

**HEALTH-RELATED QUALITY OF LIFE AND ITS
ASSOCIATED FACTORS AMONG RHEUMATIC HEART
DISEASE PATIENTS IN SELECTED GOVERNMENT
HOSPITALS, ADDIS ABABA, ETHIOPIA, 2021**

BY: KONNO TADDESSE (BSc.)

**A THESIS SUBMITTED TO THE SCHOOL OF NURSING AND
MIDWIFERY, COLLEGE OF HEALTH SCIENCES, ADDIS
ABABA UNIVERSITY IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF MASTER OF
SCIENCE IN CARDIOVASCULAR NURSING**

MAY, 2021

ADDIS ABABA, ETHIOPIA

**ADDIS ABABA UNIVERSITY
COLLEGE OF HEALTH SCIENCES
SCHOOL OF NURSING AND MIDWIFERY
DEPARTMENT OF NURSING MASTER OF SCIENCE**

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APPROVAL SHEET

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STATEMENT OF DECLARATION

By my signature below, I declare and affirm that this thesis is my own work. I have followed all ethical principles of scholarship in the preparation, data collection, data analysis and completion of this thesis. All scholarly matter that is included in the thesis has been given recognition through citation. I affirm that I have cited and referenced all sources used in this document. Every effort has been made to avoid plagiarism in the preparation of this thesis.

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ACRONYMS AND ABBREVIATIONS

ARF - Acute Rheumatic Fever

BP – Bodily pain

CDC- Center for Disease Control

CRHD- Chronic Rheumatic Heart Disease

GH – General Health

HF- Heart Failure

HRQOL – Health Related Quality of Life

MCS- Mental component summary

MH – Mental Health

NGO- Nongovernmental organization

PF- Physical Function

PCA- Principal component analysis

PCS- physical component summary

QOL – Quality of Life

RE – Limitation in role due to emotions

RHD – Rheumatic Heart Disease

RP – Limitations in role due to physical health

SF-36 - Short Form-36

SF - Social Function

Std/SD- Standard deviation

TASH – Tikur Anbessa Specialized Hospital

VT- Vitality

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ABSTRACT

Repeated bouts of Group A streptococcal throat infection, if left untreated, could result in Rheumatic Heart Disease (RHD). RHD is believed to significantly affect health-related quality of life (HRQoL) due to its chronicity, scarce treatment options and downward debilitating prognosis. This study intends to assess HRQoL and its associated factors among Rheumatic Heart Disease patients in Selected Government Hospitals, Addis Ababa, Ethiopia. This facility-based cross-sectional study was conducted in 297 RHD patients on follow-up at two public hospitals with dedicated cardiac clinic for adults who consented and completed the study, giving a response rate of 100%. Respondents were selected by systematic random sampling. A structured questionnaire from Medical outcomes study 36-item Short Form (SF-36) Health Survey was used for data collection from March 1-31, 2021. Eight domains and two summary scores of SF-36 for study participants were computed and analyzed in comparison to national normative data as per the guideline for the instrument. Independent t test and ANOVA were used to compare means between groups and analyze relationships between variables and QoL in RHD patients. RHD patients scored lower on all eight domains of SF-36 and two summary scores compared to general population. Relatively high mean score was found on Social Functioning (70.33 ± 31.67), Bodily pain (69.40 ± 34.73) and Mental Health (67.68 ± 22.82) domains and lower mean scores obtained from Vitality (52.95 ± 23.80) and Role functioning physical (58.16 ± 47.16). Female gender, Older age, Divorced or Widowed marital status and Lower educational background were inversely associated with the QoL. Undergoing surgical intervention and lower number of medications were found to have strong association with better QoL. Taking cut point 45 for individual's summary score, about half of study population is found to have poor HRQoL. And similarly, as a group also HRQoL is relatively poor in RHD patients in comparison to the general population. Incorporating assessment of HRQoL in clinical evaluation of RHD patients is advised. Longitudinal study should be considered to confirm cause effect relationship of factors that affect HRQoL in RHD patients.

Key words: Health related quality of life, Rheumatic heart disease, SF-36 health survey

CHAPTER ONE

1. INTRODUCTION

1.1. BACKGROUND OF THE STUDY

A Group A streptococcal throat infection, if left untreated, could result in systemic inflammatory condition called Rheumatic Fever (1). Acute Rheumatic Fever (ARF) usually affects the Joints, Skin, Brain and Heart (2). When permanent structural changes and damages happen following either single or largely multiple bouts of ARF, the pathologic condition will be labeled as Rheumatic Heart Disease (RHD) (1). Compensatory mechanisms could play role in masking the symptoms in early phase of RHD. As the condition gets worse beyond the compensatory mechanisms, symptoms and debilitating sequels like arrhythmia and heart failure prevail. This stage, clinically known as Chronic Rheumatic Heart Disease (CRHD), could manifest in range of conditions from asymptomatic to its fatal consequences marked by heart failure, infective endocarditis and strokes (1, 2).

With increased income and improvement of life style, ARF got eradicated largely in western world in twentieth century (1). But this success could not be replicated in low- and middle-income countries, mainly in Sub-Saharan Africa, pacific nations, Australia and South and Central Asia. The incidence of ARF peaks between the age of 5 and 15 and is rare beyond the age of 30 (1, 2). In the contrary, recurrent episodes of ARF remain common in adolescence and adulthood (1). In endemic places up to 60% of ARF cases subsequently develop RHD (1, 2). While there is no association between gender and prevalence of ARF, these patterns do not hold true for RHD (2). The prevalence peaks on age group between 25 and 40 (1). Females are also 1.6 - 2 times more commonly affected by RHD across communities (2). Because of lack of definite diagnostic test, apart from clinical impression, for ARF (3) and no active reporting mechanism, it's difficult to estimate the incidence and burden of ARF in low- and middle-income countries. Despite the above-mentioned difficulties, it's estimated that there are approximately 471,000 cases of ARF each year of which 336,000 cases in children aged 5–14 years and approximately 350,000 annual deaths as a result of ARF or RHD; almost all deaths occurred in low-income and middle-income countries (3).

In 2016 close to 30,000,000 people were estimated to have RHD globally with annual incidence of 1,196,000 cases with the disproportionately highest burden in developing countries (4). Sub-Saharan countries constitute the majority of highest burden communities (4,5). Ethiopia, being in Sub-Saharan region, is no exception. A recent national screening of school children (aged 6-18) revealed 1.9 % prevalence rate of asymptomatic RHD (6). Similarly, a number of hospital-based studies have shown RHD to be the leading cause of cardiovascular diseases among patients following at cardiac clinics (6,7,8,9). Overcrowding, poor living condition, less access for screening of asymptomatic RHD or antibiotics coupled with near absent sophisticated surgical interventions to manage late complication contribute to this high burden at individual and community level (1, 3).

Quality of Life (QoL) is self-perception of one's own quality of life (10). This includes all emotional, social and physical aspects of the individual's life (3, 10,11,12,13). Health-related quality of life (HRQoL) is a multidimensional concept in which how the individual perceives the impact of his condition or its treatment on various aspects of daily life ranging from basic household chores to more complex tasks such as paid employment and social roles, e.g., getting married and child raising (3, 10, 11, 12). In general, the individual's own QoL assessment to the disease/ treatment depends on the presence and manner of own adaptive capabilities used, the processes of coping with the disease and the pathology's specific properties and likes (10, 11).

Once RHD developed, there is no definite treatment to avert it (1). Rather patients with RHD need to have regular follow-ups and care to prevent potential complications like heart failure, arrhythmia, embolic events and infective endocarditis (1, 2, 3). Managing the above complications and maintaining functionality are the other treatment/ follow-ups goals. Hence apart from community prevention by promoting hygienic lifestyle and primary prevention by treating streptococcal throat infections regular injection of penicillin to prevent further episodes of ARF, anti-arrhythmic drugs and anti-coagulation medications are the corner stone of RHD care (1, 2, 14). In Ethiopia, RHD prevention and care is largely compromised at all these three stages (primary, secondary and tertiary prevention) (7). The poor socioeconomic status and undeveloped health care system contribute largely to high burden of ARF and RHD (8).

1.2. STATEMENT OF THE PROBLEM

RHD by large is disease of poverty and remains to be the most common cause of heart disease in children and is a major cause of mortality and morbidity in adults. It has been estimated that between 15 and 19 million people worldwide are affected by RHD, with approximately one-quarter of a million deaths occurring each year (1). RHD is the leading cause of cardiovascular disease in Ethiopia (6, 7, 8, 9). One third of all adult outpatient follow-up cases of public hospitals cardiac clinics across the country are due to RHD (9).

Symptomatic RHD patients and/ or who developed complications either from the disease itself or its treatments could be affected in different aspects of life quality (3). The significant physical limitation the disease incurs, long years of and expensive hospital follow-ups, lost productivity and associated reduced income will put significant physical as well as psychological pressure on the individual and families (2, 3). The stress and anxiety RHD entail to patient together with chronic follow-up with its all financial, time and reduced productivity is expected to negatively affect QoL (13, 15).

There is no instrument specifically designed to measure QoL in RHD. Generic instrument like SF 36 is used to assess HRQoL and associated factors in very few studies done in RHD so far. The available few studies have shown that age, severity of the disease, presence of medical or surgical interventions, gender, literacy and income level to affect their QoL to certain extent (15, 16, 17, 18, 19).

There are no studies done to measure how the HRQoL could be affected among Ethiopian RHD patients. The structured questionnaire of SF-36, the generic HRQoL measuring instrument, was translated to Amharic and proved to be valid in Ethiopian context almost two decades ago (20). Kebede and colleagues also determined normative value of Ethiopian population. The normative value helps to compare QoL from in different conditions using the instrument, SF-36 (20). Though it would have been good to update the normative data, to the best knowledge of the author, the endeavor was not replicated in neither Ethiopia nor Sub-Saharan Africa so far. This study intends to assess HRQoL and associated factors among RHD patients.

CHAPTER TWO

2. LITERATURE REVIEW

2.1. INTRODUCTION

The purpose of this literature review is to sum up the existing knowledge about Health-Related Quality of life and its associated factors among RHD patients globally, regionally and locally. As a baseline, literatures have been appraised and brought together on socio demographic factors, socio economic factors and clinical factors that have a direct effect on HRQOL.

