Al-Quds University

Deanship of Graduate Studies

School of Public Health

The Quality Of Life For Hypertensive Patients In Gaza City : Case Control

Tamer W.Younes

M.P.H Thesis

Gaza Strip-Palestine

1431/ 2010

كلية الصحة العامة

School Of Public Health

The Quality Of Life For Hypertensive Patients In Gaza City: Case Control

A Thesis

Submitted In Partial Fulfillment Of The Degree Master Of Public Health In AL-Quds University

By

Tamer Wajeeh Younes

BSN degree – Islamic University – Gaza – Palestine

Supervisor :Dr. Ashraf J. Swirky

Submitted

A thesis submitted in partial fulfillment of the requirements

for the degree of Master of Public Health – Epidemiology and Biostatistics

Al- Quds University

1431/ 2010

Al-Quds University

Deanship of Graduate Studies

School of Public Health

Thesis Approval

The Quality Of Life For Hypertensive Patients In Gaza City : Case Control

Prepared by :Tamer W.Younes

Supervisor :Dr. Ashraf J. Swirky

Master thesis submitted and accepted, date: 7/ 6/ 2010.

The names and signatures of the examining committee members are as follows:

1. Head of Committee: Dr. Ashraf J. Swirky Signature _____
2. Internal Examiner: Dr. Abed Alaziz M. Thabet Signature _____
3. External Examiner: Dr. Yousef Al-Jeesh Signature _____

Jerusalem- Palestine

1431 هـ / 2010 م

DEDICATION

I dedicate this study

to

my father's soul

my mother

my wife

my brothers

my sister

& my son ;

Who gave me inspiration, motivation and continued sustain my commitment

Tamer Younes

Declaration

I certify that all 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 university or institution.

Signed:…….

Tamer Younes

Date:……

Acknowledgment

I would like to express my deep gratitude to everyone 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. Ashraf J. Swirky for his care, wise supervision, support and encouragement.

I would like to express my appreciation to the management , academic and administrative staff of school of public health for their guidance and support.

Moreover, I would like to express my great thanks and acknowledgment to Dr. Yehia Abed for his great knowledge and courage and Dr. Bassam Abu Hamad for his valuable information his continuous support, and administrative staff of the school of public health.

I'm so grateful to my colleagues 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
Tamer Younes

Abstract

Hypertension affects approximately 1 billion individuals worldwide, this associated with an increased risk of mortality and morbidity, And the fifth-leading cause of cardiovascular diseases deaths in Palestine 2004, So there is importance to assess the Quality Of Life for those people . Quality Of Life (QOL) is a temporal concept that reflects the moment at which it is evaluated; thus, respondents are more likely to respond consistently to measures of tangible capital.. The aim of this study was to assess the quality of life among hypertensive patients who were recorded in UNRWA clinics in Gaza city .

The population study include all hypertensive patients who are 20 years and above and registered in UNRWA centers in Gaza City, as case control study we select 99 casse and 99 controls,

The highest prevalence of hypertension in married people and follow them who didn't work , After that low income people, In the group age above 50 years higher than less age ,In female more than male , In low educated people higher than educated .

In Physical domain the Control mean is higher than case and this difference reach statistically significance. There is slight difference between Social domain means in case and control but didn't reach statistically significance , Nearly there is no differences between Psychology and Environment domain means .

Quality of life domain in Control is slightly better than case and this difference didn't reach statistically significance.

In both cases and controls the Physical domain of who his monthly income from 1500 to 2500 NIC mean is higher than less and more income and these differences highly statistically significance

In both cases and controls the total domain of high educated group mean is higher than less educated and these differences reach statistically significance .

