



ADDIS ABABA UNIVERSITY

SCHOOL OF NURSING AND MIDWIFERY

POST GRADUATE STUDIES

HEALTH-RELATED QUALITY OF LIFE AND ASSOCIATED FACTORS
AMONG CHILDREN WITH RHEUMATIC HEART DISEASE ATTENDING
CARDIAC OUTPATIENTS AT SELECTED PUBLIC HOSPITALS IN ADDIS
ABABA, ETHIOPIA, 2024.

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COLLEGE OF HEALTH SCIENCES

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Addis Ababa, Ethiopia

STATEMENT OF DECLARATION

I, the undersigned declare and affirm that this thesis is my original work. I have followed all ethical principles to prepare, gather, analyze, and complete this thesis. Every scholarly material incorporated into the thesis has been recognized via citation. I certify that every source I utilized in this paper has been cited and referenced. Every effort has been made to avoid plagiarism. This thesis has not been submitted to any other university or organization for any academic degree, diploma, or certificate.

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ACRONYMS AND ABBREVIATIONS

ARF: Acute Rheumatic Fever

GAS: Group A Streptococcus

HLQOL: Health Related Quality of life

PEDSQL: Pediatric Quality of Life Inventory

QOL: Quality of Life

RHD: Rheumatic Heart Disease

RX: Treatment

WHO: World Health Organization

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ABSTRACT

Background: Rheumatic heart disease has a great negative impact on the health-related quality of life (HRQOL) of children by limiting their physical activity, cognitive and emotional, social, and academic functioning. Children with RHD have significantly varying HRQOLs in different parts of the world. However, there was no study done on HRQOL of children with RHD in the study.

Objectives: To assess health-related quality of life and associated factors among children with rheumatic heart disease attending cardiac outpatients at selected public hospitals in Addis Ababa, Ethiopia, 2024.

Method: An institution-based cross-sectional study, on a sample of 174 participants, and the data were collected by an interviewer-administered structured questionnaire from February 19 to March 19, 2024. SPSS version 26 was used for statistical analysis and Epi Data version 4.4 was used to enter, clean, and code the data. Multivariate ordinal logistic regression analysis was performed. Statistical significance was declared with P-values of less than 0.05. Pie- chart and frequency tables were used to display the results.

Results: The study found that 58.6% of the population was female, and the mean age of the study population was 13.39 ± 2.960 SD years. Among study participant, 88 (50.6%) of them had high HRQOL, 43 (24.7%) of them had poor HRQOL and 43 (24.7%) of them had poor HRQOL. Children in lower grades, with co-morbidity, and of parent having poor knowledge were more likely to have poor HRQOL than children at higher school, have no co morbidity, and of parent having good knowledge respectively. Regular medication, involvement in the mitral valve, and a small number of medications was less likely had poor HRQOL with a *p*-value less than .05.

Conclusion: in this study, the HRQOL among children with RHD had varying proportions for the poor, moderate and high HRQOL. The study showed that attending cardiac outpatients Children with lower education and co-morbidity had poor performance in all components of HRQOL in particularly physical components.

Recommendation: Public awareness creation may contribute significantly to improving pediatric HRQOL, and striving for awareness creation using different methods is crucial.

Keyword: Health Related Quality of Life, Children, Rheumatic Heart Disease

CHAPTER ONE

1. INTRODUCTION

1.1. Background

The term "rheumatic heart disease" (RHD) refers to the long-term damage caused to the heart by the group A Streptococcus bacterium (GAS). It includes pericarditis, myocarditis, and valvulitis, and it develops over years after one or more episodes of acute rheumatic fever. RHD is still a leading cause of illness and death worldwide, particularly in underdeveloped areas (1).

The involvement of the mitral and aortic valves is the most important indicator of rheumatic heart disease; symptoms affecting the right side of the heart are less common. Across all age groups, it remains the most common form of acquired heart disease worldwide, accounting for up to 50% of all occurrences of cardiovascular disease and 50% of all cardiac hospital admissions in a number of developing countries (2).

Rheumatic heart disease is seven to eight times more common in children without symptoms than in those with symptoms and is more common in children from low socioeconomic backgrounds, children with limited access to healthcare facilities, and children exposed to uncontrolled group A streptococcus bacteria. The prevalence of rheumatic heart disease rises with age, from 4.7 cases per 1000 at age five to 21.0 cases per 1000 at age sixteen (3).

This particular form of cardiovascular illness is preventable and treatable, but because to the lack of knowledge around its effects, many children and young people death from it, leading to a decline in HRQOL(4).The measurement of an individual's standing in life with regard to their goals, ideals, worries, and the social and cultural context that they live in is called their child's quality of life (QOL) (5).

HRQOL of children with chronic disease, is not only used to provide insights into the mental, physical, and social aspects of patient's health, but it also enables monitoring of the outcomes of interventions, completing the traditional methods based on morbidity and mortality. It is measured by using the Pediatric Quality of Life Inventory (PedsqI) Cardiac Module (6).

The PedsQL Measurement Model was created as a modular method to assess children's HRQOL. It was created to combine the advantages of generic and disease-specific approaches, routinely measuring HRQOL from the viewpoint of children and their parents in line with a consumer-based approach to the health care system (7)

The multidimensional child self-report and parent proxy-report scales, known as the PedsQL 4.0 general core scales, were created as the general core measure of HRQOL of children that was validated, and they have been appropriate for both pediatric populations with acute and chronic health issues as well as healthy school and community groups (8)

Children with rheumatic heart disease experience negative physical, emotional, and social impacts and developed complications, including infectious endocarditis, embolic events, heart failure, pulmonary hypertension, and atrial fibrillation, due to a lack of treatment. The disease also has a lack of public knowledge, resulting in a lack of sustained investment, an undervalued impact of illness including death (9–11).

Rheumatic heart disease has an unrecognized economic burden that affects the quality of life of children and their parents. Approximately 320 US dollars per patient per year is expended in Brazil. In comparison, a secondary preventive program costs 23 US dollars per patient per year., Children with RHD who were not operated have significant complications (12,13).

The World Health Organization (WHO) implemented key policies to enhance the quality of life for children with rheumatic heart illnesses, including increased healthcare accessibility, effective prevention and management plans, and integrated health systems (14).

In developing nations like Ethiopia, complications of rheumatic heart disease such as heart failure, arrhythmias, pulmonary hypertension, stroke, systemic embolic events, and infective endocarditis are common among children (15).The prevalence of RHD in Ethiopia remains challenging in which all have an effect on HRQOL(16).So this research was needed to assess health-related quality of life and associated factors among study participants with rheumatic heart disease attending cardiac outpatients at selected public hospitals in Addis Ababa, Ethiopia, in 2024.

1.2. Statement of the problem

Thirty-three million people suffer from RHD, worldwide. Sub-Saharan Africa, South Asia, and Oceania bear the greatest burden, and possibly, cause 1.4 million fatalities, or 7.5% of strokes (17,18). Rheumatic heart disease is a major cause of cardiovascular death and morbidity during youth and early adulthood in low- and middle-income countries (19). In Ethiopia, the occurrence of RHD among young individuals fluctuates from 4.6 to 7.1 per 1000 children (20). RHD raises the risk of heart failure and stroke, and it produces a permanent disability that reduces the quality of life for children (21).

Globally, Even though the prevalence of RHD was reduced in developed country (22). RHD has a great negative impact on the health-related quality of life (HRQOL) of children by limiting their physical activity and impending growth, altering cognitive and emotional functions, memory, and concentration problems; stress, anxiety, and depression; failing relationships with peers, which can impact their self-esteem and confidence; higher rates of school dropout and absenteeism; and parental work absenteeism, which results in lost earnings (23–25). The implementation of rheumatic heart disease control plans in low-income countries faces problems such as limited resources, restricted healthcare access, poverty, underestimation, and a lack of public knowledge. The HRQOL of children in Egypt was reported as 66.2%, 27.3%, and 6.5% for moderate, high, and poor, respectively (26).

In Ethiopia, an unpublished descriptive cross-sectional study conducted on Jimma revealed that 38.2%, 25.9%, and 6 (10.9%) had high, moderate, and poor quality of life respectively in which co-morbidity, poor knowledge about RHD, the educational status of study participants, and the severity of illness effect on the HRQOL of children with RHD (27) were not included. Hence these factors were also included in this study. As a result, the aim of the study was to assess the health-related quality of life and its associated factors among children with rheumatic heart disease attending cardiac outpatient clinics at selected public hospitals in Addis Ababa.

1.3. Significance of the study

Information on the quality of life of children with RHD is very important for the improvement of quality care. The findings will help patients understand their HRQOL and identify factors affecting HRQOL. The findings also help healthcare professionals understand the level of HRQOL of children and the impacting factors on the HRQOL of RHD children and design relevant interventions to enhance the HRQOL of children with RHD. Health policymakers can use this information to improve access to care, support services, and educational materials and generate evidence for further research and studies to better understand the factors influencing HRQOL and support future positive advancements in HRQOL.

CHAPTER TWO

2. LITERATURE REVIEWS

2.1. Introduction to health-related quality of life

Quality of life is general well-being as well as aspects of physical, psychological, and social functioning, and it is essential for evaluating the overall health of adolescents with heart disease (28,29). The dimensions of health-related quality of life (HRQOL) are composed of emotional, social, physical, and school functioning (30). Many factors can affect the quality of life of children with RHD, such as the child's age, sex, level of education, occupation, family income, residence, severity of illness, morbidity, duration of illness, numbers of admissions, numbers of medications, benzathine adherence, and knowledge of illness (31)

The Pediatric Quality of Life Inventory (Pedsql) 4.0 general core measures can also be used to assess the quality of life of children with heart disease by assessing physical, emotional, social, and role/school functioning in both the child report and parent proxy report, and the Pedsql 3.0 cardiac module addresses issues related to the heart (32,33).

Typically, we have searched several databases, including Pub Med, Google Scholar, and Sci-Hub, for literature reviews. In addition, we have evaluated the overall HRQOL of children with rheumatic heart disease using the Pediatric Quality of Life Inventory (Pedsql) 4.0 and have just used the facility-based cross-sectional study design to gather data for a source of literature reviews. However, there aren't many studies on children with rheumatic heart disease and their HRQOL.