2.2. HEALTH RELATED QUALITY OF LIFE

Multiple studies, that analyzed patient self-outcome assessment, have shown that Health Related Quality of Life (HRQoL) are capable of predicting of mortality/ survival, future cardiovascular events or re-hospitalization, and care expenses in patients with cardiovascular diseases (13, 21, 22, 23). In all these studies; patients who thought to have better quality of life or those who scored better in HRQoL compared to their counterparts, showed to have better survival, lower rate of mortality or reduced risk of getting re-hospitalized or developing new cardiovascular events (13, 21, 22, 23). Hence indicating the significance of assessments of patients' perception of their quality of life and intervening to improve QoL (13, 21, 22, 23).

A case control prospective observational study conducted in an Indian tertiary hospital (Safdarjung Hospital); RHD patients showed to have significantly lower QoL compared to non RHD controls (16). In this study the participants were followed for 18 months. Both; cases and controls were asked to assess their HRQoL with regard to the eight domains of SF 36 and its two summary scores namely Physical Component Summary (PCS) and Mental Component Summary (MCS) (16). Comparison of mean scores of the two groups revealed statistically significant difference in four of the eight SF 36 QoL domains (physical functioning, role limitations due to physical health; emotional problems and social functioning). Those with RHD scoring the lower mean (16).

Another study from Lahor, Pakistan (Gulab Devi Chest Hospital) assessed the quality of life in RHD patients. In this case control study with convenience sampling technique the population were RHD patients of both genders that were admitted to cardiac ward. Controls who were not

RHD patients and age matched to cases were included in the study. Of the 300 subjects involved in the study, 150 were cases and the remaining belonged to control group (1:1 ratio). Mean age between the cases and controls group was comparable. (33.77 ± 12.19 Vs 34.66 ± 12.38 $P=0.689$). But gender wise, the female proportion was higher in cases compared to controls (70% Vs 58% $P=0.030$). According to this study, The RHD patients reported significant impairment not only in total score ($P<0.001$), but also in all eight domains of SF-36 including general health Physical functioning ($P<0.001$), role functioning/physical ($P<0.001$), role functioning/emotional ($P<0.001$), emotional well-being ($P<0.001$), vitality ($P<0.001$), bodily pain ($P<0.001$) and social functioning ($P=0.004$). The most significant differences were observed in total score (1307.90 vs. 2210.96), general health subscale (209.60 Vs. 303.33), physical functioning (364.00 vs. 734.67), role functioning/physical (52.66 vs. 234.00), role functioning/emotional (70.00 vs. 135.33), vitality (132.13 vs. 220.93) and bodily pain (73.90 vs. 132.20). The lowest differences although significant were seen for emotional well-being (240.93 vs. 282.00), social functioning (101.33 vs. 122.00) and health change (63.33 vs. 46.50). Hence, suggesting RHD to affect significantly QoL not only physically but also emotionally and mentally (17).

Another study from Alexandria, Egypt also assessed the impact of RHD on HRQoL even though it was done retrospectively. The study comparatively analyzed mean scores of the eight domains of SF-36 of RHD patients. The result showed that RHD patients to score poorly on General health and Physical functioning scoring 63.96 and 62.43 respectively, while performing better on Role limitation due to emotional problem and Social functioning domains with score 81.42 and 81.08 respectively. This result is difficult to interpret as the developers of the measuring instruments (SF-36) didn't recommend comparisons of the different domains of a group to draw inference or conclusion from. Rather the tool was developed to compare differences between different groups (conditions/ diseases/ interventions) or the different time frame of a single group (before Vs after) (18,24).

2.3.FACTORS AFFECTING QUALITY OF LIFE

Globally, studies are lacking on HRQoL in RHD patients. The few available literatures are either suffers from low sample size or is done on pediatric age group with incomparable population or are only retrospective or cross-sectional by design.

2.3.1. SOCIODEMOGRAPHIC FACTORS

A cross-sectional study, which was done in a Pakistani hospital on RHD patients admitted to cardiac ward, is shown to score lower than age matched non RHD controls. The score was low in cases compared to controls in the two summary and all eight SF 36 domains (17).

A retrospective observational study conducted in Alexandria; Egypt suggested that QoL is related to age ($F= 8.510$, $P= 0.000$). Those aged 30 and beyond found to have lower scores of SF 36 (lower QoL) than those below age 30. Age has showed a significant impact on role physical, bodily pain and vitality. As age increases the health-related quality of life decreases (18).

Another mixed design retrospective and prospective study done in Fiji, appeared to show the effect of gender after post intervention which was a significant predictor only in the role–emotional domain, where men had an average of 13 points less improvement than women ($p=0.001$) (19).

2.3.2. SOCIOECONOMIC FACTORS

Patients diagnosed with RHD often have problems in maintaining normal daily activities (15).

Studies have shown that inadequate literacy is associated with low physical functioning which contributes to worse HRQoL (25, 26).

Income affects the QoL of patients diagnosed with RHD directly or indirectly by restricting personal development because of school and work absenteeism (2, 13).

2.3.3. CLINICAL FACTORS

The study from Alexandria, Egypt revealed the connection of SF 36 measured HRQoL in RHD patients and having treatment every month (18). Those, who used to get treatment (injection) every month have reported lower score (poorer QoL) than those who get treatment in different schedule (every two or three weeks) or those who discontinued. The study is unable to show why one-month injection schedule is associated with lower QoL (18).

And it also showed the effect of diagnosis/ severity of the disease ($F= 1.395$, $p = 0.007$), and presence of complication ($F= 2.654$, $p= 0.013$) in making very low HRQOL (18).

Another independent factor, presence of surgical intervention, is shown to be associated with QoL in RHD patients in prospective study that was done in Fiji. RHD patients who had undergone valve replacement surgery were followed for years. The QoL, before and after surgery was compared. The SF 36 scores have been shown to increase after surgery confirming definitive measures like valve replacement surgery resulting in improved QoL. In the study only time after surgery found to independently affect QoL in all domains of SF 36. Patients seen to score higher when interviewed two or more years later after surgery. Other less related independent factors like age, gender and place of valve replacement found to affect some aspect of health only to some extent (19).

Even though studies done in health-related quality of life and its associated factors among RHD patients are very limited in number and has some design flaws in identifying associated factors, the present study identified some of the sociodemographic and clinical factors affecting the quality of life of the patients.

2.4.SIGNIFICANCE OF THE STUDY

Rheumatic Heart Disease is highly prevalent and a major public health concern in Ethiopia. Yet, little is known how RHD affects QoL. Knowing the aspect and extent of the impact gives perspective to nurses and clinicians caring for RHD patients. The study might help in identifying associated factors that may help to address areas of improvement in provision of the clinical care they render aiming to improve RHD patients' QoL.

2.5. JUSTIFICATION OF THE STUDY

The aim of this study was to assess the health-related quality of life and its associated factors in RHD patients in selected government hospitals' cardiac clinics. RHD is the commonest cardiac condition in Ethiopia. With high number of latent RHD in school children and lack of definitive treatment; the prevalence of RHD is expected to increase for years to come. Similarly, the number and proportion of RHD patients that need surgical interventions, that couldn't be offered in regular basis in the country, will increase alongside. The chronic nature of RHD, lack of definitive treatment, possibility of downward spiraling prognosis and limitation of mobility and roles are expected to incur high physical and psychological burden to self and close families leading to compromised QoL. Globally, the number of studies on HRQoL in RHD is scarce and none existent in Ethiopian setting. Hence this study intends to assess Health Related Quality of life and key factors associated with RHD patients.

2.6. CONCEPTUAL FRAMEWORK

This conceptual framework is developed to show the effect of independent variables (sociodemographic factors and clinical factors) on the dependent variable health related quality of life (16, 17, 18, 19).

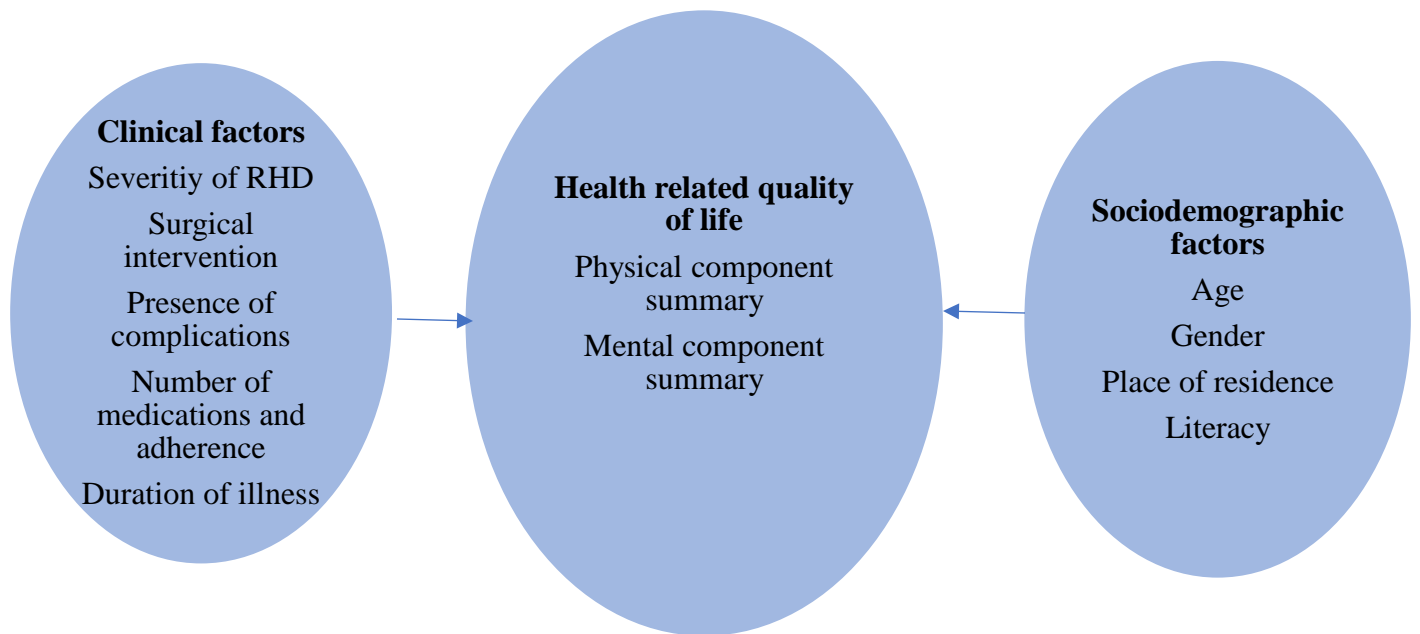


Fig. 1: - Conceptual framework to assess the health-related quality of life and its associated factors among RHD patients in selected government hospitals, Addis Ababa, Ethiopia, 2021.

