Deanship of Graduate Studies
Al-Quds University

Impact of Hypertension on the Quality of Life among Patients attending Government and UNRWA Clinics Gaza - Palestine

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M.P.h Thesis

Jerusalem - Palestine

1428 / 2007

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Patients Attending Government And UNRWA Clinics
Gaza - Palestine

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*A thesis Submitted in Partial fulfillment of requirements for
the*

Degree of Master of Public Health
Al-Quds University- Palestine

1428 / 2007

Al-Quds University
Deanship of Graduate Studies
Community Mental Health
 School of Public Health

Thesis Approval

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Jerusalem- Palestine

1428 / 2007

Dedication

To the soul of my father, to my mother, wife, sons and daughters,

For Their

endless support, encouragement and patience

Wail Afif Elayyan

Declaration

I certify that, this thesis submitted for the degree of Master is the result of my own research, except where otherwise acknowledged, and that, this thesis (or any part of the same) has not been submitted for a higher degree to any other university or institution.

Signature: …………………

Wail Afif Mohammed Elayyan

Date:...................

Acknowledgment

I would like to express my deep gratitude to every one who contributed to the success of this work, unless their help and assistance it would not have been completed.

I would like to convey my sincere thanks and acknowledgment to Dr. Yousef Aljeesh for his continuous care, wise supervision, support and endless encouragement.

Moreover, I would like to express my great thanks and acknowledgment to Dr. Suzan Sha'sha'a for her guidance, support, and her valuable comments, Dr. Yehia Abed for his great knowledge and courage and Dr. Bassam Abu Hamad for his valuable information and his continuous support, and Mr. Sadie Abu Awad for his support and help, as well as to the other teaching and administrative staff of the school of public health.

I'm so grateful to my colleagues at Ahli Arab hospital, Sedki lewati, Husni Alamasi, Yehia Abu Musameh and Ismail Abu Tarabish, for their great support, advises and encouragement. I'm so grateful for those who helped and welcomed me in their clinics when went to collect my data. Finally, I'm deeply grateful to my family for their endless patience, continuous support and great encouragement.

      Researcher

      Wail Afif Elayyan

Abstract

The aim of this study was to evaluate the quality of life among hypertensive patients attending governmental and UNRWA clinics. It used a descriptive analytical cross sectional design, the study sample included 340 subjects aged between $40 - 71$ years old, whom had hypertension at least for two years. Two settings were chosen randomly one belongs to the government and the other one belongs to UNRWA. Subjects were recruited by using non probability convenient sample method, 170 subjects from each setting comprising 85 males and 85 females. Subjects were told to sign a consent in order to participate in the study. A face to face structured interview was used to collect data from the participants by using demographic information sheet and the WHOQOL − BREEF questionnaire.

Results of the study revealed that, the percentage of the total scores of the QOL among the whole study sample 65.63%, the highest domain was the social at (70.14%), and the lowest one was the environmental at (62.40%). Demographic characteristics including, age, sex, marital status, educational attainment, duration of disease, monthly income, family size, working status and clinic being visited, was statistically significant except for some domains pertaining to some groups. Physical, psychological and social domains were lower in the group of monthly income 3000NIS and above in comparison with the group of monthly income $2001 - 3000$NIS at level of significance (f = 12.51, 15.85, 13.61) respectively.

In regard to marital status psychological and social domains were higher in the married group in comparison with divorced group, but the physical domain in the divorced group was better than that in the married group at level of significance (f = 19.55, 18.22, 24.22) respectively .

Family size and clinic being visited, showed no statistical significance, except for the social domain in favor of subjects visiting the governmental clinic, statistical significance at (t =2.19; df =338; p<0.05). As a matter of fact, health care providers and decision makers should consider the results of this study to contribute in the promotion of health care services provided to hypertensive patients to reduce their suffering, prevent and delay future complications as well as helping them to have and enjoy a better quality of life.

ملخص الدراسة

هدفت هذه الدراسة الوصفية التحليلية القطعية إلى تقييم جودة الحياة عند مرضى ضغط الدم المسجلين في عيادات الحكومة والوكالة , حيث أن تق ييم جودة الحياة عند هؤلاء الأفراد يمثل تق ييما شاملا للبعد الجسماني , النفسي, الاجتماعي و كذلك البعد البيئي, كما أنة يعتبر معاينة لمدي رضا هؤلاء الأفراد عن الخدمات الصحية المقدمة لهم , حيث تم اختيار عيادة وكالة وعيادة حكومة عن طريق العينة العشوائية , ولقد تم اختيار الأفراد المشاركين في الدراسة بواسطة استخدام نظام العينة المتاحة أو الملائمة داخل العيادة المحددة لإجراء عملية جمع المعلومات بالشكل السليم .

لقد شملت الدراسة 340 فرد تتراوح أعمارهم ما بين 40 إلى 71 سنة حيث تم اختيار 170 فرد من كل عيادة , 85 ذكر و 85 أنثى , يعانون من مرض ضغط الدم لمدة عامين فأكثر حيث تم شرح أهداف الدراسة للمشاركين وتم اخذ الموافقة منهم على المشاركة في الدراسة بتوقيع كل فرد على إقرار بالموافقة على المشاركة في الدراسة , و قد أجريت المقابلات الانفرادية من خلال مقابلة شخصية وجها لوجه وذلك باستخدام استبانه البيانات الشخصية وكذلك استبانه تقييم جودة الحياة.

لقد أظهرت نتائج هذه الدراسة أن معدل جودة الحياة بين جميع أفراد العينة الدراسية كان 65.63% , حيث حصل البعد الاجتماعي على أعلى نسبة وهى 70.14% أما البعد البيئي فقد حصل على اقل نسبة وهى 62.40%.

بالنسبة للعوامل الديمغرافية والتي تشتمل على (العمر, الجنس , الحالة الاجتماعية , التحصيل الدراسي, عدد سنوات المرض , الدخل الشهري , عدد أفراد الأسرة , حالة العمل , العيادة التي يزورها المريض).

أظهرت دلالة إحصائية ما عدا بعض الأبعاد عند بعض المجموعات مثل البعد الجسماني , والنفسي والاجتماعي عند ذوى الدخل 3000 شيكل فأكثر اقل منها عند ذوى الدخل الذي يتراوح بين 2100 إلى 3000 شيكل , حيث كانت الدلالة الإحصائية (f = 12.51,15.85,13.61) على التوالي .

بالنسبة للحالة الاجتماعية لقد اظهرا البعدين النفسي والاجتماعي عند المتزوجين معدلا أعلى بالمقارنة مع المطلقين , ولكن المجال الجسماني اظهر معدلا أعلى منه بالمقارنة مع المتزوجين حيث كانت الدلالة الإحصائية (f = 19.55,18.22,24.22) على التوالي .

أما بالنسبة لعدد أفراد الأسرة والعيادة التي يزورها المريض فلم يكن لها أي دلالات إحصائية ما عدا البعد الاجتماعي حيث كان لصالح مرضى عيادة الحكومة حيث كانت الدلالة الإحصائية (t = 2.19-df = 338p<0.05). توصى الدراسة مقدمي الخدمات الصحية وصانعي القرار أن يأخذوا مثل تلك النتائج بعين الاعتبار من اجل المساهمة في تطوير الخدمات الصحية , المقدمة لمرضى ارتفاع ضغط الدم من اجل تخفيف معاناتهم والحيلولة دون حدوث مضاعفات مستقبلية وكذلك مساعدتهم في التمتع بحياة ذات جودة أفضل .

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List of Abbreviations

Abb.	The complete term
NCD	Non-communicable Diseases
CVDs	Cardiovascular Diseases
DALYs	Attributable Disability Adjusted Life Years
JNC7	Joint National Committee Report NO. 7
UNESCO	United Nations Education Science Culture Organization
QOL	Quality Of Life
WHOQOL-BREF	World Health Organization Quality Of Life Questionnaire- short version
HRQOL	Health-Related Quality Of Life
NGOs	Non Governmental Organization
PCBS	Palestinian Central Bureau of Statistics
GNI	Gross National Income
GNP	Gross National Product
GS	Gaza Strip
PHC	Primary Health Care
MOH	Ministry of Health
GDP/C	Gross Domestic Product Per Capita
mmHg	Mel Meter Mercury
TPR	Total Peripheral Resistance
NIS	New Israeli Shekels
CVA	Cerebro-Vascular Accident
ACE	Angiotensin-Converting Enzyme
HDI	Human Development Index
PNA	Palestinian National Authority
SES	Socioeconomic Status
BMI	Body Mass Index
UNRWA	United Nations Relief and Works Agency For Palestinian Refugees
US$	United States Dollar
USA	United States of America
WB	West Bank
WHO	World Health Organization
ANOVA	Analysis of Variance
ISH	Isolated Systolic Hypertension
SPSS	Statistical Package for Social Sciences
Epi-Info	Epidemiological Package
CI	Confidence Interval
OR	Odd Ratio

UK	United Kingdom

TPR	Total Peripheral Resistance
HDI	Human Development Index
BP	Blood Pressure
SBP	Systolic Blood Pressure
DBP	Diastolic Blood Pressure
UAE	United Arab Emirates
SD	Standard Deviation
PHCCs	Primary Health Care Centers
NHEFS	National Health Epidemiologic Follow-up Study
RR	Relative Risk
J$	Jamaican Dollars
LDL-C	Low-Density Lipoprotein Cholesterol
HDL-C	High-Density Lipoprotein Cholesterol
ABP	Ambulatory Blood Pressure
DQOL	Diabetes Quality Of Life measure
DCP	Diabetes Care Profile
PGWB	Psychological General Well-Being
EuroQOLQ	European's Quality Of Life Questionnaire
HTNG	Hypertension Group
CNTlG	Control Group
SDC	Symptom Distress Checklist
SF-36	Study Short Form-36
EuroQOL-5D	European Quality of Life-5 Dysfunction
ED	Erectile Dysfunction
IIEF-5	International Index of Erectile Function
NHANES	National Health and Nutrition Examination Survey
P	P-Value
df	Degree of Freedom

Definitions:

Hypertension: Hypertension was defined according to World Health Organization (WHO) standardized criteria as systolic BP =>140 mmHg and/or diastolic BP=> 90 mmHg and/or the use of antihypertensive medication (WHO, 1999).

Quality of life: The world health organization has defined quality of life as "individuals' perceptions of their position in life in the context of the culture and value system in which they live and in relation to their goals, standards, and concerns" (WHO, 1993).

Hypertensive patient: any patient was diagnosed as hypertensive and the diagnosis was confirmed by a specialized physician.

Government clinic: any clinic being run and under the authority of the ministry of health (MOH).

UNRWA clinic: any clinic being run and under the authority of UNRWA.

Chapter 1

1.1 Background:

Health is the precious gift offered by god to human. Therefore, healthy people are a fundamental resource of social and economic development higher levels of human development means people live longer and enjoy more healthy years of life.

 Noncommunicable diseases affect health and may have a negative impact on the quality of life, in a way that may hinder the progress and development of people in terms of social and economic development.

Quality of life is a common concept in the field of health in general as well as health literature. Having improved quality of life is seen as the desired out come of health care provision. Assessment of Quality of life can reveal people in need for support and care, despite the absence of a diagnosable disease. Looking to quality of life from a health promotion or a disease prevention point of view, it can be seen as a health risk indicator, either physical or psychological as long as there is no treatment or any kind of care (Raphael et al., 1996).

The research on quality of life has been emphasized by the United Nations Education Science Culture Organization (UNESCO,1977). with projects to develop research designs and instruments that are likely to stimulate QOL research in regions that have no research attempters and traditions in this field. Such research studies take into consideration the fact that, individuals and groups not only experience quality but also participating in creating their life quality. Research studies on people managing their chronic disease should be policy- oriented and should provide information and clarifications to the public as well as to policy makers (Milbrath, 1979).

WHO has developed a quality of life assessment tool called World Health Organization Quality of Life Questionnaire- short version (WHOQOL-BREF). This initiative has emerged from the need to a genuine international measure of quality of life and a commitment to the on going promotion of a holistic approach to health and health care profession. The dramatic increase of death in average age has brought the attention that, longevity should be accompanied with improvements in health-related quality of life (HRQOL). Some researchers indicated that, increasing life expectancy will lead to an increase in the proportion of people living in poor health with the consequent burden on society and health care services (Manuel and Schultz, 2004).

The World Health Organization (WHO) has summarized these concerns, stating that, "adding years to life is an empty victory without adding life to years" (WHO, 1998). The Quality of Life Research Unit in the Department of Public Health Sciences, University of Toronto stated that: "The ultimate goal of quality of life study and its subsequent application to people's lives is to enable people to live quality lives; lives that are both meaningful and enjoyable" (Renwick, 2002). The world health organization has defined quality of life as "individuals' perceptions of their position in life in the context of the culture and value system in which they live and in relation to their goals, standards, and concerns" (WHO, 1993).

Non-communicable diseases (NCD) introduce a considerable burden and challenge to health globally for the present time and in the future, they caused 59% of deaths and 47% of the global burden of disease in 2002. These diseases place a heavy burden on people's health, health care systems as well as threatening economical and social development NCDs are responsible for at least 40% of all deaths in the developing world countries including, 40% in India, 84% in the former Soviet Union and 23% in the sub-Sahara Africa, and 75% in the industrialized countries.

Predictions for the future based on current trends, states that, the global burden of NCDs will increase to 73% of all deaths and 60% of disease burden by the year 2020. They comprise a large group of diseases such as, diabetes mellitus, chronic respiratory disease, cancer and cardiovascular diseases including, hypertension, heart disease and stroke. These diseases are influenced by many risk factors (high salt diet, high fat diet, high sugar diet, alcohol intake, physical inactivity and non compliance to medical treatment and smoking) which, are all connected to the life style of the people (WHO, 2001). cardiovascular diseases (CVDs) have emerged as the leading cause of death in most regions of the world, causing 30% of all deaths in 1998. Where's deaths among men and women were 28% and 34% respectively (WHO,1999).

Deaths under the age of 70 years old in the developing countries due to CVD were 46.7% compared to 22.7% in the developed countries in 1999.In comparison of data from 1999, to projections for 2020, based on socio- demographic and economic models, the burden of CVD will rise all over the world .According to DALYs (attributable disability adjusted life years), life losses related to CVD will increase to 55% between 1999 and 2020, in the developing countries. In India deaths due to CVD are expected to rise from 24.2% in 1999 to 41.8% of the total deaths in 2020. Thus, the increasing burden of CVD would be mostly borne by the developing countries in the next two decades. Bearing in mind that,

Cardiovascular diseases caused more than half of all deaths in Europe in the year (2000) (Reddy, 2002).

Over the past 30 years, mortality from CVD of all ages has been declining steadily in Western Europe. On the other hand, there has been general increase in mortality in the newly dependent states reaching the peak in the year 1994 (Reddy, 1998).

In 2000, the average numbers for CVD mortality of all ages in the newly dependent states, of the former Soviet Union, were three times higher than those in Western Europe The high burden of midlife deaths would continue to prevail the developing countries, as the CVD epidemics continue to take a higher share of the global disease burden. It has been projected that, 6.4 million deaths will occur due to CVD in the developing countries in the age group of 30-69 by the year 2020. These projections may result from CVD risk factors which influenced by the combined effects of industrlization, urbanization, and globalization. In Palestine, CVDs, represents the leading cause of death in the year 2004, constituting 56.8% with a rate of 54.4 per 100,000 populations (WHO, 2001).

In the year 2004, 3481 persons have died from CVDs between them(1781males and 1700 females), with a proportion of 33.6% of the total deaths, with a rate of 95.7/100,000 population. This shows that, mortality among males is higher than females (51.1% in males Vs 48.9% in females), (MOH, 2004).

One of the most serious diseases of NCD's is hypertension which is called, the silent killer Hypertension was defined according to World Health Organization (WHO) standardized criteria as systolic BP =>140 mmHg and/or diastolic BP=> 90 mmHg and/or the use of antihypertensive medication (WHO, 1999).

The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation and Treatment of high blood pressure in the United Stats of America (JNC7) in 2003, defined a blood pressure of <120/<80mmHg as normal; 120-139/80-89mmHg as pre-hypertension.. The JNC7, introduced the new category, pre-hypertension into the categorization of the blood pressure levels to emphasize the growing awareness that persons whose blood pressure begins to rise above 120/80mmHg are likely to develop definitely hypertension.

Therefore, this committee hopes that, health care providers will encourage people with blood pressure in the pre-hypertension stage to begin life style modifications such as diet changes and exercise. It also, recommends that persons with hypertension must be treated with medications and be evaluated by their doctor nearly every month until their blood pressure get to normal and about every 3to 6 months thereafter. People with higher blood

pressure >160/>100, need to be evaluated more frequently.

Hypertension has been classified into two categories; primary hypertension and secondary hypertension. In primary hypertension the cause of blood pressure elevation is un-identifiable. Between 21% and 36% of the adult population of the United States of America has hypertension between 90% and 95% out of this population, have primary hypertension. The remaining 5% to 10% of this group has high blood pressure related to a specific cause. Secondary Hypertension is high blood pressure from identified cause such as, Sleep Apnea, Drug-induced or related cause, chronic kidney disease, and Cushing's disease. Hypertension is a symptom free disease because; people who have it are often symptomless. In a national survey that was conducted in (1999 to 2000), 31% of people who had blood pressure exceeding 140/90 mmHg were unaware of their elevated blood pressure. For hypertension to occur there must be a change in one or more factors affecting peripheral resistance or cardiac output. In addition, there must also be a problem with the control system that monitors or regulates pressure. Single gene mutations have been identified for a few rare types of hypertension, but many types of high blood pressure are due to mutations in more than one gene (Smeltzer, & Bare, 2004).

The prevalence of hypertension in some countries in the region, in south western Saudi Arabia was 10.6% in men and 11.4%in women (Aboulfotouh, M. Abu-Zeid, H. 1996). In Tunisia it was 28.4%in women and 30.0% in men (Ghannem, H. Hadj Fredj, A. 1997).

In Palestine hypertension constitutes 17.4% of cardiovascular diseases with a rate of 16.6 per 100,000 population, hypertension disease mortality is the seventh leading cause of deaths in the total population with 5.9% and it represents 4.1%of males deaths, while, it was the fourth leading cause of deaths in females with 8.3%. Hypertension is the fifth leading cause of cardiovascular disease deaths; with 17.4% of the total cardiovascular mortality, with a rate of 16.6 per 100,000. 1n 2004, mortality rate per 100,000 was 20.1, for females and 13.2, for males in comparison with 35.8 among females and 24.6 among males in 2000.the annual average specific mortality rate from hypertension for 100,000 population was 17.8 for males and 23.3 for females in the last five years (MOH, 2004). Records of registered hypertensive patients, in UNRWA clinics by age and sex in Gaza Strip in the year 2003, show, males 3805, females 9568, with total number 13373 subjects. Distribution of registered hypertensive patients in UNRWA clinics by age in Gaza Strip as follow, <20years old 95, 20-29 years old, 1489, 40-59years old, 6120, >60 years old, 5669. The rate of new cases of hypertension per 100,000 populations among registered refugee population in Gaza Strip is 289.9 (M.O.H, 2003).

1.2 Problem statement:

Hypertensive patients as chronic cases must get special care as they are exposed to complications on both sides physically and psychologically adding to that, they perceive life in a different way from healthy people. This study aims to investigate the impact of hypertension on the quality of life among patients attending governmental and UNRWA clinics.

1.3 Justifications:

From the earlier mentioned information and the growing increase of hypertensive patients especially in the age group between 40 – 71 years old world wide and particularly in Palestine. Therefore , they must receive the proper health care services such as medical treatment and education in order to keep their blood pressure under control and to prevent complications. Health-related quality of life assessment is considered a very important indicator for the health services being provided, patients' satisfaction, as well as their welfare and their willingness to live. Therefore, its important to find the means and ways through studying their compliance to anti-hypertension medications and their life style including, diet and exercise so that, they can live normal life in terms of no or less complications, with satisfaction, enjoyment, happiness, and positive perception of life.

Since the researcher work in the medical field and through his multiple visits to different health care centers, he has noticed the size of the problem as well as the suffering of those patients physically and psychologically. Besides, their day-to-day life, experience and management of their chronic disease is not fully acknowledged. As far as, to the researcher knowledge there were few studies conducted in Palestine concerning the issue of quality of life and hypertension, bearing in mind that, the impact of hypertension on quality of life is not fully acknowledged and it should bring attention and consideration of health care providers and decision makers.

Therefore, the researcher has decided to conduct this study to focus on the hidden part of hypertensive patients lives, experience, and management of their chronic illness, and to reveal how they perceive life from different aspects on the light of their illness and suffering, as well as, to explore ways and means to reduce the impact of this burden and to encourage them to deeply involve in life as any other healthy individual.

1.4 specific Objectives:

1. To describe the quality of life among patients who are treated at governmental clinics, and those who are treated at UNRW, clinics.

2. To identify the relationship between socio-demographic characteristics (age, sex, socioeconomic status, and educational level) and patient's quality of life.

3. To identify the relationship between patient's quality of life and duration of the disease.

4. To conclude recommendations, as well as, bases for further and future studies.

1.5 Research Questions:

This study addresses the following research questions:

1. Is there any difference in the quality of life of patients who are treated at governmental clinics, and those who are treated at UNRWA, clinics?

2. What is the relationship between the socio-demographic characteristics (age, sex, socioeconomic status, and educational level) and patient's quality of life?

3. Is there a relationship between quality of life and duration of the disease?

1.6 Geographical Distribution:

Palestinian national Authority comprises two areas separated geographically; West Bank and Gaza Strip, west bank lies within an area of 5,800sq. Km2 west of the Jordanian river. Gaza strip, which is a narrow piece of land lying by the cost of the Mediterranean sea, with an estimated square area of 360 sq Km2, considered as one of the most densely populated areas in the world, 5000 person per Km2 (PCBS, 2005).

1.7 population in Palestine:

The population in Palestine was estimated about 3.6 million by the year 2004, distributed as follow; 2.3 million (63.2%) in the west bank and 1.3 million (36.8%) in Gaza Strip, according to the Palestinian Central Bureau of Statistics (PCBS) in the year 2004 42.6% of the population are refugees, distributed as follow 656,961 in the west bank with 28.5%, and 884,376 in Gaza Strip with 66.1% out of the total population (PCBS, 2005).

1.8 Palestinian Economy:

According to the Palestinian Ministry of Finance (MOH), the Gross National Product (GNP) in Palestine has been subjected to high fluctuations during the last five years. The (GNP), was 5454 million US$ in 1999 and decreased to 3720 million US$ in 2004. The Gross Domestic Product (GDP) was 4517 in 1999 and decreased to 3286 in 2004. The Gross National Production per capita (GNP/capita), was 1806 US$ in 1999 and decreased to 979 US$ in2004. Gross Domestic Production per capita (GDP/capita), was 1496 US$ in 1999 and decreased to 865 US$ in 2004. The Palestinian Center Beruea for Statistics (PCBS) reported that, the number of Palestinian workers in Israel decreased from 135,000 in 1999 to 50,100 in 2004. The workers in Gaza and the West Bank increased from 453,000 in 1999 to 527,600in 2004 due to the political situation and the recurrent crisis. The (PCBS), reported that, the unemployment rate was 26.8%, in (Gaza 35.4% and in the West Bank 22.9%). This reveals an increased unemployment rate from 11.8% in 1999 to 26.8% in 2004 (PCBS, 2005).

1.9 Socioeconomic, demographic and geopolitical profile:

The Eastern Mediterranean Region covers 22 countries that stretch from Morocco to Pakistan and are home to almost 500 million people. The Region's demographic profile is characterized by a relatively young population (40% < 15 years), high dependency ratio (79%), high crude birth and death rates, annual growth rate of 2.3% and a total fertility rate of 4.0, although there has been an improvement in these indicators over the past decade, there is substantial room for further improvement. There is a wide variation in the gross national product (GNP) per capita among the countries of the Region that ranges from a high of US$ 28 270 for Qatar to a low of US$ 160 for Afghanistan. Such a high variation has a major influence on overall health spending and a significant impact on all aspects of the health system. As a whole, the Region is a low middle-income region with an average GNP per capita of less than US$ 1700. Afghanistan, Djibouti, Somalia, Sudan and Yemen are the five least developed countries in the Region. Just over half (54%) of adult women in the Region are literate and 73% of girls are enrolled in schools at primary level.

