
1.Sex		
Females	18	60
Males	12	40
2.Age		
40-50 years	1	3,3
50-60 years	6	20
60-70 years	8	26,7
70-80 years	15	50
3.Marital Status		
Single	0	0
Married	15	50
Widowed	9	30
Divorced	3	10
Cohabitating	1	3
Separated	2	7
4.Religion		
Christianity	24	80
Islamic	2	7
African Traditionalist	4	13
5.Level of education		
Did not attend school	7	23
Formal Education	23	77
6. Employment		
Unemployment	7	23
Formally employed	5	17
Self-employed	2	7
Retired	17	57
7. Permanent place of residence		
Urban high density	14	47
Urban low density	9	30
Rural communal area	4	13
Mining area	3	10

Self-Care Practices of Clients re-admitted with Congestive Cardiac Failure

Nine (30%) admitted that they do not take cigarettes, 2 (6, 7%) rarely smoked cigarettes, 1(3, 3%) sometimes took cigarettes and 18(60%) smoked cigarettes mostly.

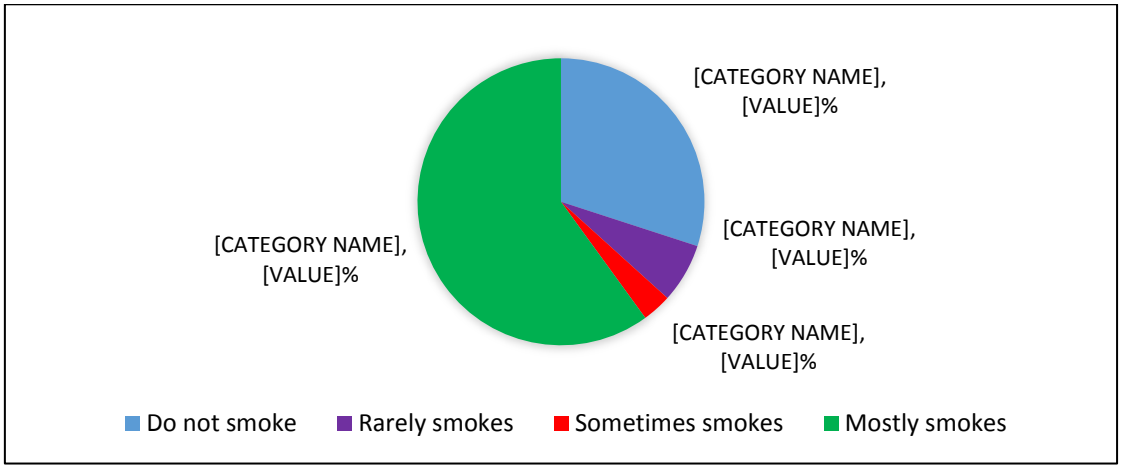

Figure 2: *Cigarettes smoking among respondents re-admitted with CCF (N=30).*

Weight Monitoring by Participants

Out of thirty participants, 9(30%) did not check their weight daily, 3(10%) rarely checked their weight daily, 4(13, 3%) sometimes checked their weight and 14(46, 7%) mostly checked their weight daily.

