

# Quality of Life for Children with Rheumatic Fever

*Thesis*

*Submitted for Partial Fulfillment of the Requirements  
for the Master Degree in Nursing Science  
(Pediatric Nursing)*

***By***

**Manal Ahmed Saleh Hassan**

(B.Sc. Nursing)

Ain Shams University (١٩٩٨)

Faculty of Nursing  
Ain Shams University

٢٠١٠

# Quality of Life for Children with Rheumatic Fever

*Thesis*

*Submitted for Partial Fulfillment of the Requirements  
for the Master Degree in Nursing Science  
(Pediatric Nursing)*

*Supervised By*

**Iman Ibrahim Abd El-Moneim**

**Assist. Professor.** of Pediatric Nursing  
Head of Pediatric Nursing Department  
Faculty of Nursing  
Ain Shams University

**Dr. Mona Mohammad Hafez**

Lecturer of Pediatric Nursing  
Faculty of Nursing  
Ain Shams University

**Faculty of Nursing  
Ain Shams University**

٢٠١٠

## Acknowledgment

*First and for most I feel always indebted to **Allah**, The most kind and most merciful.*

*I would like to express my sincere thanks and appreciation and my deep gratitude to **Professor Dr/ Iman Ibrahim Abd El-Moneim**, Assistant Professor of Pediatric Nursing Department & Head of Pediatric Nursing, Faculty of Nursing, Ain Shams University, for her continuous meticulous supervision and fruitful guidance. She gave me much of her time and effort, which have made it a rewarding experience.*

*I would like to express my deep thanks and appreciation to **Dr. Mona Mohammad Hafez**, Lecturer of Pediatric Nursing, Faculty of Nursing, Ain Shams University, for her continuous fruitful guidance.*

*I could never forget to offer my special thanks to **the mothers of children** with rheumatic fever as their cooperation was of great value to accomplish this study.*

*Their valuable Finally, I would like to express my thanks to **my family and my colleagues** for support and encouragement at all times.*

*Manal Ahmed Saleh Hassan*

*Thanks*

## Contents

---

Title	Page
<b>Abstract</b> .....	
<b>Introduction and Aim of the Study</b> .....	۱
<b>Review Literature</b> .....	۵
▪ Definition of rheumatic fever .....	۵
▪ Incidence of rheumatic fever .....	۶
▪ Risk factors of rheumatic fever .....	۸
▪ Pathophysiology of rheumatic fever .....	۹
▪ Signs and symptoms of rheumatic fever .....	۱۱
▪ Diagnosis of rheumatic fever .....	۲۲
▪ Complications of rheumatic fever .....	۲۸
▪ Management of rheumatic fever .....	۳۱
▪ Treatment .....	۳۱
▪ Nursing care .....	۳۵
▪ Prevention of rheumatic fever .....	۳۸
▪ Quality of life .....	۴۶
<b>Subjects and Methods</b> .....	۵۱
<b>Results</b> .....	۵۷
<b>Discussion</b> .....	۱۰۰
<b>Conclusion and Recommendations</b> .....	۱۱۰

## *Contents*

---

<b>Title</b>	<b>Page</b>
<b>Summary</b> .....	۱۱۲
<b>References</b> .....	۱۲۱
<b>Appendices</b> .....	
<b>Arabic summary</b> .....	

## List of Figures

<b>Fig. No.</b>	<b>Title</b>	<b>Page</b>
<i>Figure of Review:</i>		
١	Anterior view of boy with symptoms of RF....	١٢
٢	Clinical Manifestations of ARF.....	١٣
٣	Arthritis.....	١٥
٤	Sydenham chorea.....	١٧
٥	Residual Changes of Acute Rheumatic Carditis.....	١٩
٦	Erythema Marginatum Rash.....	٢١
٧	Electrocardiogram Showing Complete Atrioventricular Block.....	٢٦
٨	Two-dimensional color and spectral Doppler echocardiographic studies of patients with RHD.....	٢٧
٩	Valves of the heart are seldom affected.....	٢٩

## List of Figures (Cont.)

Fig. No.	Title	Page
<i>Figure of Results:</i>		
١	Percentage distribution of the studied children according to their parent relation.....	٦٠
٢	Percentage distribution of the studied children according to their Family history for rheumatic.....	٦١
٣	Percentage distribution of the studied children according to their medication compliance.....	٦٤
٤	Percentage distribution of the studied children according to their regular follow up.....	٦٥
٥	Percentage distribution of the studied children according to their total level of knowledge.....	٦٨
٦	Percentage distribution of the studied children according to their total quality of life score....	٧٤