The Arab Human Development Report 2003 challenged the Arab world to overcome the obstacles to human development posed by widening gaps in freedom, in women's empowerment and in knowledge. The Human Development Index (HDI) varies substantially among countries of the Region with a high of 0.839 for Bahrain and a low of

0.462 for Djibouti. The overall HDI for the Region is estimated at 0.603, compared with 0.655 for all developing countries. The HDI for all Arab countries has been estimated as 0.662. Not unexpectedly, the incidence of poverty is high in Djibouti, Pakistan and Yemen but several middle-income countries, including Egypt, Jordan and Morocco still have poverty rates in double figures.

The geopolitical situation of the Region is perhaps the most challenging. Afghanistan and Sudan are countries in a post-conflict state, and are at various stages in the recovery and reconstruction of their health sectors. Iraq, Palestine and Somalia continue to be in a state of conflict, as a result of invasion, occupation or civil strife. Providing emergency medical assistance and technical support to these countries has been the most challenging undertaking for WHO's Regional Office for the Eastern Mediterranean in recent years (WHO, 2004).

Therefore, socio-demographic factors are considered very important and they must be taken into consideration in any research study since, they have impact on different aspects of people's life such as, health, society, or development and their impact can be positive or negative according to the standards and capabilities provided by the country. So, the study of socio-demographic factors and their relation with the different variables of the research is a must. Therefore, the researcher will encounter some studies concerning hypertension and the socio- demographic factors including, gender, age, education, employment and income.

1.10 Palestinian Health Care System:

1.10.1 Health Care Services:

The major health care providers in Palestine are the ministry of health (MOH) and the United Nations Relief and Work Agency (UNRWA), in addition to the Non Governmental Organization (NGOs), and the privet sector.

 The Ministry of Health (MOH) operates 413 centers in Palestine, 56 centers in Gaza and 357 centers in West Bank. In Palestine, Primary Health Care centers (PHC) increased from 359 centers in 2000 to 413 centers in 2004 with an increase of 15% in the last five years. n Gaza, PHC centers increased from 43 centers in 2000 to 56 centers in 2004, which indicates an increase of 30.2% in the last five years .In West Bank, PHC centers increased from 316 centers in 2000 to 357 centers in 2004 with an increase of 13% in the last five years. PHC Facilities by level In Gaza, MOH owns and operates 56 PHC centers out of which 29 level (I), 19 level (II) and 7 of level (III). In addition to, one specialized mental health clinic in Khan Younis. In general, there are 10 centers working 3 shifts (24 hours,

emergency services), 9 centers working 2 shifts and the rest of centers working only one shift, one of which has a delivery unit in Gaza City, The PHC centers provide special health care services in different aspects, 44 centers provide antenatal care and family planning services, in addition to 100 specialized clinics and 25 dental and oral clinics. About 34 centers have laboratories and 12 centers have x-Ray units (MOH, 2004).

In West Bank: MOH owns and operates 357 PHC centers, out of which 94 level I (as village health room with 2-3 visits of physician per week), 169 level II, 84 level III, and 10 level IV. There are 77 centers with family planning clinics, 17 centers have oral and dental clinics, 59 centers have specialized clinics and 85 centers have medical laboratories. In 2004, 4,273,820 visits to the MOH-PHC centers were reported for general practitioners in comparison with 3,565,208 visits in 2000, the annual average of visits was 4,149,260 visits in the last five years (MOH, 2004).

The ratio of visits per person was 1.17 in 2004 compared with 1.28 in 2000.In West Bank, in 2004, about 2,083,249 visits were reported compared with 1,298,186 in 2000; with an annual average of 1,794,017 visits in the last five years. The ratio of visits per person was 0.9 in 2004 compared with 0.7 in 2000. In Gaza, in 2004, about 2,190,571visits were reported compared with 2,267,022 visits in 2000, with an annual average of 2,355,243 visits in the last five years. The ratio of visits per person was 1.6 in 2004 compared with 1.9 in 2000. Furthermore, 922,806 visits have been seen by nurses (457,622 in West Bank Vs 465,184 in Gaza), with a ratio of 0.25 visit per person (0.20 in West Bank Vs 0.35 in Gaza), (MOH, 2004).

In 2004, physicians who work in MOH-PHC in Gaza provide 1,633,608 prescriptions, with a ratio of 0.4 prescriptions per person. Visits to specialized clinics in MOH-PHC in Palestine: 1,260,319 visits were reported to specialized clinics in 2004, compared with 1,280,426 visits in 2000, with an annual average of 1,558,316 visits in the last five years the ratio was 0.3 visits per person in 2004 compared with 0.4 in 2000. In West Bank: 239,753 visits were reported to specialized clinics in 2004 compared with 149,033 visits in 2000; the ratio of visit per person was 0.10 visit in 2004 compared with 0.07 visit per person in 2000 (MOH, 2004).

In Gaza: 1,020,566 visits were reported to specialized clinics in 2004 compared with 1,131,393 visits in 2000. The ratio was 0.8 visit per person in 2004 compared with 0.99 visit in 2000.In Palestine, visits to Pediatric clinics form 55.4%, followed by visits to Diabetic clinics 11.2%, and visits to internal medicine form 9.1% out of the total visits to specialized clinics. The UNRWA owns and operates 53 centers in Palestine, (18 in Gaza

and 35 in West Bank), (MOH, 2004). The number of registered refugees in the West Bank was 656,961 and 884,376 in Gaza; therefore, the ratio of refugees per center was 29,082 in Palestine, (49,132 in Gaza and 18,770 in West Bank). The UNRWA offers health services free of charge for all refugees and plays a noticeable role in the vaccination program in cooperation with the MOH, in addition to curative services, antenatal and postnatal care and other specialized services. Furthermore, all refugees in Gaza and West Bank have the right of accessibility to the governmental health care services. In Gaza there were 2,828,022 visits seen by physicians and 626,371 visits seen by nurses in 2004 (MOH, 2004).

1.10.2 Primary Health Care:

The total number of registered PHC centers in Palestine is 731 centers (125 centers in Gaza and 606 centers in West Bank). Distribution by provider shows that, there are 413 centers owned and supervised by the MOH with a high percentage of 56.5%, 53 centers by the UNRWA with a percentage of 7.3% and NGOs have 265 centers with a percentage of 36.3% of the total centers. In Palestine the average ratio of persons per center was 4,976(10,698 in Gaza and 3,796 in West Bank). In Palestine, in 2004, the total number of PHC centers in Palestine increased to 731 centers compared with 595 centers in 2000, which reveals a rise of 22.8% in the last five years. The Number of PHC centers per 10,000 persons was 2.01 in 2004 while it was 1.9 in 2000. In West Bank:the total number of PHC centers is 606 {out of which 94 centers level I and 169 centers level II} centers compared with 495 centers in 2000, which reveals an increase of 22.4 % in the last five years. The ratio of persons per center was 3,796; the highest ratio was in Jerusalem with a ratio of 8,291 persons per centre followed by Tulkarm with a ratio of 4,655 and the lowest ratio in Jericho with a ratio of 1,705 persons per center. The number of PHC centers per 10.000 persons 260. In Gaza, the total number of PHC centers is 125 centers in comparison with 100 centers in 2000, which indicates an increase of 25% in the last five years. Although the PHC system in Gaza is unique, well established and functioning well, the high population density and the overcrowdness of population were responsible for the high ratio of population per centre. The highest ratio was recorded in KhanYounis of 12,982 persons per centre and the lowest ratio in Mid-Zone of 6,247. The number of PHC centers per 10,000 persons was 0.93 (MOH, 2004).

1.10.3 Hospitals in Palestine:

There are 78 hospitals in Palestine; the population/hospital ratio is 47,922. The average bed capacity per hospital is 59, 99 beds. In Gaza Strip, there are 24 hospitals representing (30.77%), of the total number of hospitals. The population/ hospital ratio is 57,098. The average bed capacity per hospital is 79, 88 beds. In the West Bank including Jerusalem, there are 54 hospitals representing (69, 23%) of the total number of hospitals. The ratio of population per hospital is 43,844. The average bed capacity per hospital is 51, 15 beds (MOH, 2004).

1.10.3.1 Hospital Beds:

In Palestine including Jerusalem, the total number of beds is 4679. The population bed ratio is 799. In Gaza Strip, the ratio is 715 while in the West Bank the its 857. The ratio of beds /10,000 population is 12,52 beds in all over Palestine. In Gaza Strip the ratio is up to 13,99 beds, while in the West Bank it decreases to 11,67 beds. In comparison between hospitals beds in 1999 and 2003, shows a great increase in bed capacity from (3386 in 1999) to (4679 in 2003). MOH is responsible for most of the quantitative growth in hospital's beds, with increasing percentage of 38,2% in comparison with 1999 (MOH, 2004).

1.10.3.2 Hospital Services Providers:

The secondary health care delivery system is a mixture of the governmental, UNRWA, nongovernmental organizations (NGOs), and the private sector, by developing a governmental health insurance system, MOH became responsible for a significant part of the secondary and some tertiary healthcare delivery (MOH, 2004).

1.10.3.3 Hospital Categories:

In Palestine, hospitals can be classified into four categories; general hospitals that, provide basic secondary health care services to local geographic area. Some of those hospitals are large enough to provide a full compliment of advanced secondary and to some extent some tertiary health care services. The specialized hospitals provide full compliment of advanced secondary and tertiary services in one special domain. The maternity hospitals are designated to serve mothers. The rehabilitation centers or hospitals are assigned to provide full band of rehabilitative services. In 2003, there are 39 general hospitals with 2812 beds in addition to 14 specialized hospitals with total bed capacity of 1234 beds and 21 maternity hospitals with a total bed capacity of 469 beds and finally 4 rehabilitation centers with a total bed capacity of 155 beds. MOH, managed to provide a balanced pool

of beds. It owns and operates 55,2% of the general hospital beds, 73,1% of the specialized hospital beds, and 35,6% of the maternity hospital beds (MOH, 2004).

1. 11 Education in Palestine:

1.11.1 General Education:

1.11.1.1 Schools and Kindergartens:

The main findings of the Educational Institutions Census 2005/2006 showed that there are 3,212 schools and kindergartens in the Palestinian Territory. These institutions are distributed by region as follows: 2,444 in the West Bank and 768 in Gaza Strip. They are distributed by supervising authority as follows: 1,726 governmental schools, 4 governmental kindergartens, 279 UNRWA schools, 272 private schools and 935 private kindergartens (PCBS, 2006).

1.11.1.2 Students:

The census findings showed that there are 1,144,631 students (pupils) attending schools and kindergartens, of these 689,015 in the West Bank and 455,616 in Gaza Strip. These students (pupils) are distributed by gender as follows: 574,863 males and 569,768 females. They are distributed according to supervising authority as follows: 749,964 students in governmental schools, 180 children in governmental kindergartens, 251,118 students in UNRWA schools, 66,407 students in private schools and 76,962 Children in the private kindergartens (PCBS, 2006).

1.11.1. 3 Classes:

The results showed that there are 34,099 classes at schools and kindergartens. The classes are distributed by region as follows: 22,705 are in the West Bank and 11,394 are in Gaza Strip. Classes are distributed by gender as follows: 12,617 are male classes, 12,739 are female classes and 8,743 are co-ed. classes. They are distributed by stage as follows: 3,080 are kindergarten classes, 27,015 are basic stage classes and 4,004 are secondary stage classes (PCBS, 2006).

1.11.1. 4 Teachers:

The findings showed that there 43,924 teachers in schools and kindergartens, they are distributed by region as follows: 28,230 are in the West Bank and 15,694 are in Gaza Strip. They are distributed by supervising authorities as follows: 29,018 are in governmental schools, 25 are in governmental kindergartens, 7,978 are in UNRWA schools, 3,961 are in private schools and 2,942 teachers are in private kindergartens (PCBS, 2006).

1.11.1. 5 General Indicators:

The census results showed that for the scholastic year 2004/2005 the repetition rate in basic stage was 1.7% and 0.6% in the secondary stage, while the dropout rate from basic stage was 0.7% and it was 3.1% from secondary stage. Also the findings showed that for the scholastic year 2005/2006, the average number of students per teacher in schools varies according to supervising authority. 25.8 in the governmental schools, 31.5 in the UNRWA school, 16.8 in private schools and 26.0 child per teacher in kindergartens. About the average number of students per class for the same year, the findings showed that it varies from supervising authority to another. It reached 33.9 in governmental schools, 41.1 in UNRWA schools, 23.7 in private schools and 25.0 child per class in kindergartens (PCBS, 2006).

1.12. Higher education:

1.12.1 Universities and Community colleges:

The main findings of the Educational Institutions Census 2005/2006, showed that there are universities11 and 9 colleges offering B.A. degree (university colleges) in the Palestinian Territory. Among these universities and university colleges there are 8 universities and 6 university colleges in the West Bank and 3 universities and 3 university colleges in Gaza Strip. The findings also showed that there are 20 community colleges in the Palestinian Territory, among them there are 16 in the West Bank and 4 in Gaza Strip (PCBS, 2006).

1.12.2 Students:

The findings showed that there 113,417 students attending universities and university colleges in the scholastic year 2005/2006, of which 57,168 males and 56,249 females. Also there are, 8,511 students attending community colleges in the same scholastic year, they are distributed by gender as follow: 4,424 males and 4,088 females (PCBS, 2006).

1.12. 3 Teaching Staff:

The total number of teaching staff in Palestinian universities and university colleges for the scholastic year 2005/2006 was 3,688 They are distributed by gender as follows: 3.169 males and 519 females. Among them 2,214 are working full time and 1,474 are working part time. In community colleges the findings showed that there is 356 teaching staff, all of them working full time (PCBS, 2006).

1.12.4 Literacy:

The main findings of Labor Force Survey 2005, showed that the literacy rate is 92.9% among individuals aged 15 years and over in the Palestinian Territory. This rate varies between males and females: 96.9% for males and 88.9% for females (PCBS, 2006).

1.13 Conclusion:

This study comprise six chapters, beginning with chapter one which includes, back ground of the study, problem statement, justifications, objectives, researches questions, and study hypotheses. Chapter two includes literature review, including previous studies from different sources such as magazines, previous master studies, and internet. Regarding chapter three, it includes theoretical frame work with two conceptual models. Chapter four talks about methodology which includes, study design, setting of the study, study population, sample and sampling, inclusion criteria, and data collection procedure. Chapter five includes, data analysis, and discussion of the results. Chapter six includes the main results, implications, suggestions and recommendations.

Chapter 2
Review of Literature

2.1 Introduction:

Hypertension or high blood pressure is a silent but dangerous disease, it's estimated to cause 4.5% of current global disease burden and is prevalent in many developing countries, as in the developed world. Hypertension is considered a highly prevalent risk factor for CVD throughout the industrialized world. It's becoming and increasingly common health problem worldwide because of increasing longevity and prevalence of contributing factors such as obesity, physical inactivity and unhealthy diet.

The current prevalence in many developing countries, particularly in urban societies is already as high as those seen in the developed countries. World wide hypertension is estimated to cause 7.1 million premature deaths and 64 million disability- adjusted life years (DALYs), which shows that the proportion of global disease burden attributable to hypertension is substantial. Hypertension plays a major role in the development of cerebrovascular disease, ischemic heart disease, cardiac and renal failure.

Treating hypertension has been associated with about a 40% reduction in the risk of stroke and about 15% reduction in the risk of myocardial infarction. Although the treatment of hypertension has been shown to prevent CVD, extend and enhance life, hypertensions remains inadequately managed everywhere. In addition, hypertension often coexists with other cardiovascular risk factors, such as tobacco use, diabetes, hyperlipedemia and obesity, which compound the cardiovascular risk attributable to hypertension. World wide these coexistent risk factors are inadequately addressed in patients with hypertension, resulting in high morbidity and mortality (whithworh, 2003).

High Blood pressure is always a distributed variable, and the risk of associated cardiovascular disease likewise rises continuously. The point at which blood pressure is defined as hypertension is therefore somewhat arbitrary. Presently finding sustained blood pressure of 140/90 mmHg or above, measured on both arms is generally regarded as diagnostic. Because blood pressure readings in many individuals are highly variable especially in the office setting, the diagnosis of hypertension should be made only after noting a mean elevation on two or more readings on two or more office visits, unless the elevations are severe or associated with compelling indications such as diabetes mellitus,

chronic kidney disease, heart failure, post-myocardial infarction, stroke, and high coronary disease risk.

This disease is attributed to age; over time, the number of collagen fibers in artery and arteriole walls increases, making blood vessels stiffer with the reduced elasticity comes a smaller cross-sectional area in systole, and so a raised mean arterial blood pressure. Besides, high salt intake, sedentary lifestyle, tobacco smoking, alcoholism, high levels of saturated fat in the diet, obesity, stress, Low birth weight, Diabetes mellitus, various genetic causes, occupational, aircraft noise and roadway noise.

The mechanisms behind the factors associated with essential hypertension are generally fully understood, and are outlined at secondary hypertension. However, those associated with essential hypertension are far less understood. What is known is that cardiac output is raised early in the disease course, with normal total peripheral resistance (TPR); over time cardiac output drops to normal levels but TPR is increased. Three theories have been proposed to explain this. Inability of the kidneys to excrete sodium, resulting in natriuretic factor, the existence of this substance is to promote salt excretion with the side-effect of raising total peripheral resistance. An overactive rennin / angiotension system leads to vasoconstriction and retention of sodium and water; increases blood volume leads to hypertension.

An overactive sympathetic nervous system, leading to increased stress response.

Hypertension is usually found incidentally "case finding" by healthcare professionals, Its normally produces no symptoms. While elevated blood pressure alone is not an illness, it often requires treatment due to its short- and long-term effects on many organs. The risk is increased for Cerebrovascular accident CVAs or strokes, myocardial infarction (heart attack), hypertensive cardiomyopathy (heart failure) due to chronically high blood pressure, hypertensive retinopathy (damage to the retina), hypertensive nephropathy (chronic renal failure) due to chronically high blood pressure, which considered very serious complications. Treatment of hypertension can be through two means, life style modification and medications. Doctors recommend weight loss and regular exercise as the first steps in treating mild to moderate hypertension.

These steps are highly effective in reducing blood pressure, but easier to suggest than to achieve, and most patients with moderate or severe hypertension end up requiring indefinite drug therapy to bring their blood pressure down to a safe level. Discontinuing tobacco smoking does not directly reduce blood pressure, but is very important for people with hypertension because it reduces the risk of many dangerous outcomes of

hypertension, such as stroke and heart attack. Mild hypertension is usually treated by diet, exercise and improved physical fitness. A diet rich in fruits and vegetables and fat-free dairy foods and low in fat and sodium lowers blood pressure in people with hypertension. Dietary sodium chloride (salt) causes hypertension in some people and reducing salt intake decreases blood pressure in a third of people. Regular mild exercise improves blood flow, and helps to lower blood pressure. Reduction of environmental stressors such as noise health effects, high sound levels and over illumination can be an additional method of ameliorating hypertension.

There are many classes of medications for treating hypertension, together called antihypertensives, which by varying means act to lowering blood pressure. Evidence suggests that reduction of the blood pressure by 5-6 mmHg can decrease the risk of stroke by 40%, of coronary heart disease by 15-20%, and reduces the likelihood of dementia, heart failure, and mortality from vascular disease. Commonly used drugs including, Beta blockers, Angiotensin-converting enzyme inhibitors (ACE), Angiotensin receptor blockers, Calcium channel blockers, Diuretics and Alpha blockers. The aim of treatment should be blood pressure control (<140/90 mmHg) for most patients. Each added drug may reduce the systolic blood pressure by 5-10 mmHg, so often multiple drugs are necessary to achieve blood pressure control (wikipedia.com).

2.2 Gender and hypertension:

Gender is an important factor in the course of any disease particularly in chronic diseases such as hypertension in which the epidemiological distribution and the effect of the disease is quit different in both sexes. Therefore, the study of this factor is necessary.

A Cross-Sectional Study was conducted in Greece about, Prevalence, Awareness, Treatment and Control of Hypertension, it involved a total of 11,950 participants and data for 11,540 were analyzed, comprising 0.1% of the Greek population. The prevalence of hypertension was 31.1% (men 33.6%, women 28.4%); among elderly individuals (>65 years) the prevalence was higher (65.4%). Of the hypertensive individuals, 39.8% did not know that had hypertension, yielding an awareness of 60.2%; in addition, 12.4% were aware but not treated (men 13.1%, women 11.8%). In all, 51.2% (1838) of hypertensive subjects were treated; 67.2% (1235) were treated but not controlled (men 66.7%, women 67.7%); and 32.8% (603) were treated and controlled (men 33.3%, women 32.3%), (Efstratopoulos, 2006).

Another study that was conducted by Wiinber and colleagues showed that, blood pressure is higher in men than in women at similar ages. They studied 352 normotensive Danish men and women, aged 20 to 79 years, and found that blood pressure increased with aging in both men and women, but that men had higher 24-hour mean blood pressure, by approximately 6 to 10mm Hg, than did women, until the age of 70 to 79 years, when blood pressure was similar for men and women (Wiinber et al, 1995).

To assess blood pressure (BP) control according to gender in a French working population through the use of a careful assessment of BP based on two different visits in one month,17 359 men and 12 267 women were evaluated from January 1997 to April 1998. The initial phase was a cross-sectional analysis of a cohort study designed to assess the incidence of arterial hypertension in a French working population. Information was collected by the work-site physician during the annual examination. BP was measured with a validated automatic device. Among subjects with BP≥140/90mm Hg, patients not treated with antihypertensive drugs were invited to have an additional BP measurement taken one month later.

The prevalence of hypertension (BP≥140/90mmHg, based on two visits was 16.2% in men and 9.4% in women. When the diagnosis of hypertension was based on two visits, its prevalence was 41% lower in men and 36% lower in women compared with that of a diagnosis based on a single visit. Accordingly, the awareness of hypertension was 49% higher in men and 40% higher in women (Lang, et al, 2001).

The Department of Community and Family Medicine, at the Medical School of Jichi in Japan has conducted a cross sectional study about Prevalence, awareness, treatment, and control of hypertension in Japanese rural communities, the study included, 11,302 subjects 4,415 men and 6,887 women. The mean standard deviation age was 55 years for men and 55 years for women. Mean systolic BP and diastolic BP levels were, respectively, 131 mmHg and 79 mmHg for men and 128 mmHg and 76 mmHg for women. Prevalence of hypertension systolic BP > or = 140 mmHg or diastolic BP > or = 90 mmHg or on antihypertensive medication was 37% for men and 33% for women. Percentages for awareness on medication or present past history, treatment and control both systolic BP < 140 mmHg and diastolic BP < 90 mmHg were, respectively, 39%, 27% and 10% for men and 46%, 38% and 13% for women (Asia, et al, 2001).

Another study with a cross-sectional design included, a random sample of 6136 workers referred for annual check-up from Martinique, French Guyana and Guadeloupe. An average of three consecutive measurements were taken for the blood pressure (BP) level, an additional visit was required for subjects not taking antihypertensive medications with an average BP over 140/90 mmHg. The study results showed that, the age-specific prevalence of hypertension, based on two visits, increased from 3.2% in men below 30 years to 46.9% in those older than 50 years. The corresponding values found in women were 1.8 and 42.6%. The overall prevalence was 19.5% in men and 18.9% in women. The rate of awareness remained low while age increased. The use of antihypertensive medications slowly increased with age, but overall the rate remained lower in men compared with women. Up to 71% of hypertensive women received antihypertensive medications. Compared with previous studies, a high proportion of adequately treated patients was found among women 44.9% Only 30.4% of hypertensive men were treated, and as a result the control rate was lower to 13.3% (Inamo, et al, 2005).