Table of Content

List of Tables

List of figures

List of Annexes

List of Abbreviations

NCD	**Non-communicable Diseases**
CVDs	**Cardiovascular Diseases**
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**
GS	**Gaza Strip**
PHC	**Primary Health Care**
MmHg	**Mel Meter Mercury**
NIS	**New Israeli Shekels**
CVA	**Cerebro-Vascular Accident**
SES	**Socioeconomic Status**
BMI	**Body Mass Index**
UNRWA	**United Nations Relief and Works Agency For Palestinian Refugess**
WHO	**World Health Organization**
ANOVA	**Analysis of Variance**
SPSS	**Statistical Package for Social Sciences**
Epi-Info	**Epidemiological Package**
CI	**Confidence Interval**
BP	**Blood Pressure**
SBP	**Systolic Blood Pressure**
DBP	**Diastolic Blood Pressure**
SD	**Standard Deviation**
HTN	**Hypertension**
SF-36	**Study Short Form-36**
P	**P-Value**
Df	**Degree of Freedom**

Chapter 1

Introduction

Chapter 1

Introduction

. Hypertension affects approximately 1 billion individuals worldwide, this associated with an increased risk of mortality and morbidity from stroke, coronary heart disease, congestive heart failure, and end-stage renal disease; it also has a negative impact on the quality of life. Hypertension cannot be eliminated because there are no vaccines to prevent the development of hypertension, but, its incidence can be decreased by reducing the risk factors for its development, which include obesity, high dietary intake of fat and sodium and low intake of potassium, physical inactivity, smoking, and excessive alcohol intake(Hernandez and Valasco, 2007).

Some people with uncomplicated hypertension, may experience symptoms such as headache, dizziness, shortness of breath, and blurred vision. The presence of symptoms can be a good thing in that they can prompt people to consult a doctor for treatment and make them more compliant in taking their medications(Medicine net .com, 2009).

Hypertension disease is the fifth-leading cause of cardiovascular diseases deaths; 17.4% of the total cardiovascular mortality, with a rate of 16.6 per 100,000. In 2004, The annual average specific mortality rate from hypertension for 100,000 population were 17.8 for males and 23.3 for females during the last five years(MOH, 2005).

1 .1 Hypertension Disease Mortality in Palestine

Hypertension disease is the seventh-leading cause of deaths in total population (5.9%)and males, (4.1%), while it was the fourth leading cause of deaths in females (8.3%) .

Hypertension disease is the fifth-leading cause of cardiovascular diseases deaths; (17.4% of the total cardiovascular mortality), with a rate of 16.6 per 100,000.

In 2004, mortality rate per 100,000 among females (20.1) was more than males (13.2), 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 were 17.8 for males and 23.3 for females during the last five years (MOH, 2005).

1 .2 Quality of life :

World health organization (WHO) defines Quality of Life as Individuals perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. It is a broad ranging concept affected in a complex way by the person's physical health, psychological state, level of independence, social relationships, personal beliefs and their relationship to salient features of their environment (WHO, 1998).

Quality of life is an increasingly common theme in the health status and health promotion literature that is improved quality of life is seen as a desired outcome of service provision .Quality of life assessment can also identify individuals in need of support or interventions. Even in the absence of diagnosable illness or other problems .from a broader health promotion or illness prevention perspectives. Quality of life may be seen as an indicator of health risk, either physical or mental, in the absence of treatment or services need (Raphael et al,1996).

The dramatic rise in average age of death in developed countries has brought the realization that longevity should be accompanied with improvements in health related quality of life (HRQOL). Some researchers have raised the possibility that increasing life expectancy will result in an increase in the proportion of the population living in poor

health, and consequencelly increased burden on society and health care service (Manuel and Schultz, 2004).

The world health organization (WHO) succinctly summarized these concerns by stating "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 consequent application to people's lives is to enable people to live quality lives – lives that are both meaningful and enjoyed" (Renwick, 2002).

The objectives of this study which include the assessment of quality of life for hypertensive patients in primary heath care center in United Nations Relief and Works Agency for Palestine Refugees (UNRWA) clinics in Gaza city .

1 .3 Overall aim:

To assess quality of life for hypertensive patients that help decision makers to develop primary program to improve the quality of life among hypertensive patients .

.

1 .4 Objectives:

1- To assess the QOL among hypertensive patients and compare it with controls.

2- To find out the relationship between demographic variables (age, gender, level of education, residential area and monthly income) and QOL in cases and controls .

