

**Assessment of Health Related Quality  
of Life among Hypertensive Patients  
Attending Outpatient Clinics at Ain  
Shams University Hospital**

Thesis

*Submitted for Partial Fulfillment of Master Degree  
in Public Health*

Presented by

**Merfat Ameen Ahmed Al-maqtari**

*M.B.B.Ch – Taiz University, Yemen*

Under Supervision of

**Professor. Dr. Mohammed Salah Gabal**

*Professor in the department of Community, Environmental and  
Occupational Medicine, Faculty of Medicine – Ain Shams  
University*

**Professor. Dr. Khaled Mahmoud Abd Elaziz**

*Professor in the department of Community, Environmental and  
Occupational Medicine, Faculty of Medicine – Ain Shams  
University*

**Assist. Professor. Dr. Sahar Khalil Kandil**

*Assistant professor in the department of Community,  
Environmental and Occupational Medicine, Faculty of Medicine  
– Ain Shams University*

Faculty of Medicine  
Ain Shams University

**2017**

## Abstract

**Background:** Hypertension is a condition with a tremendous economic and public health impact which contributes to disability, health-care costs and mortality. It is the 1<sup>st</sup> leading global risk for mortality, as it is responsible for 13% of global deaths and 7% of disease burden in 2010. Hypertension may have a significant impact on the (HRQOL) of those who suffer from it. In Egypt, yet little is known about HRQOL and its associations with sociodemographic and clinical characteristics in patients with hypertension.

**Objective:** To measure the HRQOL among hypertensive patients attending outpatient clinics at Ain Shams university hospital (Internal medicine hospital) and to determine the sociodemographic characteristics and clinical factors that may affect the QOL of those patients.

**Patients and methods:** This study was conducted in the outpatient clinics in the Ain-Shams University hospital, as case-control study. A total of 300 subjects (150cases and 150 controls), of both genders and older than 18 years, were interviewed. Their socio-demographic and clinical data were collected by structured questionnaire; and HRQOL was assessed by using an Arabic version of two questionnaires - WHOQOL-BREF and COOP\WONCA scale.

**Results:** Hypertensive patients reported lower scores in all domains of WHOQOL-BREF and COOP\WONCA scale when compared with normotensive. Multiple linear regressions revealed that male gender, employment, higher income, and increased number of used antihypertensive drugs were positively correlated with HRQOL. While, older age, BMI, longer duration of hypertension, increased number of doses, presence of symptoms and presence of co-morbidity were negatively correlated with HRQOL.COOP\WONCA scale and WHOQOL-BREF were significantly and negatively correlated with each other ( $P < 0.01$ ).

**Conclusion:** hypertension impairs the quality of life of patients who suffer from it.

**Keywords:** Hypertension, health related quality of life, WHOQOL-BREF, COOP\WONCA scale.

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قالوا

سببنا انك لا تعلم لنا  
إلا ما علمتنا إنك أنت  
العليم العظيم

صدق الله العظيم

سورة البقرة الآية: ٣٢

# Acknowledgment

*First and above all, I praise **God**, the almighty for providing me this opportunity and granting me the capability to proceed successfully*

*I find no words by which I can express my thankfulness and appreciation to my respected teacher and guide **Prof. Dr. Mohammed Salah Gabal**, Professor in the department of Community, Environmental and Occupational Medicine, Faculty of Medicine – Ain Shams University for his generous help, patience and continuous supervision of this work.*

*I would like to express my extreme appreciation and thanks to **Prof. Dr. Khaled Mahmoud Abd Elaziz**, Professor in the department of Community, Environmental and Occupational Medicine, Faculty of Medicine – Ain Shams University for his great support and guidance, during supervising this work.*

*I want to express my deep thanks and sincere gratitude to **Ass. Prof. Dr. Sahar Khalil Kandil**, Assistant Professor in the department of Community, Environmental and Occupational Medicine, Faculty of Medicine – Ain Shams University for her countless hours of reflecting, reading, encouraging and supporting throughout the entire work*



*My sincere thanks and deep appreciation also goes to all the **participants** included in the study for their cooperation and participation.*

**Merfat Ameen**



# Dedication

*I dedicate my thesis to my **family** who has supported me throughout the work. Words cannot express how grateful I am to them for their continuous and unlimited support and for all of the sacrifices that they have made on my behalf.*



# *List of Contents*

Title	Page No.
List of Tables .....	7
List of Abbreviations .....	10
Abstract	
Introduction .....	1
Aim of the Work .....	6
Review of Literature	
▪ Definition and Epidemiology of Hypertension .....	7
▪ Quality of Life and Health Related Quality of Life .....	22
▪ Impact of Hypertension on the Health Related Quality of Life .....	54
Participants and Methods .....	73
Results .....	88
Discussion .....	116
Conclusion .....	133
Recommendations .....	134
Limitations .....	135
Summary .....	136
References .....	140
Appendix (I) .....	173
Appendix (II) .....	179
Appendix (III) .....	182
Arabic Summary	