2.2. Health related quality of life dimensions

According to a cross-sectional study conducted in Brazil with 56 children and adolescents aged 8 to 16 with rheumatic heart disease, the total score was 70.53%, of which 78.5% had mild or moderate dysfunction of one or more heart valves. The psychosocial domain, which includes the emotional, social, and academic domains, had mean QoL scores of $67.1 \pm 1.8\%$, while the physical domain had mean scores of $76.8 \pm 2.0\%$. This totally shows that the quality of life in children and adolescents was impaired (34).

According to a study conducted in Uganda with 42 participants, latent RHD was linked to reduced physical and emotional quality of life in children. Participants who participated in a monthly support group for six months showed increased health-related quality of life (HRQOL) scores, physical functioning, social functioning, and school functioning. Peer-support groups were found to normalize decreased HRQOL scores and increase RHD disease knowledge and social support (35).

A descriptive research design conducted in Egypt with 60 preparatory school students who were diagnosed with rheumatic fever and registered in school health files showed that the subjects' mean age was 13.35 ± 1.47 years. 68.5% of them belonged to the 13–15 age groups. Out of them, women made up 79.6%, and 3.7% of the subjects were between the ages of five and eight. 72.2% of the individuals in the study had a moderate quality of life related to their physical condition; 88.9% of them had a high quality of life in terms of their psychosocial status; 59.3% reported having moderately affected academic success; and 53.7% of them ultimately had a high overall quality of life (36).

2.3. Factors associated with health-related quality of life

2.3.1. Parent related factors

2.3.1.1. Knowledge about RHD

According to descriptive research conducted in Egypt with the 60 preparatory school students, in terms of the subjects' overall knowledge, 94.4% of the subjects had poor knowledge, 3.7% had fair knowledge, and 1.9% had good knowledge, respectively in which 2.7% the study participants had a poor quality of life, 40.5% the study participants had a moderate quality of life, and 56.8% of the studied subjects had a good quality of life (36).

2.3.1.2 .Parental Education Level

According to two cross-sectional studies, one in Indonesia, which included 100 children aged 8 to 12 years old, and another in Brazil, which involved 133 study participants aged 5 to 18 years old who had rheumatic fever, higher parental education levels have been linked to better HRQOL in children with RHD (37,38)

2.3.1.4 .Family incomes

According to a cross-sectional study done in Brazil on 133 study participants with rheumatic fever who were between the ages of 5 and 18, in which with the younger (10–14 age) patients having more limits (54.1%; children from lower socioeconomic backgrounds may have lower HRQOL scores because they have less access to resources and healthcare (38).

2.3.2. Socio-demographic factors

2.3.2.1 .Residence area

A descriptive cross-sectional study was carried out in Egypt's outpatient medical clinics with 100 primary school students (ages 6 to 12). The study reveals that 54% of the population is illiterate, 63% are manual workers, only 13% of households have sufficient income for saving, and 58.6% of children miss school (39). Indonesia Other study conducted in stated that access to healthcare services is frequently restricted in rural locations, which can cause delays in diagnosis and treatment, worsening the disease and negatively affecting HRQOL(40)

2.3.2.2. Gender and Age

According to two cross-sectional studies: one conducted in Indonesia with 100 children aged 8 to 12 years old in which physical function was subjects (100%), emotional function was subjects (3%), social function was subjects (3%), and school function was subjects (15.1%); another conducted in Brazil with 133 study participants aged 5 to 18 years old who had rheumatic fever, males and children (13–18 years old) were more likely to have worse HRQOL scores, especially in the areas of physical health and school function (37,38).

2.3.3. Treatment related factors

2.3.3.1. Number of medication

According to two cross-sectional studies, one was conducted in Brazil with 133 study participants aged 5 to 18 who had rheumatic fever, and the other was conducted in Indonesia with 100 children aged 8 to 12 years old. Children's quality of life may be negatively impacted by erythromycin side effects, which might include diarrhea, an upset stomach, and allergic reactions (37,38).

A cross-sectional study conducted in Thailand with 210 individuals, patients with rheumatic disorders, children, and their caregivers, revealed that 46.19% of study participants who had taken at least one medication and 52.86% had juvenile idiopathic arthritis (JIA) and poor treatment adherence had a lower health-related quality of life (41).

2.3.4. Disease Related factors

2.3.4.1 Comorbid with other diseases

In across-sectional study conducted in Brazil 133 study participants with rheumatic fever between the ages of 5 and 18 were found to have lower HRQOL. overall, Children with RHD with malnutrition, especially had lower scores in the domains of physical function and school function as a common co-morbidity with malnutrition (37,38).

2.3.4.2. Severity

According to two cross-sectional studies, one in Indonesia, which included 100 children aged 8 to 12 years old, and another in Brazil, which involved 133 study participants aged 5 to 18 years

old who had rheumatic fever revealed that children with mitral regurgitation had poorer HRQOL scores (37,38)

2.3.4.3. Hospital Admissions

A cross-sectional study conducted in Brazil on the parents of 133 patients with rheumatic fever between the ages of 5 and 18 years revealed that the need for long-term prophylactic treatment, which includes the uncomfortable administration of intramuscular medication, can have a negative impact on HRQOL and result in treatment dropout. Children who discontinue therapy may have worsening symptoms and reduced HRQOL values (38)

Other study conducted in Sudan revealed that a 48% reduction in the number of hospital admissions related to RHD, demonstrating a good trend in the decline of hospital visits and hospitalizations, but the HRQOL scores of RHD children who were hospitalized more frequently were lower, which implies that prolonged hospital stays may have a detrimental effect on HRQOL(42)

2.3.4.4 Duration of the diagnosis

A Saudi Arabian study found that the length of time it takes to diagnose RHD may have an effect on HRQOL. In children with RHD, a longer disease duration was linked to a lower HRQOL (43).

2.3. Conceptual framework

This conceptual framework for health-related quality of life and associated factors among children with rheumatic heart disease attending cardiac outpatients at selected public hospitals in Addis Ababa is adapted after different literature reviews revealed that the health-related quality of life (HRQOL) of children with rheumatic heart disease (RHD) can be impacted by a number of factors. Younger children typically score worse on quality of life than older children. Compared to men, women typically have lower HRQOL scores. Children in rural areas might not have as much access to resources and health care, which could lower their quality of life.

Children of parents with higher educational attainment typically exhibit better quality of life ratings. Children from low-income households could not have as much access to resources and healthcare, which could lower their quality of life. The HRQOL of children with RHD can be significantly impacted by several factors, including the number of admissions, severity, duration, and Co morbidity of disease is associated with poor HRQOL, multiple doses of medication, which also decreases the HRQOL of children with RHD (31,35,36).

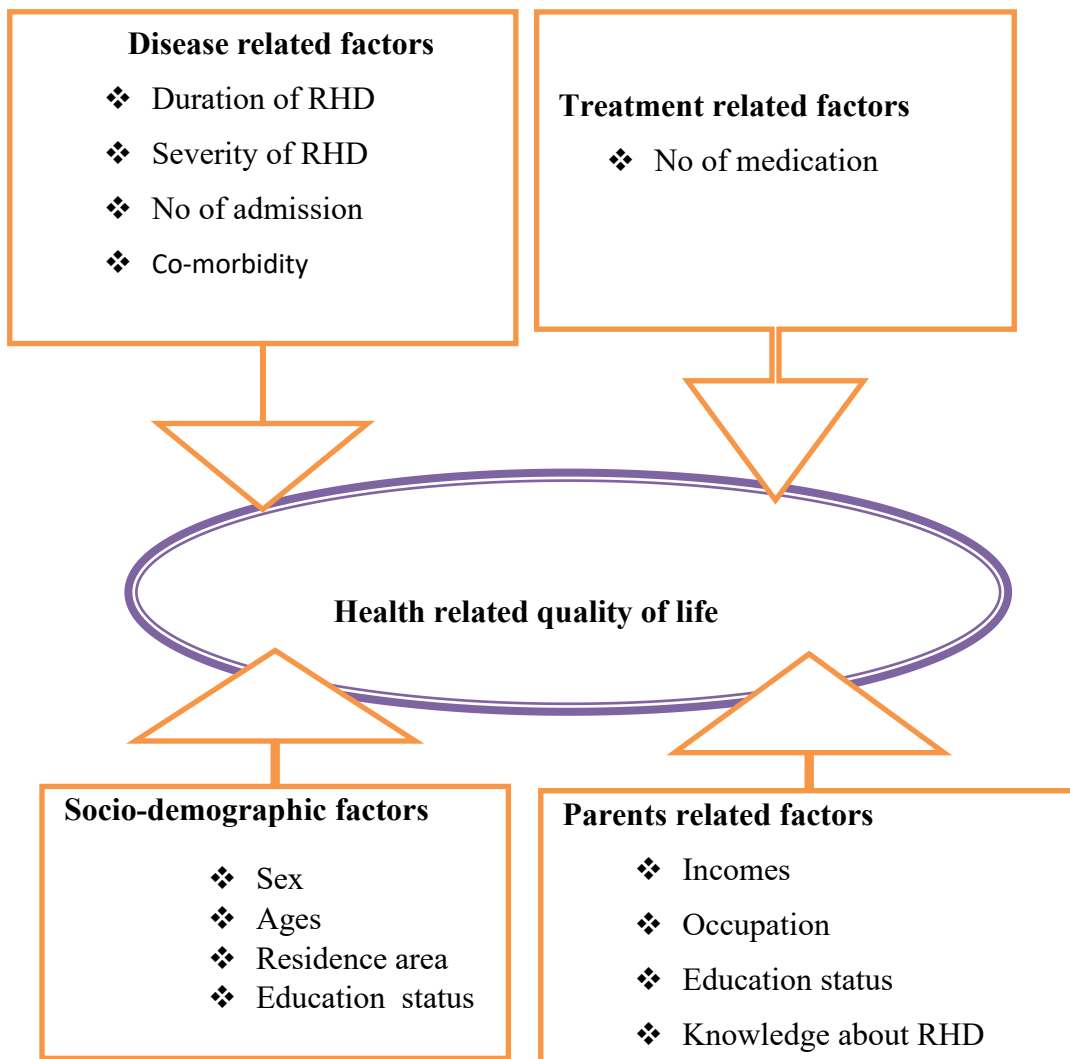


Figure 1: Schematic presentation to assess health-related quality of life and associated factors among study participants with RHD attending cardiac outpatients at selected public hospitals in Addis Ababa, Ethiopia, 2024.