3-To assess the effect of the type of management on QOL for hypertensive patients.

4-To make recommendation to decision makers to develop program that may enhance QOL among hypertensive patients.

1 .5 Problem statement

Hypertensive patients in Gaza city suffering so much from many aspects; the nature of the disease itself, many types of drugs, psychological distress and the effect of management, also no formal and accurate data about the incidence and prevalence of hypertension in Gaza city for many years. The researcher will study the QOL for those patients**.**

1 .6 Justification of the study

Hypertension is a common disease, and continues to be one of the most important causes of death and illness .

Overall, 26·4% of the adult population in 2000 had hypertension (26·6% of men and 26·1% of women, and 29·2% were projected to have this condition by 2025 (29·0% of men and 29·5% of women(Kearney, et al, 2005).

In this study the researcher assess the quality of life among hypertensive patients in Gaza city. Also the researcher aim is to provide general understanding of the experience of having and managing hypertension.

Also hypertension is :

- one of the important causes of disease burden in the developed and developing countries.
- one of major risk factors for cardiovascular disease (CVD) .
-It's my parent's problem **.**

Management of hypertension affect the quality of life of patients and reduces mortality, stroke, congestive heart disease (CHD) and heart failure**.**

1 .7 Background Of the Study

Demography of Gaza strip

Gaza Strip is a narrow piece of land lying on the coast of the Mediterranean sea. Its position on the crossroads from Africa to Asia made it a target for occupiers and c onquerors over the centuries. The last of these was Israel who occupied the GS in 1967.

GS is a very crowded place with an area of 365 sq Km and constitutes 6.1% of the total area of Palestinian territory land. In mid year of 2005 the population number was estimated at 1,389,789 mainly concentrated in the cities, small villages, and eight refugee camps that contain two thirds of the population of GS. In GS, the population density is 3,808 inhabitants/km2.

Population under 15 and above 65 years

In Palestine 2005, the percentage of population under 15 years old was 46.3% of the total population in Palestine (44.2% in West Bank and 49.1% in GS). The percentage of Palestinians who are 65 years and more in Palestine was 2.8% (3.1% in West Bank and 2.5% in GS.

*Life expectancy was 71.7 years for males and 73years for females.

*Population natural increase rate is 3.3% .

*Crude birth rate 27.5/1000 capita.

*Crude death rate 4/1000 capita (PCBS, 2006).

Palestinian economy:

The World Bank stated that the Gross National Product (GNP) in Palestine has been subjected to high fluctuations during the last five years. Gross National production (GNP) was 5,454 million US$ in 1999 and decreased to 4,169 million US$ in 2005. Gross

Domestic Production (GDP) was 4,517 million US$ in 1999 and decreased to 3,832 million US$ in 2005. Gross National production per capita (GNP/capita) was 1,806 US$ in 1999 and decreased to 1,039 US$ in 2005. Gross Domestic Production per capita (GDP/capita) was 1,496 US$ in 1999 and decreased to 955 US$ in 2005.

The number of workers in Israel decreased from135,000 in 1999 to 36,000 in 2005. The workers in Palestine also decreased from 453,000 in 1999 to 135,000 in 2005. The World Bank reported that the unemployment rate was 32%. This revealed sharply increasing of unemployment rate from11.8% in 1999 to 32% and the poverty rate in Palestine was 44% in 2005. This situation is a result of Israeli enforced restriction on Palestinian movement, military operations, land confiscation and leveling and the construction of Barrier in addition to other escalating activities imposed on Palestinian people (MOH, 2005).

Health Care System in Palestine

The Palestinian health care services are provided mainly by four sectors of health providers, the governmental health services Ministry of Health (MOH), Non Governmental Organizations (NGOs), UNRWA and the private sector (MOH, 2004).

In Palestine, there are 78 hospitals with 4,679 beds, in GS 24 hospitals have (1,917 beds) and 54 hospitals in WB and Jerusalem(,762 beds). Also the MOH plays the main role of providing secondary health services, with 12 hospitals in GS with 1,462 beds (55.9) of total MOH beds, and there are 11 hospitals in WB with 1,152 beds (44.1%) of total MOH beds. MOH is the health authority responsible for supervising, regulation, licensure, and control for whole health services (MOH, 2004).