## *List of Tables*

Table No.	Title	Page No.
<b>Table (1):</b>	Socio-demographic characteristics of the studied groups.....	89
<b>Table (2):</b>	Clinical characteristics of the studied groups.....	90
<b>Table (3):</b>	Clinical characteristics of the hypertensive patients (N=150).....	91
<b>Table (4):</b>	Cronbach's alpha coefficient and intercorrelations of WHOQOL-BREF domains .....	92
<b>Table (5):</b>	Comparison between cases and controls as regard domains of the WHOQOL- BREF questionnaire.....	93
<b>Table (6):</b>	Comparison between males and females hypertensive subjects regarding the mean scores of WHO-BREF domains.....	94
<b>Table (7):</b>	Comparison between age group as regards the mean scores of WHO-BREF domains (Median age= 47year).....	95
<b>Table (8):</b>	Effect of marital status on the quality of life regarding the mean scores of WHO-BREF domains .....	96
<b>Table (9):</b>	Effect of education level on the quality of life regarding the mean scores of WHO-BREF domains.....	97
<b>Table (10):</b>	Effect of physical activity on the quality of life regarding mean scores of WHO-BREF domains .....	98
<b>Table (11):</b>	Effect of employment on the quality of life regarding mean scores of WHO-BREF domains .....	99

## *List of Tables (cont...)*

Table No.	Title	Page No.
<b>Table (12):</b>	Effect of income on the quality of life regarding mean scores of WHO-BREF domains .....	100
<b>Table (13):</b>	Comparison between residences as regards the mean scores of WHO-BREF domains .....	101
<b>Table (14):</b>	Effect of obesity on the quality of life regarding the mean scores of WHO-BREF domains .....	102
<b>Table (15):</b>	Effect of duration of hypertension on the quality of life regarding the mean scores of WHO-BREF domains .....	103
<b>Table (16):</b>	Effect of number of anti-hypertension medications on the quality of life regarding mean scores of WHO-BREF domains .....	104
<b>Table (17):</b>	Effect of number of doses of anti-hypertension medications on the quality of life regarding mean scores of WHO-BREF domains .....	105
<b>Table (18):</b>	Effect of compliance with treatment on the quality of life of the regarding mean scores of WHO-BREF domains .....	106
<b>Table (19):</b>	Comparison between controlled and uncontrolled BP regarding mean scores of WHO-BREF domains .....	107
<b>Table (20):</b>	Effect of presence of symptoms on the quality of life regarding mean scores of WHO-BREF domains .....	108



## *List of Tables (cont...)*

Table No.	Title	Page No.
<b>Table (21):</b>	Effect of presence of co-morbidity on the quality of life regarding mean scores of WHO-BREF domains.....	109
<b>Table (22):</b>	Multiple linear regression analysis of significant factors associated with HRQOL among hypertensive patients .....	110
<b>Table (23):</b>	Comparison between cases and controls as regards the mean scores of COOP/WONCA questionnaire items .....	113
<b>Table (24):</b>	Comparison between cases and controls as regards the effect of hypertension on COOP/WONCA questionnaire items .....	114
<b>Table (25):</b>	Pearson Correlation between WHOQOL-BREF and COOP\WONCA charts.....	115

## *List of Abbreviations*

Abb.	Full term
<b>ACEIs</b> .....	Angiotensin-Converting Enzyme Inhibitors
<b>AHA</b> .....	American Heart Association
<b>AIDS</b> .....	Acquired Immune Deficiency Syndrome
<b>BMI</b> .....	Body Mass Index
<b>BP</b> .....	Blood Pressure
<b>CCBs</b> .....	Calcium Channel Blockers
<b>CDC</b> .....	Center for Disease Control and Prevention
<b>COOP/WONCA</b> .....	Dartmouth Coop Functional Health Assessment/World Organization of National Colleges, Academies and Academic Association of General Practitioners
<b>CVD</b> .....	Cardio Vascular Diseases
<b>DBP</b> .....	Diastolic Blood Pressure
<b>DM</b> .....	Diabetes Mellitus
<b>EHIS</b> .....	Egypt Health Issue Survey
<b>EMRO</b> .....	WHO Regional Office for the Eastern Mediterranean
<b>EQ-5D</b> .....	European Quality of Life (EUROQOL) or Euro-QOL 5-Dimensions
<b>HRQOL</b> .....	Health Related Quality Of Life
<b>JNC</b> .....	Joint National Committee
<b>L.E</b> .....	Livre Egyptienne (French for Egyptian Pound)
<b>MINICHAL</b> .....	"Mini-Cuestionario de Calidad de Vida em Hipertensão Arterial"
<b>NIH</b> .....	National Institute of Health