CHAPTER THREE

3. OBJECTIVES

3.1.GENERAL OBJECTIVE

To assess Health-Related Quality of life and its associated factors among RHD patients in selected government hospitals, Addis Ababa, Ethiopia

3.2. SPECIFIC OBJECTIVES

- To assess Health Related Quality of life among RHD patients in selected government hospitals, Addis Ababa, Ethiopia.
- To identify factors associated with Health-Related Quality of life among RHD patients in selected government hospitals, Addis Ababa, Ethiopia

CHAPTER FOUR

4. METHODS

4.1. STUDY AREA AND STUDY PERIOD

The study was conducted in selected government hospitals in Addis Ababa, Ethiopia. According to Central Statistics Agency population projection, the projected population of Addis Ababa in 2019 is 3,603,000 (27). The area per square meter is 526.99 and density in kilometer per square meter is 6,836.9. There are thirteen government hospitals in the city. Out of these three of the hospitals have specialized cardiac care with cardiologists in which this study was planned to be done, but St. Paul Millennium Specialized Hospital didn't give the permission in time to conduct data collection. Therefore, the study was conducted in Tikur Anbessa Specialized Hospital and St. Peter Specialized Hospital only.

The study was conducted on March 1-31, 2021.

4.2. STUDY DESIGN

Institution based cross-sectional study design was employed.

4.3. SOURCE POPULATION

All cardiac patients, who were following in adult cardiac clinics of the two hospitals.

4.3.1. STUDY POPULATION

Those RHD patients who fulfil the inclusion criteria and coming to the two hospitals during the one-month data collection period.

4.3.2. STUDY SUBJECTS

RHD patients those randomly selected from study population to participate in the study.

4.4. ELIGIBILITY CRITERIA

4.4.1. INCLUSION CRITERIA

- All RHD patient aged 18 and above who was following for minimum of three months (23).
- RHD volunteer patients to participate in the study.

4.4.2. EXCLUSION CRITERIA

- Cardiac patients diagnosed other than RHD.
- Patients who couldn't communicate with the interviewer for any cognitive or any other reason otherwise.

4.5. SAMPLE SIZE DETERMINATION

The sample size was calculated based on the assumption of single population proportion formula, with the assumption of 50% prevalence since there was no similar study found during literature search in the area and 95 % CI and 0.5 margin of error. Adding 10% to compensate for non-responders,

$$\text{Sample size (n)} = \frac{(Z \frac{\alpha}{2})^2 p (1-p)}{d^2}$$

$$d^2$$

p= Expected prevalence of 50%

d= margin of sampling error which is 0.05

z=Value of z at 95% confidence interval level which is 1.96

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

$$0.05 \times 0.05$$

$$n = \frac{3.84 \times 0.5 (0.5)}{0.0025}$$

$$0.0025$$

$$n = 384$$

Tikur Anbessa Specialized Hospital cardiac clinic works four days a week and 130 patients a day. Therefore, $4 * 130 * 4 = 2080$ is the source population during the one-month data collection period.

St. Peter Specialized Hospital cardiac clinic works three days a week and 45 patients a day. Therefore, $3 * 45 * 4 = 540$ is the source population during the one-month data collection period.

Therefore, $2080 + 540 = 2620$ will be the general source population in the study period. According to a study done by Yadeta et al. 34.6% of patients coming to cardiac follow up clinics of Ethiopian hospitals have diagnosis of rheumatic heart disease (9). Therefore, $2620 * 34.6\% = 907$ patients will be the study population in the above two hospitals.

Since, this figure is below 10,000, correction formula was used for the sample size determination:

$$nf = \frac{n}{1 + n/N}$$

Where nf = the final sample size

n= initial sample size

N= study population

$$nf = \frac{384}{1 + 384/907}$$

$$= 270.42 \text{ approximated to } 270$$

Adding 10 % (27) for non-response rate, the required sample size of this study is $270+27 = 297$

4.6.SAMPLING PROCEDURE

Sample size was allocated proportionally by corresponding population size of the two hospitals. Before starting data collection, a sampling frame list of the study population was prepared from

the appointment list for the study period. Then, study subjects were selected by systematic random sampling technique from the study population.

$K = N/n$, where $N =$ study population which is 907

$n =$ sample size which is 297

$K = 907/297 = 3$

For those who fulfill inclusion criteria, code number was given in an increasing order. The first subject was selected by simple random sampling method.

Therefore,

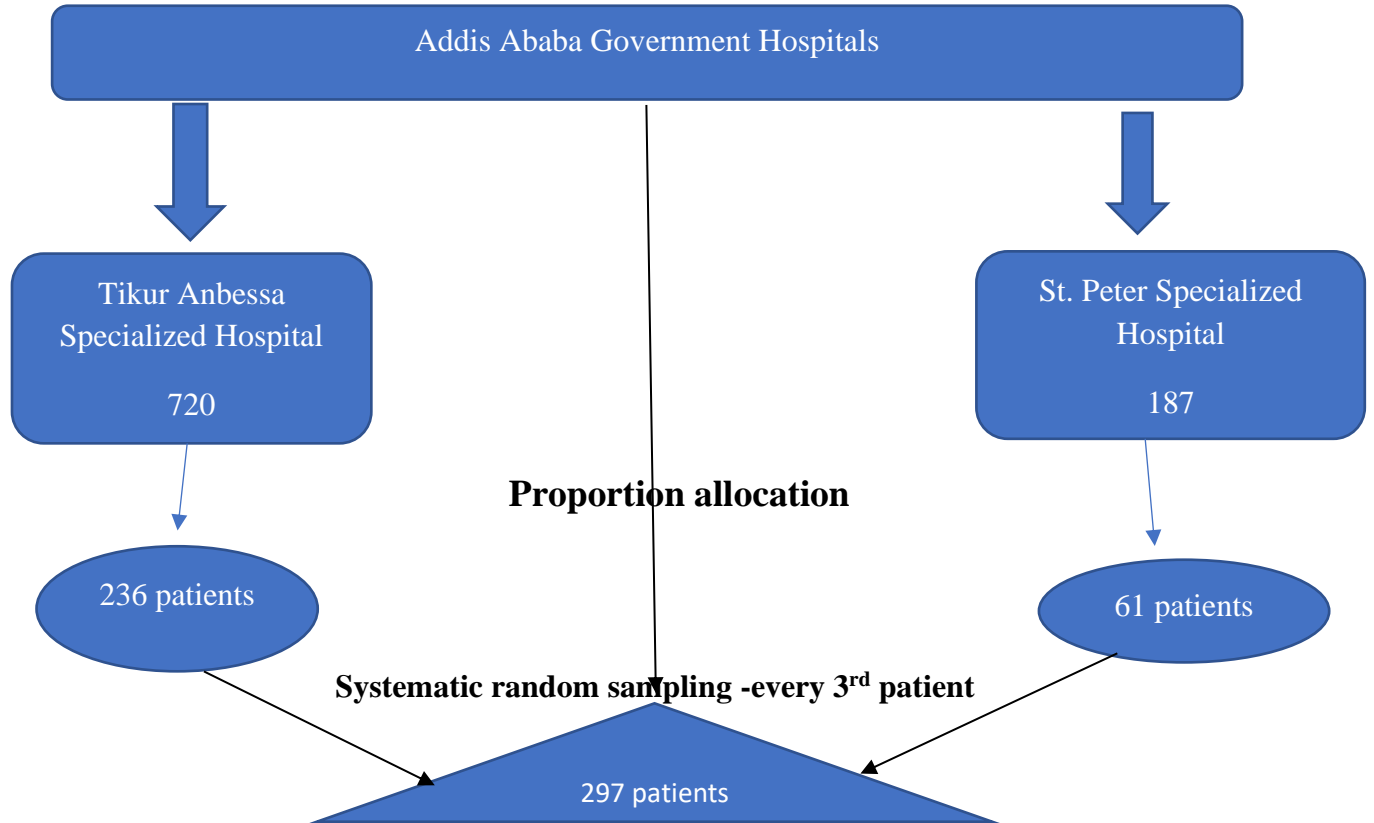


Fig. 2: Schematic presentation of sampling procedure for health-related quality of life and its associated factors among RHD patients in selected government hospitals, Addis Ababa, Ethiopia, 2021.

4.7.STUDY VARIABLES

4.7.1. DEPENDENT VARIABLE

Health related quality of life

4.7.2. INDEPENDENT VARIABLES

- Socio-demographic factors
 - Age
 - Gender
 - Place of residence
 - Literacy
- Clinical factors
 - Severity of RHD
 - Surgical intervention
 - Presence of complications
 - Number of medications and adherence
 - Duration of illness

4.8.OPERATIONAL DEFINITION

RHD patient: Patients following at adult cardiac clinic in TASH and St. Peter specialized hospital with as main diagnosis is put as RHD in his/ her chart.

HRQoL/ QoL: Patient's perception and rating of his/ her own health in regard to all eight domains of SF 36 in the past four weeks.

- **Poor quality of life-** RHD patients with mean summary scores below 45 (24, 28).
- **Good quality of life-** RHD patients with mean summary scores above 45 (24, 28).

Severity of disease: classification of the severity of RHD as last labeled on the patients' chart by the treating physician as mild, moderate and severe.

Adherence to medication: classified as adherent or non-adherent based on taking either the monthly penicillin injection or anti-arrhythmic and anti-thrombotic tablets without missing a single dose in the past four weeks.

Poor – missed one dose

Good- Didn't miss any dose

4.9. DATA COLLECTION TOOL

A questionnaire consisted of three parts which was divided as socio-demographic characteristics assessment part, clinical check list part and SF- 36 questionnaire was used. Under socio-demographic part, there were seven questions. The clinical checklist had six questions. The English version of Short Form 36 (SF 36), (Medical Outcomes Trust, Boston, MA), measuring tool which contains 36 questions was translated to Amharic according to the guidelines set by the developers (20, 29). The Amharic version was adopted from Roba AA et al. and modified (28). Short Form 36 SF-36 is one of the most trusted and widely validated (Cronbach's alpha 0.73) (28) across the world generic QoL measuring instrument. The SF-36 is a 36-item scale, which measures eight domains of health status: physical functioning (10 items); physical role limitations (four items); bodily pain (two items); general health perceptions (five items); energy/vitality (four items); social functioning (two items); emotional role limitations (three items) and mental health (five items). A scoring algorithm was used to convert the raw scores into the eight dimensions listed above. The scores were transformed to range from zero where the respondent has the worst possible health to 100 where the respondent is in the best possible health. It yields an eight-scale profile of scores as well as physical and mental health summary measures. SF-36's strong focus on health and evidence of responsiveness make it particularly useful.