1 .8 Operational and Theoretical Definitions

Quality of life Individuals perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. It is a broad ranging concept affected in a complex way by the person's physical health, psychological state, level of independence, social relationships, personal beliefs and their relationship to salient features of their environment (WHO, 1998).

Hypertension Is defined as a systolic blood pressure (SBP) of 140 mmHg or greater and or diastolic blood pressure (DBP) of 90 mmHg or greater in subject who are not taking anti-hypertensions. While measuring the blood pressure, first appearance of sound is used to define SBP and the disappearance of sound is used to define DBP (WHO, 2003).

Risk factor: A risk factor is a variable associated with an increased risk of disease. Risk factors are correlation and not necessarily causal, because correlation does not imply causation(Wikipedia, 2009).

Risk factors in this study are smoking, hypertension, diabetes, LDL, HDL, low income, residential area, low level of education, low physical activity, and psychological stress.

A smoker: A smoker can be defined as someone who, at the time of survey, smokes any type of tobacco product daily or occasionally (WHO, 2004).

Obesity: WHO defined obesity as body mass index {BMI=weight (kg)/height (m2)} equal to and greater than 30kg/m2 (WHO, 1995).

Lifestyle eating, drinking ,consumption behavior ,the quality of foodstuffs and the exercise habits of the persons (Berg A, et,al,2006)

Exercise Any regular activity its goal only sport .

Chapter II

Literature Review

Chapter II

Literature Review

In this chapter the researcher will review studies which concern with hypertension, causes, risk factors ,the role of diet, exercises, management, quality of life, antihypertensive affects on quality of life and so on .

The risk factors for high blood pressure include overweight or obese.

People who are inactive tend to have higher heart rates. Lack of physical activity also increases the risk of being overweight.

Smoking tobacco raise your blood pressure,

High blood pressure is known as the "silent killer". You don't feel like anything is wrong so you may be inclined to simply ignore the signs and symptoms of hypertension. This can prove to be a fatal mistake. Left untreated and ignored, hypertension will lead to strokes, heart failure, heart attacks, aneurysm or death. It is a very serious health issue. Some of the symptoms of hypertension can include: Headaches ,being tired all the time ,blurred vision ,nosebleeds ,ringing in the ears ,chest pain-irregular heartbeat ,feeling of confusion off and on heart failure.

Good management is central to any strategy formulated to control hypertension at the community level. The management and care of hypertension, including control of blood pressure and complications in people with established hypertension and identification of individuals with high blood pressure who are at increased risk of complications .

quality of life defined as "Adding years to life" is an empty victory without "adding life to years." ----- (WHO, 1998).