## *List of Abbreviations (cont...)*

Abb.	Full term
<b>PA</b> .....	Physical Activity
<b>QOL</b> .....	Quality Of Life
<b>SBP</b> .....	Systolic Blood Pressure
<b>SF- 12</b> .....	Short Form Health Survey- 12
<b>SF- 36</b> .....	Short Form Health Survey- 36
<b>SF- 8</b> .....	Short Form Health Survey- 8
<b>VS</b> .....	Versus
<b>WHO</b> .....	World health organization
<b>WHOQOL-BREF</b> .....	An abbreviated version of the WHOQOL-100



# Introduction

**H**ypertension, also known as high or raised blood pressure, is a condition in which the blood vessels have persistently raised pressure, resulting in state where the heart works harder than normal to flow blood through the blood vessels (*WHO, 2013*).

The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation and Treatment of High Blood Pressure (JNC-7) developed a new set of guidelines for the definition of hypertension. It defined normal blood pressure (BP) as a systolic blood pressure (SBP)  $< 120$  mmHg and a diastolic blood pressure (DBP)  $< 80$  mmHg; hypertension is defined as SBP  $\geq 140$  mm Hg and/or DBP  $\geq 90$  mm Hg. A SBP of 120–139mmHg or a DBP of 80–89 mmHg is defined as prehypertension (*Joint National Committee 7, 2003*)

Hypertension is a condition with a tremendous economic and public health impact which contributes to disability, health-care costs and mortality. It causes growing public health concern in both developed and developing countries (*Wong, 2015*).

The recent modifications in the definition and classification of BP level make hypertension as the most commonly diagnosed disease in the primary and secondary healthcare systems (*Pater, 2005*) with a global prevalence in adults aged  $\geq 18$  year was around 22% in 2014. Across the WHO regions, the prevalence of hypertension was highest in

Africa, where it was 30%. While the lowest prevalence was in the WHO region of the Americas at 18%. In the EMRO region the prevalence was around 27%. In all WHO regions, men have slightly higher prevalence of hypertension than women (*WHO, 2014<sup>a</sup>*). Because a larger proportion of the world's population is expected to be older in 2025, hypertension prevalence is anticipated to increase to  $\geq 29\%$  by that time (*Kotchen, 2007*).

In Egypt hypertensive diseases represent a major disease burden, and has been estimated to be responsible for 9% of the years of life lost (YLL) in this country (*Arafa and Ez-Elarab, 2011*). The reported prevalence in the National Hypertension Project 1995 among Egyptian adults aged 25 years and more was 26.3% (*Ibrahim, 1999*). After that the Stepwise survey conducted in 2005-2006 among adults aged  $\geq 15$ :  $\leq 65$  year reported the prevalence 26.7% (*STEP survey, 2005*). In the WHO country profile in 2014 the prevalence was reported as 24.6 (*WHO, 2014<sup>b</sup>*). According to Egypt health issues survey 2015, the prevalence of hypertension in Egyptian adult aged 15-59 year is 17.2% (*Egypt Health Issue Survey, 2015*).

Hypertension is the first leading global risk for mortality in the world, it is responsible for 13% of deaths globally (*WHO, 2009*). And is estimated to have caused 9.4 million deaths and 7% of disease burden – as measured in DALYs – in 2010 (*Lim et al., 2012*). In addition about 62% of strokes and 49% coronary heart disease globally can be attributed to non-optimum BP (*Gaziano et al., 2012*).

Quality of life (QOL) is defined by WHO as "the individual's perception of his or her position in life, within the cultural context and value system he or she lives in, concept affected in a complex way by the person's physical health, psychological state, level of independence, social relationships and their relationship to salient features of their environment" (*The WHOQOL Group, 1995*). As advances in medical science and technology and new treatments succeeded in increasing number and survival rates of people living with chronic diseases and disabilities, attention increasingly turned towards the QOL of patients rather than longevity alone (*Galloway et al., 2006*).

The term "health-related quality of life" (HRQOL) narrows QOL to aspects relevant to health (*Fayers and Machin, 2000*). It is defined as an individual's satisfaction or happiness with domains of life insofar as they affect or are affected by "health" (*American Thoracic Society, 2007*). HRQOL is emerging as an important indicator to assess the physical and psychological impact of the disease on affected individuals and to evaluate treatment outcome, and its improvement has become one of the expected outcomes of the health professional (*Santos, 2013*).

Although hypertension, especially in mild to moderate stages, is often considered as an asymptomatic condition, its association with alterations in well-being and HRQOL is still a controversial issue (*Bardage and Isacson, 2001*). Some studies have shown that HRQOL is poorer among hypertensive