In a systematic review study in which a literature search of the Medline database, using cross-sectional studies which, conducted in representative population samples reported the prevalence of hypertension, were included in the review. The search was restricted to studies published from January 1980 through July 2003. All data were extracted independently by two investigators using a standardized protocol and data collection form. Results revealed that, the reported prevalence of hypertension varied around the world, with the lowest prevalence in rural India 3.4% in men and 6.8% in women and the highest prevalence in Poland 68.9% in men and 72.5% in women. Awareness of hypertension was reported for 46% of the studies and varied from 25.2% in Korea to 75% in Barbados; treatment varied from 10.7% in Mexico to 66% in Barbados and control; blood pressure < 140/90 mmHg while on antihypertensive medication varied from 5.4% in Korea to 58% in Barbados (Kearney, et al, 2004).

The Department of Hygiene and Epidemiology, School of Medicine, University of Athens, in Greece conducted a study about the prevalence of hypertension in the country in which 26 913 volunteers, aged 20-86 years, were recruited from several regions of Greece. Blood pressure measurements were taken by trained physicians and standard interviewing procedures were used to record medical history, and socio-demographic and lifestyle characteristics. The data were modeled through multiple regressions. Results

showed that, the prevalence of hypertension based on two arterial blood pressure measurements on a single occasion is 40.2% for men and 38.9% for women in the sample examined. Prevalence of hypertension increases with age and is higher in rural areas and among individuals of lower education (Psaltopoulou, et al, 2004).

Jaddou and colleagues have conducted a study in 1994, in Jordan concerning prevalence and associated factors of hypertension in which they have used a cross-sectional population survey of a systematic sample of three communities. Data for the sample of 2299 adults, aged 25 years and older, were collected from September 1994 to September 1995. Results showed that, a total of 370 subjects or 16.1% were found to have hypertension. The prevalence rate was higher among women (17.1%) than men (14.4%). Logistic regression analysis indicated that hypertension was positively associated with gender, age, family history of hypertension, diabetes mellitus, and total serum cholesterol, but negatively associated with level of education. No association between hypertension and smoking was detected in this study. (Jaddou, et al, 1996).

Earlier in 2003, the Department of Medical Statistics and Epidemiology, at Hamad General Hospital and Hamad Medical Corporation have conducted a cross-sectional study, which was carried out in primary health care clinics (PHCs). The survey was conducted from January through to July 2003 among Qatari national's 25-65-years of age. Of the 1500 patients who were reached to participate in study, 1208 (80.5%) gave their consent. Face-to-face interviews were based on a questionnaire that included variables on age, sex, socioeconomic status (SES), income level, cigarette smoking, physical activity, lifestyle, body mass index (BMI), and blood pressure. Hypertension was defined according to the world health organization criteria as systolic blood pressure (SBP) >140 mm Hg or diastolic blood pressure (DBP) >90 mm Hg, or both. Results showed that, the prevalence of hypertension (BP ≥140 or ≥90 mm Hg, or both or known hypertensive was (32.1%), 32.6% in men and 31.7% in women. The age-standardized prevalence of hypertension adjusted to the adult population of Qatar was (31.1% 95%) confidence interval (26.7-35.5%) in men and 30.2% in women 95% confidence interval (25.8-34.6%). The CVD risk factor of obesity was more prominent among women 528 (78.3%) than among men 334 (68.9%) (p<0.001). (Bener, et al, 2004).

This study was conducted in Turkey, to estimate the prevalence of hypertension and to determine the hypertension awareness, treatment and control rates in Aydin, a Turkish province. It was a cross sectional design, sample size included 1600 subjects, who were coincidentally selected aged over 18 years in Aydin, 1480 (92.5%) of them had their blood pressure (BP) measured and answered a standard questionnaire. The study results indicated that, estimates of the prevalence of hypertension and its control were computed using two different criteria to define hypertension: BP > or =140/90 mm Hg or on treatment and BP ≥160/95 mm Hg or on treatment. Overall, the estimated prevalence of hypertension was 29.6% (for BP ≥140/90 mm Hg or on treatment). Hypertension prevalence increased progressively with age, from 9% in 18- to 29-year-olds to 70.6% in those 70-79 years of age. Women had a significantly higher prevalence than men (34.1% vs. 26.0% respectively). (Sonmez, et al, 1999).

2.3 Age and hypertension:

Age as a main socio demographic variable must be studied in relation to a dangerous chronic illness such as, hypertension in which younger hypertension patients can react and respond much better than older patients in terms of, complaining with their treatment , recognizing the complications of their illness and consequently avoiding these complications. Therefore, we will receive fewer disabilities and lives loss and more savings of expenses.

A team of researchers led by Mohsen Ibrahim have conducted the following study concerning the prevalence of hypertension in Egypt, in which a cross sectional design was used. The study population was 6733 aged 25 years and over, who were selected with the use of a stratified multistage probability design, in which response rate was 85% who were examined. Hypertension was defined as systolic pressure≥140 mm Hg, and/or diastolic pressure≥ 90 mm Hg, and/or reported treatment with one or more antihypertensive medications. They found that, the estimated prevalence of hypertension in Egypt was 26.3%. Hypertension prevalence increased progressively with age, from 7.8% in 25- to 34-year-olds to 56.6% in those 75 years or older. Hypertension was slightly more common in women than in men (26.9% versus 25.7%, respectively). (Ibrahim, et al, 1995).

The International Collaborative of Cardiovascular Disease in Asia conducted a Study in 2000-2001, used a multistage cluster sampling method to select a nationally representative sample. A total of 15 540 adults, age 35 to 74 years, were examined. Three blood pressure measurements were obtained by trained observers by use of a standardized mercury sphygmomanometer after a 5-minute sitting rest. Information on history of hypertension and use of antihypertensive medications was obtained by use of a standard questionnaire. Hypertension was defined as a mean systolic blood pressure ≥140 mm Hg, diastolic blood pressure ≥90 mm Hg, and/or use of antihypertensive medications. Results revealed that, 27.2% of the Chinese adult population aged 35 to 74 years old, representing 129 824 000 persons, had hypertension. The age-specific prevalence of hypertension was 17.4%, 28.2%, 40.7%, and 47.3% in men and 10.7%, 26.8%, 38.9%, and 50.2% in women aged 35 to 44 years old, 45 to 54 years, 55 to 64 years old, and 65 to 74 years old, respectively. (Gu, D., et al, 2002).

The Oporto School of Medicine conducted a study in 2003, and a multistage cluster sampling method was used to select a national representative sample. A total of 5023 adults, age 18-90 years, were examined. Three blood pressure measurements were obtained by trained observers using an (OMROM M4-I) sphygmomanometer after a 5-minutes sitting rest. Information on the history of hypertension and the use of antihypertensive medications was obtained by use of a standard questionnaire. Hypertension was defined as a mean systolic blood pressure ≥140 mmHg and/or diastolic blood pressure ≥mmHg, or the use of antihypertensive medications. The research team stated that, Overall, 42.1% of the Portuguese adult population aged 18-90 years old, representing 3 311 830 people, had hypertension. The age-specific prevalence of hypertension in the three age groups studied--younger than 35 years old, 35-64 years old and older than 64 years--was 26.2, 54.7 and 79% in men and 12.4, 41.1 and 78.7% in women, respectively. (Macedo, et al, 2005).

Wang, ZW. (2004), and collogues conducted this study which, comprised two cross-sectional surveys including urban and rural residents, manual workers, farmers and fishermen in different southern and northern parts of China. There were 13 populations under research with comparable data. 18 746 (in 1992 - 1994) and 13 504 (in 1998) participants, aged 35 through 59 years old, equal number of men and women, were examined in each of the surveys, on blood pressure measurement, in 1992 - 1994 and in

1998. Hypertension was defined as systolic pressure ≥ 140 mm Hg, and/or diastolic pressure ≥ 90 mm Hg, and/or reported treatment with antihypertensive medications. Awareness and treatment on hypertension were assessed with standardized questions. Hypertension control was defined as measured blood pressure of less than 140/90 mm Hg. Awareness, treatment and control of hypertension were standardized according to the WHO world standard population.

The results came out showing that, in 1998, 24.0% of participants had hypertension, an increase of 2.3% from 1992 - 1994. Prevalence of hypertension was higher in urban area (25.4%), increasing with age, and higher in men among the younger groups and lower in women among the older groups. Overall, in 1998, 42.6% were aware of their hypertensive status (increase of 5.3%), 31.3% were treated (increase of 3.8%), and the rate under control was 6.0% (increase of 2.6%). The rates of awareness, treatment and control, which tended to increase with age except those aged above 55 years old, which were higher in urban areas and women compared with rural areas and men. (Wang, et al, 2004).

A survey was conducted by the Department of Medicine, University of South Carolina, in which the most recent NHANES survey, conducted in 1999-2000 (n = 5448), was compared with the 2 phases of NHANES III conducted in 1988-1991 (n = 9901) and 1991-1994 (n = 9717). A stratified multistage probability sample of the civilian non-institutionalized population, which included individuals aged 18 years old or older. Hypertension, defined as a measured blood pressure of 140/90 mm Hg or greater or reported use of antihypertensive medications. Hypertension awareness and treatment were assessed with standardized questions. Hypertension control was defined as treatment with antihypertensive medication and a measured blood pressure of less than 140/90 mm Hg. Results revealed that, in 1999-2000, 28.7% of NHANES participants had hypertension, an increase of 3.7% (95% confidence interval CI, 0%-8.3%) from 1988-1991. Hypertension prevalence was highest in non-Hispanic blacks (33.5%), increased with age (65.4% among those aged > or =60 years), and tended to be higher in women (30.1%). In a multiple regression analysis, increasing age, increasing body mass index, and non-Hispanic black race/ethnicity were independently associated with increased rates of hypertension. Overall, in 1999-2000, 68.9% were aware of their hypertension nonsignificant decline of -0.3%; 95% (CI, -4.2% -3.6%), 58.4% were treated increase of 6.0%; 95% (CI, 1.2%-10.8%) (Hajjer, 2003).

A cross-sectional survey in Ansan-city, Korea, was conducted using a population-based samples of people aged 18-92 years old were selected, yielding 2278 men and 1948 women, and their blood pressures were measured using a highly standardized protocol. Hypertension was defined as a systolic BP ≥140 mmHg or diastolic BP ≥90 mmHg or reported treatment with antihypertensive medications, and sub-classified according to 1999 WHO-ISH guidelines. Isolated systolic hypertension (ISH) defined as a systolic BP ≥140 mmHg and diastolic BP < 90 mmHg was also examined. Data were stratified by age and sex. Results indicated that, age-specific prevalence of hypertension increased progressively with age, from 14.19% in 18 to 24 year olds to 71.39% in those 75 years or older. Hypertension prevalence was significantly higher in men (41.5%) than in women (24.5%) (P < 0.001). Isolated systolic hypertension had significantly lower prevalence (4.33%) within the population, although in the elderly aged 55 years old or more it rose by 11.13% (Jo, et al, 2001).

The Tulane University School of Public Health and Tropical Medicine, New Orleans, Louisiana conducted a cross-sectional survey in 2000-2001, in which a multistage cluster sampling method was used to select a nationally representative sample of 15 540 men and women aged 35-74 years old from the general Chinese population. In which three blood pressure measurements were obtained by trained observers using a standardized mercury sphygmomanometer. Information on history of hypertension and use of antihypertensive medications was obtained by use of a standard questionnaire. Hypertension was defined as a mean systolic blood pressure ≥140 mmHg and/or diastolic blood pressure ≥90 mmHg and/or use of antihypertensive medications. The Results showed that, age-standardized prevalence of hypertension was significantly higher among residents living in north than in south China 33.8% versus 23.3%, P < 0.001, but similar in those living in urban and rural areas 29.0% versus 28.1%, P = 0.3. Average systolic and diastolic blood pressure levels were consistently higher in north than in south residents. (Reynolds, et al, 2003).

Another study was conducted in Pakistan using a Cross sectional survey, through multi-stage sampling of 857 adult subjects in 405 households that was, conducted between April and September 2002. It revealed that, the overall prevalence of hypertension was 26% (95% C.I. 23- 29), the prevalence among males (34%) was higher than females (24%). The mean age of participants was 35 +/- 14 years, the prevalence of hypertension

increased with age. Proportionately there were more cases of hypertension among male participants over 35 years of age as compared with female participants of the same age (p < or = 0.001). Fifty-eight percent of hypertensive patients were unaware of their hypertension. None of the hypertensive subjects who were aware of their condition had blood pressure under 140/90 mmHg. Stratified analysis revealed significant risk factors for hypertension. Hypertension was 1.7 (OR 95% C.I. 1.14 - 2.42) times more common among males then females. Males were 1.7 (OR 95% C.I. 1.06- 2.6) times less likely to have been aware of their hypertension status. Age analysis revealed that the prevalence of hypertension increased with age and hypertensive subjects were 5.6 (OR 95% C.I. 3.9-8.1) times more likely to be over 35 years of age (Safder, et al, 2004).

In 2001, a case control study was done in the United Arab Emirates (UAE) concerning the relationship between hypertension and demographic, socioeconomic and lifestyle factors, in which a multi-stage stratified cluster sampling design was used, sample size included 500 hypertensive patients, aged 20-65 years old and the same number was used as control. Results showed that, among hypertensive patients, the mean and standard deviation (SD) of blood pressure [systolic 141.9, SD (17.1) mmHg/diastolic 92.7, SD (9.8) mmHg] was significantly higher than for controls [systolic 116.8, SD (8.7) mmHg/ diastolic 75.7, SD (6.2) mmHg] ($P < 0.0001$), the categories with the highest rates of hypertension were, men (55.3%), age group 40–49 years old (39.7%), non-UAE nationals (52%), urban living (93.3%), currently married (86.7%), having children (93.6%), illiterate (33.7%), administrative/professional job (40.7%), living in mud-brick or traditional house (56.9%) and low income < 5000 dirham per month 34.1% (Sabri, 2004).

Taha and Bella have conducted a cross-sectional study on Saudi male and female attendees aged 18 to 70 years old at the South-West Thogbah primary health care centre, a sample of 250 attendees 100 males and 150 females were included using a systematic random process and data was collected using a structured questionnaire in Arabic, which was modified from the American Heart Association of South-East Pennsylvania hypertensive screening questionnaire, about 91% (227) of the original sample were interviewed, comprising 90 males and 137 females. The mean age of the population studied was 36.1 ± 12.1 years old, being 41.5 ± 11.2 years old for males and 32.5 ± 11.4 years old for females. Males were significantly older than females ($P < 0.001$). The population of educated males was significantly higher than that for females 81.1% versus

42.3%; $P < 0.001$, more than 50% of females were illiterate. Results showed that, the prevalence of hypertension increased significantly with age from 1.3% in those aged 18-29 years to 23.1% in those aged 60 years. A similar increase was seen in both sexes. At age 60 years old and above, the prevalence of definite hypertension was 25.0% in males and 20.0% in females (Taha, & Bella, 1998).

2.4 Educational level and hypertension:

Educational attainment is no less important variable than both gender and age because it can aid to the chronic patient especially with hypertension to read about his illness, to follow the physician's instructions wither its written or verbal, he can participate in different activities held in the community such as educational sessions, survey studies as well as he can help in educating other illiterate patients. Therefore, we must look up some research studies encountered this variable.

Kalantan and collogues have conducted a cross sectional study in Al-Qassim region, Saudi Arabia, in which 30 primary health care centers were selected through a cluster sample, forty attendants were chosen randomly from each center. A questionnaire inquiring sociodemographic characteristics and awareness was completed by interview with each participant, height and weight were measured. The study sample included 1114 persons. They discovered that, 338 (30%) were hypertensive patients blood pressure >140/90, the prevalence increased with age. It was higher in males (33%), single persons (44%), illiterate (33%), merchants (45%) and obese persons (35%). Age above 40 years old, illiteracy, overweight and obesity were independently associated with hypertension with statistically significant value. Less than one 4th (23%) of hypertensive patients were aware of their hypertension (Kalantan, et al, 2001).

The following study was conducted in Bahrain regarding high blood pressure and educational status in which cross sectional was used, sample size included 2120 Bahrainis aged 40–69 years old. Data was collected by taking blood pressure measurements and a questionnaire on demographic background, medical history, and health-related behavior was administered in Arabic by a nurse. Hypertension was defined as systolic blood pressure (SBP) ≥160 mmHg, diastolic blood pressure (DBP) ≥95 mmHg or being on current antihypertensive therapy in accordance with WHO criteria. Participants who did not have definite hypertension by these criteria were classified as normotensive (SBP≥140

and DBP≥90 mmHg) or borderline hypertensive (SBP >140 mmHg or DBP >90 mmHg). Educational level was grouped into five categories: illiterate, literate with no formal schooling, primary school only, secondary school only and higher education. Results indicated that, the age-adjusted prevalence of hypertension defined as current treatment for hypertension, systolic blood pressure ≥160 mmHg or diastolic blood pressure ≥95 mmHg rose with increasing degrees of glucose intolerance. Age- and sex-standardized prevalence of hypertension was 21% (95% CI: 19–24%) in those with normal glucose tolerance, 31% (95% CI: 27–36%) in those with impaired glucose tolerance, and 38% (95% CI: 34–42%) in those with diabetes. There was an inverse relationship between blood pressure and educational status that was independent of other variables. (AL-Mahroos, et al, 2000).

In October 2001 another study was conducted in the United Arab Emirates UAE, in AL Aain city. This was a matched case–control study to determine the relationship between hypertension and demographic, socioeconomic and lifestyle factors. In which a multi-stage stratified cluster sampling design was developed using the administrative divisions of the Al-Ain city medical health district which have approximately equal numbers of inhabitants, the sample size was 500, cases and 500, control, aged 20-65 years old. Blood pressure measurement was carried out by practicing nurses who were trained for one week; a questionnaire was introduced to both cases and controls for sociodemographic data to be filed. Hypertension was defined according to World Health Organization (WHO) standardized criteria as systolic BP 140 mmHg and/or diastolic BP 90 mmHg and/or the use of antihypertensive medication. Control participants were those with systolic blood pressure < 140 mmHg or diastolic < 90 mmHg and not currently taking antihypertensive medication. Among hypertensive patients, the mean and standard deviation (SD) of blood pressure [systolic 141.9, SD (17.1) mmHg/diastolic 92.7, SD (9.8) mmHg] was significantly higher than for controls [systolic 116.8, SD (8.7) mmHg/ diastolic 75.7, SD (6.2) mmHg] (P < 0.0001). Among the hypertensive patients, the categories with the highest rates of hypertension were, men (55.3%), age group 40–49 years old (39.7%) non-UAE nationals (52%) urban living (93.3%) currently married (86.7%), having children (93.6%) illiterate (33.7%), administrative/professional job (40.7%) living in mud-brick or traditional house (56.9%) and low income (< 5000 dirham per month) (34.1%). There were statistically significant differences between cases and controls in the percentage of participants having 3 or more children (P = 0.034),

administrative/professional occupation (P < 0.037), (low/medium income (5000–9999 dh) (P < 0.001) and obesity (BMI > 30 kg/m2) (P < 0.001) (Sabri, et al, 2004).

In the same context, Saeed and colleagues have performed this study which a cross sectional survey, its setting was Primary Health Care Centers (PHCCs) in Riyadh city selected by stratified random sampling, sample size included, a total of 1394 adults aged 15 years and over who were selected by systematic sampling from their records in the (PHCCs), the revealed that, The total hypertensive subjects were 214 giving an overall prevalence of hypertension of 15.4%. Of these 157 (11.3%) subjects were known hypertensives and were under some form of treatment. On the other hand 57 (4.1%) other subjects were newly detected by the study. Hypertension (BP = 160/95 mm Hg or more) was significantly related to age, marriage, education, occupation and employment status and consanguinity. Male subjects had a higher prevalence of hypertension but the differences were not significant. Nationality and income were not related to high BP (Saeed, et al, 1996).

The following cross sectional study was conducted in Sierra Leone in which 598 subjects from Free Town and 606 subjects from three villages in the northern province of Sierra Leone were selected for this study using multi-stage sampling. All were adults aged 15 years old and over. Single blood pressure measurements were made after a minimum rest period of 10 minutes using a mercury sphygmomanometer, a questionnaire used to collect information on demographic, dietary, and social factors, including consumption of tobacco products, alcohol, and salt, palm oil, and kola nuts. Hypertension was as systolic blood pressure (SBP) was equal or greater than 160 mm Hg and/or diastolic blood pressure (DBP) was equal or greater than 95 mm Hg and/or there was a history of hypertension therapy. Results indicated that, the age-adjusted prevalence of hypertension in the Free Town and Port Loko subjects was 23.4% and 14.7%, respectively (P=0.006). Females had a higher prevalence in both populations. The most significant determinants of blood pressure were age, body mass index (BMI) and a low level of education. When adjusted for BMI and age, no significant difference in prevalence was observed between the two populations. The level of awareness was low, particularly in the rural areas (Lisk, et al, 1999).

Another cross sectional design study was performed in India in which a cluster of three villages in rural Rajasthan, Western India was the study setting, sample size included 3148 residents aged 20 years old and over (1982 men and 1166 women) divided into various groups according to years of formal schooling results, Illiteracy and low educational levels were associated with less prestigious occupations (agricultural and farm laboring) and inferior housing data was collected by administered questionnaire. Results showed that, there was an inverse correlation of educational level with age (rank correlation: men -0.45, women -0.49). The prevalence of coronary heart disease (diagnosed by electrocardiography) was significantly higher among uneducated and less educated people and showed an inverse relation with education in both sexes. Among uneducated and less educated people there was a higher prevalence of the coronary risk factors smoking and hypertension. Educational level showed a significant inverse correlation with systolic and diastolic blood pressure. Logistic regression analysis with adjustment for age showed that educational level had an inverse relation with prevalence of electrocardiographically diagnosed coronary heart disease (odds ratio: men 0.82, women 0.53), hypertension (men 0.88, women 0.56), and smoking (men 0.73, women 0.65) but not with hypercholesterolemia and obesity. The inverse relation of coronary heart disease with educational level abated after adjustments for smoking, physical activity, body mass index, and blood pressure odds ratio: men 0.98, women 0.78 (Gupta, et al, 1994).

A study conducted in Spain has emphasized the inverse relation between hypertension and educational level. It's a cross sectional design in which, 4009 subjects representative of the Spanish non-institutionalized population aged 60 years and older were included. Study subjects were selected through probabilistic multistage cluster sampling, the data was collected by personal interview using a structured questionnaire, followed by a physical examination to measure blood pressure and anthropometric characteristics, hypertension was defined as, systolic blood pressure was ≥ 140 mm Hg or their diastolic blood pressure was ≥ 90 mm Hg or they were on current antihypertensive drug treatment. Results indicated that, subjects with low educational level had a higher prevalence of hypertension 66.4% in men and 69.8% in women than those with high educational level 59.8% in men and 64.8% in women, although in women the difference was not statistically significant. In men, the prevalence differs between subjects with high and low educational level changed to 18% after adjusting for all the potential explanatory factors. In women, the gradient in

the prevalence of hypertension almost disappeared after adjusting for the potential explanatory factors. (Regidor, et al, 2006).

A study was conducted by the Department of Public Health, Faculty of Medical Sciences, University Hospital "Dr. Gustavo Aldereguia Lima," Cienfuegos, Cuba, it was about ethnicity, education, and blood Pressure, it's a cross sectional design in which a population-based sample of 1,667 persons aged 15–74 years old were recruited in a nonindustrialized country for this study, participants were classified as 29% as Black or mulatto and 71% as White. Educational attainment was stratified at the median number of school years. Results revealed that, white women compared with non white women had higher blood pressures (3.0/1.7, systolic blood pressure/diastolic blood pressure) and a higher prevalence of hypertension 24%, 95% (CI: 20- 28) vs. 15%, 95% (CI: 12- 18). Among men, no differences in blood pressure were observed by ethnicity. Men with a lower level of education had a 14% lower risk of hypertension compared with men above the median. However, women with a lower level of education had a 24% increase in risk. The effect of education was equally strong among whites alone and when occupation was used for stratification, no variation was observed as well as for body mass index (Ordunez, 2005).