Source: adapted from different literature reviews (31,35,36)

CHAPTER THREE

3. OBJECTIVES

3.1. General objective

To assess health-related quality of life and associated factors among children with rheumatic heart disease attending cardiac outpatients at selected public hospitals in Addis Ababa, Ethiopia, 2024.

3.2. Specific objectives

To identify the health-related quality of life of children with rheumatic heart disease attending cardiac outpatients at selected public hospitals in Addis Ababa, Ethiopia, 2024.

To determine factors associated with the health-related quality of life of children with rheumatic heart disease attending cardiac outpatients at selected public hospitals in Addis Ababa, Ethiopia, 2024.

CHAPTE FOUR

4. METHODS AND MATERIALS

4.1. Study area and period

Addis Ababa is the capital city of Ethiopia, and the city is separated into 11 sub-cities. There are twelve government hospitals and one cardiac center in the city. The Addis Ababa Health Bureau runs five hospitals; the Federal Ministry of Health runs four; the Ministry of Education runs one; and the Addis Ababa City Health Bureau's defense force runs two. The study was take place at the St. Paul Hospital, Tikur anbessa Hospital, St. Peter's Hospital and Ethiopia's Cardiac Center, that were purposely selected.

St. Paul hospital Millennium Medical College is the second-largest public health hospital in Ethiopia and one of the tertiary governmental teaching hospitals in Addis Ababa, the capital and seat of the African Union. The hospital gets referrals, emergency patients, and follow-up patients from health facilities in the catchment region as well as from other hospitals across the nation. The hospital can accommodate 350 beds, of which 45 are in the medical wards and 14 are in the intensive care unit. It features eight normal outpatient departments (OPDs) for medicine, among other things (45).

Tikur anbessa Specialized Hospital is a tertiary referral hospital that treats between 370,000 and 400,000 patients annually. There are 800 beds in the hospital overall. Additionally, the hospital serves as a teaching facility for the Addis Ababa University School of Medicine. In addition, Tikur anbessa Specialized Hospital boasts a well-equipped 20-bed intensive care unit, with 6 beds for surgery, 6 adult medical critical care beds, 4 pediatric intensive care beds, and 4 cardiac intensive care beds (46).

St. Peter's Specialized Hospital was established in 1963. Twenty-five of the hospital's staff members are in the medical field. Treatment for tuberculosis and HIV/AIDS patients is its main responsibility. Additionally, the services offered by ophthalmology, internal medicine, mental health, pediatrics, dermatology, and maternity and child health are functioning. Currently in operation at the hospital are a cardiac ward, a cardiac catheterization laboratory,

echocardiography, and a critical care unit for cardiac patients requiring emergency care outside of regular business hours. Serving St. Paul's Hospital Millennium Medical College in Ethiopia, the service has begun. There are around 100 cardiac patients seen by the hospital each day (46).

Cardiac Center, Ethiopia (Children's Heart Fund of Ethiopia) is a hospital located in Addis Ababa, and it was established in 1992 within Zewditu Memorial Hospital. It is currently housed inside Black Lion Specialty Hospital. Patients from all around the nation who need cardiac intervention can refer to this tertiary referral cardiac facility. A total of 172 employees, including support staff, are employed. There are six cardiologists, two cardiac surgeons, two cardiac anesthesiologists, and trained nurses on the heart team in total. Approximately 10,000 individuals have received free treatments from it since it opened for business, and 5600 of them are pediatric patients. It is selected because it has received 75% of children with cardiac disease from all parts of the country (47). The study was conducted from February 19, March 19, to 2024.

4.2. Study design

Institution - based cross-sectional study design was employed.

4.3. Population

4.3.1. Source population

-All children with cardiac heart disease attending cardiac outpatients at public hospitals in Addis Ababa, Ethiopia, 2024.

4.3.2. Study population

-All children with RHD attending cardiac outpatients at selected hospitals during the study period in Addis Ababa, Ethiopia, 2024.

4.4. Inclusion and exclusion criteria

4.4.1. Inclusion criteria

All children aged 8 to 18 years old who have been diagnosed with rheumatic heart disease and have been under follow-up care for a minimum of three months.

4.4.2. Exclusion criteria

Children recently diagnosed with acute rheumatic fever within the last three months and those

who are severely ill without family or care givers.

4.5.1. Sample size determination

The sample size is determined by using the following formula.

$$n = \frac{(Z-\alpha/2)^2 p-q}{d}$$

Where: $Z-\alpha/2$ - is the standard normal variable with 95% accuracy and 5% margin of error and its Value equals 1.96

p- The prevalence of the problem to be studied is 0.5 since the similar studies on this problem were not available in this study area.

$$q = 1 - p$$

d- Is the margin of error (0.05)

$$\text{Therefore: No} = \frac{(1.96)^2(0.5 \times 0.5)}{(0.05)^2} = 384.$$

However, the average number of patients who had regular follow-ups within the previous three months was not identified, so that the sample size calculation using a correction formula was not done. Therefore, using a census of one-month patient flow for regular follow-up from the selected hospitals resulting 174 samples

4.5. Sampling techniques and Sampling procedure

The study was employed in four public cardiac center hospitals in Addis Ababa, which were purposely selected since the number of children with rheumatic heart disease having regular follow-up for at least three months on average was very small. The census sampling techniques were used, and study participants were included in this study through interviews conducted consecutively during data collection.

4.6. Operational definitions

- **Rheumatic Heart Disease:** refers to a child diagnosed with RHD in his or her chart at a cardiac clinic for at least three months.
- **Children :** refers to underage children who are less than 18 years old with RHD (48).
- **Health-related Quality-of-Life (HRQOL):** refers to expectations and perceptions of children with RHD about their physical, emotional, and social health domains by rating Pedqol.
- **High health-related quality of life:** is defined as when study participant scored < 50% (scored from 0-46) of questions related to pediatric Quality-of-Life Inventory (PedsQLTM)(49).
- **Moderate health-related quality of life:** is defined as when study participant scored as 50–75% (scored from 47–69) of questions related to pediatric Quality-of-Life Inventory (PedsQLTM) (49).
- **Low health-related quality of life :** is defined as when study participant scored > 75% (scored from 70–92) of questions related to pediatric Quality-of-Life Inventory (PedsQLTM)(49).
- **Severity of RHD:** refers to the stage of RHD in children, stated by the doctor at admission e and classified as 1 = mild, 2 = moderate, and 3 = severe (50).

4.7. Variables

4.7.1. Dependent variables

- Health-related quality of life of children with rheumatic heart diseases.

4.7.2. Independent variables

Socio-demographic factors

- Age
- Sex
- Place of residence
- Education status

Parent factors

- Incomes
- Occupation
- Education status
- Knowledge about illness

Disease factors

- Duration of illness
- Severity of illness
- admission frequency
- Co-morbidity

Treatment factors

Number of medication

4.8. Data collection Tools and procedure

4.8.1. Data collection tools

The tool is divided into four sections: the first section, 10 questions on the socio-demographic section, 14 questions on the clinical history section, and 4 questions on knowledge-related aspects that were all modified by researchers from various literature studies. In the last section, the pediatric inventory generic version 4.0, which has 23 questions and four components, was adapted from Dr. James W. Varnit (49). These all comprised semi-structural questionnaires based on interviews.

Section: Socio-demographic factors: It consist of child's age, sex, level of education, occupation, and family income, residence

Section two: Clinical characteristics: Clinical characteristics such as severe form of illness, duration, no of admission, no of medication

Section three: knowledge of Parents regarding to RHD.

Section four: The Pediatric Quality-of-Life Inventory (PedsQLTM) is a brief measure of the health-related quality-of-life of children, measured by administering a structured questionnaire on either parents (the Proxy Report) or children and young people (the Self-Report) (51). All questions of HRQOL were negative. It contain 23- questions regarding to children's physical (8-questions), emotional (5-questions), social state (5-questions) and school functions (5-questions) for both child report and parents proxy report.

Scoring system of section four: Pediatric Quality-of-Life Inventory (Pedsq) is categorized on a 5-point Likert scale from 0 (never) to 4 (almost always), in which never = 0 points, almost never = 1 point, sometimes = 2 points, often = 3 points, and almost always = 4 points. The Likert score was converted into a range of 0 to 100 Z-scores in accordance with the recommendations of Pedql 4.0 in which 92 was the score of 23 questions and the mean and standard deviation of 23 questions were calculated as 3.0841 and 1.10485 respectively than $z = \frac{(92-3.0841)}{(1.10485)} = 0.8044$

The total scores of the quality-of-life module questions ranged from 0-92. so they were categorized into three levels: high health-related quality of life, level moderate health-related

quality of life and lower scored as low health-related quality of life (49).

4.8.2. Data collection procedures

Just before beginning data collection, the principal investigator trained four B.Sc. nurses who have data collection experience and one M.Sc. nurse who serve as supervisor for one day on the objective of the study and components and contents of the tool, and informed oral consent was also obtained from caregivers or children. Then, one week before the actual data collection, a pretest was given out at Yekatit 12 Hospital Medical College, in which this hospital was not included among the selected hospitals. Semi-structural questionnaires based on interviews completed by data collectors were used to collect data from study participants after they were included with consecutive.

4.9. Data quality control

Training was given to five nurses about the research objective, the data collection tool, and its procedure. The questionnaire was translated to Amharic and then back to English for its similarity. A pretest was given to 5% of the sample ($n = 9$).

Two data collectors were gathering the pretest. The investigator also checked the completeness of each questionnaire on a daily basis. And the supervisor supervised the whole data collection process. The chart was bolded in order to complete any missing variables and to see the severity of the disease. The patient's confidentiality was protected as they did not write their name, their information was not exposed to third parties, and oral consent was obtained from each participant.

4.10. Data processing and analysis

The data was entered, cleaned, and coded by Epi Data version 4.4, and the data was analyzed using SPSS version 26. The descriptive analysis was done, and the results were described using descriptive statistics such as frequencies, percentages, means, and standard deviations.