Conceptual Framework

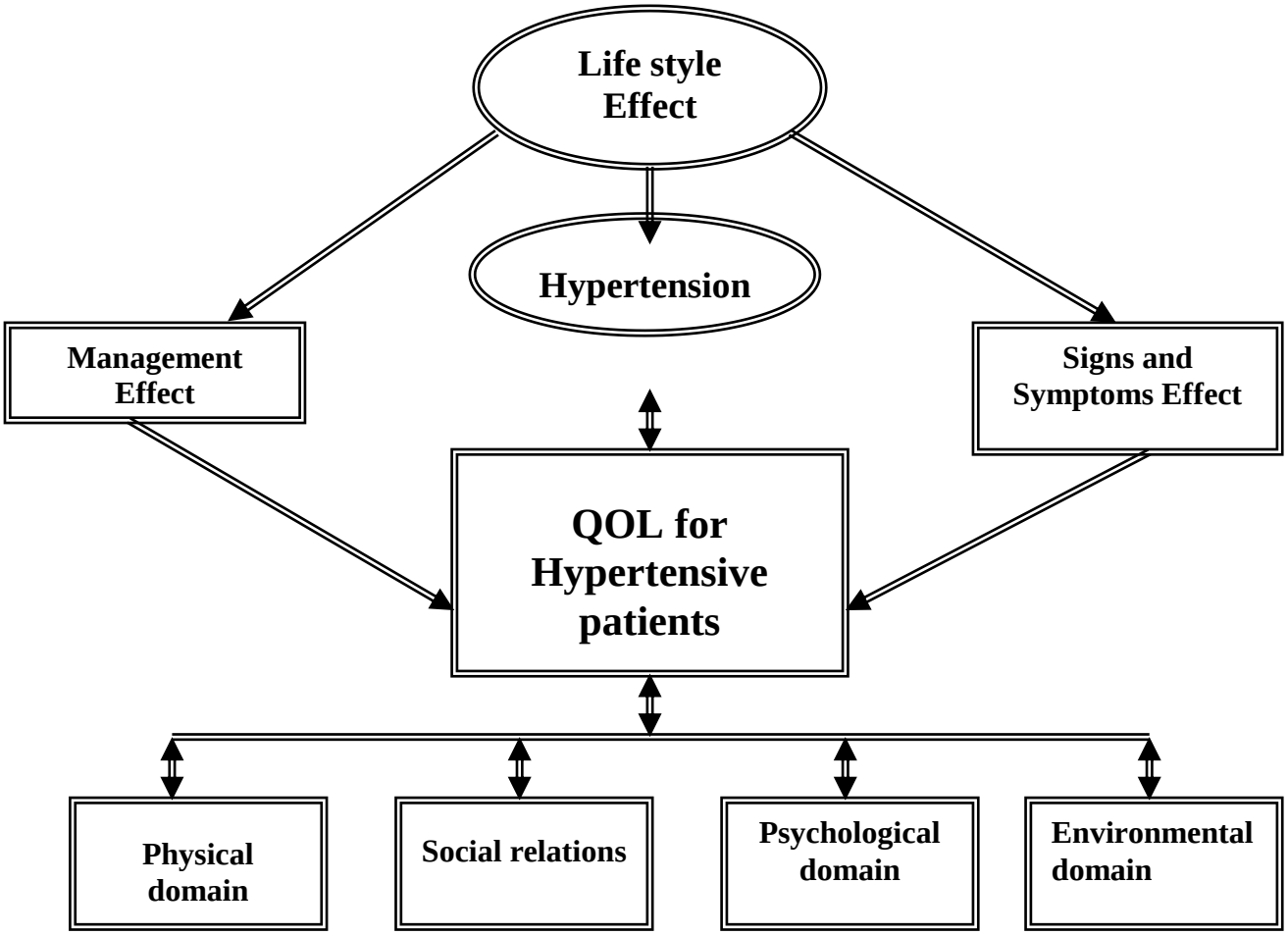

Figure 2.1 Conceptual Framework

2 .1 Conceptual Framework

The conceptual framework for the study was developed by the researcher as described in figure 1 , when the pt complains from S&S of HTN he seek about solution and want to detect the reason ,when go to clinic he is diagnosed as hypertensive so that the management is needed, complications are expected .

After that all of these events may affect on the QOL for the pt , so that the researcher will study and evaluate QOL for hypertensive pt and assess some of risk factors as family history , obesity , smoking and lifestyle .

2 .2.1 Definitions of hypertension

Blood pressure is the force is the exerted by bloodstream against the walls of arteries, Every one has to have some blood pressure, which is absolutely necessary to get blood to the vital organs and muscles.

Hypertension is defined as a systolic blood pressure (SBP) of 140 mmHg or greater and or diastolic blood pressure (DBP) of 90 mmHg or greater in subject who are not taking anti-hypertensions.While measuring the blood pressure, first appearance of sound is used to define SBP and the disappearance of sound is used to define DBP (WHO, 2003).

2 .2 .2 Global burden of hypertension

Hypertension is a common condition, and continues to be one of the most important causes of death and illness .

Overall, 26·4% of the adult population in 2000 had hypertension (26·6% of men and 26·1% of women, and 29·2% were projected to have this condition by 2025 (29·0% of men and 29·5% of women(Kearney , et al ,2005).