Another study was performed to examine the association between hypertension incidence and education, in which the authors analyzed data from the First National Health and Nutrition Examination Survey (NHANES), and from the National Health Epidemiologic Follow-up Study (NHEFS). It's a longitudinal study, with sample size included 5861 persons aged 25-64 years old, and data were collected on a nationwide. A multistage, probability sample of the civilian non-institutionalized US population through personal interview, physical examination, and laboratory analyses during the time period 1982-1984. Study population included non-Hispanic White persons who were 25–64 years old of age at baseline and non-Hispanic Black persons who were 25–44 years old of age. Incident hypertension was defined as follow-up systolic blood pressure equal to or greater than 160 mmHg and/or diastolic blood pressure equal to or greater than 95 mmHg and/or follow-up report of current use of antihypertensive medication. Educational attainment at baseline was measured as the highest completed grade of school and categorized as less than 12 years, 12 years, and more than 12 years. The results revealed that, the age-adjusted relative risk of hypertension incidence among persons with less than 12 years of education compared with those with more than 12 years was significant among non-

Hispanic Whites aged 25–44 years old (men: Relative Risk (RR) = 2.14, 95% confidence interval (CI: 1.29- 3.54); women: RR = 2.06, 95% (CI: 1.39- 3.05) but not among non-Hispanic Blacks (RR = 1.16, 95% (CI: 0.63- 2.14). Relative risks for non-Hispanic White men remained stable after adjusting for age, systolic blood pressure, body mass index, and region of residence; relative risks for non-Hispanic White women were reduced but remained significant. Non-Hispanic White men and women aged 45–64 years old with less than 12 years of education were not at higher risk of developing hypertension compared with their more educated counterparts (Vargas, et al, 2000).

2.5 Income and hypertension:

Income is one of most important element of the socio economic chrematistics that set the bases for the living standards for any community as well as any individual. When the people in any community enjoy a high income then they can afford to pay any price for their health services, and they can get the best services which means they can live a long stable life with less complications especially from chronic diseases such as hypertension. Here are some studies concerning income and hypertension.

The Department of Psychiatry, and Internal Medicine, Faculty of Medicine & Health Science, UAE University has conducted the following study to reveal the correlation between hypertension and income distribution among United Arab Emirates population. It's a Case-control study matched for age, sex, nationality and education. The survey included 500 hypertensive adults aged 20-65 years old ascertained from urban and semi-urban Primary Health Care (PHC) Clinics along with a randomly selected sample of 500 control subjects from the community. Face-to-face interviews were done where data were collected on socio-demographic-economic status (SES) and lifestyle habits. Hypertension was defined according to WHO criteria as having Systolic Blood Pressure (SBP) $\geq$140 mm Hg and/or Diastolic Blood Pressure (DBP) $\geq$90 mm Hg and/or being on antihypertensive treatment. A total of 818 subjects were included in this study from a sample of 1000; 409 cases and 409 controls. There were 422 males and 396 females in this study, with 255 UAE nationals and 438 expatriates. Results showed that, hypertension was found to be significantly higher among the low income group (35.2% vs. 24.9% controls, p = 0.002; while mean SBP in the low income group was 130.2 +/- 17.6 vs. 128.0 +/- 17.4 controls, p = 0.022) (Sabri, et al, 2005).

In October 2001 another study was conducted in the United Arab Emirates UAE, in AL Aain city This was a matched case–control study to determine the relationship between hypertension and demographic, socioeconomic and lifestyle factors. A multi-stage stratified cluster sampling design was developed using the administrative divisions of the Al-Ain city medical health district which have approximately equal numbers of inhabitants, the sample size was 500, cases and 500, control, aged 20-65 years old. Blood pressure measurement was carried out by practicing nurses who were trained for one week; a questionnaire was introduced to both cases and controls for sociodemographic data to be filed. Hypertension was defined according to World Health Organization (WHO) standardized criteria as systolic BP 140 mmHg and/or diastolic BP 90 mmHg and/or the use of antihypertensive medication. Control participants were those with systolic blood pressure < 140 mmHg or diastolic < 90 mmHg and not currently taking antihypertensive medication. Among hypertensive patients, the mean and standard deviation (SD) of blood pressure [systolic 141.9, SD (17.1) mmHg/diastolic 92.7, SD (9.8) mmHg] was significantly higher than for controls [systolic 116.8, SD (8.7) mmHg/ diastolic 75.7, SD (6.2) mmHg] (P < 0.0001). Among the hypertensive patients the categories with the highest rates of hypertension were, men (55.3%) age group 40–49 years (39.7%) non-UAE nationals (52%) urban living (93.3%) currently married (86.7%) having children (93.6%) illiterate (33.7%) administrative/professional job (40.7%) living in mud-brick or traditional house (56.9%) and low income (< 5000 dirham per month) (34.1%). (Sabri, et al, 2004).

Still within the same context, the following cross-sectional study was performed to examine the associations between socioeconomic status (SES) and blood pressure (BP) in a peri-urban area of Jamaica, a middle-income developing country, in which 2082 subjects (847 men and 1249 women) aged 25-74 years old were recruited for this study. Trained staff measured BP using a standardized protocol; hypertension was defined as self-reported current use of hypertensive medication, mean systolic blood pressure (SBP) ≥ 140 mmHg or diastolic blood pressure (DBP) ≥90 mmHg. Questionnaires were used to collect information on self-reported income, education, and other relevant social and biological factors, including family history of hypertension, occupation, marital status, and life style modifications. Income was reported in six categories≤600 Jamaican Dollars (J$), J$601–1000, J$1001–3000, J$3001–6000, J$6001–12 000, and≥ J$12 000. Results showed that, Mean BP was similar in both sexes, although hypertension prevalence was higher in women than men (28.7 versus 20.1%), largely as a result of more treatment in women

(17% of women; 8% of men). Poverty was highly prevalent, and most participants had ≤6th grade education. Participants in both the lowest and highest income groups had elevated BP and hypertension prevalence relative to those in intermediate categories. Mean BP and hypertension were generally highest in the top income group, creating a J-shaped pattern. Differences in mean BP and hypertension prevalence across income groups were substantial. Compared with the group with lowest mean BP, participants in the top income category had 2–5 mmHg higher age-adjusted SBP, and 4–5 mmHg higher age-adjusted DBP. Similarly, there was a substantial difference in hypertension (9% among men, 11% among women) across income groups with the highest versus lowest prevalence (Mendez, et al, 2003).

Socioeconomic status (SES) is associated with coronary artery disease (CAD) risk factors, coronary morbidity and mortality. In industrialized countries several studies showed that the lowest SES groups have higher coronary morbidity and mortality rates and higher coronary risk factors profile. The aim of this cross sectional study was to investigate the distribution of risk factors in cases with CAD in different socioeconomic groups. The study group consists of 550 diagnosed cases with 50% or more lesions in at least one coronary artery. Educational level and income were taken into consideration for the determination of the SES. In both sexes the distribution of eight risk factors such as, smoking, family history, diabetes mellitus, hypertension, Low-Density Lipoprotein Cholesterol (LDL-C), High-Density Lipoprotein Cholesterol (HDL-C), body mass index, central obesity was compared in three different groups determined according to the education and income levels. Results showed that, the distribution of risk factors did not differ according to education level. In women, central obesity was found to be higher in the group with low education level. In men, the prevalence of low HDL-C, high LDL-C and obesity increased with increasing levels of economical status. In women, central obesity was found to be inversely related with the economic status (Sonmenz, et al, 2004).

2.6 Occupation and hypertension:

Some times occupation may have some effect on hypertensive patients especially those who are classified as white collar employees' directors, doctors, executive secretaries and accountants. Those who are exposed to stressors such as taking important decisions and exert mental efforts are more exposed to develop hypertension than those in blue collar jobs who are just exerting physical efforts such as labors, cleaners. Here are some research studies concerning this topic.

The National Blood Pressure Survey aimed to determine blood pressure levels among Omani people. Mr. Hasab and his colleagues have conducted this cross sectional study on a representative sample selected by the multistage stratified random procedure. The total Omani population that was examined are 4732 people; 2210 (46.70%) males and 2522 (53.30%) females, aged 18- 60 years old. Data were collected using a structured questionnaire interview and some measurements. Blood pressure was measured using a mercury sphygmomanometer, Systolic and diastolic blood pressures were measured at least twice and the mean of each was calculated and recorded. Results showed that, the mean systolic blood pressure (SBP) was 120.82 ± 23.01 mmHg; 121.47 ± 23.30 mmHg for males and 120.47 ± 22.81 mmHg for females, with no significant difference. Results also revealed that, of the 4732 people screened, 1278 (27.01%) had high blood pressure. The rate was 27.83% for males and 26.89% for females, a non-significant difference. Diastolic hypertension (90 mmHg) accounted for 19.95% of hypertension and systolic hypertension (140 mmHg when DBP < 90 mmHg) for only 7.06%. There was an increased risk of hypertension among males, aged 45 years old and those of sedentary occupational and leisure physical activity. Higher risks were also observed among widows and divorced women and those with less than preparatory education (Hasab, et al, 1999).

In addition a French team of researchers has conducted this study within a French working place, in order to examine the relation between organizational job constraints and incident hypertension among men and women. It was a case control study in which the physicians participating in the study enrolled 203 cases and matched each case for age (SD =10 years) and sex with two normotensive subjects attending the follow up screening immediately as a result, 426 men and 183 women were included in the study. Baseline data on age, occupation, educational level, and marital status was collected by standardized interviews. Medical examinations were performed at baseline and follow up during working hours

either at the worksite or at the physician's office. To standardize blood pressure measurements, all worksite physicians participated in a training session. Sitting blood pressure was measured with a validated automatic device. The mean of the three measurements was used to define blood pressure. Subjects with blood pressure greater or equal to 140/90 mm Hg and/or under current antihypertensive treatment were considered hypertensive. Normotensives were defined as untreated subjects with blood pressure less than 140/90 mm Hg. The obtained results showed that, mean age was 41.8 (SD 7.8) years in men and 43.5 (SD 7.5) years in women. Relations between job constraints and hypertension were stronger in women than in men. Odds ratios (OR) were 3.20 (95% CI 0.92 -11.12) in women and 2.60 (95% CI 1.15 -5.85) in men for job strain, 4.73 (95% CI 1.36 -16.42) in women and 2.30 (95% CI 1.01- 5.26) in men for passive jobs, and 4.51 (95% CI 1.24 -16.43) in women and 2.39 (95% CI 1.10 -5.18) in men for active jobs. Low social support at work was not related to hypertension and did not decrease the association with organizational risk factors. In both hypertensive men and women, obesity was related to hypertension (OR = 13.20 (95% CI 3.34- 52.14) in women and 6.54 (95% CI 2.99 - 14.29) in men). The prevalence of recent stressful life events was significantly lower in hypertensive women (OR = 0.32 (95% CI 0.12 -0.89)) and men (OR = 0.37 (95% CI 0.20- 0.67) compared with normotensives (Radi, et al, 2005).

The Hypertension Center at New York Hospital has conducted the following study to investigate the hypothesis that exposure to "job strain" is related to increased Ambulatory Blood Pressure (ABP). It was a longitudinal study that included 195 male subjects, who wore an ABP monitor for 24 hours on two occasions 3 years apart. Job strain status, evaluated at each assessment, was used to identify four groups, those not having job strain at either assessment (N = 138), those having job strain at both times (N = 15), and two crossover groups. Regression analysis was used to examine the cross-sectional associations of ABP with job strain, controlling for other known risk factors. Repeated-measures analysis of variance was used to examine the association of ABP change with the category of job strain change. Results indicated that, the cross-sectional analysis of the Time two data yielded almost identical, highly significant effects of job strain on ABP as was shown in our previously published Time one analysis. Those in high strain jobs at both times had systolic/diastolic ABPs at work and at home that were, on average, 11/7 mm Hg higher than those with no job strain at both times; the crossover groups had intermediate levels of ABP. The longitudinal analysis showed that those with a high strain

job at time one, but not at time two, had a significant decrease in work and home ABP of approximately 5/3 mm Hg (Schnall, et al, 1998).

Cesana and colleagues from the Department of Clinical Medicine at Gerardo Hospital, Milan, Italy, has performed this study to investigate the association between job strain and office blood pressure in a pooled analysis of four population samples from northern Italy. It was a longitudinal study in which four surveys assessing prevalence of major coronary risk factors were performed in 1986, 1990, 1991, and 1993. Gender-stratified independent samples were randomly recruited from the 25- to 64-years-old residents. Data was collected through introducing a questionnaire which was derived from the Karasek model, assessing job demand/control latitude to participants males 1799 and females 1010, Analysis was restricted to 25- to 54-years-old participants, untreated for hypertension. Results revealed that, among men, there was a 3 mm Hg increase of systolic blood pressure (p<.001) moving from low to high strain job categories. This difference was independent from age, education, body mass index, alcohol intake, smoking habits, leisure time physical activity, and survey. No relevant differences among job strain categories were found in women and for diastolic blood pressure in both gender groups (Cesana, et al, 2003).

In this longitudinal study risk factors for developing hypertension in Japanese workers were evaluated by the type of occupation: manager, office worker, sale's person, blue-collar worker, and engineer. A cohort of 2,257 male subjects, aged 21 through 63 years, who were normotensive, diastolic blood pressure less than 90 mm Hg and systolic blood pressure less than 140 mm Hg in the initial year, was followed for 15 years to observe the occurrence of hypertension. Hypertension was defined as a systolic blood pressure (SBP) of 160 mm Hg or higher and/or a diastolic blood pressure (DBP) of 95 mm Hg or higher, or the initiation of antihypertensive therapy. Eight risk factors related to hypertension (age, body mass index, cigarette smoking, job characteristic, alcohol consumption, stress, SBP, and DBP) were selected for analysis. The following results were obtained: The incidence of hypertension over 15-year analysis was 29.3% for the total male subjects. Each type of occupation had a different pattern of risk factors for hypertension. Blood pressure at baseline showed a significant association in all types of occupation, indicating a stronger relationship with hypertension than other factors. Stress and age were

significantly associated in managers, sale's persons, and blue-collar workers (Sugimori, et al, 1995).

2.7 Quality Of Life:

2.7.1 Historical background:

There is no certainty as to the origin of the term Quality of Life (QOL), but American economists Samuel Ordway (1953) and Fairfield Osborn (1954) are probably the first to have used the concept, expressing their concern over the ecological dangers of unlimited economic growth. A few years later in (1958) John Galbraith published his influential book the Affluent Society followed by another book, The Industrial State in (1967), in which he criticized the economic ideology of industrial expansion, stating "What counts is not the quantity of our goods but the quality of life. American President Lyndon B. Johnson expressed this view in almost identical words at a 1964 political meeting, stating "Goals cannot be measured by the size of our bank account. They can only be measured in the quality of lives that our people lead." In the 1960s, social scientists became more interested in the issue of quality of living, and particularly in the relationship between economic and social indicators of life quality on one hand, and the subjective evaluation of these circumstances on the other. Data from this Social Indicators Research suggested that the major determinants of high subjective quality of life are positive, close, and stable social relationships. In addition, the smaller the gap between expectations and achievements, or objective circumstances the greater the level of reported happiness. (Snoek, 2000).

Physical health appeared not to be a strong predictor of people's subjective well-being. Campbell and associates in their study (1976) on the quality of American life, found that almost half of the people who were disabled severe enough to prevent them from doing many things were unwilling to say that they were dissatisfied in any degree with their health, and a small number of them even insisted that they were completely satisfied with it. The relationship between objective indices of wealth and health and the subjective evaluations of these circumstances appeared to be weak, implying that it takes more than improving people's physical circumstances to enhance their subjective quality of life (Campbell, et al, 1976). Due to changes in the social climate and as a result of changes within the field of medicine, patients' subjective well-being gained growing recognition in medical care and research. After World War II, new medical technologies were introduced

that dramatically increased patients' life expectancy, i.e., life "quantity," but not necessarily life quality. There was a growing need for standards by which the benefits and risks of new medical treatments could be evaluated, including patients' subjective evaluations. A new area of medical research was introduced. With the growing number of patients suffering from chronic diseases such as hypertension and diabetes, care rather than cure became the focus of medical treatment, and this development has caused a shift in clinicians' thinking about benefits, risks, and costs of medical interventions (Najman, & Levine, 1981). The concept of quality of life QOL was not included as a keyword in the Index of Medicine, until 1976, initially under the subheading "Philosophy." Since the early 1970s, the concept has become increasingly popular, and numerous studies have been published on QOL in different areas of medicine, including hypertension. Studies on QOL are basically performed for two reasons. First, they are conducted to evaluate the psychosocial functioning of (somatic) patient groups and to identify specific problems and needs of patients at different stages of the disease process. Second and most often, QOL studies are conducted to compare the impact of different treatment regimens on the patients' well-being and treatment satisfaction. Such comparative studies may provide clinicians with important information to support clinical decision making, taking both biomedical and psychosocial aspects into consideration (Haes, & VanKnippenberg, 1985).

2.7.2 The concept of quality of life:

What is meant by the term quality of life? How is it defined? This is not an easy question to answer and has led to much controversy in the past years. For the sake of argument the terms quality of life, well-being, health status, and satisfaction are often used interchangeably. Hᴏrnquist defines quality of life as "a broad spectrum of dimensions of human experience, ranging from those associated with the necessities of life, such as food and shelter, to those associated with achieving a sense of fulfillment and personal happiness" (Hᴏrnquist, 1982). In order to narrow the scope to aspects of functioning directly related to the disease and/or medical treatment, the term health-related quality of life (HRQOL) was introduced (Patrick, & Erickson, 1988).

Walker and Rosser define QOL in the medical setting as "a concept encompassing a broad range of physical and psychological characteristics and limitations, which describe an individual's ability to function and to derive satisfaction from doing so"(Walker, & Rosser, 1987). Spitzer suggests that the term health status should be reserved for assessments that

discriminate along a continuum beginning with "perfect health." He advocates that health-related or health-sensitive measures of QOL be used to quantify and describe attributes among those who are "definitely sick." QOL in this context refers to health-related problems, including the impact of disease and treatment on functioning, health beliefs, and subjective well-being (Spitzer, 1987). While no consensus has been reached on the definition of the concept, most researchers would agree that QOL is a multidimensional construct, encompassing aspects of psychological, social, and physical well-being, and should reflect the patient's subjective evaluation of well-being rather than the health care professional's view. The problem of defining QOL is often resolved by taking the "psychometric short-cut," i.e., by operationalizing the construct as a score on a questionnaire or set of scales, in the same way intelligence is defined as a score on the IQ test (De Groot, 1986).

In health care research and practice, quality of life has become ever more important since the World Health Organization defined health as "individuals' perceptions of their position in life in the context of the culture and value system in which they live and in relation to their goals, standards, and concerns" (WHO, 1993).

This definition includes six broad domains: physical health, psychological state, level of independence, social relations, environmental features, and spiritual concerns. Therefore, the researcher has adopted the WHO, definition of QOL which identifies it as a multidimensional concept. The terms "quality of life" and more specifically "health related quality of life" (HRQOL) refer to the physical, psychological, and social domains of health, seen as distinct areas that are influenced by a person's experiences, beliefs, expectations, and perceptions. Individuals' perceptions of their quality of life may be affected not only by their illness but also by their therapy.

This is the case with individuals who have hypertension. Many patients with mild to moderate hypertension have no symptoms. Nevertheless, antihypertensive drug therapies are frequently associated with unpleasant side effects that may have an impact on many aspects pertaining to quality of life. Many components of quality of life cannot be observed directly. They are usually evaluated according to classical principles of item-measurement theory. This theory proposes that there is a true quality of life value, which may be measured indirectly by asking a series of questions known as items (Cote, et al, 2005).

2.7.3 Assessment of quality of life:

Following the definition of HRQOL, assessment should be based on patients' self-report and should cover the relevant domains of daily functioning (physical, mental, social) for a particular disease and/or treatment regimen. In hypertension, relevant domains of QOL may include symptom distress, general physical functioning, mental/emotional state, social functioning, perceived burden of the treatment regimen, treatment satisfaction, and an overall sense of well-being (Beaser, et al, 1996).

Measuring the various dimensions of health is usually accomplished by evaluating multiple domains that represent the full spectrum of life functioning, involving physical, psychological, and social aspects. From an analytical perspective, quality-of-life measures have been used to describe a condition or state of health, provide a prognosis, establish a reference norm, or signal a change in patient functioning.

The large variety of instruments and evaluation tools available for assessing quality of life in people with chronic diseases has been generated to meet a number of different research objectives. As such, the instruments often seem disparate, heterogeneous, and many times contradictory in their approach. Most quality-of-life instruments are developed for a particular purpose. Some quality-of-life measures focus on describing the perceived state of health of the individual in order to understand the patient's needs, desires, preferences, and expectations so that suitable medical and support services can be provided.

Other evaluations focus on learning more about external or internal determinants of quality of life, such as socioeconomic status, gender, coping, and social support. In addition, health-related quality-of-life assessment has gained recognition as an important research tool for evaluating the impact of new medical treatments and health care services for people with hypertension (Testa, & Simonson, 1998).

2.7.4 Instruments of measuring QOL:

There are three different of types of tools that can be used in the assessment of quality of life Global, generic, and specific.

2.7.4.1 Global measures:

Those are designed to measure quality of life in a comprehensive or an overall manner, in which a single question can be posed to someone to rate his/her quality of life or an instrument such as the Flanagan Quality of life scale that asks people to rate their satisfaction on 15 domains of life (Eljedi, 2005).

2.7.4.2 Generic measures:

This type has much in common with the global measures and were designed primarily for descriptive purposes. In health care they point out as much as possible to the impact of an illness or its symptoms on the patients life. Generic measures are applicable to a wide range of populations (WHOQOL-BRF instrument). Their main advantage is their broad coverage and they allow compressions of different patients or a cross studies. On the other hand their disadvantage is their inability to address topics of particular relevance for a given disease (Eljedi, 2005).

2.7.4.3 Disease specific measures:

They were developed to monitor patient's response to treatment in a particular condition. These measures are confined to address the problems of a selected group of patients. They tend to have high sensitivity to change but often, lack to conceptual link to quality of life definitions such as Diabetes Quality Of Life measure DQOL, and Diabetes Care Profile (DCP), (Eljedi, 2005).

2.7.4.4 Dimension specific measures:

These focus on a particular problem within a group of patients such as pain, fatigue and physical functioning. These measures are useful for monitoring specific problems eligible for an intervention. Instruments may also vary in the way of distribution; standardized questionnaires allow uniform and smooth administration and unbiased quantification of data, as the response options are predetermined thus equal for all respondents. Moreover the emphasis has been on self administered questionnaires. However, these may exclude cretin groups of patients such as those who cannot read or write, the elderly and with sever

somatic conditions. Another problem is that, the use of self administered questionnaires may lead to possible loss of data if patients fail to fill every question, quality control can minimize this problem. On the other hand interviews have the advantages of patient's assessment and the completeness of data are both ensured. But this would be time and effort consuming (wiklund, et al, 2000).

2.7.5 Quality of life and hypertension:

Under this subsection the researcher will demonstrate how hypertension can negatively affect QOL by compromising physical function, psychological health, social relationships and sexual life as well as the treatment of hypertension and how it can disrupt the overall QOL. Croog and his associates conducted a study on the impact of antihypertensive medications on the quality of life of elderly hypertensive women, it was a multicenter, randomized double-blind clinical trial with 309 hypertensive women aged 60 to 80 years old to assess effects of atenolol, enalapril, and isradipine on measures of quality of life over a 22-week period.

They have obtained the following results. Over the 22-week trial, linear trend analysis showed no differences between the treatment groups in change from baseline on quality of life measures of well-being, physical status, emotional status, cognitive functioning, and social role participation. Regarding each of 33 physical side effects over the 22 weeks, they found no general difference between atenolol, enalapril, and isradipine groups on measures of change in distress over symptoms except for enalapril patients who worsened in distress over cough (P = .001) and atenolol patients who worsened in distress over dry mouth (P = .014) (Croog, et al, 1994).

Klocek and Kawecka, in (2003), have conducted a study that aimed to compare the general quality of life between patients with essential hypertension and normal blood pressure values, and to analyze the effect of socio-demographic factors on the quality of life. It was a case control study in which an open questionnaire was distributed among 1539 patients (775 men and 764 women), aged from 18 to 88 years old (x = 51.7 14.6 years) with essential hypertension. Antihypertensive treatment was given to 82.6% of the subjects, whereas 17.4% were untreated. A group of 995 subjects (459 men and 536 women) aged from 18 to 82 years old (x = 48.6 11.2 years) with normal blood pressure values served as controls. All subjects provided data on education employment, body mass

index, duration of arterial hypertension, family history, target organ damage, co-morbidity, blood pressure value, heart rate and pharmacological treatment. All subjects filled out a standardized questionnaire--Psychological General Well-Being (PGWB), which evaluated the general quality of life and its sin dimensions: Anxiety, Depressive mood, Subjective Well-being, Self-control, General health and Vitality.