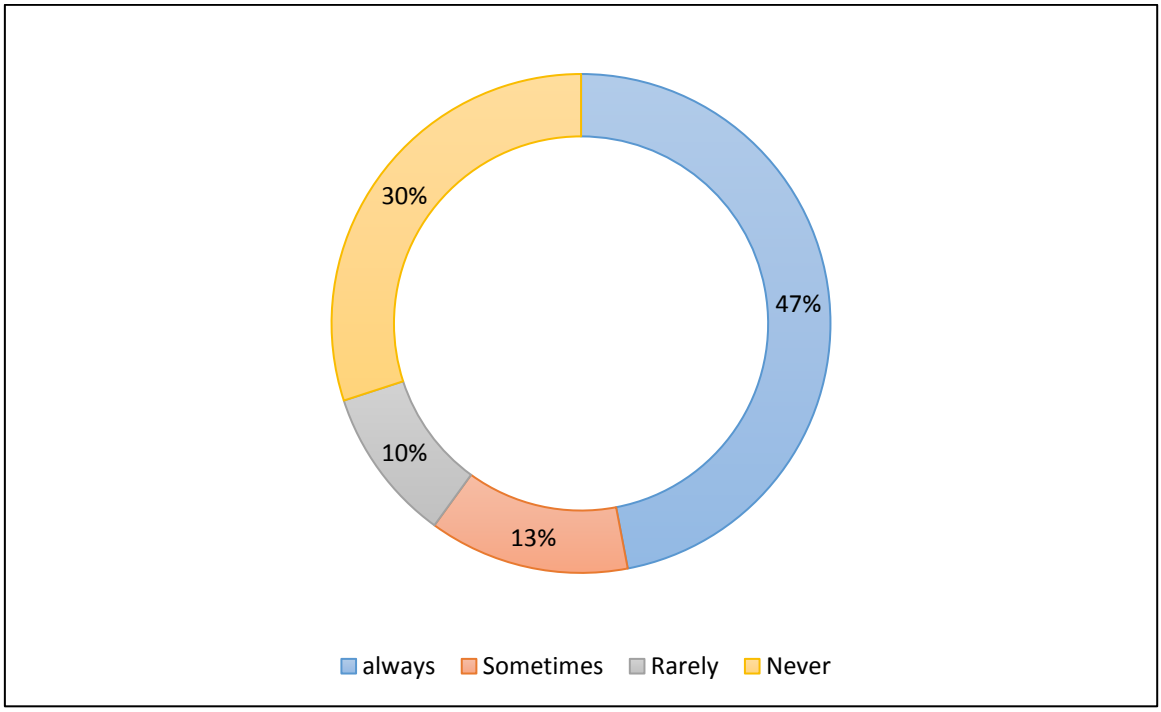

Figure 3: *Participants body weight monitoring (N=30).*

Adherence to Review Dates

Seventeen (56, 7%) admitted that they do not visit the clinic or hospital for review, 2(6, 7%) rarely visited the clinic or hospital for review, 4 (13, 3%) sometimes visited the clinic or hospital for the review and 7(23, 3%) mostly visited the clinic or hospitals for the review.

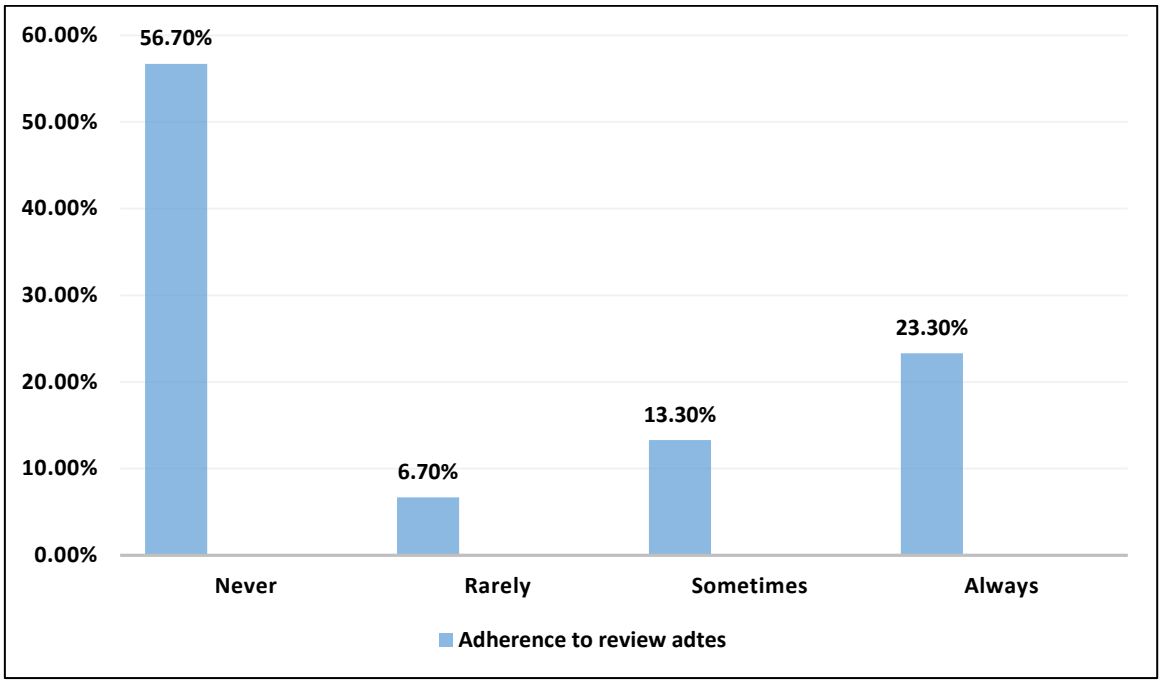

Figure 4: *Participants adherence to review date (N=30).*

Participants' frequency engagement in weekly physical exercises

Out of thirty participants, 7(23, 3%) did not take exercise within a week, 5(16, 7%) rarely do exercise within a week, 2 (6, 7%) sometimes do exercise in a week and 16 (53, 3%) admitted doing an exercise within a week mostly.