4.10. DATA COLLECTION PROCEDURE

The structured questionnaire was piloted in 5% of the total sample size at St. Paul Millennium Specialized Hospital cardiac clinic. Four data collectors and one supervisor who are B.Sc. nurses and also with previous experience in data collection were recruited for data collection. A one-day intensive training was given on how to fill the data to the data collectors and

supervisor prior to the actual work began about the aim of the study, procedures including ways of collecting the data and clarify about the questionnaire. Interviewer administered questionnaire was used to ensure high response rate. The principal investigator was responsible for checking the questionnaires for completeness daily.

4.11. DATA QUALITY CONTROL

The quality of data was assured before, during and after data collection.

Before data collection, training was given to the data collectors.

During data collection: - the principal investigator and supervisors ensure completeness and consistence of the questionnaires administered each day. Missed variables were completed by reviewing the chart.

After data collection, the collected information was rechecked for its completeness and consistence by the principal investigator before transferring to computer software. Non overlapping unique code was given for each individually answered questionnaires and the coded data was entered and cleaned in epi data version 4.2.

4.12. DATA ENTRY, ANALYSIS AND PRESENTATION

The collected data was coded and entered into epi data version 4.2 and then transferred into Statistical Product and Service Solution (SPSS) version 25 for analysis as per the guideline for SF 36 instrument. Each item of SF-36 was scored on a linear scale which was obtained by summation of the corresponding items. The linear score was transformed into on a 0–100 scales that were adjusted to make the domain scores comparable with the scores used in the SF-36 (0–100). Aggregate component scores were then calculated by principal component analysis (PCA) that were orthogonally rotated to obtain the two summary scores, namely, Physical Component Score (PCS) and Mental Component Score (MCS). Frequencies, percentages, means and standard deviations were used for demographic variables and the mean scores of the study variables were described. Comparisons of patient characteristics were computed using independent t test and ANOVA to identify associated factors. The result is presented in tables. To determine the association 95% CI and a statistical significance at p value <0.05 is considered.

4.13. ETHICAL CONSIDERATION

A formal letter of ethical clearance and approval was obtained from an institutional review board of Addis Ababa University (IRB-AAU), School of Nursing and Midwifery, Department of Nursing Research Committee. After the approval of Department of Nursing the proposal was submitted to the Tikur Anbessa Specialized Hospital Department of Internal Medicine, Cardiology unit and St. Peter's Specialized Hospital for approval and endorsement. The study was started following endorsement of both hospitals. Data was collected and stored anonymously. Names and identifiers were not used and all information obtained was kept confidentially and accessed only by the principal investigator. Additionally, informed consent was obtained from study participants after explaining about the objective, rationale, benefits, risks and expected outcomes of the study and written consent was provided for guaranteeing their choice of participation and the right to refuse or terminate at any point of the interview was assured.

4.14. DISSEMINATION OF THE STUDY

The final report of the study will be presented and submitted in the form of soft and hard copy to Addis Ababa University, College of health sciences, School of nursing and midwifery, Department of nursing, TASH, St. Peter Specialized Hospital and other stakeholders. Presentation at professional, local, national, and international meetings and publication in peer reviewed national or international journals will be attempted for further utilization.

CHAPTER FIVE

5. RESULT

5.1. SOCIO-DEMOGRAPHIC CHARACTERISTICS

A total of 297 patients participated in this study with a response rate of 100%. Females comprised close to three quarters of the sex category (71 %). Half of the study population were in the age group of 18 to 30, accounting for 49.8%. Mean age of the study population was 34.51 ± 12.96 SD years and ranged between 18 and 81 years. Married participants accounted for 46.5% while singles comprised 44.1%. Majority of study population were urban dwellers (79.5%). Participants who have diploma and above comprise 30.3% while 16.5% were illiterates. About fifty five percent of the participants were employed. (Table 1)

Table 1: Socio- demographic characteristics of RHD patients in selected government hospitals, Addis Ababa, Ethiopia, 2021. (n=297)

Variable	Frequency	percentage
Sex		
Male	86	29
Female	211	71
Age		
< 30	148	49.8
31-40	74	24.9
41-50	46	15.5
51-60	12	4.0
>60	17	5.7
Residence		
Urban	236	79.5
Rural	61	20.5
Marital status		
Married	138	46.5
Single	134	44.1
Other*	28	9.4
Education		
Illiterate	49	16.5
Writing and Reading only	11	3.7
Primary school	53	17.8
Secondary school	56	18.9
Preparatory	38	12.8
Diploma and above	90	30.3
Occupation		
Private employee	22	7.4
Government employee	41	13.8
Self -employee	92	31
NGO employee	8	2.7
House wife	100	33.7
Student	34	11.4

Other* = Divorced or widowed

5.2. CLINICAL CHARACTERISTICS

Study participants have been following in cardiac clinic from three months to thirty-three years with mean duration of eighty-eight months. Majority of participants (81.1%) had no additional clinical conditions that require medical attention. Out of the 56 participants who mentioned other comorbidities; twenty-three of them (41.1%) had hypertension either alone or together with another chronic illness/es. The second most frequently identified comorbidity was diabetes. Twelve of the fifty-six patients (21.43%) with one or more comorbidities had Diabetes.

Participants were taking from zero (2%) up to eight medications to either prevent or manage of RHD or treat the co morbidities at the time of study period. Mean number of medications were 2.89 and median number of medications was 3. Only forty-seven participants had undergone a surgical intervention (15.8%). (Tables 2)

Table 2 a: Clinical characteristics of RHD patients in selected government hospitals, Addis Ababa, Ethiopia, 2021. (n= 297)

	Range	Minimum	Maximum	Mean	Std. Deviation
Duration of Follow-ups in months	393	3	396	88.14	79.911
Number of Medications being taken	8	0	8	2.89	1.540

Table 2 b: Clinical characteristics of RHD patients in Selected Government Hospitals, Addis Ababa, Ethiopia, 2021. (n= 297)

	Frequency	Percent
Comorbid illnesses		
No	241	81.1
Yes*	56	18.9
Types of comorbidities		
Asthma	4	7.14
Chronic kidney disease	5	8.9
Diabetes mellitus	12	21.43
Hypertension	23	41.1
Others	12	21.43
Had surgical intervention		
No	250	84.2
Yes	47	15.8
Types of surgical interventions		
Aortic valve replacement	2	4.26
Mitral valve repair	3	6.38
Mitral valve replacement	20	42.55
Aortic and mitral valve replacement	2	4.26
Percutaneous mitral balloon valvotomy	20	42.55
Complications related to RHD or treatment		
No	268	90.2
Yes	29	9.8

*Some of respondents reported combination of two and three of chronic comorbidities

5.3. HEALTH RELATED QUALITY OF LIFE, SF-36

The domains Vitality, Role Physical and Role Emotional scored in the lower end with mean value below 60. Respondents scored on the higher end for the social functioning (70.33 ± 31.67). Except for only one domain, vitality (0.663), the Cronbach's alpha reliability tests were well beyond 0.7. The two summary scores were below 50 with PCS and MCS of 43.85 and 45.91 respectively. (Table 3)

Table 3: Cronbach's alpha reliability test for SF- 36 quality of life measurement for RHD patients in selected government hospitals, Addis Ababa, Ethiopia, 2021

Scales	Number of items	Cronbach's alpha	Mean	Std. Deviation
PF	10	0.916	64.78	29.73
RP	4	0.967	58.16	47.16
GH	5	0.726	61.41	25.32
RE	3	0.972	59.82	47.85
SF	2	0.712	70.33	31.67
BP	2	0.892	69.40	34.73
VT	4	0.663	52.95	23.80
MH	5	0.787	67.68	22.82
PCS	-	-	43.85	11.36
MCS	-	-	45.91	11.25

Table 4: HRQoL among RHD patients in selected government hospitals, Addis Ababa, Ethiopia, 2021. (n=297)

		Frequency	Percent
PCS	Poor HRQoL	134	45.1
	Good HRQoL	163	54.9
MCS	Poor HRQoL	133	44.8
	Good HRQoL	164	55.2

5.4. FACTORS ASSOCIATED WITH HRQOL

The results of the comparative statistical analysis of the HRQoL SF-36 domains and two summary scores of study population are shown in Table 4. Male gender found to be negatively associated with RE (P= 0.039) and SF (P= 0.046) domains of HRQoL. Older age is shown to have more negative strong association with physical component of HRQoL (P= 0.000, 0.011, 0.004 and 0.000 for PF, RP, RE and PCS respectively). Being widowed or divorced is negatively associated with mental health domain of HRQoL (P= 0.034). On contrary higher educational status is found to have a positive association with PF, RP, RE and PCS (P= 0.000, 0.007, 0.000 and 0.015).

The number of medications being taken by the study population is shown to have statistically very significant negative association with HRQoL in all aspects of QoL with P value of 0.000 and 0.001 for PCS and MCS respectively. In contrary having surgical intervention is shown to be positively associated with PF, RP, RE and PCS (P= 0.000, 0.000, 0.000 and 0.003 respectively). (Table 5)

Table 5: Factors associated with HRQoL in relation with SF-36 domains in patients with RHD in selected government hospitals, Addis Ababa, Ethiopia, 2021. (n=297)