They found that, the general quality of life in patients with essential hypertension was significantly lower than that in age-matched normotensives. The quality of life in women was lower than that in men irrespective of arterial hypertension presence. The quality of life was decreasing with age both in hypertensive and normotensives; however in hypertensive men there was a trend towards improved quality of life above 65 years of age in contrast to age-matched women in whom the quality of life deteriorated. The quality of life in untreated hypertensives was lower than that in age-matched healthy subjects, but until 40 years old of age was higher than in treated age-matched hypertensives. The quality of life was related to the level of education, employment and familial history of hypertension.

A lower quality of life was observed among hypertensives with coronary heart disease and diabetes. Multiple regression analysis revealed that gender, education, age and familial hypertension were the socio-demographic factors, which independently affected the quality of life among hypertensives. These factors accounted for 32.7% of the observed variance of quality of life. In normotensives subjects the independent factors were gender, age, education and employment--accounting for 65.8% of variance of quality of life (Klocek, & Kawecka, 2003).

A team of researchers in the university of Boston led by (Levine, S.), have carried out a study aimed to assess the effects of antihypertensive medications such as captopril, methyldopa, and propranolol on the sense of well-being and vitality among 626 men with mild to moderate hypertension in a multicenter, randomized, double-blind clinical trial. After a 24-week treatment period, they have discovered that, patients taking captopril, compared with patients taking methyldopa and propranolol, scored significantly higher on measures of well-being and vitality. In addition, patients on captopril had more favorable results in being able to keep up with their work and in not feeling tired or sleepy at work. The effects of each of the drugs manifested themselves at different periods. For example, the negative effects of methyldopa on vitality were evident by week 8, whereas the

negative effects did not become manifest for propranolol until week 24. On the other hand, a steady progressive improvement in vitality scores was evident at week 8 and at week 24 for patients on captopril (Levine, et al, 1987).

The following study was performed in Spain which aimed to evaluate the influence of socio-demographic, clinical and therapeutic variables on health related quality of life in hypertensive patients. It was an observational, prospective and multi-center study it included a total number of 736 hypertensive patients who were either starting or undergoing a modification of antihypertensive treatment. A total of three visits were done a baseline visit and two follow-up visits at one and six months. At all three visits, several socio-demographic, clinical and therapeutic variables were recorded and HRQOL was measured using the questionnaire of the Spanish version of the Psychological General Well-Being Index, and a single question about the change in general health status.

The findings of the study showed that, in the multivariate analysis, gender, number of concomitant diseases, degree of hypertension, organ damage and educational level were all variables displaying a relation with HRQOL. After 6 months of intensive treatment, an improvement of HRQOL was observed. Moreover, a positive correlation was observed between the degree of reduction of blood pressure (BP) and heart rate and HRQOL improvement, especially in the State of mind dimension (Roca-Cusachs, et al, 2003).

Another study was conducted in Spain in (2001), it was a case control study that aimed to reveal the relation between quality of life (QOL) and various clinical, therapeutic and sociodemographic variables in treated hypertensive patients. The study was carried out in 92 primary care centers in Spain. A total of 269 hypertensive patients were selected and 106 healthy normotensive individuals were included as controls. QOL was assessed at baseline and 1 month after the intensification of antihypertensive therapy, using a self-administered, specific hypertension, 56-item questionnaire in addition to the generic the European's Quality Of Life Questionnaire (EuroQOL).

The obtained results were as follow, QOL was poorer among the hypertensive subjects than among the normotensive individuals, even adjusting for the differences observed between the groups (age, sex, education and working status). The same was found with the EuroQOl. In the hypertensive subjects, after applying a multiple regression equation, only four variables significantly retained their negative impact on QOL: sex (female), greater

organ damage and higher heart rate and weight. After the intensification of antihypertensive therapy with irbesartan, QOL improved significantly. Neither the presence of side-effects during the month of follow-up, nor the degree of BP reduction showed a significant impact on QOL, although the latter came close to statistical significance (Roca-Cusachs, et al, 2001).

This study was conducted in France to assess the psychological and social well-being of hypertensive patients before and after treatment The study population comprised three groups including 1500 with well controlled hypertension according to the definition of the World Health Organization (systolic < 140 and diastolic < 90 mmHg), 1500 subjects with treated but uncontrolled hypertension and 500 subjects with hypertension who had not yet received any treatment.

Results came out stating that, Before treatment, "asymptomatic" hypertensive patients were psychosocially ill at ease; this situation was well correlated with arterial blood pressure and varied with sex, living alone or not, and working or not. After three months of treatment, the blood pressure of treated subjects was significantly lower and their well-being score approached that of a control group of healthy adults. It was noted that the scores of female subjects were higher than those of the male subjects both before and after the treatment period. This indicated greater psychosocial sensitivity. While all the different types of anti-hypertensive drugs were prescribed, none were found to be more effective in reducing blood pressure nor in improving the quality of life than the combination of diuretics and conversion enzyme inhibitors (Badoux, et al, 1994).

In addition Paran and colleagues in(1996), have conducted a study to evaluate effect of diuretics and diuretics discontinuation on the quality of life (QOL) of hypertensive patients. The study included 149 mild to moderate hypertensive patients, who were treated by beta blockers. Seventy-three of them were treated by beta blockers (BB's) only and 60 by BB's and diuretics, for 40 patients diuretics was discontinued. Physical symptoms and QOL were assessed before and 9-15 months after the change in treatment. They have found the following results. At baseline, subjects on diuretics experienced more gastrointestinal symptoms, weakness, and sex related problems; and their QOL was poorer. At the end of the follow-up, patients on diuretics scored poorest on physical strength items and on health perceptions; those who were never treated by diuretics scored best; and those who stopped were in between (Paran, et al, 1996).

The following study was conducted in the USA by Acree and his associates to determined if physical activity was related to HRQL in apparently healthy, older subjects. A total of 112 subjects (63 females and 49 males) between the ages of 60 and 89 years old were recruited. Data was collected using a medical history questionnaire, HRQL from the Medical Outcomes Survey short form-36 questionnaire, and physical activity level from the Johnson Space Center physical activity scale. Subjects were separated into either a higher physically active group (n = 62) or a lower physically active group (n = 50) according to the physical activity scale. They found that, the HRQL scores in all eight domains were significantly higher ($p < 0.05$) in the group reporting higher physical activity. Additionally, the more active group had fewer females (44% vs. 72%, p = 0.033), and lower prevalence of hypertension (39% vs. 60%, p = 0.041) than the low active group. After adjusting for gender and hypertension, the more active group had higher values in the following five HRQL domains: physical function (82 ± 20 vs. 68 ± 21, p = 0.029), role-physical (83 ± 34 vs. 61 ± 36, p = 0.022), bodily pain (83 ± 22 vs. 66 ± 23, p = 0.001), vitality (74 ± 15 vs. 59 ± 16, p = 0.001), and social functioning (92 ± 18 vs. 83 ± 19, p = 0.040). General health, role-emotional, and mental health were not significantly different ($p > 0.05$) between the two groups (Acree, et al, 2006).

In addition, Cote and his colleagues have conducted this study in Canada in 2005. The objective of this study was to assess the effect of the pharmacy programme on the health-related quality of life (HRQOL) of individuals treated for hypertension. In this quasi-experimental cohort pilot study, recruited 91 participants from nine pharmacies in the Quebec City area. The participants were offered the intervention programme over a 9-month period. The other participants were not exposed to pharmaceutical services other than those usually given by their pharmacists. They used the SF-36 to evaluate HRQOL. Covariance analysis was used to test for significant differences of HRQOL scores between participants exposed and not exposed to the programme.

They have obtained the following results. When compared with the non-exposed participants, those receiving the intervention and with high income had an improvement in vitality score (P=0.05). On the contrary, low-income exposed participants did not show this benefit and had a decline in mental health score (P=0.01). Improvement in vitality is likely due to increased physical activity and to a reduction in systolic blood pressure in the high-income exposed group. The negative effect of the programme on the mental health of

those exposed in the low-income group might be due to the fact that the programme was not effective in reducing blood pressure and may therefore have caused anxiety (Cote, et al, 2005).

Furthermore, in 2005 the following study was conducted in china, by a team of researchers to examine the relationship between hypertension and health-related quality of life in patients attending hospital clinics in China. A cross-sectional survey included a total of 9703 volunteers Patients over the age of 35 years, 4510 (46.5%) had hypertension attending outpatient clinics in 18 hospitals of eight major cities of northern and southern China were interviewed by trained fieldworkers. Qualified physicians performed blood pressure assessments. The results showed that hypertensive subjects scored lower in the multiple linear regression analyses in most questions on the quality of life questionnaire than those without hypertension after controlling for age, sex, sociodemographic factors, and co-morbidity. There was a strikingly high prevalence of physical complaints or symptoms. Among the variables considered, age, sex, hypertension, body mass index, educational level, smoking, history of cholesterol, family history of cardiovascular diseases and history of diabetes were statistically significantly correlated with health-related quality of life. Subjects aware of having high blood pressure had a lower health-related quality of life score than subjects with high blood pressure but unaware of the diagnosis. Among treated subjects, those with controlled hypertension had higher health-related quality of life scores than those with poorly controlled hypertension (Li, et al, 2005).

Another study was conducted in the USA in 2001, This cross-sectional study used surveys mailed to patient's homes. Participated patients were (n = 437) over age 30 years old attending either a general medicine or hypertension clinic during 3 months were eligible. Hypertension Group (HTN-G) patients were diagnosed with primary hypertension, prescribed antihypertensive medications, and had no other symptomatic conditions or drug therapies. Control Group (CNTL-G) patients were seen in the general medicine clinic and had no chronic symptomatic conditions or drug therapies. Measures included the Symptom Distress Checklist (SDC, list of 51 symptoms, frequency, and level of distress), the Medical Outcomes Study Short Form-36 (SF-36), medications, blood pressures, and other data obtained from medical records and patient self-report. The results indicated that, A total of 222 patients responded (46% CNTL-G, 55% HTN-G). HTN-G patients were

somewhat older (59.0 +/- 11.2 vs. 48.5 +/- 11.7 years, P = 0.001) and had a higher percent of minorities (24.8% vs. 13.5%, P = 0.02), but otherwise similar. After adjusting for age and race differences, HTN-G patients reported significantly more symptoms (8.8 +/- 7.8 vs. 4.7 +/- 4.8, P = 0.001) and related distress (32.2 +/- 4.2 vs. 12.0 +/- 18.2, P = 0.001) as well as lower scores reduced HQL for most of the SF-36 domains. In general, hypertensive patients had more physical, but not mental symptoms than control patients (Erickson, et al, 2001).

The next study is a case control survey aimed to compare the general quality of life between patients with essential hypertension and normal blood pressure values, and to analyse the effect of socio-demographic factors on the quality of life. An open questionnaire was distributed among 1539 patients (775 men and 764 women), aged from 18 to 88 years old (x = 51.7 +/- 14.6 years) with essential hypertension. Hypertensive treatment was given to 82.6% of the subjects, whereas 17.4% were untreated. A group of 995 subjects (459 men and 536 women) aged from 18 to 82 years old (x = 48.6 +/- 11.2 years) with normal blood pressure values served as controls. All subjects provided data on education employment, body mass index, duration of arterial hypertension, family history, target organ damage, co-morbidity, blood pressure value, heart rate and pharmacological treatment. All subjects filled out a standardized questionnaire--Psychological General Well-Being (PGWB), which evaluated the general quality of life and its sin dimensions: Anxiety, Depressive mood, Subjective Well-being, Self-control, General health and Vitality. The obtained results indicated that, The general quality of life in patients with essential hypertension was significantly lower than that in age-matched normotensives. The quality of life in women was lower than that in men irrespective of arterial hypertension presence. The quality of life was decreasing with age both in hypertensive and normotensives; however in hypertensive men there was a trend towards improved quality of life above 65 years of age in contrast to age-matched women in whom the quality of life deteriorated. The quality of life in untreated hypertensives was lower than that in age-matched healthy subjects, but until 40 years of age was higher than in treated age-matched hypertensives. The quality of life was related to the level of education, employment and familial history of hypertension. A lower quality of life was observed among hypertensives with coronary heart disease and diabetes. Multiple regression analysis revealed that gender, education, age and familial hypertension were the socio-demographic factors, which independently affected the quality of life among

hypertensives. These factors accounted for 32.7% of the observed variance of quality of life. In normotensives subjects the independent factors were gender, age, education and employment accounting for 65.8% of variance of quality of life (Klocek, & Kawecka, 2003).

In addition a team of researchers in Spain have conducted a prospective case control study which aimed to Study the relation between quality of life QOL and various clinical, therapeutic and sociodemographic variables in treated hypertensive patients. The study was carried out in 92 primary care centers in Spain. A total of 269 hypertensive patients were selected and 106 healthy normotensive individuals were included as controls. QOL was assessed at baseline and one month after intensive use of antihypertensive therapy, using a self-administered, specific hypertension, 56-item questionnaire in addition to the generic European Quality of Life-5 Dysfunction (EuroQOL-5D). They found that, QOL was poorer among the hypertensive subjects than among the normotensive individuals, even adjusting for the differences observed between the groups (age, sex, education and working status). The same was found with the EuroQOl-5D. In the hypertensive subjects, after applying a multiple regression equation, only four variables significantly retained their negative impact on QOL: sex (female), greater organ damage and higher heart rate and weight. After the intensification of antihypertensive therapy with irbesartan, QOL improved significantly. Neither the presence of side-effects during the month of follow-up, nor the degree of BP reduction showed a significant impact on QOL, although the latter came close to statistical significance (Roca-Cusachs, et al, 2001).

A team of Japanese researchers have conducted a case control study in (2005), to investigate incidence and impact of Erectile Dysfunction ED on QOL. It included 102 patients aged 40 to 59 years old under treatment for hypertension (Hypertensive group) and in 245 age-matched normal subjects (Control group), QOL and ED were assessed by SF-36 and IIEF5. They have obtained the following the results, criteria for presence of ED is IIEF5 score less than 12. Age adjusted incidence of ED in Hypertension group was higher than that in Control Group (odds ratio 1.7, $P < .05$). Multivariate logistic regression analysis showed hypertension was related only to a low score in general health, ED was related to low scores in physical, mental health, emotional, vitality, and general health. These data suggest that the influence of ED on QOL is more serious than hypertension in middle age men (Kushiro, et al, 2005).

Furthermore, the following study was conducted in United Kingdom which directed to measure health-related quality of life (HR-QOL) among a sample of men with erectile dysfunction (ED) in the UK. A structured questionnaire was mailed to a sample of 5000 men in the UK with ED. The questionnaire included the International Index of Erectile Function (IIEF-5) scale to determine ED severity and the EuroQOL (EQ-5D) questionnaire, a generic HR-QOL instrument. Descriptive information relating to personal relationships and sociodemographics as well as details of co morbidities were also requested. Results showed that, 23% of the sample (n = 1141) returned a completed questionnaire. Of the respondents, 82.2% (n = 939) met the criteria for ED based on the IIEF-5 scale. The mean age of the respondents was 60.4 +/- 24.9 years. There was a gradual convergence of respondents' HR-QOL scores to that of the normal male population as their age increased. The HR-QOL of respondents was significantly poorer than that of the normal population for those under 65 years of age, whereas it was significantly better for those between the ages of 65 and 74 years. Co morbid illness had a significant impact on the HR-QOL of respondents over 44 years of age. Furthermore, the HR-QOL of respondents with multiple risk factors for ED was significantly lower than that of respondents without any risk factors (p < 0.001). The respondents' HR-QOL was significantly poorer compared with the normal male population when stratified by marital status. It was also significantly poorer when stratified by whether the respondents were manual or non-manual workers (Guest, & Das-Gupta, 2002).

Still in the same context, a cross-sectional study of 388 Erectile Dysfunction (ED) patients who attended six andrology and urology clinics in Jeddah for the first time was performed during a period of 3 months. The study revealed that, ED was rated as mild (21% of patients), moderate (60%) or severe (19%), and was strongly associated with age. After adjusting for age, only lack of exercise, alcohol consumption and drug addiction were significantly associated with severity; hypertension, cardiac diseases and smoking were not. About two-thirds of the patients had poor quality of life; severe ED was the only significant predictor of this. Severe ED was not an indicator for co-morbidities (Abolfotouh, & al-Helali, 2001).

7.4.6 Summary of literature review:

This chapter included the available literature on hypertension and quality of life. It presented the definition of hypertension based on both JNC7 and WHO, as well as, etiology, pathophysiology, singes, and symptoms, complications and treatment.

It also discussed the different sociodemographic factors being affected by hypertension including, age, gender, education, income, occupation and compliance with treatment regimen. It presented some studies showing that, hypertension is more prevalent in old age than in young age, in female more than male, in people with low income more than people with high income but other studies showed the opposite. Regarding the type of occupation studies revealed that, hypertension rate is more prevalent in (white collar) those who work behind disks than in (blue collar) those who are labors. It also indicated that, hypertension is more prevalent and uncontrolled in those who are not complied with the treatment regimen. This chapter highlighted quality of life from different aspects, historical background, definitions, concept and the different instruments that measure quality of life. It focused as well on the different aspects of quality of life such as, physical activity, social life, physiological status, and sexual life being affected by the disease. It showed how people who are not complied with treatment experienced low quality of life.

Chapter 3

Theoretical Framework

3.1 Introduction:

Theoretical framework is consider a basic element in the scientific research, it represent the infrastructure of the any study. It connects and clarifies the relationship between the dependent and the independent variables which are hypertension and quality of life respectively. For the purpose of this study the researcher has adopted Zhan's conceptual model of quality of life with modification.

In this model Zhan has incorporated personal background and health related factors. But, the researcher has substituted the aforementioned terms for socioeconomic factors and hypertension respectively, for convenience of the study. This model has identified quality of life as life satisfaction, self concept, physical activity, and socioeconomic factors, which plays a complementary role in constructing the theoretical frame work of this study. According to this model quality of life is also influenced by one's personal background, health, social circumstances, culture, environment and age. The perceived meaning of quality of life comes from the interaction between the person and his or her environment (King & Hinds, 1996).

Its obvious from this model that quality of life is a holistic and a multidimensional concept that describes several dimensions such as, physical, socioeconomic, psychological, social, environmental and spiritual. This model has connected the definition of quality of life with the concept of satisfaction. Moreover, this model stresses the importance of the interaction of the individual with his surrounding environment as a source of better quality of life (satisfaction) or a worse quality of life (dissatisfaction). Based on this model and the WHO's definition of quality of life, the researcher has chosen the (WHOQOL-BREEF) instrument to study and evaluate the quality of life among hypertensive patients in governmental and UNRWA clinics. WHO defined quality of life as "an individual's perception of their position in life in the context of the culture and value system in which they live and in relation to their goals, expectations, standards and concerns". This definition is completely consistent with the definition of quality of life in Zhan's model, because it incorporates in a complex way the individual's physical health, psychological state, level of independence, social relationships and their relationship to salient features of environment (Eljedi, 2005).
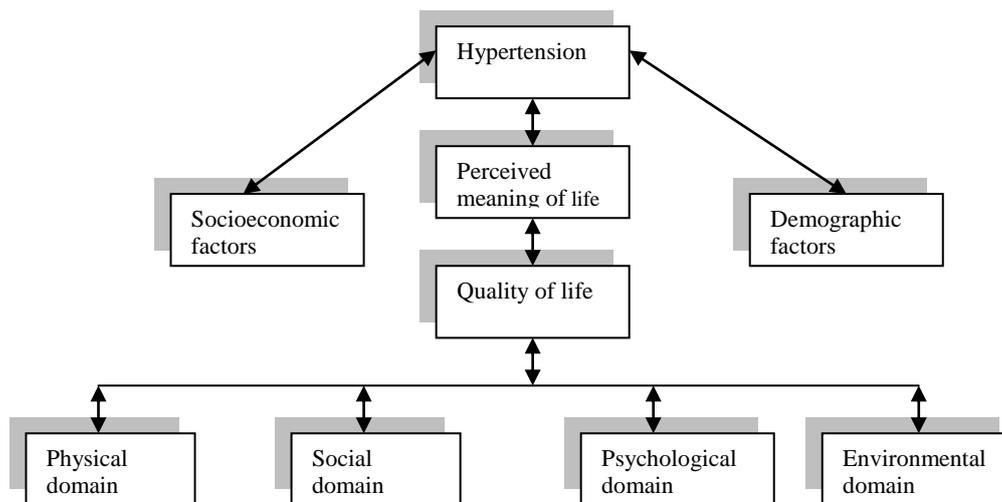
According to the modified model the global construct of quality of life has four major domains, physical activity, socioeconomic, psychological, perceived meaning of life and environmental. These domains can be influenced by being a hypertensive patient.

3.2 The surrounding environment:

Most patients live in an unpleasant environment where crowdedness overwhelmed, as well as lack of recreational facilities, unclean surrounding, polluted air, lack of enough supplies and unstable political situation. All these factors together may affect physical activity (more risk of disease), psychological state (stress, fear and hopelessness), socioeconomic status (family disputes, broken marriages, unemployment and economic hardship). Its believed that, the impact of the surrounding environment on the quality of life of hypertensive patients is much more crucial and harmful than it would be on any other individual (Eljedi, 2005).

3.3 Physical activity:

Can be affected by the disease and its complications as a result of different factors such as health care services provided to the patient are inadequate, stress and tension levels are higher than it could in any ordinary individual, leisure activity almost absent etc. The hypertensive patient face additional problems in dealing with his chronic illness since it affects almost all aspects of his life. Moreover, the patient sometimes is unable to manage his needs and requirements to cope with his illness in terms of medication and meals. Lack of resources and motivation to fulfill the management and control of the disease may worsen the overall state of the patient as well as his quality of life. Any how, the illness it self along with the other different factors may contribute negatively to patient's safety and wellbeing (Al- Halabi, 1996).

3.4 Socioeconomic factors:

In addition to patient's suffering from his chronic illness, he is deprived of certain social and economic privileges. For example, limitations in job, education, financial independence may create some hardship. Socioeconomic status is mostly affected by lack of resources and income as well as insufficient basic needs resources. Lack of leisure and recreational activity as a hypertensive patients as well as, lack of resources to manage and control their chronic disease, will end with deterioration of their condition, leading to unpleasant complications as well as additional stress and expenses (Eljedi, 2005).

3.5 Family and spiritual factors:

As hypertension affects individuals it may be reflected on their family's life. Family life may interferes with the condition of the patient in different aspects. As its known that, the disease may affect the different domains of the patient's quality of life. In certain way this chronic state of illness may affect his family's life negatively, in terms of, any future complications, addition expenses and stressed family atmosphere. Family construct is so important for hypertensive patient since it provides convenient and safe shelter as well as kindness, emotional support and intimacy.

As a special value of this immediate support system, the hypertensive patient is unwilling to accept a special diet which isolates him from the rest of the family, because this is an important social event for the patient him self. Insisting on being a part of this social family life. This is an integral tradition of the Arab and Muslim culture and personality, which reflects the psychological and spiritual dimensions of quality of life. As a hypertensive patient within a strong family unit as well as the emerging faith in god makes him even stronger with every problem he faces. Beliefs are influential in almost every aspect of life; therefore, this would draw people's perception of life and reflects their acts (Eljedi, 2005).

3.6 Self- concept and psychological factors:

Being a hypertensive patient makes ones feels lack of security and confusion, which interrupt his medical condition and his quality of life as well. The daily life of hypertensive patient, the fears of future complications and disability as well as the sense of being isolated form the society will affect his psychological state and his self concept in terms of feeling disabled and underestimate him self. This will lead to decreased self esteem and increase doubts and fears of more unknown problems. All these and other broken feelings influence the life of the patient (Eljedi, 2005).