Table 2 .1 The ratio of hypertension among men and women :

Year	Overall,% (95%CI)	Men, % (95%CI)	Women % (95%CI)
2000	26. (26.0-26.8)	26.6(26.0-27.2)	26.1(25.5-26.6)
2025	29.2(28.8-29.7)	29.0(28.6-29.4)	29.5(29.1-29.9)

(Kearney, et al, 2005)

2 .2 .3 Hypertension in 2000

The estimated total number of adults with hypertension in 2000 was 972 million. Of these 333 million were estimated in economically developed countries and 639 million in economically developing countries.

Table 2 .2 Number of hypertensive according to level of countries and years :

Total number worldwide in 2000	972 million (957-987)
Total number in developed countries in 2000	333 million (329-336)
Total number in developing countries in 2000	639 million (625-654)
Total number worldwide in 2025	1.56 billion (1.54-1.58)

(PMID, 2008)

2 .2 .4 Hypertension in 2025

By 2025, the number will increase by about 60% to a total of 1.56 billion as the proportion of elderly people will increase significantly. The biggest increase in prevalence was expected to be in developing (increase of 24%) and third world countries (increase of 80%) as the rapidly take on the more western lifestyle. Scientists are now claiming that 1 in 3 adults in the world will have high blood pressure in 2025. Since the proportion of hypertensive people will increase dramatically worldwide, the prevention, detection, treatment and control of this condition should be a top priority (Kearney , et al, 2005).

2 .2 .5 Prevalence of hypertension according to gender and age

Men are at increased risk for high blood pressure as compared to women until the age of 55. After 55, there is a higher percentage of women at risk for high blood pressure. High blood pressure is 2 to 3 times more common in women taking oral contraceptives, especially in obese and older women, than in women not taking them. 64% of men over 75 years old have hypertension.77% of women over 75 years old have hypertension. Older females have a significant risk of developing high blood pressure. More than 50% of women over age 60 have high blood pressure. African-Americans who live in the United States have the highest prevalence of hypertension in the world (WHO, 2004).

2 .3 Hypertension in Palestine

In Palestine, no or weak national data are available on the overall incidence and prevalence of cardiovascular diseases (CVD), hypertension diseases, Diabetes Mellitus (DM) and accidents. In general we depend on mortality data to estimate the impacts of these diseases. The current system counts mainly the visits of the patients to public health clinics PHC, which does not reflect the real prevalence or incidence. Besides, there is no classification by age or gender mainly because of no computerized system.

2 .3 .1 Prevalence of the disease

The Palestinian Central Bureau of Statistics study the situation of elderly in the Palestinian Territory in 2005 . The report defines the elderly people as of age 65 years and over. Number of elderly in the Palestinian Territory in mid year 2005 are 114.8000 person (49.3 thousands males and 65.5 thousands females), 49.4% of the elderly in the Palestinian Territory are suffering from chronic diseases, 33.8% are suffering from Hypertension diseases (MOH, 2005).

2 .3 .2 Hypertension disease mortality in 2003

In 2003, hypertension disease is the fifth leading cause of death 12.8% of the total cardiovascular mortality, with a rate of 13.4 per 100,000.

In 2003, mortality rate per 100,000 among females is more than males with 15 among females and 11.8 among males in comparison with 11.5 among females and 14.1 among males in 2002.

2 .3 .3Hypertension disease mortality in 2004

Hypertension disease is the fifth-leading cause of cardiovascular diseases deaths; 17.4% of the total cardiovascular mortality, with a rate of 16.6 per 100,000. In 2004, mortality rate per 100,000 among females (20.1) was more than males (13.2), 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 were 17.8 for males and 23.3 for females during the last five years(MOH, 2005).

2 .4 prevention of chronic disease and hypertension

Diet, nutrition and the prevention of chronic disease, the dynamic relationship between changes in population's diet and changes in its health has been well reflected in the rabidly changing disease and mortality profiles of migrant population's moving from low risk countries as Japan to USA. It has also been event in some countries as china, Mauritius, Singapore and Caribbean's, that have undergone rapid development over that past 40-50yrs(WHO, 1990).