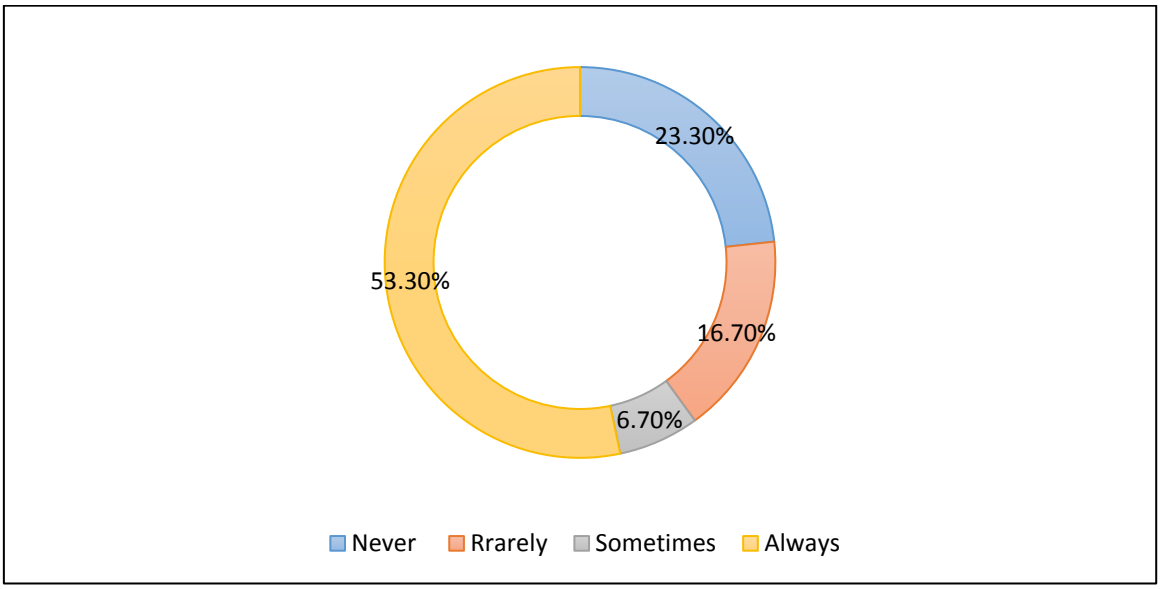

Figure 5: *Participants adherence to weekly physical exercise (N=30).*

Participants daily oral fluid intake monitoring

Ten (33, 3%) do not monitor amount of water or juice they drink per day, 3(10%) rarely monitored the juice or water they drink per day, 5(16, 7%) sometimes monitor the amount of water or juice they drink per day and 12(40%) mostly monitor the amount of water or juice they drink per day.