3.7 Conclusion:

Hypertension and quality of life were connected and integrated in the framework used in this chapter. The emerging framework was derived from a review of literature related to the experience of patients with chronic disease such as hypertension. Its clear from the above theoretical model, in order t understand the experience of the hypertensive patients more fully. Its important to have knowledge of their disease management styles, their level of perceived quality of life, their satisfaction with specific domains of living , and how those domains contribute to their global experience and to their management of hypertension.

Chapter 4
Methodology

4.1 Introduction:

The aim of this study is to evaluate the impact of hypertension on QOL among patients attending Al Rimal and Shake Radwan clinics in Gaza city. To achieve this goal the researcher will encounter the main elements constructing this chapter which include, study design, study setting, study population, sample and sampling, data collection, inclusion and exclusion criteria, constrains and limitations, ethical consideration, instruments and data analysis. Furthermore, a better understanding of the study methodology in QOL and hypertension research may help to develop a genuine review of the substantive content of the shaping body of QOL literature. Besides, adherence to the aforementioned elements constructing this chapter will result in a better understanding of the study problem, based on a correct and a true results.

4.2 Study design:

The researcher has used a descriptive analytical cross sectional design to conduct this study. This study focused on the QOL including its different domains among hypertensive patients in two different settings, providing almost the same services under different rules and regulations, bearing in mind that, comparison between the two settings will enrich the study.

4.3 Sample and sampling:

Study sample included a total of 340 subjects distributed as 170 subject for each clinic, in which 85 male and 85 female matched by age and sex, where chosen by using non-probability convenient sample. This kind of sample is known as the weakest form of sample. But, it's the most common form of sample used in health research. To overcome its weakness the researcher has used the following steps:

1- Increased sample size to be more representative.

2- The researcher has used blocking and homogeneity to control extraneous variables.

4.3.1 Determination of sample size:

Study population included 2500 hypertensive patients attending Al Rimal and Shake Radwan clinics who met the eligibility criteria. And sample was computed by Epi info. According to the following values, the expected prevalence was 20% and the confidence interval C.I was 0.5% yielding a sample size of 224 subjects. The researcher decided to

increase the sample size from 224 to 340 subjects, in order to be more representative.

4.4 Setting of the study:

This study focused on hypertensive patients attending governmental and UNRWA clinics. in Gaza city. Therefore, a random sample was conducted by the researcher and as a result two clinics were chosen, Al Shake Radwan as a government clinic, and al Rimal as UNRWA clinic.

4.5 Ethical considerations:

Formal approvals were obtained from the concerned authorities to conduct the study. Subjects who agreed to participate in the study were asked to singe the consent form. The participants and their families were assured that their names and responses would be confidential. All participants have been informed that, their participation is entirely voluntary, and even after the interview begins they can refuse to answer any specific question and they have the right to terminate the interview at any time. They have been also informed that, neither their participation or non participation or refusal to answer any question will not have any effect on health care services that they or any member of their families may receive from UNRWA or MOH.

4.6 Instruments:

4.6.1 Demographic information sheet:

This part of data collection instruments was developed by the researcher himself to collect personal data from participants. This sheet was developed after extensive review of the available literature on hypertension and QOL. This demographic information sheet has covered the following areas of interest:

1. Demographic data including, age, gender, marital status, place of residency, and educational level.
2. Socioeconomic status including, occupation, income and number of dependents sponsored by the participant.
3. Health profile including: duration of the disease, history of any other disease and type of treatment.

4.6.2 Quality of life questionnaire:

The WHO has emphasized in 1996, the importance of incorporating both the objective conditions and the subjective experience, which represent the quality of life, where the interrelationship between them were studied. For the purpose of this study, QOL was assessed using the World Health Organization Quality of life questionnaire- short version (WHOQOL-BREF) (Appendix C). The WHOQOL-BREF is an abbreviated version of the

WHOQOL-100 quality of life assessment. It produces scores for four domains(physical, psychological, social and environmental). It also contains two other questions that are examined separately: question one asks about, the individual's over all perception of quality of life and question two asks about, the individual's over all perception of their health. The four domains scores denote the individual's perception of quality of life in each particular domain. Domain scores are scaled in a positive direction (i.e. higher scores denote higher quality of life) (WHO, 1996).99

4.6.3 Strength of the WHOQOL instruments:

First of all the WHOQOL instruments were developed internationally and cross-culturally. The WHOQOL was developed in 15 field centers around the world. The important aspects of quality of life and ways of asking about life were drafted on the basis of statements made by patients with a range of diseases, by well people and by health professionals in a variety of cultures. The instrument was rigorously tested to assess its validity and reliability in each field center and its currently being tested to assess its responsiveness to change.

The WHOQOL-BREF contains a total of 26 questions. To provide a broad and comprehensive assessment, one item from each of the 24 facets contained in the WHOQOL-100 has been included. In addition, two items from the Overall quality of Life and General Health facet have been included. The second thing is that the WHOQOL instruments focus on the perception of the individual which means that; assessment in medicine are obtained by examinations by health workers and by laboratory tests.

The WHOQOL instruments can provide a new perception on the disease by focusing on the individual's own views of their well being. For example, hypertension involves poor body control of the blood pressure is fully understood, but, the effect of the illness on the individuals perception of their social relationships, working capacity and financial status has received a little systematic attention. The WHOQOL instruments are tools that enable this type of research to be conducted. They not only inquire about the functioning of people with hypertension across a range of areas but also inquire how those people are satisfied with their functioning under the effect of medical treatment (WHO, 1996).

4.6.4 Psychometric properties of the WHOQOL-BREF instrument:

The WHOQOL-BREF has been shown to display good discriminate validity, content validity and test-retest reliability. The analyses undertaken in an international field of the WHOQOL-BREF, which compiled data from 24 WHOQOL centers representing 23 countries worldwide, providing considerable validity evidence for the WHOQOL-BREF.

Moreover, the instrument shows good factor structure. Each of the four domains appears to be both sensitive to the health status of the respondents, and sensitive to change in health status following treatment. All four domains demonstrate good internal consistency and excellent test-retest reliability. The physical and psychological domains in particular also demonstrate good construct validity. The overall QOL item appears to be sensitive to change in health status following treatment, while both individual items shows good discrimination between, healthy, ill, and very ill populations. These findings are encouraging in terms of the use of these items as overall indicators of overall QO

4.6.5 The use of WHOQOL-BREF instrument:

The WHOQOL-BREF instrument can be used in medical practice to give important information about areas in which an individual is most affected as well as to help the practitioner in making the best decision in patient's care. It can improve the patient's doctor's relationship; by increasing the physician's understanding how disease affects a patient's quality of life, leading to the improvement of the interaction between both patient and physician. This would lead to more involvement and fulfillment by the physician to the service being provided to the patient toward more comprehensive health care. It can be used as well in health services evaluation in terms of, periodic review of the completeness the quality of the medical services, as well as evaluating of the health care services being provided, taking into consideration patient's concerns and demands.

This would be achieved by measuring the relationship between the health care services being provided and patient's quality of life, and also by presenting a direct measure of patient's perception of his quality of life and the availability of heath care services. Furthermore, it can be used in research studies; the WHOQOL-BREF instrument can provide a new insights into the nature of disease and it impairs and impacts the subjective well being of a person across a whole range of areas. And finally, it can be used in policy making; when health care providers need to implement a new policies it is important to bear in mind the impact of the new policy on the quality of life of people by a close observation and evaluation of the health car services being provided under the new policy. Eventually, the WHOQOL-BREF allow such monitoring of policy changes (WHO, 1996)

4.6.6 Translation of the WHOQOL-BREF questionnaire to Arabic:

The International Quality of Life Assessment Project (IQOLA) most recently has established a set of procedures for the translation and psychometric testing of the QOL tools. This process includes two forward translations of the original instrument into the new language, where the two independent translators met to agree on a common version,

which then is translated back into English by two other translators who also met to agree on their version.

Finally, those agreed upon versions are compared with the original version, and quality of translation has been rated by two or more experts to assure "conceptual equivalence", "colloquial language use", and "clarity" of the translations so that, the quality of the translation is explicitly assessed. A second step involved a piloting phase by applying the translated instrument to a convenient sample of people from the target nations who are then interviewed about the comprehensibility, feasibility and acceptance of the instrument (Shumaker & Berzon, 1995). Translation and subsequent reliability testing of the questionnaire was performed by Dr. Yousef al Jeesh Dr. Ashraf Eljedi (al Jeesh, & Eljedi, 2004).

4.6.7 Rational for using the WHOQOL-BREF questionnaire:

1. It was designed to be universal instrument to measure the quality of life and it was used successfully allover the world in order to facilitate the translation and adaptation producers.

2. It included health as a major component and it had many dimensions such as physical activity, sexual, sensory, energy, mental health, social activity, spiritual and role function and environmental.

3. It has been used successfully by a number of local researchers in their research studies.

4.7 Pilot testing:

Data collection instruments, the demographic sheet and the QOL questionnaire were both tested by 20 subjects from both clinics, all those who were pilot tested were excluded from the study. The goals of the pilot study were to assess the adequacy of the data collection plan, to know whether respondents from all groups understand the questions on the same way, to identify any parts of the instrument find objectionable or culturally incongruent. Thus, revision and refinements have been done to minimize the problems which may be raised during data collection.

4.8 Data collection procedure:

In this study, structured interview was used to collect data from the cases by the researcher himself. According to lofland, intensive interview aims to discover the participant's experience of a particular situation. It further allows the researcher an opportunity to pursue the topics of interest in depth as well as to probe more which may arise during the interview, and to clarify misinterpretations which may occur (lofland, 1984).

4.9 Data entry and analysis:

Data was entered and analyzed by using the Statistical Package for Social Sciences (SPSS. Version 8). The descriptive statistical techniques such as frequency distribution, independent t-test and one way ANOVA were used, the p-value.

4.10 Eligibility criteria:

4.10.1 Inclusion criteria:

1. Hypertensive patient aged between 40 to 71years old.
2. Hypertension has been diagnosed and confirmed by a physician and subject has been under medical follow up and treatment at least for two years.
3. Subjects have no history of any other diseases.
4. Subjects can communicate verbally with the researcher.
5. Subjects have time and willing to participate in the study.

4.10.2 Exclusion criteria:

1. Subjects less than 40 and over 71 years old.
2. Subjects with history of other disease.
3. Subjects have been under medical follow up for less than two years.
4. Subjects who refuse to participate in the study.

4.11 participants selection procedure:

After obtaining the necessary permissions from the concerned authorities to conduct the study, the researcher has met with the physicians and the nurses in charge of both Al Rimal and shake Radwan clinics, explained to them the purpose of the study and requested the needed assistance from their side in recruiting the subjects. The subjects who met the inclusion criteria were selected as potential participants for the study. Method, purpose, special objectives of the study were explained carefully to each eligible subject. Upon agreement of the subject to participate in the study, they were assured that they could withdraw from the study at any time they wish as well as they would not be identified in the report of the study. consent form was read to them at that time.

4.12 Response rate:

Study sample comprised 340 subjects from both clinics governmental and UNRWA, in which data was collected from them by personal face to face interviews. No subject refuse to participate in the study. Therefore, the response rate was 100% for both settings.

4.13 Constraints and limitations off the study:

1. There was no computer system especially in MOH clinic so the researcher had to count manually the patient's files.
2. Many patients were registered for medical follow up in both UNRWA and MOH clinics which therefore, selection of a comparable sex and age subjects was not an easy mission since it was time and effort consuming.
3. Sample type as a convenient sample.

Chapter 5

Results and Discussion

5.1 Introduction:

The data collected in this study provides a great deal of information on hypertensive patients, and quality of life they are living, as well as, their experience with the health care facilities they are visiting for medical advice and treatment In this chapter the researcher tries to present the core results that includes, the sociodemographic characteristics of the study sample as well as, the evaluation of the quality of life and the related variables affecting, by using descriptive analysis to provide summary of the study sample characteristics, frequency distributions, as well as, presentation of data in tables and graphs.

5.2 Quality of life and sociodemographic characteristics:

Demographic characteristics are the most independent variables in any research study, because, it concerns all the personal information of any study population, and without being collected correctly and precisely no study would be correct and representative. It includes: age, sex, marital status, income, education, work status, etc.

5.2.1 Quality of life and sex:

Sex is an important variable which must be included in any research study, other wise the study would be meaningless and incomplete.

Table (5.1)

Distribution of the sample according to sex

Sex	N	%
Males	170	50.0
Females	170	50.0
Total	340	100.0

As shown in table (5.1), the total number of subjects selected for the study was 340 subjects of hypertensive patients from governmental and UNRWA clinics. The total number of males was 170 (50.0 %); and the total number of females was 170 (50.0%).

Table(5.2)

Independent t-test comparing means of quality of life according to sex

Variables	Males N = 170		Females N = 170		T- value df = 338
	Mean	SD	Mean	SD	
Physical domain	24.71	5.117	22.61	6.273	*** 3.38
Psychological domain	19.84	3.732	18.72	3.109	** 3.01
Social domain	10.80	2.179	10.23	1.682	** 2.70
Environmental domain	25.65	4.202	24.27	5.199	** 2.69
Global value	6.84	1.667	6.92	3.474	0.26
Total scores of Quality of life	87.87	13.890	82.77	14.181	*** 3.35

*p< 0.05   **p< 0.01   ***p< 0.001

In order to clarify the difference in quality of life among hypertensive patients independent t- test was performed   The result in table (5.2) shows that, there is a significant differences between the physical domain and total scores of quality of life according to sex with an actual probability (t = 3.38, 3.35; df= 338; P<0.001) respectively toward males. It also shows significant differences between the psychological, social and environmental domain according to sex with an actual probability (t = 3.01, 2.70, 2.69; df= 338; P<0.01) respectively toward males. While the global value was not significant according to sex (t = 0.26; df= 338; P> 0.05, NS.).

This result indicates that males enjoy a better quality of life than females do, and this is obvious in the whole domains of quality of life, which is attributed to the fact that males have the opportunity to go out visiting friends, the vast majority of males work and earn money, even if they are not working they are keeping the money which represents to them

a source of power and satisfaction. Males also spend too much time out side the house which is in most times is the source of tension and anxiety, which will improve their quality of life. On the contrary females stay most of the time at home taking care of the children looking after every single detail of their houses, which represents a source of tiredness and worry, which will be reflected negatively on their quality of life. The study which was conducted by Klocek and Kawecka, in (2003), agrees with the aforementioned results, which means that, most societies are all alike no matter where they are in Europe, Africa, Asia, or America, males dominate the family as well as the society.

5.2.2 Quality of life and age:

Age is an important variable because, its included in all areas of research studies. It definitely affects quality of life therefore, it should be studied. For the purpose of this study age was categorized into three categories (40-49), (50-59), (60 and more)
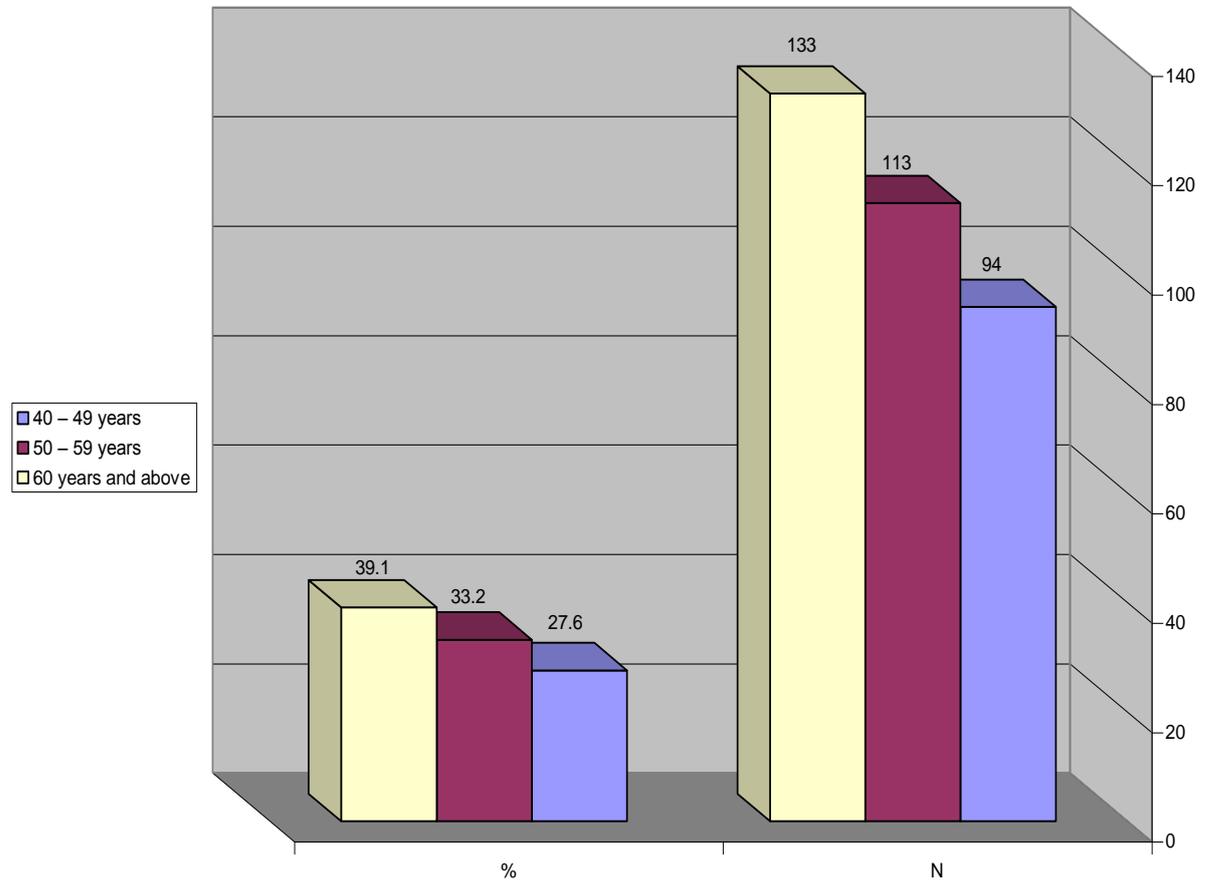
Figure (5. 1) Distribution of the sample according to age

Figure (5.1) shows that; 94 subjects of the sample are aged between 40 – 49 years old which represents (27.6%), 113 subjects are aged between 50 – 59 years old which represents (33.2%), and 133 are aged 60 years old and above which represents (39.1%). Its obvious that, about one third of the sample are aged between 40-49 years old, and two third of sample are aged 50 years old and above, which mean in this range of age most people may get hypertension.

Table (5.3)

Means of quality of life according to age

Variables	40 - 49 years mean (N= 94)	50 - 59 years mean (N= 113)	60 years and above mean (N= 133)
Physical domain	26.37	24.63	20.93
Psychological domain	20.20	19.92	18.09
Social domain	11.23	10.67	9.88
Environmental domain	25.19	26.14	23.79
Global value	7.06	7.30	6.40
Total scores of Quality of life	90.06	88.68	79.11

As shown in table (5.3) physical, psychological and social domains were better in age group (40 – 49) years old in comparison with the other age groups. But the environmental domain was better in the age group (50 – 59) years old. It also indicates that, the total scores of quality of life are higher in age group (40 – 49) in comparison with the other age groups.

Table (5.4)

One-way ANOVA comparing quality of life according to age

Variables	Source of variance	Sum of Squares	Df	Mean Square	F-value
Physical domain	Between Groups	1788.961	2	894.481	*** 31.19
	Within Groups	9664.483	337	28.678	
	Total	11453.44	339		
Psychological domain	Between Groups	315.816	2	157.908	*** 14.08
	Within Groups	3779.510	337	11.215	
	Total	4095.326	339		
Social domain	Between Groups	103.812	2	51.906	*** 14.51
	Within Groups	1205.044	337	3.576	
	Total	1308.856	339		
Environmental domain	Between Groups	342.696	2	171.348	*** 7.83
	Within Groups	7373.807	337	21.881	
	Total	7716.503	339		
Global value	Between Groups	53.064	2	26.532	* 3.63
	Within Groups	2457.462	337	7.292	
	Total	2510.526	339		
Total scores of Quality of life	Between Groups	8516.600	2	4258.300	*** 23.80
	Within Groups	60289.45	337	178.900	
	Total	68806.05	339		

*p< 0.05   **p< 0.01   ***p< 0.001

One-Way ANOVA analysis was used to study quality of life according to the age. As shown in table (5.4); the results show that, there is a significant difference between physical, psychological, social, and environmental domains and the total scores of quality

of life according to the age, at levels of significant (f = 31.19, 14.08, 14.51, 7.83, 23.80; P< 0.001) respectively . While the Global value is significant according to age at the level (f = 3.63; P< 0.05).

Post– hoc analysis according to scheffee statistical test was done presenting that, there is a negative relationship between the quality of life and age. (i.e. as patients getting older their quality of life getting lower). Which means that, QOL is in favor of the age group (40 – 49) years old.

Of course, the above results are logical because, as people getting older after 40 years old are subjected to all types of diseases especially chronic diseases such as hypertension and diabetes, so, when patient gets hypertension in the early forties he can resist the disease and his response to the medication will be positive with no or at least very mild side effects therefore, he can enjoy a good quality of life. On the other hand when he gets older he will be weaker with low resistant and more complications as well as more side effects which will lead to deterioration of his quality of life.

There is some literature that agree with the results being mentioned. A study was conducted in china by Li and associates in (2005) agrees with the obtained results, moreover another study which was conducted in the USA by Erickson and collogues in (2001), also agrees with the results. Its obvious that, its like a rule patients all over the world when they getting old they need some one to help them in their daily life, they quit working, they get lack of money and they need more medication, so as a result their quality of life decreases.

5.2.3 Quality of life and duration of disease:

No doubt that, duration of the disease starts as the onset of the disease and continues especially in chronic diseases such as hypertension, and as the disease progress there can be complications by the disease and unpleasant side effects by the treatment, so, this variable may affects quality of life.
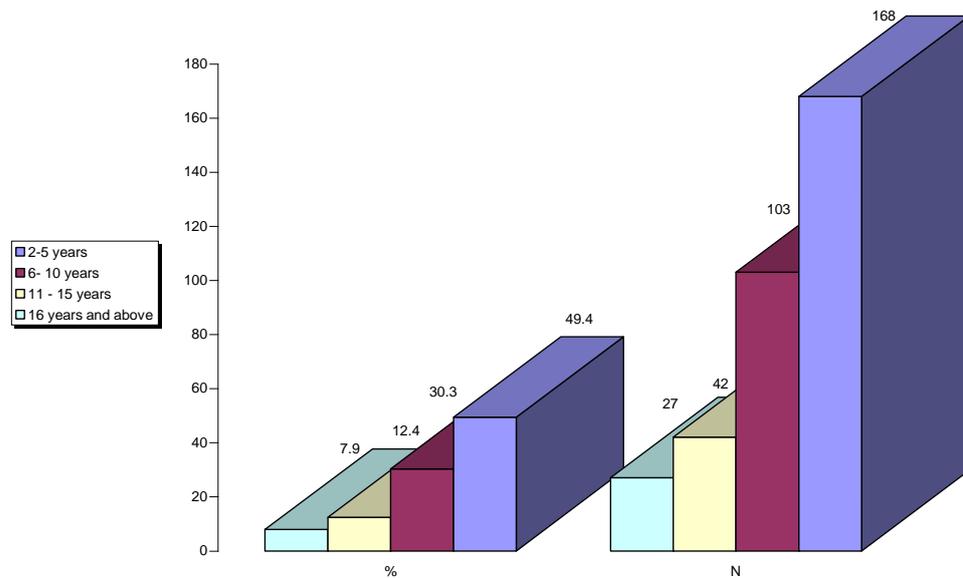
Figure (5.2) distribution of sample according to duration of disease

Figure (5.2) shows that; 168 subjects had the disease between 2 – 5 years (49.4%), 103 subjects had the disease between 6 – 10 years (30.3%), 42 subjects had the disease between 11 – 15 years (12.4%), and 27 subjects had the disease for 16 years and above (7.9%). Its clear here that, the vast majority suffering the disease between 2- 5 years which reflects the increasing incidence of hypertension among people.