	PF	RP	GH	RE	SF	BP	VT	MH	PCS	MCS
Sex										
Female	64.00±2 9.51	59.83±4 6.81	61.97±2 5.56	62.56±4 7.18	71.27±3 0.38	69.76±3 5.36	52.68±2 3.66	67.03±2 2.83	43.91±11 .38	46.16±11 .11
Male	66.69±3 0.34	54.07±4 8.03	60.06±2 4.82	53.49±4 9.12	68.02±3 4.71	68.52±3 3.30	53.60±2 4.25	69.26±2 2.83	43.68±11 .38	45.29±11 .62
P- value	0.984	0.220	0.929	0.039	0.046	0.575	0.564	0.825	0.630	0.725
Age										
<30	70.74±2 8.12	58.95±4 7.02	63.78±2 4.78	60.59±4 7.47	68.16±3 3.70	68.99±3 5.78	54.56±2 4.55	67.22±2 3.33	45.32±11 .05	45.17±11 .63
31-40	65.41±2 7.96	64.19±4 5.72	58.45±2 7.12	67.57±4 5.49	76.01±2 9.67	69.70±3 6.40	53.24±2 3.13	67.68±2 4.11	43.80±11 .67	47.37±10 .89
41-50	60.11±2 5.92	60.33±4 7.31	63.37±2 2.73	61.59±4 8.67	75.00±2 6.22	76.09±2 9.51	52.72±2 2.94	69.65±2 3.13	43.99±9. 25	47.30±12 .03
51-60	60.83±2 6.53	58.33±5 1.49	57.08±2 7.50	58.33±5 1.49	62.50±3 4.13	68.75±3 8.37	46.67±2 8.31	69.67±1 7.60	42.30±12 .79	45.04±10 .36
>60	25.59±3 3.26	19.12±3 7.01	51.47±2 5.72	17.65±3 9.29	57.35±2 8.32	54.12±2 8.41	42.65±1 7.24	64.94±1 5.53	31.94±10 .95	43.07±6. 93
P- value	0.000	0.011	0.235	0.004	0.104	0.285	0.319	0.947	0.000	0.434
Place of residence										
Urban	69.64±2 6.76	65.15±4 5.03	63.96±2 4.52	66.81±4 5.66	73.04±3 0.41	71.76±3 4.23	54.94±2 3.25	69.41±2 2.44	45.51±10 .51	46.97±11 .05
Rural	45.98±3 3.20	31.15±4 5.79	51.56±2 6.13	33.33±4 7.14	59.84±3 4.39	60.29±3 5.41	45.25±2 4.50	60.98±2 3.24	37.41±12 .30	41.81±11 .15
P-value	0.010	0.935	0.552	0.478	0.332	0.746	0.400	0.788	0.138	0.503
Marital status										
Married	64.42±2 9.08	58.33±4 7.51	62.21±2 4.92	61.11±4 7.92	72.46±3 1.25	69.73±3 3.86	53.80±2 3.77	71.45±1 9.54	43.41±11 .79	47.45±10 .43
Single	68.24±2 9.70	60.11±4 6.69	62.29±2 5.38	62.60±4 6.96	69.56±3 1.70	71.20±3 5.26	53.78±2 3.82	65.44±2 5.63	45.18±10 .66	45.16±12 .08
Divorce	49.71±2 8.96	45.59±4 7.79	51.76±2 6.16	39.22±4 8.92	61.76±3 0.76	57.21±3 7.01	47.94±2 0.94	59.06±2 0.02	39.13±12 .40	41.82±8. 57
Widow	51.36±3 1.95	52.27±5 0.56	55.91±2 8.09	45.45±5 2.22	65.91±3 8.76	62.73±3 5.78	40.00±2 6.36	60.36±2 3.56	40.74±10 .90	41.93±12 .52
P-value	0.037	0.660	0.351	0.197	0.542	0.414	0.227	0.034	0.125	0.078
Educational status										
Illiterate	50.00±3 4.52	39.29±4 8.41	61.84±2 5.79	36.73±4 8.71	67.86±3 2.27	63.72±3 6.53	51.22±2 4.51	65.96±2 2.73	39.98±12 .49	44.31±10 .30
Write & read	41.36±3 2.95	29.55±4 5.85	44.55±1 8.64	27.27±4 6.71	48.86±2 4.65	67.73±3 0.24	39.09±2 5.96	60.00±2 1.98	36.94±12 .13	39.00±9. 81
Primary school	59.72±3 0.63	61.32±4 8.67	65.19±2 6.55	61.64±4 8.65	70.28±3 7.20	70.47±4 1.17	52.36±2 7.52	70.57±2 3.51	43.39±12 .90	47.16±11 .81
Secondary school	73.30±2 6.922	60.27±4 5.67	62.86±2 8.28	64.29±4 6.65	72.99±3 1.87	72.14±3 5.94	57.32±2 5.81	68.43±2 3.23	45.90±11 .36	46.44±11 .73
Preparatory	66.18±2 7.92	63.16±4 7.84	55.26±2 3.65	65.80±4 6.16	72.37±2 5.85	73.42±2 9.54	49.74±2 3.94	66.63±2 3.44	44.14±9. 45	45.84±10 .61
Diploma and above	72.78±2 3.21	66.67±4 3.38	62.72±2 3.08	70.37±4 3.68	71.81±3 0.36	68.67±3 1.68	54.56±1 8.61	67.82±2 2.36	45.67±9. 72	46.59±11 .43
P- value	0.000	0.007	0.119	0.000	0.297	0.811	0.220	0.777	0.015	0.284

(Continued)

Table 5: Factors associated with HRQoL in relation with SF-36 domains in patients with RHD in selected government hospitals, Addis Ababa, Ethiopia, 2021. (n=297) (Continued)

Occupational status										
Private employee	77.73 _{±2} 1.53	80.68 _{±3} 5.30	65.23 _{±2} 3.22	78.79 _{±3} 7.86	84.09 _{±2} 0.84	70.91 _{±3} 3.44	64.09 _{±1} 5.93	73.27 _{±1} 7.47	47.58 _{±9} 66	50.59 _{±8} 57
Government employee	69.15 _{±2} 7.66	64.02 _{±4} 6.45	61.95 _{±2} 8.02	69.11 _{±4} 5.58	69.51 _{±3} 3.43	70.67 _{±3} 5.83	55.12 _{±2} 1.28	68.20 _{±2} 3.82	44.94 _{±11} .15	46.69 _{±11} .85
Self-employee	64.84 _{±2} 9.62	54.62 _{±4} 7.60	58.70 _{±2} 4.71	57.25 _{±4} 9.00	69.02 _{±3} 2.92	69.02 _{±3} 5.05	51.52 _{±2} 5.82	65.04 _± 24.62	43.56 _{±11} .32	44.69 _{±12} .14
NGO	79.38 _{±2} 0.43	78.13 _{±3} 3.91	61.88 _{±1} 5.80	87.50 _{±2} 4.80	73.44 _{±2} 8.69	64.06 _{±2} 2.04	60.00 _{±1} 3.36	70.50 _{±2} 2.01	46.10 _{±9} 22	49.49 _{±8} 62
House wife	55.65 _{±3} 0.89	53.25 _{±4} 8.68	62.10 _{±2} 6.37	53.34 _{±4} 9.24	70.13 _{±3} 2.27	71.65 _{±3} 5.51	49.85 _{±2} 4.39	67.28 _{±2} 2.85	42.42 _{±11} .91	45.56 _{±11} .01
Student	74.41 _{±2} 8.31	55.88 _{±4} 8.48	63.53 _{±2} 4.42	56.86 _{±4} 8.91	65.81 _{±3} 0.36	62.57 _{±3} 4.67	54.41 _{±2} 3.86	71.06 _{±1} 9.87	44.53 _{±11} .50	45.42 _{±10} .46
P-value	0.001	0.118	0.866	0.076	0.404	0.847	0.154	0.631	0.440	0.301
Cardiac follow up Duration										
3mo-2years	69.92 _{±2} 6.50	50.40 _{±4} 8.01	67.66 _{±2} 2.06	51.61 _{±4} 8.91	69.35 _{±3} 2.06	69.15 _{±3} 4.87	54.60 _{±2} 2.71	67.68 _{±2} 3.47	45.24 _{±10} .33	44.62 _{±11} .37
2-5years	65.05 _{±3} 1.53	64.78 _{±4} 5.48	59.35 _{±2} 6.78	66.67 _{±4} 6.36	68.55 _{±3} 2.90	70.11 _{±3} 4.68	52.90 _{±2} 6.05	67.91 _{±2} 3.75	44.01 _{±12} .53	46.36 _{±11} .01
>5years	62.36 _{±2} 9.76	57.22 _{±4} 7.60	60.04 _{±2} 5.40	59.16 _{±4} 8.03	71.92 _{±3} 0.81	69.05 _{±3} 4.73	52.25 _{±2} 2.83	67.52 _{±2} 2.06	43.13 _{±10} .93	46.18 _{±11} .40
P-value	0.247	0.168	0.090	0.153	0.702	0.972	0.812	0.992	0.470	0.592
Number of medications taking										
≤2 medic.	77.94 _{±2} 5.32	75.38 _{±3} 9.95	70.73 _{±2} 0.77	77.36 _{±4} 0.98	77.48 _{±2} 8.30	76.51 _{±2} 9.35	60.00 _{±2} 1.51	71.85 _{±2} 1.33	48.73 _{±9} 37	48.66 _{±10} .48
3-5 medic.	54.83 _{±2} 9.49	45.53 _{±4} 8.14	55.07 _{±2} 6.47	47.02 _{±4} 8.73	64.24 _{±3} 2.73	62.78 _{±3} 7.62	48.44 _{±2} 4.45	64.53 _{±2} 3.46	40.11 _{±11} .63	43.91 _{±11} .40
≥6 medic.	50.00 _{±2} 2.20	35.00 _{±4} 7.99	44.00 _{±2} 1.65	37.78 _{±4} 6.92	69.17 _{±3} 7.76	74.00 _{±3} 6.91	36.67 _{±1} 7.28	67.68 _{±2} 4.45	38.82 _{±8} 03	42.02 _{±11} .57
P-value	0.000	0.000	0.000	0.000	0.002	0.003	0.000	0.019	0.000	0.001
Had surgical intervention										
No	62.44 _{±3} 0.99	55.00 _{±4} 7.85	60.36 _{±2} 5.63	56.80 _{±4} 8.54	69.00 _{±3} 2.10	68.90 _{±3} 4.50	51.58 _{±2} 3.79	66.62 _{±2} 2.91	43.18 _{±11} .61	45.28 _{±11} .36
Yes	77.23 _{±1} 7.31	75.00 _{±3} 9.70	67.02 _{±2} 3.05	76.60 _{±4} 0.48	77.39 _{±2} 8.51	72.07 _{±3} 6.19	60.21 _{±2} 2.72	73.28 _{±2} 1.74	47.38 _{±9} 20	49.26 _{±10} .11
P-value	0.000	0.000	0.284	0.000	0.120	0.624	0.650	0.854	0.003	0.320

PF= Physical functioning; RP= Limitations in role due to physical health; GH= General health; RE= Limitations in role due to emotions; SF= Social Function; BP= Bodily pain; VT= Vitality; MH= Mental health; PCS=Physical component summary; MCS=Mental component summary

CHAPTER SIX

6. DISCUSSION

The aim of this study is to assess HRQoL and its associated factors among RHD patients in selected government hospitals, Addis Ababa, Ethiopia.

In this study, RHD patients scored highest on SF (70.33 ± 31.67), BP (69.40 ± 34.73) and MH (67.68 ± 22.82) domains of SF-36 while scoring lowest on VT (52.95 ± 23.80) and RP (58.16 ± 47.16). Compared with normative values of general population of Ethiopia; PF (64.78 ± 29.73 Vs 93.10 ± 15.70), RP (58.16 ± 47.16 Vs 89.80 ± 28.60) and RE (59.82 ± 47.85 Vs 92.4 ± 24.30) were most affected. Similar findings were reported with the studies done in Pakistan, Fiji and Alexandria, Egypt where PF and RP found to be most affected SF 36 domains. On the other hand, MH (67.68 ± 22.82 Vs 71.00 ± 9.9) was found to be least affected compared to the Ethiopian normative data. This was also the case in all Pakistan, Fiji and Alexandria studies (17, 18, 19, 20). This might be because RHD tends to affect physical exertion capacity severely to effect relatively more negative association to physical component of QoL.