The ordinal logistic regression model is a statistical technique used to analyze the relationship between independent variables and an ordinal dependent variable that has a natural ordering. The model fitting of the information was determined to be significant ($p = 0.00$), and as a whole, it is a good fit.

Additionally, the goodness of fit was non-significant ($p = 0.292$), helping to ensure that the chosen model accurately represents the relationship between the predictors and the ordinal outcome.

The pseudo-R-square was tested with a Nagelkerke of 0.669 (67%), which provides an indication of how well the model explains the variation in the dependent variable with higher values.

Lastly, the test of parallel was non-significant ($p = 0.964$) and used to evaluate whether the relationship between each independent variable is consistent across different levels of the dependent.

As a result, the ordinal logistic regression model was used for statistical analysis because the outcomes have been categorized in an orderly way, like high, moderate, and poor HRQOL, and bivariate analysis of variables with P-values of less than 0.25 for each variable was included in multivariate ordinal logistic regressions, and an odd ratio was used to show strength and direction of association. At the end, variables with p values < 0.05 in multivariate ordinal logistic regressions were considered significantly associated with health-related quality of life. Finally, the results were presented in frequency tables and pie charts.

4.11. Ethical consideration

Ethical approval for this study was obtained from the ethical review board of the department of nursing, the school of nursing, and midwifery. An official letter was offered from the department of nursing to selected hospitals to get permission to conduct the study, and study participants were informed about the objective and purpose of the investigation.

Informed consent was obtained from either caregivers or older children who could self-report after permission had been obtained from family. All participants were informed that they had the right not to participate in the study and that they could drop out whenever they wanted to. They were assured that all data was used for research purposes only and was only analyzed as aggregate software. The data confidentiality was secured by a password and kept anonymously, and their information was not shared with others.

4.12. Plan for data dissemination

The findings of the study were submitted to Addis Ababa University repository. Finally, the manuscript was prepared to be submitted to scientific journals for publication.

CHAPTER FIVE

5. RESULTS

This study involved a result of 174 study participants, and produced a response rate of 100%. This section discussed the description of major sections such as socio-demographics, clinical characteristics, knowledge of parents about RHD, and overall extent of HRQOL. Additionally, the relationship between factors and HRQOL was discussed.

5.1 Socio-demographic characteristics

Female children comprised above half of the sex category 102(58.6%). Above half of the study population were in the age group of 13–18, accounting for 104(59.8%). The mean age of the study population was 13.39 ± 2.960 SD years, and the years ranged between 8 and 18 years.

Among children aged 8–12, approximately 4.3%, 4.3%, 4.3%, and 2.9% reported poor HRQOL concerning physical function, emotional function, emotional social function, and school activity. Meanwhile, among children aged 13–18, the prevalence of poor HRQOL was notably higher, with approximately 38.4%, 32.7%, 31.7%, and 34.6% reporting poor HRQOL in relation to physical function, emotional function, emotional social function, and school activity, respectively.

The majority of the study population was come from rural areas 112 (64.4%). Most caretakers were mothers 61(35.1%), who have no formal education in accounting 25(41.0%), and housewives 104(59.8%), and 75(43.1%) of parents had good knowledge while 99(56.9%) had a poor knowledge of about RHD.

Table 1: Socio-demographic characteristics of study participants with RHD attending cardiac outpatients at selected public hospitals in Addis Ababa, Ethiopia, 2024

Socio-demographic Factors	Category	Frequency (n=174)	Percent (%)
Age of children	8-12	70	40.2
	13-18	104	59.8
Sex of children	Female	102	58.6
	Male	72	41.4
Residence of children	Rural	112	64.4
	Urban	62	35.6
Educational status of children	Primary school	124	71.3%
	High school	43	24.7%
Educational status of parents	College	7	4.0%
	Mother	61	35.1%
	Father	57	32.8%
	Other	56	32.2%
	No formal education	25	41.0
Mothers educational level	Read and write only	12	19.7
	Primary School	8	13.1
	Secondary School and Above	16	26.2
Father educational level	No formal education	16	28.0
	Read and write only	15	25.6
	Primary School	14	24.0
	Secondary School and Above	13	22.4
Other care giver educational level	No formal education	14	25.5
	Read and write only	11	20.0
	Primary School	14	25.5
	Secondary School and Above	16	29.1
Occupation status of mother	House wise	104	59.8%
	Self- employed	45	26.9%
	Government worker	25	14.4%
Occupation status of Father	Farmer	91	52.3%
	Self-employed	52	29.9%
	Government Worker	31	17.8%
Family incomes level	<4374	123	70.7%
	4375-13886	44	25.3%
	>13886	7	4%
Care giver knowledge	Poor	100	57.5%
	Good	74	42.5%

5.2 .Clinical characteristics

Among the study participants who had cardiac outpatient care for RHD, 131(75.3%) of them have regular follow-up appointments, and 72(55.0%) have appointments every 1-6 months. More than half of the participants in the study received more than two types of medication 93(53.4%), and among the study subjects, who took their medicine 132 (74.9%) as prescribed by their doctors; 99(75%) of them had taken their medication for longer than twelve months. Additionally, among children who missed medicine, 42 (24.1%), less than one-quarter 15(35.7%) of them had missed oral medicine, and above half of the missed medicine was injection-type medication 27 (64.3%). Of the 39(23.0%) children with co morbid disease, some had additional co morbidities such as malnutrition, pulmonary hypertension 27(67.5%), and heart failure 10(25.0%) in the study participants.

Table 2: Clinical characteristics of study participants with RHD attending cardiac outpatients at selected public hospitals in Addis Ababa, Ethiopia, 2024

Clinical Factors	Category	Frequency(n =174)	Percent
Regular follow	Yes	131	75.3
	No	43	24.7
Frequency to visit (131)	1-6	72	55.0
	>6	59	45.0
Number of medicines	One	47	27.0
	Two	34	19.5
	More than Two	93	53.4
Regularly of medicines	Yes	132	75.9
	No	42	24.1
How long taken medicine (132)	< 6 month	10	7.6
	6_12 month	22	16.7
	>12 month	99	75.0
Types of missed medicines(42)	Oral (po)	15	35.7
	Injection	27	64.3
Admitted in Hospital	Yes	72	41.4
	No		
Number of admissions in the hospital (72)		102	58.6
	One	22	30.6
	Two	26	36.1
	More than Two	24	33.3
Involved heart valves	Mitral valves	24	13.8
	Mitral valves &Aortic valves	57	32.8
	Aortic valves	61	35.1
	Tricuspid valves	32	18.4
Severity of disease	Severe	102	62.6
	Moderate	51	29.0
	Mild	65	37.4
Comorbidity diseases	Yes	39	23.0
	No	135	77.6
Types of co morbidity	Hypertension	2	5.0
	Heart failure	10	25.0
	Others (PAD, Malnutrition)	27	67.5

5.5 .Magnitude of Health-Related Quality of Life in Children with RHD

5.5.1. The overall extent of the HRQOL of study participants with RHD

The health-related quality of life among the study participants diagnosed with RHD, receiving cardiac outpatient care at specific public hospitals in Addis Ababa, were identified as ; 88 (50.6%) as having a high quality of life, 43 (24.7%) as having a moderate quality of life, and 43 (24.7%) as having a poor quality of life among 174 study participants.

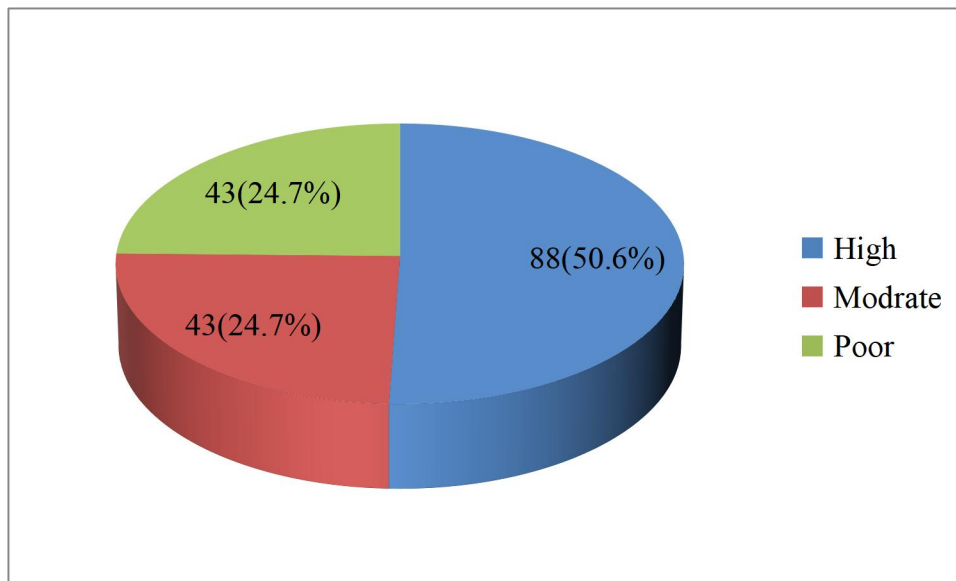


Figure 2: The overall extent of HRQOL of study participants with RHD attending cardiac outpatients at selected public hospitals in Addis Ababa, Ethiopia, 2024.

5.5.2 .The distribution of components of HRQOL for study participants with RHD

In terms of physical functioning, this study found that 43 (24.7%) children with RHD had a poor HRQOL, and 43 (24.7%) of them had a moderate HRQOL, and 88 (50.6%), high HRQOL. Similarly, in terms of emotional function, 37 (21.3%) study participants had poor HRQOL, and 41 (23.6%) study participants had moderate HRQO, while around one-third of the study participants, 96 (55.2%), had a high HRQOL.

In terms of social functioning, about 36 (20.7%),36 (20.7%), and 102 (58.6%) of the study subjects had poor, moderate, and high HRQOL respectively.In terms of school activities, around 38 (21.8%) had poor HRQOL, and 32 (18.4%) study participants had moderate HRQOL, whereas over one-third of study participants, 104 (59.8%), had a HRQOL.