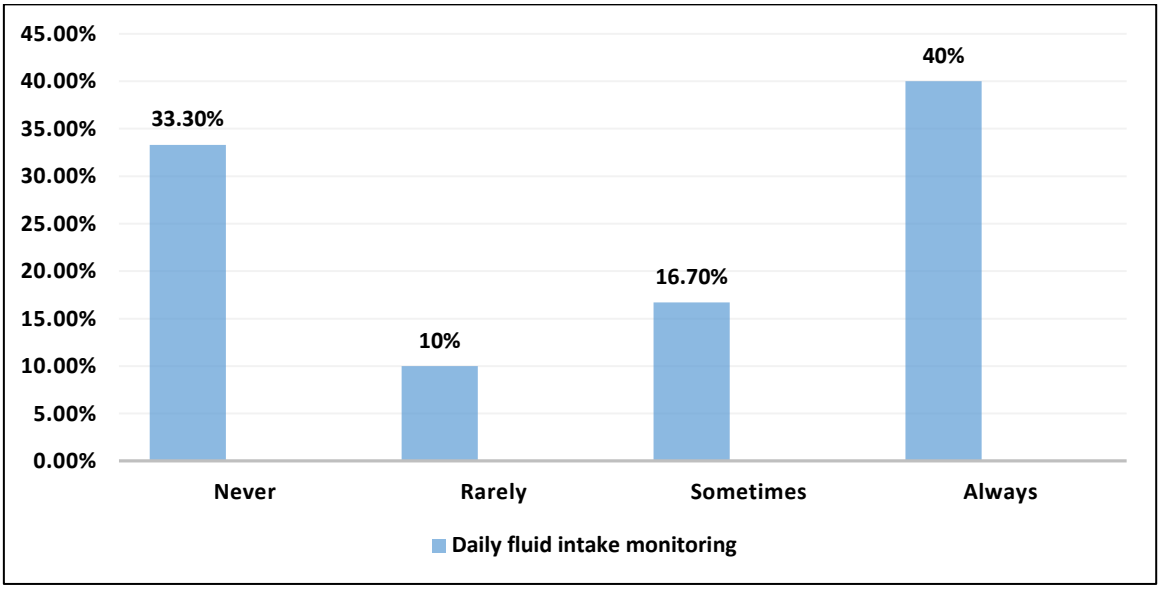

Figure 6: *Participants daily oral fluid intake monitoring (N=30).*

Participants Alcohol intake

From thirty participants, 6(20%) do not take alcohol, 5(16, 7%) rarely take alcohol, 3(10%) sometimes take alcohol and 16(53, 3%) admitted that they took alcohol mostly.

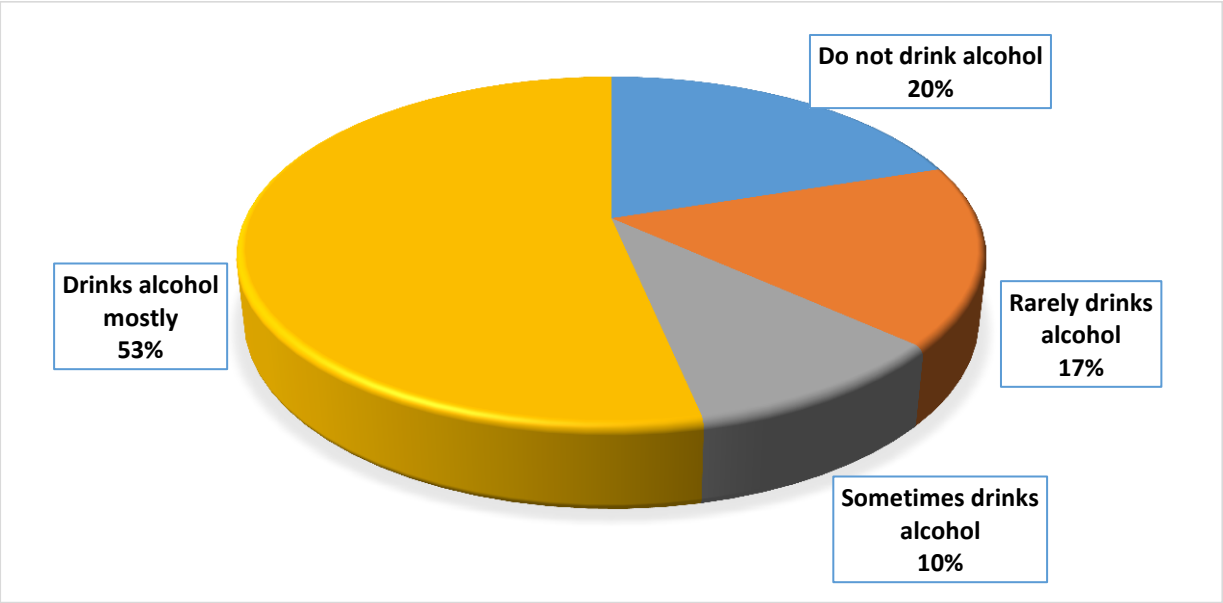

Figure 7: *Participants' frequency of alcohol intake (N=30).*

Participants' self-care practices on adherence to treatment.