In this study, the two summary scores were below 50 confirming HRQoL of the study population were negatively affected by RHD (24). Compared to normative data all domains and summary scores (43.85 ± 11.36 Vs 54.10 ± 9.1 , 45.91 ± 11.25 Vs 49.50 ± 3.9 for PCS and MCS respectively) in the current study were found to be lower confirming the association between RHD and reduced HRQoL. Similar findings were reported in a longitudinal study done in Fiji where they compared the mean values of all domains with general population normative data (19, 20). The case control study in Pakistan, where it compared the SF 36 domains values of RHD patients with their sex and age matched healthy attendants, also reported similarly reduced mean values across all domains showing the strong association between RHD and reduced HRQoL (17). Both studies in Fiji and Pakistan didn't determine the summary scores (PCS and MCS) in their respective studies and hence comparison with our study couldn't be made based on summary scores. Despite the above fact, as summary scores are derived from domain scores and meant to represent the domains in aggregate, it is logical to expect comparable outcome. This might be because RHD patients have common physical limitations due to the disease which also have a psychological impact on the mental health.

This study revealed some socio-demographic factors, namely female gender, older age, rural residence, being divorced or widowed and having low educational background; to negatively affect HRQoL to some extent in RHD patients. The cross-sectional studies done in India and Alexandria; Egypt identified older age to affect multiple domains of QoL. The study in India associated old age negatively to PF, RP, RE, VT, MH, SF and BP while the study in Egypt associated the age negatively with PF, RP, VT, SF, BP and GH (16, 18).

The study also showed clinical factors like having surgical intervention and fewer medications (pill burden) are found to have very strong association with higher HRQoL. The Fiji longitudinal study confirmed valvular replacement surgeries to improve HRQoL in all domains except MH. The maximal effect of the surgery noted to be earned after 2.5 years post intervention (19).

CHAPTER SEVEN

7. STRENGTHS AND LIMITATIONS OF THE STUDY

7.1. STRENGTHS

Using SF-36, one of most trusted HRQoL measuring instrument and well validated in Ethiopian context, is one strong characteristic of the current study. The data was analyzed using proper techniques. Utmost care was implemented to ascertain all ethical considerations. Interviewer administered approach was implemented to ensure high response rate that is 100%. The study was conducted in two selected hospitals with well-established dedicated cardiac clinics. Last but not least, being the first study in our country on Health-Related Quality of life in a public health important condition of the country, RHD.

7.2. LIMITATIONS

The limitations of this study were first, lack of related worldwide, regional or nationwide studies to compare and discuss findings. Second, the study was done using a cross sectional study design which limits its scope to see the cause and effects of socio-demographic and clinical characteristics. And third, the study was done only in two hospitals, which makes it difficult to generalize.

CHAPTER EIGHT

8. CONCLUSION AND RECOMMENDATION

8.1. CONCLUSION

Taking cut point 45 for individual's summary score, about half of study population is found to have poor HRQoL. And similarly, as a group also HRQoL is relatively poor in RHD patients in comparison to the general population (mean score of 43.85 Vs 54.1 for PCS and 45.91 Vs 49.5 for MCS) (20). Socio-demographic factors like sex (SF ,p= 0.039 and RE ,p= 0.046) age (PF, p= 0.000, RP, p= 0.011 and RE, p= 0.004) marital status (MH, p= 0.034) and educational background (PF, p= 0.000, RP, p= 0.007 and RE, p= 0.000) were found to affect the QoL of RHD patients that follows at TASH and St. Peter to some extent while clinical factors like undergoing surgical intervention (PF, p= 0.000, RP, p= 0.000 and RE, p= 0.000, and having lesser pill burden (PCS, p= 0.000 and MCS, p= 0.001) were strongly associated with better QoL.

8.2. RECOMMENDATION

To Ministry of Health and policy makers

- Awareness creation on early treatment of sore throat parallel to improving the living standards of every individual in the country plays a tremendous role for eradication of rheumatic heart disease.
- Capacity building to improve access and quality of cardiac services, out of Addis Ababa and major cities of the country, will decrease the economic, social and physical burdens of most of rheumatic heart disease patients.
- A checklist should be prepared to assess the quality of life of rheumatic heart disease patients

To the institutions

- To incorporate HRQoL measuring instruments to clinical service to evaluate and monitor the quality of care.

To Clinicians and nurses

- Only treating the disease is not enough, therefore assessment of the HRQoL of rheumatic heart disease patients helps to find out about the social, emotional and physical needs of these patients.

To researchers

- Further prospective/ longitudinal studies should be conducted to ascertain the relationships between factors affecting HRQoL and the effects on RHD patients.

CHAPTER NINE

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CHAPTER TEN

ANNEXES

ANNEX A: INFORMATION SHEET

Title of the research proposal: Health related quality of life and its associated factors in rheumatic heart disease patients in selected government Hospitals, Addis Ababa, Ethiopia, 2020.

Name of Investigator: Konno Tadesse, B.Sc.

Name of the Organization: Addis Ababa University, College of Health Sciences, School of Nursing and Midwifery, Department of nursing.

Name of the Sponsor: Tikur Anbessa Specialized Hospital

Purpose of the research project: To assess health related quality of life and its associated factors among rhematic heart disease patients in selected government hospitals.

Procedures to be carried out: A structured and validated Amharic version of SF – 36 questionnaires will be adopted and modified to collect data about health condition and also sociodemographic characteristics and clinical checklist will be used by an interviewer.

Risk and /or Discomfort: The procedure doesn't bear any physical or psychological trauma, except that it will take some time.

Benefits: No benefit will be gained by participation on this research. For your participation on this study, no payment will be given or no special privilege will be offered.

Confidentiality: To reassure confidentiality the data on the chart will be collected without the name of the participant and the information collected will be kept confidential. In addition, it will not be revealed to anyone except the investigator and it will be kept in a key and locked system with computer password.

Autonomy: Your participation is in voluntary basis and you are not obligated to answer any question that you do not willing to respond. If you feel any discomfort with the question, it is your

right not to respond and you have the right to withdraw from the study at any time you need. But your honest participation will contribute a lot to generate information to come up with important findings.

Person to contact: This research project is reviewed, approved and ethically cleared by the institutional review board of Addis Ababa University, College of Health Sciences, School of Nursing and Midwifery, Department of Nursing Research Committee. If you have any question, you can contact any of the following individuals (Investigator and Advisors) and you may ask at any time you want.

1. Zeleke Argaw (BSc, MSN, Asst. Prof): Addis Ababa University, college of health sciences, school of nursing and midwifery. Tel: 0911478796
2. Tigistu Gebreyohannis (BSc, MSN, Asst. Prof): Addis Ababa University, college of health sciences, school of nursing and midwifery. Tel: 0939125455
3. Konno Taddesse (B.Sc.): Addis Ababa University, college of health sciences, school of nursing and midwifery. Tel: 0911101531, Email: kotestad@gmail.com

ANNEX B: CONSENT FORM

Based on the understanding of the information I gave you, are you willing to participate in this study?

1. Yes [] _____signature, continue

2. Not agree to participate (stop here); thank you very much! If the study subject agrees to participate in the study, start the interview. Interviewer signature certifying that informed consent has been given verbally by the respondent. NB: No need of enforcing the respondent to be included in the study

Data collectors name _____ Signature _____ Date __/__/____

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

ANNEX C: የተሳታፊዎች መረጃ ቅፅ

የጥናቱ ርዕስ: ከጤንነት ጋር የተያያዘ የኑሮ ምቹነትና ተያያዥ ጉዳዮች በተመረጡ የመንግስት ሆስፒታሎች ተመላላሽ የልብ ሻልቭ ታካሚዎች ላይ

ጥናቱን የሚያካሂዱት: ኮኖ ታደሰ (ቢኤስ ሲ ነርስ)

ጤና ይስጥልኝ :: -----እባላለሁ:: በአዲስ አበባ ዩኒቨርሲቲ ህክምና እና ጤና ሳይንስ ኮሌጅ በሚደረገው በዚህ ጥናት ላይ መረጃ ሰብሳቢ ነኝ:: እርስዎም በዚህ የጥናት ፅሁፍ ላይ ለተጠቀሱ መጠይቆች መልስ ይሰጡን ዘንድ የጥናቱ አካል ሆነው ተመርጠዋል:: ከዚህ በታች ያሉትን መረጃዎች ከተረዱ በኋላ ፍቃደኛ ከሆኑ በጥናቱ ላይ መሳተፍ ይችላሉ::

የጥናቱ አላማ: በተመረጡ የመንግስት ሆስፒታሎች የልብ ተመላላሽ ህክምና ክፍል ውስጥ እየታከሙ የሚገኙ የልብ ሻልቭ ታካሚዎች ህመሙ ከጤንነት ጋር የተያያዘ የኑሮ ምቹነትና ተያያዥ ጉዳዮች ላይ ያለውን ተጽእኖ ለማወቅ

ጉዳት: በዚህ ጥናት ላይ ተሳታፊ በመሆንዎ የተወሰነ ጊዜዎን መስዋት ከማድረግዎ ያለፈ ምንም አይነት አካላዊም ሆነ ስነ ልቦናዊ ጉዳት የለውም::

ጥቅም: በዚህ ጥናት ላይ በመሳተፊት የሚያገኙት የተለየ ጥቅም የለም:: ተሳታፊ በመሆንዎ የሚያገኙት ክፍያም ሆነ የተለየ እንክብካቤ የለም::

ሚስጥራዊነት: በመጠይቆች ላይ የሰጡት መረጃ ሚስጥራዊነቱ ፈፀሞ የተጠበቀ፤ ለሶስተኛ አካል ተላልፎ እንደማይሰጥ እና ስም እንደማይመዘገብ መግለፅ እወዳለሁ::

የራስ ፍቃደኝነት: በጥናቱ ላይ መሳተፍም አለመሳተፍም፤ በማንኛውም ሰዓት ማቋረጥ ይቻላል::

ጥናቱ በአዲስ አበባ ዩኒቨርሲቲ ጤና ሳይንስ ኮሌጅ የጥናት ስነምግባር ቦርድ ታይቶ የጸደቀ ሲሆን ለማንኛውም ጥያቄ በሚቀጥለው አድራሻ መጠየቅ ይቻላል::

ከዚህ ጥናት ጋር የተያያዘ ማንኛውም ጥያቄ ካሎት ኮኖ ታደሰ ብለው በዚህ ስልክ ቁጥር: +251911101531 ማግኘት ይችላሉ::

ANNEX D: የጥናቱ መተማመኛ ቅፅ

ከላይ በተገለጸሎት መሰረት በጥናቱ ለመሳተፍ ፈቃደኛ ናት?