Table 3: The distribution of the component of HRQOL of study participants with RHD attending cardiac outpatients at selected public hospitals in Addis Ababa, Ethiopia, 2024

Categories		Frequency(n=174)	Percent
Physical function	High	97	55.7
	Moderate	34	19.5
	Poor	43	24.7
Emotional functions	High	96	55.2
	Moderate	41	23.6
	Poor	37	21.3
Social functions	High	102	58.6
	Moderate	36	20.7
	Poor	36	20.7
School activity	High	104	59.8
	Moderate	32	18.4
	Poor	38	21.8

5.6. Factors associated with HRQOL

The relationship between independent and dependent variables was analyzed using an ordinal logistic regression analysis, so variables such as educational status, age, co-morbid illness, and number of medications taken revealed significant associations with HRQOL among children with RHD.

Primary school children with RHD were 14.2 times more likely to have higher categories of HRQOL (poor HRQOL) than the children in high school or college ($p = 0.041$). Children with RHD in the age group of (8–12-year-old) were 81.5% less likely to have higher categories of HRQOL (poor HRQOL) than 13–18-year-old children ($p = 0.001$) across all aspects of HRQOL.

In terms of clinical factors, RHD sick children with co-morbidity were 19.6 times more likely to have higher categories of HRQOL (poor HRQOL) than no co-morbidity ($p < 0.001$). However, children who took one medications were found to be 87.7% less likely to have higher categories of HRQOL (poor HRQOL) than those taking two or more ($p = 0.002$) across all aspects of HRQOL.

In the same way, children receiving regular medication were also 76.9% less likely to have higher categories of HRQOL (poor HRQOL) than those not taking the medication regularly ($p = 0.001$), and similarly, children having affected mitral valve only were 83.2% less likely to have higher categories (poor HRQOL) than those having mitral valves and aortic valves involved RHD ($P = 0.019$).

In terms of parents' knowledge, parents of children with poor knowledge were found to be 3.29 times more likely to have a higher category (poor HRQOL) than the parents with good knowledge ($P = 0.007$).

Table 4: Factors associated to HRQOL of study participants with RHD attending cardiac outpatients at selected public hospitals in Addis Ababa, Ethiopia, 2024.

Items	Categories	Level of HRQOL			Adjusted odds ratio CI (95%)	Sig.
		High	Moderate	Poor		
Age	8-12	62	3	5	0.185(0.069,0.498)	0.001
	13-18	26	40	38	Ref	
Sex	Female	54	22	26	0.584(0.265 ,1.285)	0.182
	Male	34	21	17	Ref	
Child education status	primary school	59	31	34	14.108(1.12,177.523)	0.041
	High school	23	12	8	6.545(0.503,85.247)	0.151
	College	6	0	1	Ref	
Number of medication	One	42	4	1	0.123(0.033,0.453)	0.002
	Two	18	13	3	0.294(0.108,0.801)	0.017
	More than two	28	26	39	Ref	
Regularly taking medication	Yes	80	29	23	0.231(0.096, 0.556)	0.001
	No	8	14	20	Ref	
Types valves	Mitral Valves	15	3	6	0.168(0.038 ,0.745)	0.019
	Mitral-Valves and Aortic valves	22	15	20	0.551(0.171,1.770)	0.317
	Aortic-Valves	36	16	9	0.621(0.202 ,1.917)	0.408
	Aortic-Valves	15	9	8	Ref	
Stage's of involved valves	Mild	39	17	9	2.803(1.000, 7.856)	0.050
	Moderate	29	11	11	1.607(0.597,4.330)	0.348
	Severe	20	15	23	Ref	
Comorbidity	Yes	4	7	28	19.618(6.53,58.87)	0.000
	No	84	36	15	Ref	
Total knowledge	Poor	28	36	36	3.287(1.383, 7.832)	0.007
	Good	60	6	8	Ref	

Ref: reference Sig: Significant CI; Confidence interval

CHAPTER SIX

6. DISCUSSION

This quantitative study was conducted to assess the health-related quality of life and identify its associated factors among children with rheumatic heart disease at selected public hospitals in Addis Ababa. Regarding overall HRQOL, 43 (24.7%) of study subjects with RHD attending cardiac outpatients had poor HRQOL, respectively. This is in contrast to descriptive research conducted in Egypt, which showed that 2.7% of the studied subjects had a poor quality of life(36).This discrepancy may be due to availability of health care facility.

About 37 (21.3%) of the study participants had poor health-related quality of life (HRQOL) with regard to emotional functioning. The study conducted in Indonesia found that 16.5% of the study participants had poor emotional function (37). This disparity might result from a difference in the family's understanding of the emotional well-being of their children.

Additionally, 38 (21.8%) had a poor HRQOL in relation to school activity. Unlike our study, a study conducted in Indonesia, found that 85% of the study participants had good school functions (37).This discrepancy can be the result of educational opportunities, including support for education and accommodations for being at school.

About 36 (20.7%) of the study participants had a poor HRQOL with regard to social functioning. This was not similar to a study conducted in Indonesia, which reported that 3% of study participants had poor social function (37) .This disparity because of the community support system and care giving practices.

In terms of physical functioning, this study found that 43 (24.7%) children with RHD had a poor HRQOL, which was less affected than the study conducted in Indonesia, which reported that the physical function of 72.2% of study participants was poorly affected (37).Access to specialized treatment facilities and support services may be the reason for this discrepancy.

In terms of knowledge, about 56.9% of study participants had poor knowledge about RHD. However, the cross-sectional study conducted in Egypt found that 94.4% of the study

participants had poor knowledge(36). Access to information resources such as health care professionals, media campaigns, and digital resources may be the reason for this discrepancy.

In terms of associated factors, children aged 13–18 had poor HRQOL with respect to physical function, emotional function, social function, and school activity, respectively which is almost similar with a cross-sectional study conducted in Brazil revealed that the patients' quality of life varied, with the younger (10–14 age) patients having more limits (54.1%)(34).

Children having co-morbidity with RHD were 19.6 more likely to have poor HRQOL than children with RHD having no co morbidity Which is similar to the study done in Brazil and Indonesia revealed that Children with RHD having malnutrition had lower HRQOL especially in physical function and school function than children have no malnutrition (37,38).

6.1 .Strengths and limitations

6.1.1. Strengths

The study was done in multi-center and used multivariate ordinal logistic regression to analysis the variable.

6.1.2. Limitation

The main limitation of this study was its cross-sectional nature, small sample size, it did not include variables such as intervention and NYHA-cardiac classification, which were included in others and Lack of related local studies to compile and discuss the finding

CHAPTER SEVEN

7. Conclusion and Recommendation

7.1. Conclusion

Based on individual summery scores of pediatric quality of life inventory version 4.0, Overall HRQOL: 88 (50.6%), 43 (24.7%), and 43 (24.7%) of study subjects with RHD attending cardiac outpatients had high, moderate, and poor HRQOL, respectively. All components of health-related quality of life were affected. However, the physical component was highly affected (24.7%) by the study subject. In general, 56.9% of study participants had poor knowledge of how RHD, the lower educational status of children, and the children of parents with poor knowledge about RHD and children with co -morbidity had a strong positive association with poor HRQOL.

7.1 .Recommendation

Understanding HRQOL of children with rheumatic heart disease helps healthcare providers implement a holistic approach, improve support services, and detect issues early. Stakeholders like the Ministry of Health, hospitals, professionals, and researchers contribute to this improvement.

For the Ministry of Health: Increasing public awareness of the early treatment of sore throats is crucial to preventing rheumatic heart disease, as is raising everyone's level of HRQOL. To evaluate the quality of life of individuals with rheumatic heart disease, a checklist needs to be created.

For hospitals: incorporating HRQOL assessment tools into clinical services to assess and evaluate the level of quality of treatment.

For health care professionals: measuring the HRQOL among individuals with rheumatic heart disease is helpful in determining their social, emotional, and physical requirements because simply treating the disease is insufficient. And **For researchers:** it is necessary to carry out further prospective and longitudinal research to determine the relationships between the variables influencing HRQOL by using a large sample size

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9. ANNEXES

Annex I: Information sheet

Here, I, the undersigned, at Addis Ababa University College of Health Science, Department of Nursing and Midwifery, I am currently undertaking research on a topic entitled Health-related quality of life and associated factors among children with rheumatic heart disease attending cardiac outpatients at selected public hospitals in Addis Ababa, Ethiopia. For this study, you will be selected as a participant, and before getting your permission or assent to your participation, you need to know all necessary information related to the study. Thus, this information will be detailed as follows:

Objective: To assess health-related quality of life and associated factors among children with rheumatic heart disease attending cardiac outpatients at selected public hospitals in Addis Ababa Ethiopia, 2024.

Significance of the study: The findings will help patients understand their health, identify factors affecting their well-being, and make informed decisions about them. It will also help healthcare professionals understand the negative impact of RHD on health-related quality of life and associated factors and provide psychological support. Policymakers can use this information to improve access to care, support services, and educational materials and generate evidence for further research and studies to better understand the factors influencing HRQOL and support future positive advancements in Health related quality of life H(RQOL).

Participants to be included: All children with rheumatic heart disease attending cardiac outpatients at selected public hospitals in Addis Ababa.

Confidentiality: All information you give will be kept confidential and won't be accessible to any third party. Your name won't be registered on the question sheet, so you will not be identified.

Risks and Benefits of the Study: The study will be carried out using semi-structural interview-based questionnaire. The procedure doesn't cause any physical or psychological trauma. Furthermore, you will not be forced to respond to the information you do not know. There is no payment for your participation in the study but participating in the study and giving your information to questions asked will have great input in efforts to improve quality of life of children with rheumatic heart disease attending cardiac outpatients at selected hospitals in Addis Ababa.

Assent: Your participation in the study will be totally based on your willingness. You have the right not to participate from the beginning or to stop at any time after starting to participate. You will not be forced to respond to a question you do not know, and you can ask any question you like.

Name of principal investigator (PI): Bira Lema Date: _____ Signature: ____ Address
of PI: Mobile: +251932941222.E-mail: biralema14@gmail.com

Data Collector Name: _____ Date _____ Signature _____

Supervisor Name: _____ Date _____ Signature _____

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Annexes II: Consent form

Good morning/afternoon. My name is Bira Lema, and I am a postgraduate student at Addis Ababa University, College of Health Science, School of Nursing, and Midwifery. I am studying the health-related quality of life and associated factors among children with rheumatic heart disease attending cardiac outpatients at selected public hospitals in Addis Ababa Ethiopia, 2024. I would like you to respond only if you wish to do so.