Table(5.5)

Means of quality of life according to duration of disease

Variables	2- 5 years mean (N= 168)	6-10 years mean (N= 103)	11–15 years mean (N= 42)	16 and above mean (N= 27)
Physical health	25.04	22.05	23.40	21.62
Psychological health	20.05	18.45	18.85	18.33
Social relationships	10.94	10.00	10.59	9.77
Environmental domain	25.51	24.46	24.40	24.25
Global value	7.29	6.45	6.35	6.77
Total scores of Quality of life	88.85	81.43	83.61	80.77

Its clear from table (5.5) that, the means of physical, psychological, social and environmental domains as well as the total scores of QOL of subjects with duration of disease (2 – 5) years are higher in comparison with subjects with other durations.

Table (5.6)

One-way ANOVA comparing quality of life according to duration of disease

Variables	Source of variance	Sum of Squares	Df	Mean Square	F-value
Physical domain	Between Groups	701.759	3	233.920	*** 7.31
	Within Groups	10751.68	336	31.999	
	Total	11453.44	339		
Psychological domain	Between Groups	202.112	3	67.371	*** 5.81
	Within Groups	3893.214	336	11.587	
	Total	4095.326	339		
Social domain	Between Groups	72.665	3	24.222	*** 6.58
	Within Groups	1236.190	336	3.679	
	Total	1308.856	339		
Environmental domain	Between Groups	103.621	3	34.540	1.52
	Within Groups	7612.882	336	22.657	
	Total	7716.503	339		
Global value	Between Groups	59.545	3	19.848	* 2.72
	Within Groups	2450.982	336	7.295	
	Total	2510.526	339		
Total scores of Quality of life	Between Groups	4333.57	3	1444.52	*** 7.52
	Within Groups	64472.48	336	191.88	
	Total	68806.05	339		

*p< 0.05　　　　　　**p< 0.01　　　　　　***p< 0.001

One-Way ANOVA analysis was used to study quality of life according to duration of disease. The results illustrated in table (5.6) shows that, there is a significant difference between physical, psychological, social domains and the total scores of quality of life

according to duration of disease, at levels of significant (f = 7.31, 5.81, 6.58, 7.52; P< 0.001) respectively. Where the Global value were significant according to duration of disease at the level (f = 2.72; P< 0.05). While the environmental domain was not significant according to duration of disease (f = 1.52; P> 0.05; NS.).

Post– hoc analysis according to scheffee statistical test was done indicating that; there is a negative relationship between the quality of life and its domains and duration of disease. (i.e. as duration of disease increases quality of life deteriorates). Which means that, QOL is better in subjects who had the disease from 2 – 5 years.

The above results are consistent with reality, as the duration of disease increases patient's age increases as well, which means complications start to appear as well as the side effects of the medication taken by the patient, which will affect the patient's quality of life negatively. Eljedi agrees in his study with the above results confirming the fact that, quality of life deteriorates as the duration of disease increases.

5.2.4 Quality of life and educational level:

In order to study this variable educational attainment was classified into six stages according to number of years the subject has spent in attaining of education. Illiterate (0), Primary (6), Elementary (9), secondary (12), diploma (15) and University (more than 16years).
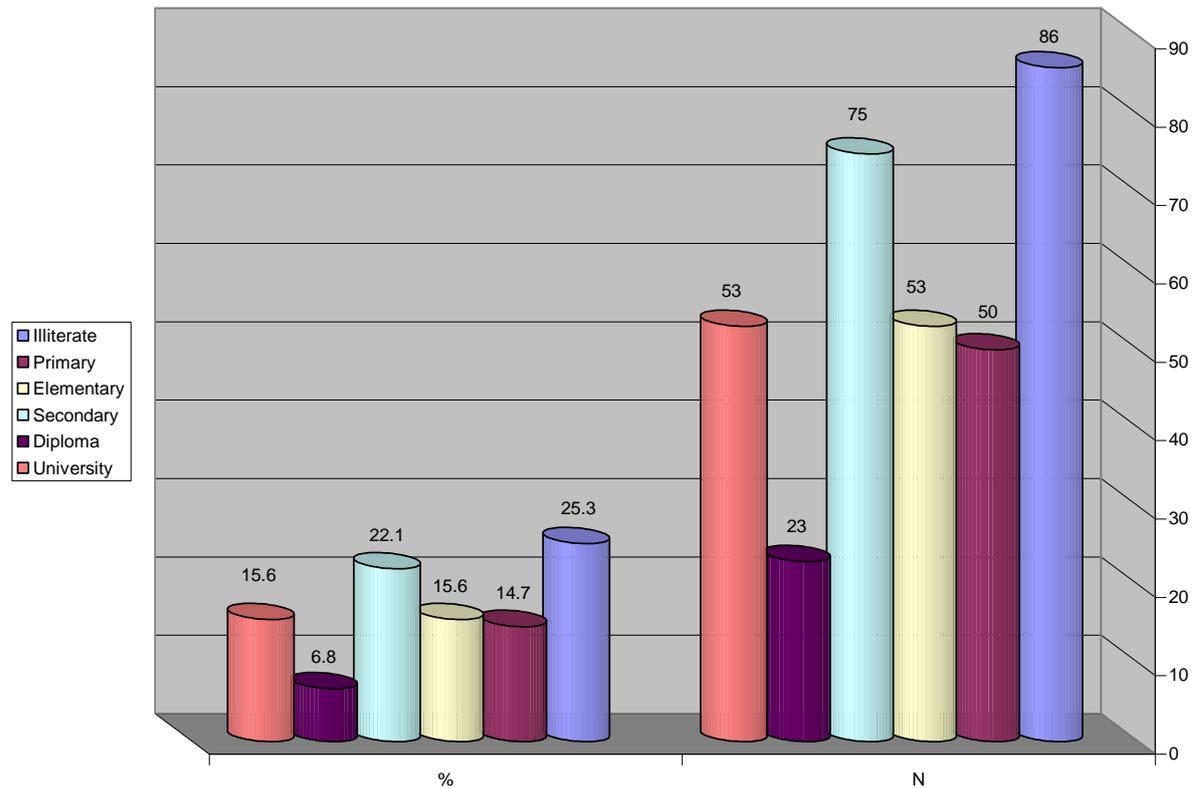
Figure (5.3) Distribution of the sample according to educational level

Figure (5.3) presents that; 86 subjects were Illiterates (25.3%), 50 subjects attainted primary education (14.7%), 53 subjects attainted elementary education (15.6%), 75 subjects attainted secondary education (22.1%), 23 subjects attainted diploma level (6.8%), and 53 subjects attainted university level (15.6%). This reveals that, the vast majority of hypertensive subjects in the study sample are among illiterate people, suggesting that, educational attainment is a crucial variable in people's health.

Table (5.7)

Means of quality of life according to educational level

Variables	Illiterate (N= 86) mean	Primary mean (N= 50)	Elementary mean (N= 53)	Secondary mean (N= 75)	Diploma mean (N= 23)	University mean (N= 53)
Physical domain	20.10	22.72	23.81	25.20	27.08	26.54
Psychological domain	17.48	18.42	18.73	20.04	21.08	21.71
Social domain	9.79	10.34	10.50	10.77	11.34	11.16
Environmental domain	23.08	24.50	23.94	25.02	29.04	27.60
Global value	6.22	7.34	6.45	6.94	7.43	7.64
Total scores of Quality of life	76.68	83.32	83.45	87.98	96.00	94.67

Table (5.7) illustrates the means of QOL according to educational level showing that, the physical, social and environmental domains in the diploma category are higher than those in the other categories, but, the psychological domain in the university category is better in comparison with the other categories. It also shows that, the mean of the total scores of quality of life of the diploma category is the highest one in comparison with the other categories.

Table (5.8)

One-way ANOVA comparing quality of life according to educational level

Variables	Source of variance	Sum of Squares	Df	Mean Square	F-value
Physical domain	Between Groups	2022.235	5	404.447	*** 14.32
	Within Groups	9431.210	334	28.237	
	Total	11453.44	339		
Psychological domain	Between Groups	761.895	5	152.379	*** 15.26
	Within Groups	3333.431	334	9.980	
	Total	4095.326	339		
Social domain	Between Groups	90.322	5	18.064	*** 4.95
	Within Groups	1218.534	334	3.648	
	Total	1308.856	339		
Environmental domain	Between Groups	1123.160	5	224.632	*** 11.37
	Within Groups	6593.343	334	19.741	
	Total	7716.503	339		
Global value	Between Groups	95.745	5	19.149	* 2.64
	Within Groups	2414.782	334	7.230	
	Total	2510.526	339		
Total scores of Quality of life	Between Groups	14594.98	5	2918.997	*** 17.98
	Within Groups	54211.06	334	162.309	
	Total	68806.05	339		

*p< 0.05   **p< 0.01   ***p< 0.001

One-Way ANOVA analysis was performed to study quality of life according to educational level. As shown in table (5.8); there is a significant difference between physical, psychological, social, environmental domain and the total scores of quality of

life according to the level of education, at levels of significant (f = 14.32, 15.26, 4.95, 11.37, 17.98; P< 0.001) respectively. While the Global value is significant according to level of education at (f = 2.64; P< 0.05).

Post– hoc analysis according to scheffee statistical test was done illustrating that; there is a positive relationship between quality of life and level of educational level (i.e. as the level of educational attainment getting high, quality of life getting better except for the university category which shows lower scores in the physical, social and environmental domains, as well as the total sores of QOL).

Its obvious from the above information that, quality of life including all its domains presenting good scores as the level of educational level goes up, which means that, literate patients are able to cope well with their disease since they can read directions and precautions written on medication and comply with it, they are aware of the complications that may take place, and they can participate in educational sessions and lectures which may help them to control the disease and maintain good health, which will make them enjoy a better quality of life than illiterate patients. A study that was conducted by Klocek and his team in (2003) agrees with the results which indicates that, education is an important variable and its related to quality of life of any patient in part of the world.

5.2.5 Quality of life and monthly income:

Monthly income is an important variable which may affect quality of life either positively or negatively. It was categorized as follow: poor (1200 NIS and less), low income (1201-2000 NIS), medial income (2001-3000 NIS), and high income (more than 3000 NIS) (PCBS, 2005).
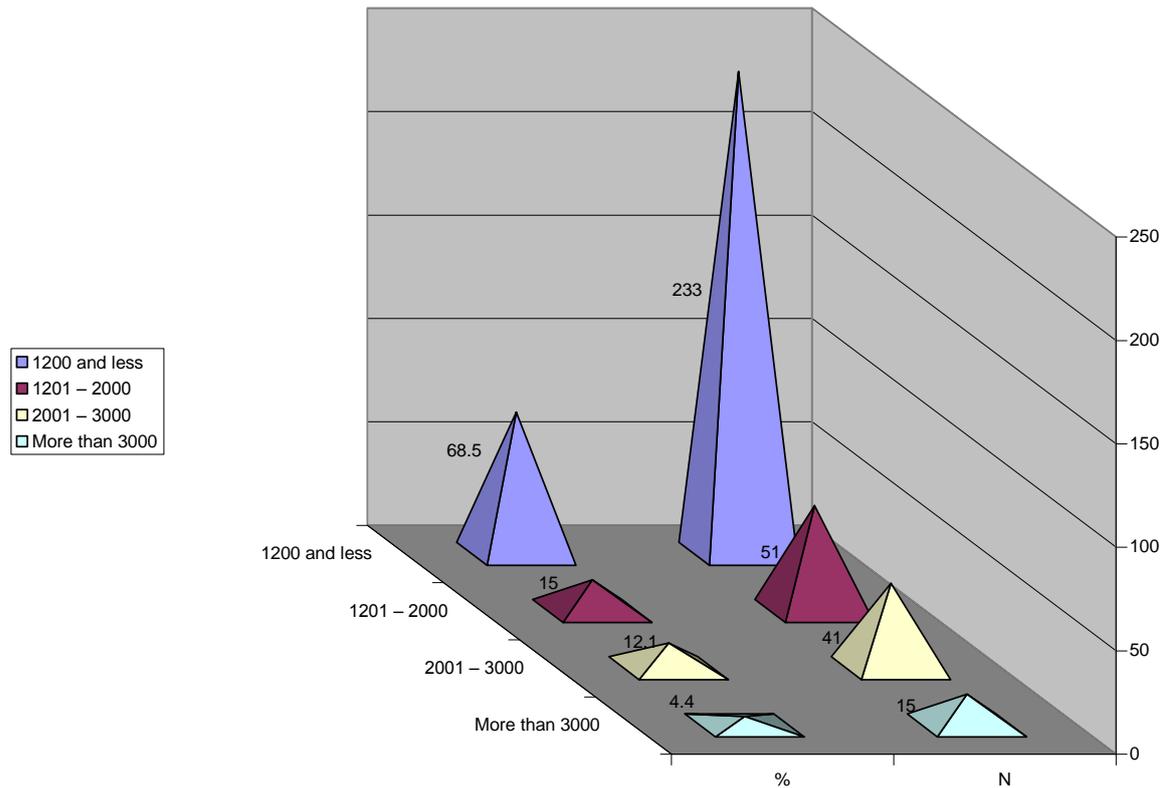
Figure (5.4) Distribution of sample according to monthly income "NIS"

Figure (5.4) reveals that; 233 subjects of the sample earn monthly income 1200 new Israeli shekels (NIS) and less (68.5%), 51 subjects earn from 1201 - 2000 NIS (15.0%), 41subjects earn from 2001- 3000 NIS (12.1%), and 15 subjects earn more than 3000 nis (4.4%). It indicates that, more than 2/3 of the study sample are living hard life that may affect their health.

Table (5.9)

Means of quality of life according to monthly income

Variables	1200 and less than mean (N= 233)	1201 - 2000 NIS mean (N= 51)	2001 - 3000 NIS mean (N= 41)	More than 3000 NIS mean (N= 15)
Physical domain	22.48	25.23	27.48	26.26
Psychological domain	18.48	20.41	21.70	21.20
Social domain	10.09	11.25	11.70	11.46
Environmental domain	23.82	26.78	27.80	28.60
Global value	6.61	7.23	7.85	7.26
Total scores of Quality of life	81.50	90.92	96.56	94.80

As illustrated in table (5.9) the means of the physical, psychological and the social domains of subjects with monthly income (2001 – 3000) NIS are higher in comparison with those of other categories. But, the environmental domain of those with monthly income of more than 3000 NIS is the highest in comparison with the other categories. Its also obvious that, those with monthly income (2001 – 3000) NIS having a higher total scores of QOL in comparison with the other categories.

Table (5.10)

One-way ANOVA comparing quality of life and monthly income

Variables	Source of variance	Sum of Squares	Df	Mean Square	F-value
Physical domain	Between Groups	1150.893	3	383.631	*** 12.51
	Within Groups	10302.55	336	30.662	
	Total	11453.44	339		
Psychological domain	Between Groups	507.863	3	169.288	*** 15.85
	Within Groups	3587.464	336	10.677	
	Total	4095.326	339		
Social domain	Between Groups	141.841	3	47.280	*** 13.61
	Within Groups	1167.015	336	3.473	
	Total	1308.856	339		
Environmental domain	Between Groups	998.703	3	332.901	*** 16.65
	Within Groups	6717.800	336	19.993	
	Total	7716.503	339		
Global value	Between Groups	64.059	3	21.353	* 2.93
	Within Groups	2446.468	336	7.281	
	Total	2510.526	339		
Total scores of Quality of life	Between Groups	11517.63	3	3839.211	*** 22.51
	Within Groups	57288.42	336	170.501	
	Total	68806.05	339		

*p< 0.05   **p< 0.01   ***p< 0.001

One-Way ANOVA analysis was used to study quality of life according to monthly income. Table (5.10) shows that; there is a significant difference between the means of physical, psychological, social, environmental domain and the total scores of quality of life according to the monthly income, at levels of significant (f = 12.51, 15.85, 13.61, 16.65, 22.51; P< 0.001) respectively. While the Global value is significant according to monthly income at (f = 2.93; P< 0.05).

Post– hoc analysis according to scheffee statistical test was done presenting that,; there is a positive relationship between the quality of life and its different domains and monthly income. (i.e. as monthly income increases quality of life improves except for those with monthly income more than 3000 NIS showing a lower means of the physical, psychological and the social domains in comparison with those of monthly income between 2001- 3000 NIS).

Its clear from the above results that, quality of life as general is good but as its shown in the group of monthly income more than 3000 NIS the mean of the physical, psychological, and social domains are lower in comparison with those in the group of income (2001-3000) NIS, while, the mean of the environmental domain is the highest

among the whole groups of monthly income, and that means patients with relatively high income have no physical activity, haven't enough time to socialize with other people since they are busy in raising their money. But, on the other hand they enjoy all the luxury life they have such as living in high class neighborhood in a beautiful house and yard planted with trees and flowers.

Therefore, they are not enjoying the physical, psychological, and social domains, but, they are definitely enjoying the environmental one. A study was conducted by Roca-Cusachs and her associates in Spain (2001), found to be consistent with the obtained results which emphasizes that, money may have either positive or negative impact on hypertensive patients, but as a matter of fact high income can improve quality of life of hypertensive patients.

5.2.6 Quality of life and work status:

Its important to encounter the work status in this study, since, it may affect the quality of life. Therefore, it was defined as working and not working

Table (5.11)

Distribution of sample according to work status

Work status	N	%
Working	80	23.5
Not working	260	76.5
Total	340	100.0

Table (5.11) introduces that 80 subjects were working (23.5%) and 260 subjects were not working (76.5%). The vast majority of the study sample are unemployed, and, this is attributed to old age, which is prevailed among the whole study sample, and the present political and economic circumstances. which can be reflected negatively on their health and quality of life as well.

Table(5.12)

Independent t-test comparing means of quality of life according to work status

Variables	Working N = 80		Not working N = 260		T- value df = 338
	Mean	SD	Mean	SD	
Physical domain	26.61	4.493	22.76	5.878	*** 5.39
Psychological domain	21.08	3.284	18.73	3.348	*** 5.53
Social domain	11.40	1.952	10.25	1.891	*** 4.71
Environmental domain	26.78	4.132	24.40	4.820	*** 4.00
Global value	7.37	1.390	6.73	3.001	1.84
Total scores of Quality of life	93.26	12.449	82.87	13.889	*** 5.988

*p< 0.05   **p< 0.01   ***p< 0.001

Independent T. test was performed to test quality of life among hypertensive patients according to work status. Table (5.12) shows that, there is a significant differences between levels of the physical, psychological, social, environmental domains and the total scores of quality of life according to work status with an actual probability (t = 5.39, 5.53, 4.71, 4.00, 5.98; df= 338; P<0.001) respectively toward working patients. While there is no significant differences between levels of global value according to work status (t = 1.84; df= 338; P> 0.05, NS.). This tells that work status is an important variable that can affect quality of life and its different domains either positively or negatively, as presented in table (5.12), total quality of life and its different domains is in favor of working patients.

This finding stresses the fact that, patient who works enjoys a better quality of life than the one who does not work, because, patients who work have high self esteem, respect by others, they can fulfill their needs and demands, therefore, they are psychologically well. Furthermore, they depend on themselves to fulfill their daily needs by exercising some physical effort at home and during work, so they are physically better. Moreover, when they go to work or for shopping they meet with other people, making friends spending their free time with them, so, they are socially fine. Eventually, they enjoy a better quality of life than those who are not working. The study conducted in Spain by Dalfo and his colleagues in (2001) supports the aforementioned results asserting the fact that, work

status is crucial for those hypertensive patients whom their quality of life being studied and evaluated.

5.2.7 Quality of life and family size:

Family size may affect quality of life in a way or another, since the Palestinian society is known as an extended family society therefore, this variable is worth to be studied.

Table (5.13)

Distribution of sample according to family size

Size of family	N	%
Small (4 and less)	79	23.2
Medium (5-7 individuals)	107	31.5
Large (8 and above)	154	45.3
Total	340	100.0

Table (5.13) shows that,79 subject of the sample had small family size including 4 children and less (23.2%), 107 subjects had medium family size including 5-7 children (31.5%), and 154 subjects had large family size including 8 children and above (45.3%). About 50% of the study sample have extended families which reflects the size of burden that parents may face in raising their children which may negatively affect their health (PCBS, 2005).

Table (5.14)

One-way ANOVA comparing quality of life according to family size

Variables	Source of variance	Sum of Squares	Df	Mean Square	F-value
Physical domain	Between Groups	130.780	2	65.390	1.94
	Within Groups	11322.66	337	33.598	
	Total	11453.44	339		
Psychological domain	Between Groups	35.718	2	17.859	1.48
	Within Groups	4059.609	337	12.046	
	Total	4095.326	339		
Social domain	Between Groups	4.178	2	2.089	0.54
	Within Groups	1304.678	337	3.871	
	Total	1308.856	339		
Environmental domain	Between Groups	128.202	2	64.101	2.84
	Within Groups	7588.301	337	22.517	
	Total	7716.503	339		
Global value	Between Groups	41.727	2	20.864	2.84
	Within Groups	2468.799	337	7.326	
	Total	2510.526	339		
Total scores of Quality of life	Between Groups	1112.650	2	556.325	2.77
	Within Groups	67693.40	337	200.871	
	Total	68806.05	339		

*p< 0.05   **p< 0.01   ***p< 0.001

One-Way ANOVA analysis was used to study quality of life according to family size. As shown in table (5.14); there is no significant difference in quality of life according to the family size (f= 1.94, 1.48, 0.54, 2.84, 2.84, 2.77; P> 0.05; NS). This suggests that, whatever family size is, it has no effect on quality of life of hypertensive patients, since Palestinian society is known as an extended family society.

5.2.8 Quality of life and marital status:

Its so important to enclose this variable to the study because, it can be reflected in appositive or a negative way on the quality of life of the study sample. In order, to study this variable it was classified as married, divorced, and widows.
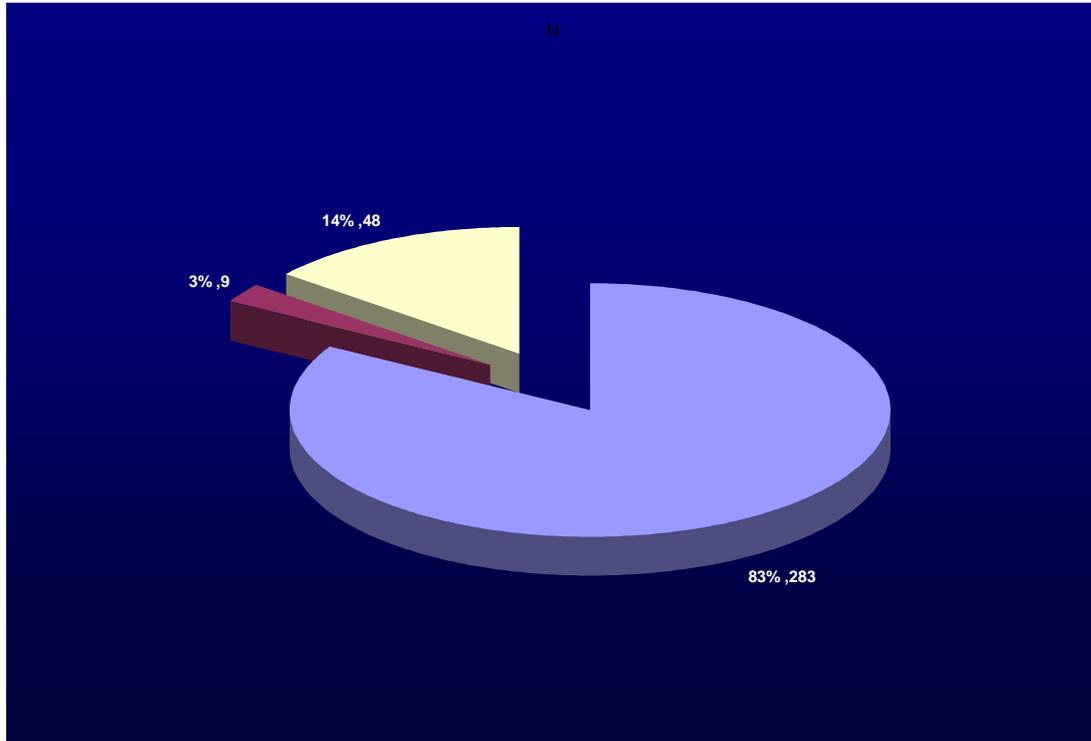
Figure (5.5) Distribution of sample according to marital status

Figure (5.5) indicates that 283 subjects were married (83.2%), 9 subjects were divorced (2.6%) and 48 subjects were widowed (14.1%). Its clear that, the majority of the sample w were married.