አዎ ነኝ ካሉ ፊርማዎን ያኑሩ -----

አይ አይደለሁም

አመሰግናለሁ::

የመረጃ ሰብሳቢዉ ስም ----- ፊርማ -----

የመረጃዉ ዉጤት: ተጠቋል አልተጠናቀቀም በከፊል ተጠናቋል አቋርጠዋል

ANNEX E: ENGLISH VERSION QUESTIONNAIRE

Part one:- SOCIO-DEMOGRAPHIC QUESTIONS

1. Gender	A. Male B. Female
2. Age	
3. Place of residence/living	A. Urban B. Rural
4. Marital status	A. Married B. Single C. Divorced D. Widowed E. Other specify.....
5. Education	A. Illiterate B. Writing and reading only C. Primary school (1-8 th grade) D. Secondary school (9-10 th grade) E. Preparatory (11-12 grade) F. Diploma and above
6. Occupation/Work status	A. Private employee B. Government employee C. Self-employee D. Non-governmental organization (NGO) E. House wife F. Student
7. Family size per house hold	

Part Two: CLINICAL CHECKLIST

1. When did you start cardiac follow-up?	In completed months
2. How many medications do you take?
3. Do you have another comorbid illness?	Yes No
4. If your answer is yes to the above question, please specify,	
5. Have you ever had surgical intervention?	Yes, Specify No
6. Do you have any complications related to RHD or its treatment?	Yes, Specify No

Part Three - SF-36 QUESTIONNAIRE

Please answer the 36 questions of the Health Survey completely, honestly, and without interruptions.

GENERAL HEALTH:

1. In general, would you say your health is:
A. Excellent B. Very Good C. Good D. Fair E. Poor
2. Compared to one year ago, how would you rate your health in general now?
A. Much better now than one year ago B. Somewhat better now than one year ago
C. About the same D. Somewhat worse now than one year ago
E. Much worse than one year ago

LIMITATIONS OF ACTIVITIES:

The following items are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?

3. Vigorous activities, such as running, lifting heavy objects, participating in strenuous sports.
A. Yes, limited a lot B. Yes, Limited a Little C. No, Not Limited at all
4. Moderate activities, such as moving a table, chair around the house and moderate sports
A. Yes, limited a Lot B. Yes, Limited a Little C. No, Not Limited at all
5. Lifting or carrying groceries
A. Yes, limited a Lot B. Yes, Limited a Little C. No, Not Limited at all
6. Climbing several flights of stairs
A. Yes, limited a Lot B. Yes, Limited a Little C. No, Not Limited at all
7. Climbing one flight of stairs
A. Yes, limited a Lot B. Yes, Limited a Little C. No, Not Limited at all
8. Bending, kneeling, or stooping
A. Yes, limited a Lot B. Yes, Limited a Little C. No, Not Limited at all
9. Walking more than one and half kilometer
A. Yes, limited a Lot B. Yes, limited a Little C. No, Not Limited at all

10. Walking several kebeles

A. Yes, limited a Lot

B. Yes, limited a Little

C. No, Not Limited at all

11. Walking one kebele

A. Yes, limited a Lot

B. Yes, Limited a Little

C. No, Not Limited at all

12. Bathing or dressing yourself

A. Yes, limited a Lot

B. Yes, Limited a Little

C. No, Not Limited at all

PHYSICAL HEALTH PROBLEMS:

During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

13. Cut down the amount of time you spent on work or other activities

A. Yes

B. No

14. Accomplished less than you would like

A. Yes

B. No

15. Were limited in the kind of work or other activities

A. Yes

B. No

16. Had difficulty performing the work or other activities (for example, it took extra effort)

A. Yes

B. No

EMOTIONAL HEALTH PROBLEMS:

During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?

17. Cut down the amount of time you spent on work or other activities

A. Yes

B. No

18. Accomplished less than you would like

A. Yes

B. No

19. Didn't do work or other activities as carefully as usual

A. Yes

B. No

SOCIAL ACTIVITIES:

20. Emotional problems interfered with your normal social activities with family, friends, neighbors, or groups?
- A. Not at all B. Slightly C. Moderately D. Severe E. Very Severe

PAIN:

21. How much bodily pain have you had during the past 4 weeks?
- A. None B. Very Mild C. Mild D. Moderate
E. Severe F. Very Severe
22. During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?
- A. Not at all B. A little bit C. Moderately
D. Quite a bit E. Extremely

ENERGY AND EMOTIONS:

These questions are about how you feel and how things have been with you during the last 4 weeks. For each question, please give the answer that comes closest to the way you have been feeling.

23. Did you feel full of pep?
- A. All of the time B. Most of the time C. A good bit of the time
D. Some of the time E. A little bit of the time F. None of the time
24. Have you been a very nervous person?
- A. All of the time B. Most of the time C. A good bit of the time
D. Some of the time E. A little bit of the time F. None of the time
25. Have you felt so down in the dumps that nothing could cheer you up?
- A. All of the time B. Most of the time C. A good bit of the time
D. Some of the time E. A little bit of the time F. None of the time
26. Have you felt calm and peaceful?
- A. All of the time B. Most of the time C. A good bit of the time
D. Some of the time E. A little bit of the time F. None of the time
27. Did you have a lot of energy?

- A. All of the time
- B. Most of the time
- C. A good bit of the time
- D. Some of the time
- E. A little bit of the time
- F. None of the time

28. Have you felt downhearted and blue?

- A. All of the time
- B. Most of the time
- C. A good bit of the time
- D. Some of the time
- E. A little bit of the time
- F. None of the time

29. Did you feel worn out?

- A. All of the time
- B. Most of the time
- C. A good bit of the time
- D. Some of the time
- E. A little bit of the time
- F. None of the time

30. Have you been a happy person?

- A. All of the time
- B. Most of the time
- C. A good bit of the time
- D. Some of the time
- E. A little bit of the time
- F. None of the time

31. Did you feel tired?

- A. All of the time
- B. Most of the time
- C. A good bit of the time
- D. Some of the time
- E. A little bit of the time
- F. None of the time

SOCIAL ACTIVITIES:

32. During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting with friends, relatives, etc.)?

- A. All of the time
- B. Most of the time
- C. Some of the time
- D. A little bit of the time
- E. None of the Time

GENERAL HEALTH

How true or false is each of the following statements for you?

33. I seem to get sick a little easier than other people

- A. Definitely true
- B. Mostly true
- C. Don't know
- D. Mostly false
- E. Definitely false

34. I am as healthy as anybody I know

- A. Definitely true
- B. Mostly true
- C. Don't know
- D. Mostly false
- E. Definitely false

35. I expect my health to get worse

A. Definitely true

B. Mostly true

C. Don't know

D. Mostly false

E. Definitely false

36. My health is excellent

A. Definitely true

B. Mostly true

C. Don't know

D. Mostly false

E. Definitely false

ANNEX F: AMHARIC VERSION OF QUESTIONNAIRE

ክፍል አንድ: - ማህበራዊ ሁኔታን የሚዳስሱ ጥያቄዎች

1. ጾታ	1. ወንድ 2. ሴት
2. እድሜ	
3. የመኖሪያ ቦታ?	1. ከተማ 2. ገጠር
4. የጋብቻ ሁኔታ	1. ያገባ /ች 2. ያላገባ/ች 3. የፈታ/ች 4. የሞተበት/ባት 5. ሌላ ካለ.....
5. የትምህርት ደረጃ	1. ማንበብ እና መፅሐፍ የማይችል/የማትችል 2. ማንበብ እና መፅሐፍ የሚችል/የምትችል 3. የመጀመሪያ ደረጃ (ከ1ኛ - 8ኛ ክፍል) 4. ሁለተኛ ደረጃ (ከ9ኛ - 10ኛ ክፍል) 5. መሰናዶ (ከ11ኛ - 12ኛ ክፍል) 6. ዲፕሎማና ከዛ በላይ
6. የሥራ-ሁኔታ?	1. የግል ድርጅት ተቀጣሪ 2. የመንግስት ሰራተኛ 3. የግል ስራ 4. መንግስታዊ ያልሆነ ስራ 5. የቤት እመቤት 6. ተማሪ
7.አሁን ያለዎት የቤተሰብ ብዛት ስንት ነዉ?	

ክፍል ሁለት፡ ከጤና እክል ጋር የተያያዙ ጥያቄዎች

<p>1. የልብ ህክምና ክትትል ከጀመሩ ስንት ጊዜ ሆኖት?</p>	<p>በወር አለካክ</p> <p>.....</p>
<p>2. ስንት መድሀኒት እየወሰዱ ነዉ?</p>	<p>.....</p>
<p>3. ሌላ በሀኪም የተነገሮት በሽታ አለ?</p>	<p>አዎ አለ</p> <p>አይ የለም</p>
<p>4. አዎ አለ ካሉ እባክዎ ምን እንደሆነ ይጥቀሱ</p>	<p>.....</p> <p>.....</p>
<p>5. ከዚህ ቀደም የቀዶ ጥገና ተደርጎሎት ያዉቃል?</p>	<p>አዎ ካሉ አይነቱን ይጥቀሱ</p> <p>አልተደረገልኝም</p>
<p>6. ከዚህ ህመም ወይንም ከሚወስዷቸዉ መድሀኒቶች ጋር የተያያዘ የገጠሞት የጎንዮሽ ችግር አለ?</p>	<p>አዎ ካሉ ምን እንደሆነ ይጥቀሱ</p> <p>የለም</p>

ክፍል ሶስት: SF 36 ጥያቄዎች

❖ ጠቅላላ ጤንነት

1. ጠቅላል አድርገው፤ ሲመለከቱት የጤንነትዎ ሁኔታ ምን ይመስላል?

- ሀ. እጅግ በጣም ጥሩ ነዉ ለ. በጣም ጥሩ ነዉ ሐ. ጥሩ ነዉ
 መ. ለክፉ አይሰጥም ሠ. መጥፎ ነዉ

2. ከባለፈዉ አመት ጋር ሲያስተያየት የአሁኑ የጤና ሁኔታዎ እንዴት ይገለጻል?