Make sure that there is no harm caused because you are involved in this study. You have the full right to decline the interview, partly or totally. In case you consent to the interview, I need you to provide me with your honest answer to the questions to which you want to respond, as this would help us come up with genuine conclusions and recommendations that would potentially help stakeholders who are concerned about child health and health facilities improve these services.

Consent

I have fully understood its contents, and I have agreed to participate in this research project.

Yes _____

No _____

Thank you for giving us your consent.

Name of data Collector _____ sign _____ Date ___

Annex III: **Questionnaire**

Part one: English version

Section: I. Sociodemographic Characteristic the participants

I. Sociodemographic factors			
No	Questions	Possible answers	Remark
1	What is your age? (of children)	_____ in Year?	
2	Sex (of children)	A. Male B. Female	
3	Place of residence (of children)	A. Rural B. Urban	
4	What is your educational level? (of children)	A. No formal education B. Less than primary & primary C. High school	
5	What is your educational level?(mother)	A. No formal education B. Read and write only C. Primary D. Secondary and Above high school	
6	What is your educational level?(father)	A. No formal education B. Read and write only C. Primary D. Secondary and Above high	
7	What is your educational level?(care givers Except parents)	A. No formal education B. Read and write only C. Primary D. Secondary and Above high	

8	What is your Occupation status? (mother)	A. House wife B. Self-employed C. Government	
9	What is your Occupation status? (father)	A. Farmer C. Self-employed D. Government	
10	What is family income Level per month?	A.<4374 ETB B.4375-13886 ETB C.>13886ETB	

Section II. Clinical characteristics		Possible answers	Remark
11	How long you / your child are is suffering from this illness before diagnosed by doctor (in Month)?	_____	
12	When did you/ Your child diagnosed by doctors about the Rheumatic Heat disease (in month)?	_____	
13	Do you/ your child have regular followed up in the hospital?	A. Yes B.No	
14	If “yes” how frequent are you/ your child come for the follow up check up (in Month)	_____	
15	How many medications (drug) are you using presently?	A. One medicine B. Two medicine C. More than two medicine	
16	Are you taking your medicine regularly?	A. No B. Yes	
17	If “yes” for how long you are taking?	A. Below 6 months B. 6- 12 months C. More than a year	
18	If “no” what form of medicine has you missed?	A. oral(PO) B. Injection (IM)	

19	Have you ever admitted in the hospital?	A. Yes .B. NO	
20	If “Yes” how many times you have admitted within the last 6 months?	A. One B. Two C. More than two	
21	Which of the heart valve are affected to the child (Check the Patient Card and write it)	A. Mitral valve B. Aortic valve C. Mitral valve and Aortic valve D. Tricuspid valve	
22	What are the severity/ stage of involvement of heart valve for the child (Check the Patient Card and write it)	A. Severe B. Moderate C. Mild	
23	The children has any other co morbid disease presently(ask from parents/ check from the card)	A .Yes B. No	
24	If “yes “What type of Co morbidity disease the child has?	A. Hypertension B. Diabetes mulitus C. Heart failure D. Others(PAD)	
Section III. Patients/ Care givers knowledge about RHD			
25	Do you know rheumatic fever could be lead to rheumatic Heart disease?	A. Yes B. No	
26	Do you know sore throat could be related to your heart Problem?	A. Yes B. No	
27	Do you know untreated sore throat could increase your heart problem	A. Yes B. No	
28	Do you know your monthly IM medication will decrease your heart problem?	A. Yes B.No	

A. Pediatric Quality of Life Inventory Version (PedsQL™)4.0

Directions
On the following page is a list of things that might be a problem for you/your child. Please tell us how much of a problem each one has been for you/your child during the past 1 month by circling:
0 If it is never a problem
1 If it is almost never a problem
2 If it is sometimes a problem
3 If it is often a problem
4 If it is almost always a problem
There is no right or wrong answers.
If you do not understand a question, please ask for help

A. Child report age 8-12-year		Likert scale				
Code	Questions	0	1	2	3	4
I	About my health and activity	Skip				
01	1. It is hard for me to walk more than one block					
02	2. It is hard for me to run					
03	3. It is hard for me to do sports activity or exercise					
04	4. It is hard for me to lift something heavy					
05	5. It is hard for me to take a bath or shower by myself					
06	6. It is hard for me to do chores around the house					
07	7. I hurt or ache					
08	8. I have low energy					
II	About my feelings	Skip				
09	1. I feel afraid or scared					
010	2. I feel sad or blue					
011	3. I feel angry					
012	4. I have trouble sleeping					
013	5. I worry about what will happen to me					
III	How I get along with other	Skip				
014	1. I have trouble getting along with other kids					
015	2. Other kids do not want to be my friend					
016	3. Other kids tease me					
017	4. I cannot do things that other kids my age can do					
018	5. It is hard to keep up when I play with other kids					
IV	About school	Skip				
019	1. It is hard to pay attention in class					
020	2. I forget things					
021	3. I have trouble keeping up with my schoolwork					

022	4. I miss school because of not feeling well					
023	5. I miss school to go to the doctor or hospital					

B. Parents report age 8-12-year		Likert scale				
Code	Questions	0	1	2	3	4
I	Physical Functioning	Skip				
001	1. Walking more than one block					
002	2. Running					
003	3. Participating in sports activity or exercise					
004	4. Lifting something heavy					
005	5. Taking a bath or shower by him or herself					
006	6. Doing chores around the house					
007	7. Having hurts or aches					
008	8. Low energy level					
II	Emotional Functioning	Skip				
009	1. Feeling afraid or scared					
0010	2. Feeling sad or blue					
0011	3. Feeling angry					
0012	4. trouble sleeping					
0013	5. worrying about what will happen to me					
III	Social Functioning	Skip				
0014	1. Getting along with other teens					
0015	2. Other teens not wanting to be his/her friend					
0016	3. Getting tease by other teens					
0017	4. Not able to do things that other kids my age can do					
0018	5. Keeping up when playing with other children					
IV	School Functioning	Skip				

0019	1. Paying attention in class					
0020	2. Forgetting things					
0021	3. Keeping up with schoolwork					
0022	4. Missing school because of not feeling well					
0023	5. Missing school to go to the doctor or hospital					

C. Child report age 12-18-year		Likert scale				
Code	Questions	0	1	2	3	4
I	About my health and activity	Skip				
0001	1. It is hard for me to walk more than one block					
0002	2. It is hard for me to run					
0003	3. It is hard for me to do sports activity or exercise					
0004	4. It is hard for me to lift something heavy					
0005	5. It is hard for me to take a bath or shower by myself					
0006	6. It is hard for me to do chores around the house					
0007	7. I hurt or ache					
0008	8. I have low energy					
II	About my feelings	Skip				
0009	1. I feel afraid or scared					
00010	2. I feel sad or blue					
00011	3. I feel angry					
00012	4. I have trouble sleeping					
00013	5. I worry about what will happen to me					
III	How I get along with other	Skip				
00014	1. I have trouble getting along with other teens					
00015	2. Other teens do not want to be my friend					

00016	3. Other teens tease me					
00017	4. I cannot do things that other teens my age can do					
00018	5. It is hard to keep up when I play with my peer.					
IV	About school	Skip				
00019	1. It is hard to pay attention in class					
00020	2. I forget things					
00021	3. I have trouble keeping up with my schoolwork					
00022	4. I miss school because of not feeling well					
00023	5. I miss school to go to the doctor or hospital					

D. Parents report age 12-18-year		Likert scale				
Code	Questions	0	1	2	3	4
I	Physical Functioning	Skip				
00001	1. Walking more than one block					
00002	2. Running					
00003	3. Participating in sports activity or exercise					
00004	4. Lifting something heavy					
00005	5. Taking a bath or shower by him or herself					
00006	6. Doing chores around the house					
00007	7. Having hurts or aches					
00008	8. Low energy level					
II	Emotional Functioning	Skip				
00009	1. Feeling afraid or scared					
000010	2. Feeling sad or blue					
000011	3. Feeling angry					
000012	4. trouble sleeping					
000013	5. worrying about what will happen to me					

III	Social Functioning	Skip				
000014	1. Getting along with other teens					
000015	2. Other teens not wanting to be his/her friend					
000016	3. Getting tease by other teens					
000017	4. Not able to do things that other kids my age can do					
000018	5. Keeping up when playing with other children					
IV	School Functioning	Skip				
000019	1. Paying attention in class					
000020	2. Forgetting things					
000021	3. Keeping up with school work					
000022	4. Missing school because of not feeling well					
000023	5. Missing school to go to the doctor or hospital					

ስለዚህ እርስዎ አይታወቁም።

የጥናቱ ስጋቶች እና ጥቅሞች: ጥናቱ የሚካሄደው ከፊል መዋቅራዊ ቃለ መጠይቅን በመጠቀም ነው። አሰራሩ ምንም አይነት አካላዊ እና ስነ ልቦናዊ ጉዳት አያስከትልም። በተጨማሪም ለማያውቁት መረጃ ምላሽ ለመስጠት አይገደዱም። በጥናቱ ላይ ለመሳተፍ ምንም አይነት ክፍያ ባይኖርም በጥናቱ መሳተፍ እና ለተጠየቁት ጥያቄዎች መረጃዎችን መስጠት በአዲስ አበባ በሚገኙ ሆስፒታሎች በተመረጡ የልብ ህመምተኞች የሚታከሙ የሩማቲክ የልብ ህመም ያለባቸውን ህፃናት ህይወት ለማሻሻል በሚደረገው ጥረት ትልቅ አስተዋፅኦ አይኖረዎል።

ስምዎን ት: በጥናቱ ውስጥ ያለዎት ተሳትፎ ሙሉ በሙሉ በእርስዎ ፍላጎት ላይ የተመሰረተ ይሆናል። ከመጀመሪያው ጀምሮ ለለመሳተፍ ወይም መሳተፍ ከጀመርክ በኋላ በማንኛውም ጊዜ ለማቆም መብት አለህ። ለማያውቁት ጥያቄ ምላሽ ለመስጠት አይገደዱም እና የሚወዱትን ማንኛውንም ጥያቄ መጠየቅ ይችላሉ።