Out of thirty participants, 2(6, 7%) had medication adherence of less than 50%, 9 (30%) in the range 50-60%, 5(16, 7%) had medication adherence of 70-80% and 14 (46, 7%) had medication adherence of greater than 95%. Regarding strategies to foster adherence, 13 (43, 3%) used clock alarm, 4 (13, 3%) used calendar, 5(16, 7%) used pill boxes and 8 (26, 7%) had nothing in place. Concerning social support systems, 6 (20%) had spouse support, 19 (63, 3%) had children support, 5 (16, 7%) had support groups in place.

Table 2: *Self-care practices (adherence to treatment) (N=30).*

Variable	Frequency	Percentage%
Adherence rate to medication		
Less than 50%	2	6,7
50-60%	9	30
70-80%	5	16,7
Greater than 95%	14	46,7
Strategies foster adherence to medication		
Clock alarm	13	43,3
Calendar	4	13,3
Pill boxes	5	16,7
Nil	8	26,7
Social support systems in place		
Spouse	6	20
Children	20	66,7
Support groups and associations	4	13,3
Nil	0	0
Strategies to maintain health		
Eating balance diet	6	20
Drink treated or boiled water	13	43,3
Regular clinic or hospital check ups	7	23,3
Enough rest of 7-8 hours	4	13,3
Nil	0	0

DISCUSSION

Females had highest frequency of 18 (60%). Similar findings were reported in a study conducted Canada which indicated that there is an increasing problem of client's re-admitted congestive cardiac failure among females as compared to males [24]. The authors further stated that congestive cardiac failure in females is 10, 9% and in males of the same group is 9, 8%. In another study done in Sub-Saharan Africa the authors stated that men are more affected by CCF than women [25]. An assumption could be that females are more affected with CCF than males because diastolic function and functional reserve become more compromised more in women than men in the postmenopausal years [26].

Highest frequency of 15 (50%) of respondents were in the age range of 70-80 as reflected in the study results. The study findings concurs with findings from a study conducted in Spain where about 80% of the clients with heart failure were above the age of 65 years [27]. The assumption could be that as people get older, the muscles of the heart become frail which later causes the heart to work extra hard. This has impact on doing the self-care practices such as exercising because less oxygen will be available in tissues.

Fifteen (50%) of the respondents were married. The rest were not married hence had no support from their spouses in terms of adherence to medication, meeting review dates and living a positive lifestyle which could be difficult with such a critical condition of CCF. Hence they will be stressed and worsening the condition outcome. Christianity had the highest frequency 24 (80%) among the religion of the respondents. The religious affiliation is very important to this chronic condition of CCF as patients can get help from the church organisation in terms of psychosocial support.

Eighteen (60%) smoked cigarettes mostly. In view of the increase of readmissions of patients with CCF complications in this study, smoking could be one of the attributing factor. The assumption and findings of this study tallies with one previous research which states that most of the clients readmitted with heart problems smoke cigarettes [28]. In yet another previous study about 60% of clients taking cigarettes ended up readmitted with CCF related complications [29].

Fluid restriction was adhered to by less than half, 12(40%) of the study population and this is likely because most CCF patients believe that drinking lot of water and fluids is beneficial. The misconception on fluid intake by clients with CCF is supported by findings of the Oregon Heart failure in which 38.1% of the patients believed that they should drink lots of fluids as way of managing CCF whilst at home[30]. Contrary to this notion, fluid restriction is very beneficial to clients with CCF by reducing the circulating blood volume thereby not straining the heart muscle.

Thirteen (43, 3%) had medication adherence rate of 70-80%.The low adherence rate to medication in this study is a course for great concern. Non adherence to medication in this study could be attributed to such issues like non availability of drugs, cost of drugs and poor adherence life style due alcohol consumption. Self-care practices are important activities to maintain clinical stability especially adherence to the medication, diet and exercise regimens and social habits are very important to reduce hospital re-admissions [31, 32]. The recommended self-care practices are important in order to reduce the increased number of re-admissions.

Integration of Conceptual Framework

The conceptual framework which was used for this study is Dorothea E Orem's Self Care Theory. Orem's model comprised of three related parts which include the theory of self-care; theory of self-care deficit; and theory of nursing system. The theory of self-care applies to this study in a way that the patient with CCF after discharged from hospital should perform activities on his or her behalf to maintain health, life and well-being.

CONCLUSION

The study aims to explore self-care practices among clients re-admitted with congestive cardiac failure. Clients with congestive heart failure were re-admitted due to poor self-care practices following discharge.

Conflict of Interest

The authors of this article declare no conflict of interest.

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