- ሀ. ከአምና እጅግ በጣም ይሻላል ለ. በተወሰነ መልኩ ከአምና ይሻላል
 ሐ. ከአምና ጋር ተመሳሳይ ነዉ/ለዉጥ የለዉም መ. በተወሰነ መልኩ ከአምና ብሶብኛል
 ሠ. ከአምና እጅግ በጣም ብሶብኛል

❖ የእንቅስቃሴ ገደብ

ከዚህ በታች የተዘረዘሩት ጥያቄዎች በየቀኑ የሚያደርጓቸዉ ናቸዉ ተብሎ ይገመታል። የአሁኑ የጤና ሁኔታዎ እነዚህን እንዳያደርጓቸዉ ይከለክልዎታል? መልሱ አዎ ከሆነ፣ መጠኑን እንዴት ይገልጹታል?

<p>3. ከበድ ያሉ እንቅስቃሴዎች ለምሳሌ መሮጥ፣ከባድ እቃዎችን ማንሳትና ከበድ ያሉ እንቅስቃሴዎች ላይ መሳተፍ ያሉ ስፖርቶችን መስራት ያቅቶታል?</p>	<p>ሀ. አዎ በጣም አቅቶኛል ለ. በመጠኑ አቅቶኛል ሐ. አይ፣ ያቃተኝ ነገር የለም</p>
<p>4. መጠነኛ ክብደት ያላቸዉን እንቅስቃሴዎች ማድረግ ለምሳሌ፤ ጠረጴዛ/ወንበር/የቤት ቁሳቁስ/ ከቦታ ወደ ቦታ ማንቀሳቀስ እና ቀለል ያሉ ስፖርቶችን ማከናወን ያቅቶታልን?</p>	<p>ሀ. አዎ በጣም አቅቶኛል ለ. በመጠኑ አቅቶኛል ሐ. አይ፣ ያቃተኝ ነገር የለም</p>
<p>5. አነስ ያለ ክብደት ያላቸዉን እቃ ማንሳት/መሸከም ለምሳሌ፤ አስቤዛ ፤ ቀለል ያሉ የቤት እቃዎችን ከቦታ ወደ ቦታ ማንቀሳቀስ ያቅቶታል?</p>	<p>ሀ. አዎ በጣም አቅቶኛል ለ. በመጠኑ አቅቶኛል ሐ. አይ፣ ያቃተኝ ነገር የለም</p>
<p>6. ብዙ ደረጃዎችን መዉጣት ወይም ዳገታማ ቦታዎችን መዉጣት ያቅቶታል?</p>	<p>ሀ. አዎ በጣም አቅቶኛል ለ. በመጠኑ አቅቶኛል ሐ. አይ፣ ያቃተኝ ነገር የለም</p>

7. አንድ ደረጃ መወጣት ወይም ጉብታ መወጣት ያቅቶታል?	ሀ. አዎ በጣም አቅቶኛል ለ. በመጠኑ አቅቶኛል ሐ. አይ፣ ያቃተኝ ነገር የለም
8. መታጠፍ፣መንበርከክ፣ማጎንበስ ያቅቶታል?	ሀ. አዎ በጣም አቅቶኛል ለ. በመጠኑ አቅቶኛል ሐ. አይ፣ ያቃተኝ ነገር የለም
9. ከሁለት ኪሎ ሜትር በላይ በእግር መራመድ ያቅቶታል?	ሀ. አዎ በጣም አቅቶኛል ለ. በመጠኑ አቅቶኛል ሐ. አይ፣ ያቃተኝ ነገር የለም
10. ብዙ ሰፈሮችን በእግር ማቋረጥ ያቅቶታል?	ሀ. አዎ በጣም አቅቶኛል ለ. በመጠኑ አቅቶኛል ሐ. አይ፣ ያቃተኝ ነገር የለም
11. ከአንድ ሰፈር ወደ ሌላ አንድ ሰፈር በእግር መሄድ ያቅቶታል	ሀ. አዎ በጣም አቅቶኛል ለ. በመጠኑ አቅቶኛል ሐ. አይ፣ ያቃተኝ ነገር የለም
12. ራሱን ችለው ገላዎን መታጠብ ወይም ልብስ መልበስ ያቅቶታል?	ሀ. አዎ በጣም አቅቶኛል ለ. በመጠኑ አቅቶኛል ሐ. አይ፣ ያቃተኝ ነገር የለም

❖ የአካላዊ ጤና ችግሮች

ባለፉት 4ሳምንታት ውስጥ ከዚህ በታች ከተዘረዘሩት ችግሮች ውስጥ፣ አካላዊ ጤና ምክንያት በሥራዎ ወይም የየእለት ተግባሮት ላይ ያጋጠሙት ችግሮች አሉ?

13. ለስራ ወይም ለሌላ እንቅስቃሴ የሚጠቀሙትን ሰዓት ቀንሰዋል?	ሀ. አዎ ለ. አይደለም
14. መስራት ከሚፈልጉት በታች ነው ያከናውኑት?	ሀ. አዎ ለ. አይደለም

15. አንዳንድ ሥራዎችን እንዳይሰሩ ገድቦታል?	ሀ. አዎ	ለ. አይደለም
16. ስራዎን መስራት ከብዶታል ወይም ተጨማሪ አቅም ጠይቆታል?	ሀ. አዎ	ለ. አይደለም

❖ የጤናማ ስሜት ችግሮች

ባለፉት 4ሳምንታት ውስጥ ጥሩ ስሜት ባለመሰማት ማለትም በድብርት ወይም በብስጭት ምክንያት በስራ ቦታ አልያም በተለመደው የቀን ተቀን እንቅስቃሴ ላይ ከነዚህ ውስጥ ያጋጠሞት ችግሮች አሉ?

17. ለስራ ወይም ለሌላ እንቅስቃሴ ላይ የሚያወሉትን ሰዓት ቀንሰዋል?

ሀ. አዎ ለ. አይደለም

18. መስራት ከሚፈልጉት በታች ነው ያከናውኑት?

ሀ. አዎ ለ. አይደለም

19. ስራዎን እንደሌላ ጊዜ በጥንቃቄ አልሰሩም?

ሀ. አዎ ለ. አይደለም

❖ ማህበራዊ ግንኙነት

20. ባለፉት 4ሳምንታት ባጋጠምዎ የስሜት መረበሽ ምክንያት ከቤተሰብ፣ ከጓደኛዎ ፣ ከጎረቤቶ ወይም ከሌሎች ጋር ያሉት ማህበራዊ ግንኙነትን ምን ያህል ተጽዕኖ አሳድሮበታል?

ሀ. ምንም ተጽእኖ አላሳደረብኝም ለ. በትንሹ ሐ. በመጠኑ
 መ. በከፍተኛ ደረጃ ሠ. በጣም በከፍተኛ ደረጃ

❖ ህመም

21. ባለፉት 4 ሳምንታት ምን ያህል የሰውነት ህመም አጋጥሞታል?

ሀ. ምንም አላጋጠመኝም ለ. በጣም ትንሽ
 ሐ. በትንሹ መ. በመጠኑ
 ሠ. በከፍተኛ ሁኔታ ሸ. በጣም በከፍተኛ ሁኔታ

22. ባለፉት 4 ሳምንታት ውስጥ በሰውነትዎ ውስጥ የሚሰማዎ ህመም ሥራዎ ላይ ምን ያህል ተጽዕኖ

ነበረዉ?

ሀ. ምንም ተጽኖ አልነበረዉም
መ. በከፍተኛ ሁኔታ

ለ. በትንሹ
ሠ. በጣም በከፍተኛ ሁኔታ

ሐ. በመጠኑ

❖ አቅምና ስሜት

ከዚህ በታች የተዘረዘሩት ጥያቄዎች ባለፉት 4 ሳምንታት እንዴት ይሰማዎት እና ነገሮች እንደት እንደነበሩ የሚጠይቁ ናቸዉ:: እባክዎን ከታች ከተዘረዘሩት አማራጮች መካከል ከአርሶ ሁኔታ ጋር የሚቀራረበዉን አንዱን ይመልሱ

ባለፉት 4 ሳምንታት ምን ያህል ጊዜ

23. ከመጠን ያለፈ / እጅግ ከፍ ያለ የደስታ ስሜት ተሰምቶታል?	ሀ. ሁልጊዜ ሐ. በተወሰነ ጊዜ ሠ. በጣም ትንሽ ጊዜ	ለ. በአብዛኛዉ ጊዜ መ. አንዳንድ ጊዜ ሸ. በጭራሽ
24. ብስጩ ሆነ ያዉቃሉ?	ሀ. ሁልጊዜ ሐ. በተወሰነ ጊዜ ሠ. በጣም ትንሽ ጊዜ	ለ. በአብዛኛዉ ጊዜ መ. አንዳንድ ጊዜ ሸ. በጭራሽ
25. ምንም ነገር አያስደስተኝም ብለዉ የሀዘን ስሜት ተሰምቶት ያዉቃል?	ሀ. ሁልጊዜ ሐ. በተወሰነ ጊዜ ሠ. በጣም ትንሽ ጊዜ	ለ. በአብዛኛዉ ጊዜ መ. አንዳንድ ጊዜ ሸ. በጭራሽ
26. የተረጋጋና ሰላማዊ ስሜት ተሰምቶት ያዉቃል?	ሀ. ሁልጊዜ ሐ. በተወሰነ ጊዜ ሠ. በጣም ትንሽ ጊዜ	ለ. በአብዛኛዉ ጊዜ መ. አንዳንድ ጊዜ ሸ. በጭራሽ
27. ብዙ አቅም (ጉልበት) አሎት?	ሀ. ሁልጊዜ ሐ. በተወሰነ ጊዜ ሠ. በጣም ትንሽ ጊዜ	ለ. በአብዛኛዉ ጊዜ መ. አንዳንድ ጊዜ ሸ. በጭራሽ

	ሐ. አላውቅም ሠ. በትክክል ሃሰት	መ. በአብዛኛው ሃሰት
35. የጤናዬ ሁኔታ እየተባባሰ እንደሚሄድ እጠብቃለሁ	ሀ. በትክክል እውነት ሐ. አላውቅም ሠ. በትክክል ሃሰት	ለ. በአብዛኛው እውነት መ. በአብዛኛው ሃሰት
36. ጤናዬ እጅግ በጣም ጥሩ ነዉ	ሀ. በትክክል እውነት ሐ. አላውቅም ሠ. በትክክል ሃሰት	ለ. በአብዛኛው እውነት መ. በአብዛኛው ሃሰት

የመረጃ ሰብሳቢዉ ስምና ፈርማ _____ አመሰግናለሁ።