የዋና ውመር ማሪ ስም (PI): ቢራለ ማቀን : _____ ፊርማ: _____

የPI አድራሻ :

ሞባይል : +251932941222

ኢሜል : biralema14@gmail.com

የውሂብ ሰብሰብ ሲስትም: - _____ ቀን _____ ፊርማ _____

የተቆጣጣሪ ስም: _____ ቀን _____ ፊርማ _____

አዲስ አበባ ዩኒቨርሲቲ
የጤና ሳይንስ ኮሌጅ
የነርቭ ግእና ሚድዋይ ፈርትምህርት ቤት

አባሪ II: የስምምነት ቅጽ

እንደምን አደርክ/ዋሉ። ስሜቢራላ ማእባላላሁ በአዲስ አበባ ዩኒቨርሲቲ፣ በጤና ሳይንስ ኮሌጅ፣ በነርቭ ግእና ሚድዋይ ፈርትምህርት ቤት የድህረ ምረቃ ተማሪ ነኝ። በአዲስ አበባ ኢትዮጵያ 2024 በተመረጡ ሕዝብ ሆስፒታሎች የሩማቲክ የልብ ሕመም ያለባቸው መደበኛ ክትትል የሚከታተሉ ሕፃናት ከጤና ጋር የተያያዙ የሕይወትን ጥራት እና ተያያዥ ሁኔታዎች እያጠናሁ ነው። ይህን ለማድረግ ከፈለጉ ብቻ ምላሽ እንዲሰጡ።

በዚህ ጥናት ውስጥ ስለተሳተፉ ምንም አይነት ጉዳት አለመኖሩን ያረጋግጡ። ቃለ መጠይቁን በከፊል ምሆነ መሉ በመሉ ላለ መቀበል መሉ መብት አልዎት። ለቃለ መጠይቁ ፈቃደኛ ከሆናችሁ፣ ስለ ልጅ ጉዳይ የሚጨነቁ ባለድርሻ አካላትን ሊረዱ የሚችሉት ክክለኛ መደምደሚያዎችን እና ምክሮችን እንድናገኝ ስለሚረዱን ለጥያቄዎቻችሁ ክክለኛ መልስ እንድትሰጡኝ እፈልጋለሁ። እና የጤና ተቋማት እነዚህን አገልግሎቶች ያሻሽላሉ።

ፍቃድ፣ ይዘቱን በሚገባ ተረድቻለሁ፣ እና ም በዚህ የምርምር ፕሮጀክት ለመሳተፍ ተስማምቻለሁ።

አዎ _____

አይ _____

ፈቃዳችሁን ስለሰጣችሁን እና መሰግናለን።

የውሂብ ሰብሳቢ ስም _____ ፊርማ _____ ቀን _

ሀ. ማህበረሰብ ወጪዎችን ያቅጥሩ ክፍሎች ካዋገጹ ብህሪ ያት

ክፍል I. ማህበረሰብ ወጪዎችን ያቅጥሩ			
ከዲ	ጥያቄዎች	ማልስ	Remark
1	ዕድሜክ/ሽከትን ዉ(የልጆች)?	_____ ዓመት?	
2	ጾታ(የልጆች)	ሀ. ወንድም ሴት	
3	የመኖሪያ ቦታዎችን ዉ(የልጆች)?	ሀ. ከተማ/ገጠር	
4	የትምህርት ደረጃህ ስንት ነው? (የልጆች)	ሀ. መደበኛ ትምህርት አልጀመረሁ። ለ. የመጀመሪያ ደረጃ ነው ሐ. ከሁለተኛ ደረጃ ትምህርት ቤት በላይ ነው	
5	የትምህርት ደረጃህ ስንት ነው? (የእናት)	ሀ. መደበኛ ትምህርት አልጀመረሁ ለ. መፃፍ እና ማንበብ ሐ. የመጀመሪያ ደረጃ መ. ከሁለተኛ ደረጃ ትምህርት ቤት በላይ	
6	የትምህርት ደረጃህ ስንት ነው? (የአባት)	ሀ. መደበኛ ትምህርት የለም ለ. መፃፍ እና ማንበብ ሐ. የመጀመሪያ ደረጃ መ. ከሁለተኛ ደረጃ ትምህርት ቤት በላይ	
7		ሀ. መደበኛ ትምህርት የለም ለ. መፃፍ እና ማንበብ ሐ. የመጀመሪያ ደረጃ መ. ከሁለተኛ ደረጃ ትምህርት ቤት በላይ	
8	የወላጆች ሥራ ድርሻ (የእናት)	ሀ. የቤት እመቤት ለ. በግል ተቀጣሪ ሐ. መንግስት ሰራተኛ	
9	የወላጆች ሥራ ድርሻ (የእናት)	ሀ. አርሶ አደር ለ. በግል ተቀጣሪ ሐ. መንግስት ሰራተኛ	
10	የወላጆች የገቢ ደረጃ ምን ያህል ነው?	ሀ. <4374 ለ. 4375-13886 ሐ. >13886	

ኮዲ	ክፍል II. ክሊኒካዊ ገጽ-ባህሪያት	ማልስ	ሪማርክ
11	የሕመሙ ቆይታ ለምን ያህል ጊዜ ነው?		
12	ምርመራ መቻቻ ታደረገ ለትል/ለት?		
13	መደበኛ ክትትል አለህ/ሽ?	ሀ. አዎ ለ. አይ	
14	“አዎ” ከሆነ ክትትሉ በየ ስንት ጊዜ ነው? (ወር)።		
15	ስንት አይነት መድሃኒት ወስዳለህ/ሽ?	ሀ. አንድ ለ. ሁለት ሐ. ከሁለት በላይ	
16	መደኒት ሰይፍ ረጥብ ክትትል ወስዳለህ/ሽ?	ሀ. አዎ ለ. አይ	
17	“አዎ” ከሆነ በየ ስንት ጊዜ ነው? (ወር)።	ሀ. ከ 6 ወር በታች ለ. ከ 6-12 ወር ሐ. ከ 1 ዓመት በላይ	
18	"አይ" ከሆነ ምን ዓይነት መድሃኒት አቋረጥጦታል?	ሀ. የመዋጥ (PO) ለ. መርፌ (IM)	
19	ሆስፒታል ገብተህ ታውቃለህ/ሽ?	ሀ. አዎ ለ. አይ	
20	“አዎ” ከሆነ ለምን ያክል ጊዜ?	ሀ. አንድ ለ. ሁለት ሐ. ከሁለት በላይ	
21	በልጁ ላይ የሚነኩት የልብ ሽልሽቶች የትኞቹ ናቸው? (የታካሚ ካርድ ዱን ይመልከቱ እና ፃፉ)።	ሀ. ሚትራል ሽልሽ ለ. አኦርቲክ ሽልሽ ሀ. ሚትራል ሽልሽ እና	ይልእፍ

		አኦርቲክ ቫልቭ መቶሪክስፕሮ ቫልቭ	
22	ለልጁ የልብ ቫልቭ ተሳትፎ ክብደት/ደረጃ ምን ያህል ነው?(የታካሚካርዱን ይመልከቱ እና 9 ፋ)።	ሀ.ከባድ ለ.ልከኛ ሐ.ለስተኛ	
23	አሁን ሌላ ሕመም አለብህ/ሽ?	ሀ.አዎ ለ.አይ	
24	“አዎ” ከሆነ የበሽታው አይነት ምን ድንገት ነው?	ሀ.የደም ግፊት ለ.የልብ ድካም ሐ.የሱካር በሽታ ታ መ.ሌሎች	
ክፍል III. ታካሚዎች/ተንከባካቢዎች ስለ RHD እውቀት ይሰጣሉ።			
25	የሩማቲክ ትኩሳት ወደ ሩማቲክ የልብ ሕመም ሊመራ እንደሚችል ያውቃሉ?	ሀ.አዎ ለ.አይ	
26	የጉሮሮ መቁሰል ከልብዎች ግርግር የተያያዘ ሊሆን እንደሚችል ያውቃሉ?	ሀ.አዎ ለ.አይ	
27	ያልታከመ የጉሮሮ መቁሰል የልብ ችግር ምን እንደሚጨምር ያውቃሉ	ሀ.አዎ ለ.አይ	
28	ወርሃዊ የ IM መድሃኒት የልብ ችግር ምን እንደሚቀንስ ያውቃሉ?	ሀ.አዎ ለ.አይ	

III PedsQL™ ህፃናት ህክምና ጥራት የህይወት ኢንቬንቶሪ

በሚቀጥለው ጽላይ ለእርስዎ/ልጅዎ ግርግር ሊሆኑ የሚችሉ ገዢዎች ዝርዝር አሉ። እባክዎ ስለሚከተሉት ግራፎች ለፈውኦች ድወር ውስጥ እያንዳንዳቸው ለእርስዎ/ልጅዎ ምን ያህል ግርግር እንደፈጠሩ ይንገሩ።
0 በጭራሽ ግርግር የለም
1 ምን ምን ግርግር የለም ማለት ይቻላል
2 አንዳንድ ጊዜ ግርግር አለ
3 ብዙ ጊዜ ግርግር አለ
4 ሁል ጊዜ ግርግር አለ ማለት ይቻላል ትክክለኛ ወይም ተሳሳቱ መልሶች የሉም። ጥያቄ ልገባህ/ሽ፣ እባክህ/ሽ እርዳታ ጠይቁ።