Table (5.15)

Means of quality of life according to marital status

Variables	Married mean (N= 283)	Divorced mean (N= 9)	Widowed mean (N= 48)
Physical domain	24.08	24.22	21.10
Psychological domain	19.55	18.22	17.87
Social domain	10.68	9.88	9.66
Environmental domain	25.33	23.22	23.10
Global value	6.85	11.44	6.20
Total scores of Quality of life	86.51	87.00	77.95

Table (5.15) presenting the means of QOL according to marital status showing that, the physical domain in the divorced group is better in comparison with the other groups. But on the other hand, the psychological, social and the environmental domains in the married group is better in comparison with the other groups. It also showing that, the total scores of QOL are higher in the divorced group in comparison with the other groups.

Table (5.16)

One-way ANOVA comparing quality of life according to marital status

Variables	Source of variance	Sum of Squares	Df	Mean Square	F-value
Physical domain	Between Groups	367.445	2	183.722	** 5.58
	Within Groups	11085.99	337	32.896	
	Total	11453.44	339		
Psychological domain	Between Groups	126.733	2	63.366	** 5.38
	Within Groups	3968.594	337	11.776	
	Total	4095.326	339		
Social domain	Between Groups	46.290	2	23.145	** 6.17
	Within Groups	1262.566	337	3.746	
	Total	1308.856	339		
Environmental domain	Between Groups	231.691	2	115.845	** 5.21
	Within Groups	7484.812	337	22.210	
	Total	7716.503	339		
Global value	Between Groups	209.328	2	104.664	*** 15.32
	Within Groups	2301.199	337	6.828	
	Total	2510.526	339		
Total scores of Quality of life	Between Groups	3031.461	2	1515.730	*** 7.76
	Within Groups	65774.59	337	195.177	
	Total	68806.05	339		

*p< 0.05   **p< 0.01   ***p< 0.001

One-Way ANOVA analysis was used to study quality of life according to marital status. As illustrated in table (5.16); there is a significant difference between the means of physical, psychological, social and environmental domain according to marital status, at levels of significant (f = 5.58, 5.38, 6.17, 5.21; P< 0.01) respectively.

Also the global value and total scores of quality of life were significant according to marital status at (f = 15.32, 7.76; P< 0.001) respectively.

Post– hoc analysis according to scheffee statistical test was done showing that, there is a positive relationship between the marital status and the QOL and its domains which was in favor of the married and the divorced subjects in comparison with the widowed .

Its clear from the above results that, the divorced group have a higher total scores of quality of life in comparison with those in the other groups.

Furthermore, the physical domain is in favor of the divorced subjects as well. But, the psychological, social and environmental domains are in favor of the married subjects. This can be explained as divorced subjects enjoy a better quality of life than who are married because, they are not facing the problems being faced by the married subjects such as raising children, looking after their marriage partner, getting and spending money, these

burdens can affect quality of life negatively that's for married subjects, and being free from these burdens improve quality of life that's for divorced patients. As its shown in the above table physical domain is in favor of the divorced subjects as well, which reflects the margin of freedom being enjoyed by them in terms of, extra time for sport and physical exercises, which will have a positive impact on this domain.

On the other hand, the psychological, social and environmental domains are in favor of the married subjects which reflects the Psychological and the social stability among this group. Because marriage is founded on intimate and close relationships in between the couples and with other people, which supports social and psychological stability. The study conducted by Guest, & Das-Gupta in (2002), pack up this result confirming that marital status is an important variable to count on when evaluating quality of life.

5.2.9 Quality of life according to clinic being visited:

Health facilities such as clinics are crucial to patients with chronic diseases such as hypertension, because, they receive their health care in these facilities. Therefore, its not a secret that, the type of service as well as the way its being provided either by the nurse or the doctor may leave an impact on the quality of life of the subjects. Therefore this variable should be studied.

Table (5.17)

Distribution of sample according to clinic being visited

Clinic visited	N	%
Government	170	50.0
UNRWA	170	50.0
Total	340	100.0

Its clear from table(5.17); that 170 subjects were visiting governmental clinic (50.0%) and 170 subjects were visiting UNRWA clinic (50.0%). This means that, equal numbers of subjects were taken from both clinics to match between age and sex to control confounding variables.

Table (5.18)

Independent t-test comparing means of quality of life according to clinic

Variables	Government N = 170		UNRWA N = 170		T- value df = 338
	Mean	SD	Mean	SD	
Physical domain	23.92	5.362	23.41	6.235	0.81
Psychological domain	19.20	3.554	19.36	3.403	0.42
Social domain	10.75	2.043	10.28	1.860	* 2.19
Environmental domain	25.18	4.574	24.73	4.963	0.87
Global value	6.88	1.530	6.88	3.537	0.02
Total scores of Quality of life	85.95	14.063	84.68	14.441	0.82

*p< 0.05   **p< 0.01   ***p< 0.001

In order to test quality of life among the hypertensive subjects according to the clinic they visit independent T- test was performed. As table (5.18) reveals; there is no significant differences between levels of total scores of quality of life and most of its domains according to clinics that subjects visited (t = 0.81, 0.42, 0.87, 0.02, 0.82; P> 0.05). While there is a significant differences between levels of social domain according to clinic being visited by the patients at (t= 2.19; df= 338; p< 0.05) in favor of subjects who visited governmental clinics. It seems that the variable of the clinic being visited by the subjects is not important since it shows no significant result, in the total quality of life and most of its domains except for the social domain which shows mild significance.

This indicates that, health services being provided in both the UNRWA, and governmental clinics are almost the same, so the only variable that affects the quality of life among the hypertensive patients from UNRWA, and governmental clinics is the disease itself (hypertension).

This also points out that, subjects are satisfied with the services being provided by the staff in both clinics, and that gives a good sign about the standard of health care services being provided by the UNRWA, and the MOH. Concerning the social domain which in favor of subjects who visit the governmental clinic it looks like that, those patients enjoy a better social atmosphere within their families as well as outside their families, than those who visit the UNRWA clinic.

Table (5.19)

Quality of life among the whole sample (N= 340)

Variables	No. of Items	Sum of scores	Mean	St. Dev.	Relative weight %	Arrangement
Physical domain	7	8047.00	23.66	5.812	67.62	2
Psychological domain	6	6557.00	19.28	3.475	64.28	3
Social domain	3	3577.00	10.52	1.964	70.14	1
Environmental domain	8	8487.00	24.96	4.771	62.40	4
Global value	2	2341.00	6.88	2.721	68.85	
Total scores of Quality of life	26	29009.00	85.32	14.246	65.63	

5.2.10 Quality of life among hypertensive patients:

Table (5.19) shows that, the percentage of the total scores of quality of life among the hypertensive patients at 65.63%. The highest domain was the social domain QOL at (70.14%), while the lowest domain was the environmental one QOL at (62.40%).

Its clear from the above table that, the over all quality of life is good among the whole study sample wither from UNRWA or government, which tells that patients are satisfied with their daily living conditions, despite the obstacles that our people go through, which emphasize that, the Palestinian society still intact and strong. Its obvious from table (5.19) that, the social domain is the leading domain with (70.14%), which explains the close relationships between the patients, their families and friends as well as the whole society. At the same time the above table illustrates that, the environmental domain is the lowest with (62.40%), which tells that, the patients are not satisfied with their surrounding environment, which means that, the municipal services being provided are not enough as well as people are not observing the cleanness of their society. The study conducted by Aljeesh in (2004), found to be consistent with the results which emphasizes the privacy of the Palestinian society.

Chapter 6

Conclusion and Recommendations

6.1 Introduction:

Hypertension represents a major threat for millions of people around the world, and it's a cause for growing public health concern in most countries including Palestine. Hypertension is now a leading cause of death, disability and a highly health care cost, which must persuade all health authorities to cope with this challenge.

Hypertension as a serous public health problem requires changes to the structure of health care delivery in terms of, well resourced interventions, effective coordination between all levels of the health organization, health care agencies, multidisciplinary health care teams as well as patient's advocacy group.

Although, hypertension cannot be cured, it can be controlled. Its effects on QOL can be minimized and proper management can prevent or delay its long term complications.   It worth mentioning that, hypertension management is more of a psychological problem than of a biological one, particularly when behaviors, attitudes and circumstances of the patient are the key determinants for achieving medical control which leads to improvement of the quality of their lives. This study has approved that hypertension and its complications were associated with more substantial reduction not only in the physical abilities of the patients but also in their psychological wellness.

6.2 conclusion:

This study has used a quantitative measure which provided an important assessment of the QOL among patients in UNRWA and governmental clinics, it also gave rich and meaningful information about the patient's experience with hypertension, moreover it provided a detailed and extensive understanding of how the disease with scarce resources affected their QOL, since the effective management of hypertension is largely dependant on the patient himself. Its so important to help hypertensive patients to minimize their psychological distress and unnecessary disturbances of their QOL.

This descriptive analytical cross sectional study was conducted to evaluate the QOL among patients attending UNRWA and governmental clinics in Gaza city. A convenient sample of 340 subjects aged between 40- 71 years old were recruited from two settings UNRWA and government. Data was collected by using demographic information   sheet and the WHOQOL-BREEF questionnaire.

Results revealed that, about one third of the sample are aged between (40-49), and the other two thirds are aged 50 years and above. According to duration of disease most of the sample have been suffering from 2 – 5 years 168 subjects (49.4%), 103 subjects (30.3%) from 6-10 years, 42 subjects (12.4%) from 11-15 years and 27 subjects (7.9%) 16 years and above. Distribution of the sample by educational attainment shows that, most of the study sample were illiterate (25.3%) and had hypertension. The vast majority of the sample were very low income 1200NIS and less (68.5%). The percentage of unemployment was the greatest among the sample (76.5%). Subjects with extended families 8 children and above were the majority among the study sample (45.3%). Married subjects were the majority among the sample (83.2%). Subjects from UNRWA and government clinics were 170 subjects from each clinic (50%).

The findings of this study also revealed that, total scores of QOL among hypertensive patients as high as 65.63%, and the highest domain was the social one at 70.14%while the lowest one was the environmental at 62.40%. In regard to sex, results revealed that, males enjoyed a better QOL than females especially the physical domain. Concerning duration of disease the results indicated that, as duration of disease increases QOL decreases. Findings of the study indicated that, as the subject getting older his QOL getting lower. In respect to educational attainment the results revealed that, QOL is higher among literate subjects than illiterate. Moreover, the findings asserted that, as monthly income increase QOL improves, except for physical and social domains. Family size was not statically significant for QOL.

QOL was higher among married and divorced than widowed subjects, showing that, the physical domain was in favor of the divorced but, the Psychological and Social domains were in favor of the married patients. The results also revealed that, work status was statically significant in relation to QOL in favor of working subjects.

Furthermore, the study revealed that, the clinics being visited by the subjects were not statically significant in relation to QOL except for the social domain which was in favor of the subjects visiting the governmental clinic.

However, within this overall study a picture of relatively positive indicator of the QOL among the study sample, except for some domains which must highlight the need for some reforms concerning the areas where QOL has shown impairment.

6.3 Recommendations:

As a matter of fact, health services provided at both governmental and UNRWA facilities should respond to clients needs and perspectives, in order to enhance client's involvement in the treatment process as well to prevent or at least to minimize suffering and further complications. Furthermore, study results that helping developing in depth understanding of issues that may influence subject's overall health as well as their QOL, therefore, here are recommendations that should be considered.

- To pay more attention to illiterate subjects in terms of treating them as special need subjects.
- To find work opportunities for those who are not working in order to reduce their hardship.
- To focus on the strategy of prevention rather than treatment in order to save health complications as well as social and financial burdens.
- To encourage people to introduce life style modifications in terms of physical activity, diet, recreation.
- To enhance public awareness about health issues through the media, publications, educational sessions and lectures.
- Ongoing evaluation of the quality and effectiveness of patient's care and management.

6.4 Recommendations for future research studies:

- The relationship between quality of life and type of work.
- Noncompliance to treatment regimen and its effect on the quality of life.
- The relationship between life style and quality of life.
- Prevalence of hypertension among people under 40 years of age, and its effect on their quality of life.
- Quality of life among hypertensive people with another disease.
- The impact of hypertensive medications on the quality of life among hypertensive patients.
- The impact of gestational hypertension on the quality of life among pregnant women.

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Palestinian National Authority		السلطة الوطنية الفلسطينية
Ministry of Health		وزارة الصحة
Helsinki Committee		لجنة هلسنكي

Date: 30/10/2005

التاريخ: 2005/10/30

Mr./ Wail Elayyan

السيد: وائل عليان

I would like to inform you that the committee
has discussed your application about:

نفيدكم علماً بأن اللجنة قد ناقشت مقترح دراستكم
حول:-

**Impact of Hypertension on the quality of life
among patients attending governmental and
UNRWA clinics, Gaza-Palestine.**

**In its meeting on October 2005
and decided the Following:-
To approve the above mention research study.**

و ذلك في جلستها المنعقدة لشهر أكتوبر 2005
و قد قررت ما يلي:-
الموافقة على البحث المذكور عاليه.

Signature
توقيع

Member   Member   Chairperson

عضو   عضو

Conditions:-
  ❖ Valid for 2 years from the date of approval to start.
  ❖ It is necessary to notify the committee in any change in the admitted study protocol.
  ❖ The committee appreciate receiving one copy of your final research when it is completed.

كليـــة الصحـــة العامـــة

School of Public Health

القدس ـ فلسطين

2005/11/13

الأخ/ د. على قويدر   المحترم

مدير عام الرعاية الأولية – وزارة الصحة

تحية طيبة وبعد،،،

الموضوع: مساعدة الطالب وائل عليان

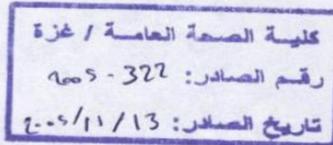يقوم الطالب المذكور أعلاه بإجراء مشروع بحث بعنوان:

" Impact of Hypertension on the Quality of life among patients attending government and UNRWA clinics, Gaza Palestine"

كمتطلب للحصول على درجة الماجستير في الصحة العامة علماً بأن الطالب قد حصل على موافقة لجنة هلسنكي لأخلاقيات البحوث و ستكون المعلومات متوفرة لدى الباحث فقط. و عليـــه نرجـــو التكرم للإيعاز لمن ترونه مناسب لتسهيل مهمة الطالب في جمع البيانات الخاصة.

موافقتكم دعماً للمسيرة الأكاديمية

و تفضلوا بقبول فائق الاحترام ،،،

د. سوزان شعشاعه

عميد كلية الصحة العامة المساعد

كليـــة الصحـــة العامـــة / غزة
رقـم الصادر: 322 - 5009
تاريخ الصادر: 2005/11/13

نسخة: الملف

كليـــة الصحـــة العامـــة

School of Public Health

القدس ـ فلسطين

وزارة الصحة

2005/11/13

الأخ/ د. أيوب العالم   المحترم

مدير برامج الصحة-وكالة الغوث

تحية طيبة وبعد،،،

الموضوع: مساعدة الطالب وائل عليان

يقوم الطالب المذكور أعلاه بإجراء مشروع بحث بعنوان:

" Impact of Hypertension on the Quality of life among patients attending government and UNRWA clinics, Gaza Palestine"

كمتطلب للحصول على درجة الماجستير في الصحة العامة علماً بأن الطالب قد حصل على موافقة لجنة هلسنكي لأخلاقيات البحوث و ستكون المعلومات متوفرة لدى الباحث فقط   و عليه نرجـو التكرم للإيعاز لمن ترونه مناسب لتسهيل مهمة الطالب في جمع البيانات الخاصة.

موافقتكم دعماً للمسيرة الأكاديمية

و تفضلوا بقبول فائق الاحترام ،،،

د. سوزان شعشاعه

عميد كلية الصحة العامة المساعد

نسخة: الملف

Approved
HD AN
21/11/05

كلية الصحة العامة / غزة
رقم الصادر: 323 ـ 2005
تاريخ الصادر: 13 / 11 / 2005

أحوالك الشخصيـة

قبل أن نبدأ نود منك الإجابة على بعض الأسئلة العامة عن نفسك , و ذلك بوضع دائرة حول الإجابة الصحيحة أو بملأ الفراغات الموجزة

<u>I</u>- المعلومات الشخصية

1- ما هو جنسك ☐ ذكر ☐ أنثى

2- ما هو تاريخ ميلادك اليوم_____ الشهر_____ السنة_____

3- ما هو أعلى درجة تعليم حصلت عليها ☐ لا شئ
☐ المرحلة الابتدائية
☐ المرحلة الإعدادية
☐ المرحلة الثانوية
☐ الدراسات العليا

4- ما هي حالتك الاجتماعية ؟
☐ أعزب ☐ متزوج ☐ أرمل ☐ مطلق

التعليـــــــمات

هذا الاستبيان يستفسر عما تشعر به فيما يتعلق بنوعية حياتك و صحتك و نواحي أخرى من حياتك , نرجو الإجابة على جميع الأسئلة . إذا لم تكن متأكد من الإجابة على سؤال معين , نرجو اختيار الجواب الأنسب . و هذا قد يكون ردك الأول في أحيان كثيرة . نرجو أن تضع في اعتبارك قيمك و آمالك ورغباتك واهتماماتك . نطلب أن تفكر في نمط حياتك خلال الأسبوعين الماضيين مثلا . قد يكون السؤال :

	لا يوجد	قليلا	نوعا ما	كثيرا	دائما
هل تحصل على أي دعم أو مساعدة من الآخرين ؟	1	2	3	4	5

عليك وضع دائرة حول الرقم الذي يصف مقدار الدعم أو المساعدة من الآخرين خلال الأسبوعين الماضيين . و هكذا فإنك ستضع الدائرة حول الرقم (4) إذا كنت قد حصلت على دعم كبير من الآخرين كالآتي

	لا يوجد	قليلا	نوعا ما	كثيرا	دائما
هل تحصل على أي دعم أو مساعدة من الآخرين ؟	1	2	3	(4)	5

قد تضع الدائرة حول الرقم (1) إذا لم تحصل على أي دعم أو مساعدة تحتاجها من الآخرين خلال الأسبوعين الماضيين .

* يرجى قراءة كل سؤال و تقيم مشاعرك ووضع الدائرة حول الرقم الذي يعطي أفضل إجابة بالنسبة لك .

	كيف تقيم جودة حياتك؟	سيئة للغاية	سيئة	لا بأس	جيدة	جيدة جداً
1(G1)		1	2	3	4	5

		غير راض مطلقا	غير راض	لا راض و لا غير راض	راض	راض تماما
2 (G4)	كيف أنت راض عن صحتك ؟	1	2	3	4	5

* الأسئلة التالية تستفسر عن مدى تعرضك لأشياء معينة خلال الأسبوعين الماضيين

بدرجة بالغة	كثير جدا	بدرجة متوسطة	قليلا	لا يوجد		
5	4	3	2	1	هل لديك طاقة كافيه لمزاولة الحياة اليومية ؟	10(F2.1)
5	4	3	2	1	هل أنت قادر على قبول مظهرك الخارجي ؟	11(F7.1)
5	4	3	2	1	هل لديك من المال ما يكفي لتلبية احتياجاتك ؟	12(F18.1)
5	4	3	2	1	كم تتوفر لك المعلومات التي تحتاجها في حياتك اليومية ؟	13(F20.1)
5	4	3	2	1	إلى أي مدى لديك الفرصة للأنشطة الترفيهية ؟	14(F21.1)
بدرجة بالغة	كثير جدا	بدرجة متوسطة	قليلا	لا يوجد		
5	4	3	2	1	إلى أي حد تشعر بأن الوجع يمنعك من القيام بالأعمال التي تريدها ؟	3 (F1.4)
5	4	3	2	1	كم تحتاج من العلاج الطبي لتتمكن من القيام بأعمالك اليومية ؟	4(F11.3)
5	4	3	2	1	إلي أي مدى تستمتع بالحياة ؟	5(F4.1)
5	4	3	2	1	إلي أي مدى تشعر بأن حياتك ذات معنى ؟	6(F24.2)
5	4	3	2	1	كم أنت قادر على التركيز ؟	7(F5.3)
5	4	3	2	1	كم تشعر بالأمان في حياتك اليومية ؟	8(F16.1)
5	4	3	2	1	إلى أي حد تعتبر البيئة المحيطة بك صحية ؟	9(F22.1)

* الأسئلة التالية تستفسر عن مدى قدرتك على إتمام أمور معينة خلال الأسبوعين الماضيين

جيده جدا	جيدة	لا بأس	سيئة	سيئة للغاية		
5	4	3	2	1	كم أنت قادر على التجول بسهولة	15(F9.1)

* الأسئلة التالية تطلب منك أن تعبر عن مدى رضاك نحو جوانب مختلفة من حياتك خلال الأسبوعين

الماضيين

راض تماما	راض	لا راض و لا غير راض	غير راض	غير راض مطلقا		
5	4	3	2	1	كم أنت راض عن نومك ؟	16(F3.3)
5	4	3	2	1	إلي أي مدى أنت راض عن قدرتك على القيام بنشاطاتك اليومية ؟	17(F10.3)
5	4	3	2	1	كم أنت راض عن قدراتك على العمل ؟	18(F12.4)
5	4	3	2	1	كم أنت راض عن نفسك ؟	19(F6.3)
5	4	3	2	1	كم أنت راض عن علاقاتك الشخصية ؟	20(F13.3)
5	4	3	2	1	كم أنت راض عن حياتك الجنسية ؟	21(F15.3)
5	4	3	2	1	كم أنت راض عن الدعم أو المساعدة من الأصدقاء ؟	22(F14.4)
5	4	3	2	1	كم أنت راض عن أحوالك السكنية ؟	23(F14.4)
5	4	3	2	1	كم أنت راض عن الخدمات الصحية المتوفرة لك ؟	24(F19.3)

5	4	3	2	1	كم أنت راض عن وسائل مواصلاتك ؟	25(F23.3)

دائما	غالبا جدا	غالبا	نادرا	أبدا		
5	4	3	2	1	كم من المرات كانت عندك مشاعر سلبية مثل الحزن أو اليأس أو القلق أو الاكتئاب ؟	26(F8.1)

هل ساعدك أحد في ملء هذا الإستبيان

_____

كم من الوقت استغرقت لملء هذا الاستبيان ؟

_____

هل لديك أي تعليقات حول هذا الاستبيان ؟

_____

_____

_____

شكرا لمساعدتك

استبيان حول تأثير مرض ضغط الدم على جودة الحياة عند المرضى في عيادات الحكومة و الوكالة

بيانات شخصية:

الاسم: _____		
الجنس: ذكر□ أنثى□	لاجئ □ مواطن□	
العمر: _____		
العنوان: _____		

بيانات اقتصادية و اجتماعية:

الحالة الاجتماعية: أعزب □ متزوج □ مطلق□ أرمل□ عدد أفراد الأسرة: _____
العمل: أعمل □ لا أعمل□
إذا كانت الإجابة بنعم فما هو نوع العمل؟ _____
معدل الدخل الشهري: _____

مستوى التعليم:

ما هو أعلى مستوى تعليم حصلت عليه؟
لا شئ□ ابتدائي□ إعدادي□ ثانوي□ دبلوم□ جامعي□

بيانات طبية:

التشخيص: _____
منذ كم سنة تعانى من مرض ضغط الدم؟ _____
هل هناك أحد من أفراد عائلتك يعاني من مرض ضغط الدم؟ نعم □ لا□
هل أنت مدخن/ة؟ نعم □ لا□
إذا كانت الإجابة بنعم, كم سيجارة تدخن في اليوم ؟ _____
هل تعاني من أي أمراض أخرى؟ نعم □ لا□

مدى الالتزام بتناول العلاج:

هل تتناول علاجك حسب تعليمات الطبيب؟ نعم □ لا□
ماهو نوع العلاج الذي تتناوله؟ _____
العيادة التابع/ة لها: حكومة□ وكالة□