## List of Tables

Tab. No.	Title	Page
<b>Tables of Review:</b>		
١	WHO criteria (٢٠٠٢-٢٠٠٣) for Diagnosis of ARF.....	٢٤
٢	Primary and secondary prophylaxis recommendations for patients with ARF.....	٣٩
<b>Tables of Results:</b>		
١	Number and percentage distribution of the studied children according to their socio-demographic characteristics.....	٥٨
٢	Percentage Distribution of the children's parent according to socio-demographic characteristics.....	٥٩
٣	Number and percentage distribution of the studied children according to their socioeconomic state.....	٦٢
٤	Percentage distribution of the studied children according to their history of illness and its complications.....	٦٣
٥	Number and percentage distribution of the studied children according to their knowledge related to rheumatic fever.....	٦٦
٦	Number and percentage distribution of the studied children according to their knowledge related to rheumatic fever management.....	٦٧
٧	Number and percentage distribution of the studied children according to their physical domain of quality of life.....	٦٩
٨	Number and percentage distribution of the studied children according to their emotional domain of quality of life.....	٧٠



## List of Tables (Cont.)

Tab. No.	Title	Page
٩	Number and percentage distribution of the studied children according to their social domain of quality of life.....	٧١
١٠	Number and percentage distribution of the studied children according to their scholastic domain of quality of life.....	٧٢
١١	Number and percentage distribution of the studied children according to their quality of life domains.....	٧٣
١٢	Relation between physical domain aspects of quality of life of the studied children and their socio-demographic characteristics.....	٧٥
١٣	Relation between scholastic domain aspects of quality of life of the studied children and their socio-demographic characteristics.....	٧٧
١٤	Relation between social domain aspects of quality of life of the studied children and their socio-demographic characteristics.....	٧٩
١٥	Relation between emotional domain aspects of quality of life of the studied children and their socio-demographic characteristics.....	٨١
١٦	Relation between physical domain aspects of quality of life of the studied children and characteristics of their parents.....	٨٣
١٧	Relation between social domain aspects of quality of life of the studied children and characteristics of their parents.....	٨٥
١٨	Relation between scholastic domain aspects of quality of life of the studied children and characteristics of their parents.....	٨٧
١٩	Relation between emotional domain aspects of quality of life of the studied children and characteristics of their parents.....	٨٩

---

## List of Tables (Cont.)

---

Tab. No.	Title	Page
٢٠	Relation between quality of life of the studied children and their disease complications.....	٩١
٢١	Relation between quality of life of the studied children and their medication compliance.....	٩٣
٢٢	Relation between quality of life of the studied children and their regular follow up.....	٩٥
٢٣	Relation between quality of life of the studied children and their family history of rheumatic fever.....	٩٧
٢٤	Relation between quality of life of the studied children and their knowledge levels.....	٩٩

---

## List of Abbreviations

<b>AF</b>	Atrial Fibrillation
<b>AHA</b>	American Heart Association
<b>ARF</b>	Acute Rheumatic Fever
<b>BPG</b>	Benzedrine Penicillin G
<b>CHDs</b>	Congenital Heart Diseases
<b>CNS</b>	Central Nervous System
<b>CRF</b>	Chronic Rheumatic Fever
<b>CVD</b>	Cardiovascular Disease
<b>ECG</b>	Electrocardiogram
<b>EM</b>	Erythema Marginatum
<b>ESR</b>	Erythrocyte Sedimentation
<b>GABHS</b>	Group A Beta Hemolytic Streptococcal
<b>GAS</b>	Group A Streptococcal
<b>HF</b>	Heart Failure
<b>HRQOL</b>	Health-related quality of life
<b>LPFCH</b>	Lucile Packard Foundation for Children's Health
<b>MFMER</b>	Mayo Foundation for Medical Education and Research