ሀ. የልጆች ሪፖርት ለ 8-12 ዓመት		የላይከር ትስከላ				
ከዲ	ጥያቄዎች	0	1	2	3	4
I	ስለ ጤና ይጻፍ ስለተገባ ሮቹ	ይዝላሉ				
01	1. ከአንድ ብሎክ በላይ መሄድ ድይክ ብደኛል።					
02	2. መሮ ጥይክ ብደኛል።					
03	3. የስፖርት እንቅስቃሴ ማድረግ ወይም አካል ብቃት እንቅስቃሴ ማድረግ ለኔ ከባድ ነው።					
04	4. ከባድ ነገር ማንሳት ይከብደኛል።					
05	5. ብቻዬን መታጠብ ወይም ሽወር መውሰድ ይከብደኛል።					
06	6. በቤቱ ውስጥ የቤት ሥራዎችን መሥራት ለእኔ ከባድ ነው።					
07	7. እኅዳ ለሁወይም ታምሜ አለሁ					
08	8. የአቅም ማንስ ይታይብኛል					
II	ስለስሜቴ	ይዝላሉ				
09	1. ፍርሃት ወይም ጭንቀት ይሰማኛል					
010	2. ሀዘን ወይም ድብርት ይሰማኛል					
011	3. ቁጣ ይሰማኛል					
012	4. የመተኛት ግርዛድ አለብኝ					
013	5. ምን እንደሚደርስብኝ እንጨት ቃለሁ					
III	ሌሎች ጋር እንዳትገናኙ ይጠይቅ	ይዝላሉ				
014	1. ከሌሎች ወጣቶች ጋር መግባባት ለይቸግር አጋጥሞኛል።					
015	2. ሌሎች ወጣቶችን ደኛዬ መሆን አይፈልጉም።					
016	3. ሌሎች ወጣቶች ያሸፉብኛል።					
017	4. በእኔ ዕድሜ ላይ ሌሎች ታዳጊዎች ሊያደርጉ የሚችሉትን ማድረግ አልችልም።					
018	5. ከእኩዮቼ ጋር ለመራመድ አስቸጋሪ ነው					
IV	ስለትምህርት ቤት	ይዝላሉ				
019	1. በክፍል ውስጥ ትኩረት መስጠት ከባድ ነው					
020	2. ነገሮችን እረሳለሁ					
021	3. የትምህርት ቤት ስራዬን ለመከታተል ችግር አለብኝ					
022	4. ጥሩ ስላልተሰማኝ ትምህርት ቤት ናፈቀኝ					
023	5. ደይክ ተርዎ ወይም ስፒታል ለመሄድ ትምህርት ቤት ናፈቀኝ					

ለ . የ ወላጆች ሪፖርት : 8-12 ዓመት		የ ላይከር ትስከላ				
ከዲ	ጥያቄዎች	0	1	2	3	4
I	የአካል ብቃት እንቅስቃሴ	ይዘላሉ				
001	1. ከአንድ ብሎክ በላይ መራመድ ይችላል /ለች					
002	2. መሮጥ ይችላል /ለች					
003	3. በስፕሮት እንቅስቃሴ ወይም በአካል ብቃት እንቅስቃሴ ውስጥ መሳተፍ ይችላል /ለች					
004	4. ከባድ ንግር ማንሳት ይችላል /ለች					
005	5. በእሱ ወይም በራሷ ገላ መታጠብ ይችላል /ለች					
006	6. በቤት ውስጥ የቤት ውስጥ ሥራዎችን መሥራት ይችላል /ለች					
007	7. ህመም አለ					
008	8. የአቅም ማነስ አለው/አላት					
II	ስሜታዊ ተግባር	ይዘላሉ				
009	1. የፍርሃት ወይም የጭንቀት ስሜት አለው/አላት					
0010	2. የሀዘን ወይም የድብርት ስሜት አለው/አላት					
0011	3. የንዴት ስሜት አለው/አላት					
0012	4. የመተኛ ትችግር አለው/አላት					
0013	5. በእሱ ወይም በእሷ ላይ ስለሚሆነው ንግር መጨነቅ አለው/አላት					
III	ማህበራዊ ተግባር	ይዘላሉ				
0014	1. ከሌሎች ወጣቶች ጋር መግባባት ይችላል /ትችላለች					
0015	2. ሌሎች ታዳጊዎች የእሱ ወይም የእሷን ደኛ መሆን ይፈልጋሉ					
0016	3. በሌሎች ወጣቶች ማሸፍ					
0017	4. ሌሎች በአሥራዎቹ ዕድሜው ጥያቄ ማሟላት ለታዳጊዎች ሊያደርጉ የሚችሉትን ንግር ማድረግ ይችላል /ትችልዎ					
0018	5. ከሌሎች ታዳጊዎች ጋር ይግባባል /ተግባባለች					
IV	የትምህርት ቤት ተግባር	ይዘላሉ				
0019	1. በክፍል ውስጥ ትኩረት ይሰጣል /ለች?					
0020	2. ነገሮችን ይረሳል /ትረሳለች?					
0021	3. የትምህርት ቤት ስራን ይሰራል /ትሰራለች?					
0022	4. ጥሩ ስሜት ካልተሰማው/ካልተሰማት ቤት ይቀራል /ትቀራለች?					

0023	5. ወደ ሆስፒታል ለመሄድ ትምህርት ቤት ይቀራል /ትቀራለች?						
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ሕ.የልጆች ሪፖርት ለ 13-18 ዓመት		የላይከርትስኪ ሊ				
ኮዲ	ጥያቄዎች	0	1	2	3	4
I	ስለ ጤናዎ እና ስለ ተግባሮቼ	ይዝላሉ				
0001	1. ከአንድ ብሎክ በላይ መሄድ ይከብደኛል።					
0002	2. መሮጥ ይከብደኛል።					
0003	3. የስፖርት እንቅስቃሴ ማድረግ ወይም አካል ብቃት እንቅስቃሴ ማድረግ እኔ ከባድነው።					
0004	4. ከባድነት ጋር ማን ሰት ይከብደኛል።					
0005	5. ብቻዬን መታጠብ ወይም ሻወር መውሰድ ይከብደኛል።					
0006	6. በቤቱ ውስጥ ቤት ውስጥ ጥራቶችን መሥራት እኔ ከባድነው።					
0007	7. እኅዳ ለሁከታ ወይም ለምሳሌ ለሁከታ					
0008	8. የአቅም ስይታይ ብኛል					
II	ስለ ስሜቴ	ይዝላሉ				
0009	1. ፍርሃት ወይም ጭንቀት ይሰማኛል					
0001 0	2. ሀዘን ወይም ድብርት ይሰማኛል					
0001 1	3. ቁጣ ይሰማኛል					
0001 2	4. የመተኛት ግርዛድ አለብኝ					
0001 3	5. ምን እንደሚደርስ ብኝ እንደሆነ ቃለሁ					
III	ሌሎች ጋር እንዴት እንደሚገናኙ	ይዝላሉ				
0001 4	1. ከሌሎች ወጣቶች ጋር መገናኛት ለይቻል ጋር ጥሞኛል።					
0001 5	2. ሌሎች ወጣቶችን ደኛዬ መሆን አይፈልገውም።					
0001 6	3. ሌሎች ወጣቶችን ሾፍታለሁ።					
0001 7	4. በእኔ ዕድሜ ለሌሎች ሌሎች ሌሎች ታዳጊዎች ሊያደርጉ የሚችሉትን ማድረግ አልችልም።					

0001 8	5. ከ እኩዮቹ ጋር ለ መራመድ አስቸጋሪ ነው					
IV	ስለ ትምህርት ቤት	ይዝላሉ				
0001 9	1. በክፍል ውስጥ ትኩረት መስጠት ከባድ ነው					
0002 0	2. ነገሮችን እረሳለሁ					
0002 1	3. የትምህርት ቤት ስራዬን ለመከታተል ችግር አለብኝ					
0002 2	4. ጥሩ ስላል ተሰማኝ ትምህርት ቤት ናፈቀኝ					
0002 3	5. ወደ ዶክተር ወይም ሆስፒታል ለመሄድ ትምህርት ቤት ናፈቀኝ					

መ.የ ወላጆች ሪፖርት : 8-12 ዓመት		የላይከርት ስክሌ				
ኮዲ	ጥያቄዎች	0	1	2	3	4
I	የአካል ብቃት እንቅስቃሴ	ይዝላሉ				
011	1. ከአንድ ብሎክ በላይ መራመድ ይችላል /ለች					
022	2. መሮጥ ይችላል /ለች					
033	3. በስፖርት እንቅስቃሴ ወይም በአካል ብቃት እንቅስቃሴ ውስጥ ተፋይ ሊሆን ይችላል /ለች					
044	4. ከባድ ነገር ማንሳት ይችላል /ለች					
055	5. በእሱ ወይም በራሷ ገለጻ ለመታጠብ ይችላል /ለች					
066	6. በቤት ውስጥ የቤት ሥራዎችን መሥራት ይችላል /ለች					
077	7. ህመም አለ					
088	8. የአቅም ስኬት አለው /አላት					
II	ስሜታዊ ተግባር	ይዝላሉ				
099	1. የፍርሃት ወይም የጭንቀት ስሜት አለው /አላት					
0110	2. የሀዘን ወይም የድብርት ስሜት አለው /አላት					
0111	3. የንዴት ስሜት አለው /አላት					
0112	4. የመተኛ ችግር አለው /አላት					
0113	5. በእሱ ወይም በእሷ ላይ ስለሚሆነው ነገር መጨነቅ አለው /አላት					
III	ማህበራዊ ተግባር	ይዝላሉ				
0114	1. ከሌሎች ወጣቶች ጋር መግባባት ይችላል /ትችላለች					
0115	2.					

	ሌሎች ታዳጊዎች የእሱ ወይም የእሷን ደኛ መሆን ይፈልጋሉ					
0116	3. በሌሎች ወጣቶች ማሸፍ					
0117	4. ሌሎች በአሥራዎቹ ዕድሜው ጠየቁት ታዳጊዎች ሊያደርጉ የሚችሉትን ነገር ማድረግ አይችልም/አትችልም					
0118	5. ከሌሎች ታዳጊዎች ጋር ይግባባል/ተግባባላች					
IV	የትምህርት ቤት ተግባር	ይዘላሉ				
0119	1. በክፍል ውስጥ ትኩረት ይሰጣል/ለች?					
0120	2. ነገሮችን ይረሳል/ትረሳለች?					
0121	3. የትምህርት ቤት ስራን ይሰራል/ትሰራለች?					
0122	4. ጥሩ ስሜት ካልተሰማው/ካልተሰማች የትምህርት ቤት ይቀራል/ትቀራለች?					
0123	5. ወደ ሆስፒታል ለመሄድ የትምህርት ቤት ይቀራል/ትቀራለች?					