## **List of Abbreviations (Cont.),,,,**

<b>NCCDPHP</b>	National Center for Chronic Disease Prevention and Health Promotion
<b>NHI</b>	National Health Institute
<b>NHMR</b>	National Health and Medical Research
<b>NINDS</b>	National Institute of Neurological Disorders and Stroke
<b>NSAIDs</b>	Non-Steroidal Anti-Inflammatory Drugs
<b>PQLI</b>	Pediatric Quality of Life Inventory
<b>QOL</b>	Quality of Life
<b>QOLI</b>	Quality of Life Index
<b>RF</b>	Rheumatic fever
<b>RHD</b>	Rheumatic Heart Disease
<b>RTTD</b>	Research and Training in Tropical Disease
<b>SC</b>	Sydenham's Chorea
<b>SN</b>	Subcutaneous Nodules
<b>WBC</b>	White Blood Cell
<b>WHO</b>	World Health Organization

---

**ABSTRACT**

This study is a descriptive study aimed to assess quality of life of children with rheumatic fever (RF), through assessing knowledge related to RF and determining the level of QOL of children with RF. The study was conducted in Outpatient Pediatric Clinics, Cardiac Clinic, Inpatient of Health Insurance Hospital (Nasr City), and Al Zahraa Hospital affiliated to Al Azhar University (Abasia Region). The study was composed of 108 children of both sexes and aged 6 to 18 years suffering from RF for less than one year and accompanied with their mothers. For data collection two tools were used: A pre-designed questionnaire to assess characteristics of the children and their knowledge related to RF, and quality of life (QOL) scale to determine the level of QOL of children with RF by measuring the physical, social, emotional, school functioning. The results revealed that more than half (54,6%) of the studied children were at age group of 14-18 years and 62,0% of them were females. the highest percentage (61,1%) of the studied children were at average level of total QOL, and more than half (53,7%) of them were having satisfactory of knowledge about R.F. the study concluded that there was no relation between duration of illness and QOL of the children with RF. the main factors that affect QOL of children with RF are age and level of education of studied children, complications of disease, regular follow up and knowledge about disease of studied children. The study recommended Designing and carrying out education programs for children with rheumatic fever and their families on how to avoid complications of disease to support and improve their quality of life, also preparing nurses with high level of efficiency, knowledge and practices to provide better care for children suffering from rheumatic fever.

---

**Key words**

Rheumatic Fever – Quality of Life – Children-Nursing care

## Introduction

Rheumatic fever (RF) is an inflammatory disorder that can occur as a complication of untreated streptococcal bacterial infection. The condition may affect the brain, skin, heart and joints (*WebMD, 2010*); the illness typically develops two to three weeks after a streptococcal infection (*Kumar et al., 2007*). Acute rheumatic fever (ARF) commonly appears in children between the ages of 5 and 15 years (*Freeman and Shulman, 2007*).

Rheumatic fever is a systemic illness that may occur following group A beta hemolytic streptococcal (GABHS) pharyngitis in children. Rheumatic fever and its most serious complication, rheumatic heart disease (RHD), are believed to result from an autoimmune response; however, the exact pathogenesis remains unclear (*Thomas and Douglas, 2010*).

Acute rheumatic fever and RHD are thought to result from an autoimmune response, but the exact pathogenesis remains unclear. Although RF disease was the leading cause of death 100 years ago in people aged 5-20 years in the United States. Worldwide, RHD remains a major health problem. Chronic rheumatic fever (CRF) disease is estimated to occur in 5-30 million children and young adults; 90,000 individuals die

from this disease each year. The mortality rate from this disease remains 1-10%. (*World Health Organization (WHO), 2004*).

Rheumatic fever is still one of the major public health problems in Egypt, the developing countries and lower socioeconomic areas (*Teixeira et al., 2009*). ARF is a major cause of death and disability in children and adolescents (*Nelson and Mitchell, 2007*). In Egypt, the prevalence of rheumatic disease among school children and adolescents is 3,4/1000 which is comparatively high with the rates found in industrialized countries (*Maria et al., 2001*).

Nursing care of a child with RF is complex, rewarding and challenging. The successful recovery and rehabilitation of the child is made possible with careful nursing assessment, diagnosis, intervention and evaluation of all body systems through follow up care of child. The main role of pediatric nurse is to do comprehensive assessment of the health problems and health needs of the child and establish the goal to facilitate the nursing intervention, and to provide preventive, curative and rehabilitative care to child (*Allen and Vessey, 2005*). This will enhance health promotion of children; decrease the complications, disabilities and period of hospitalization (*El-Shafie and Bahgat, 2003*).