Hypertension is world wide in distribution and incidence rising. However, the risks prevalence of hypertension considerably in different parts of the world. This seems to be due to differences in both genetic and environmental factors (Edwards, et al, 1996).

Hypertension is one of the most daunting challenges posed by chronic diseases. The number of suffers is currently estimated to be about 135million. This number is expected to rise to almost 300million by the year 2025. Based on the current study, the effect of those numbers of people's life expectancy may be greater than previously estimated, according to Franco. This, he said, emphasizes the "global need to improve blood pressure control. "to keep blood pressure in check, experts advise maintaining a normal weight, exercising regularly, abstaining from smoking and eating a diet rich in fruits, vegetables and whole grains, and moderate in salt and alcohol (Reuters Health, 2005).

Investing in prevention and improved control of non communicable diseases would improve the quality of life and well-being of people and societies. No less than 86% of deaths and 77% of the disease burden in the WHO European Region are caused by this broad group of disorders, which are linked by common risk factors, underlying determinants and opportunities for intervention. A more equitable share of the benefits from effective interventions would make the greatest impact as well as bring significant health and economic gain to all Member states. This action-oriented strategy promotes a comprehensive and integrated approach to tackling non communicable diseases in the WHO European Region. In some countries, non communicable disease NCD prevention may be more integrated across a range of risk factors and/or diseases. There might be a single strategy for nutrition, physical activity and the prevention of obesity, for example. While significant progress has been made with population-level prevention, opportunities

for engaging and reorienting the health system and/or connecting with broader societal efforts to tackle the determinants of health may be being lost. National guidelines to prevent cardiovascular diseases using a multifactor approach might exist, for example, but the necessary health system changes to successfully implement them, particularly in primary health care care development, health system reform and appropriate health financing mechanisms(The European strategy for NCD, 2008).

2 .5 Causes of uncontrolled hypertension and risk factors

To identify the socio-demographic, clinical, psycho-behavioral and therapeutic factors explaining uncontrolled blood pressure in a population of hypertensive's in ambulatory practice. By survey, cross-sectional, sample of 347 general practitioners (GP) and 210 cardiologists, and a population of 2022 hypertensive patients followed by these doctors. The data were collected by means of questionnaires completed by the hypertensive's and their doctors.

The result was that the factors significantly discriminating patients for whom BP was controlled (C) from those patients whose BP was not controlled (NC) were an age less than 65 years, smoking, obesity, alcohol consumption, sedentary lifestyle and multiple anti-hypertensive treatment. On the psycho-behavioral front, the NC patients were more often anxious and irritable, claiming to lead a stressful life and for whom hypertension was often perceived as a "foreign entity" and a source of frustration and multiple deprivations. The factors discriminating the NC doctors from the C doctors were essentially psycho-behavioral, with the NC doctors considering the management of hypertension as being less gratifying, and hypertension as a condition with fluctuating progression, poorly understood and dramatized by patients. The survey underlines the weight of reciprocal representation systems in hypertension for patients and their doctors, as well as the quality of the doctor-

patient relationship in blood pressure control. It prompts the development of sensitizations actions for practitioners centered on improving the doctor-patient relationship (Arch Mal Coeur Vaiss, 2003).

There are many risk factors. Some you can't control which include:Age. The risk of high blood pressure increases as you age, Through early middle age, high blood pressure is more common in men. Women are more likely to develop high blood pressure after menopause. Race. High blood pressure is particularly common among blacks Family history. High blood pressure tends to run in families. Other risk factors for high blood pressure are within your control, Being overweight or obese, Not being physically active. also increases the risk of being overweight, Using tobacco, Too much salt (sodium) in your diet, Too little vitamin D in your diet, Drinking too much alcohol, Certain chronic conditions also may increase your risk of high blood pressure, including high cholesterol, diabetes, kidney disease and sleep apnea, Sometimes pregnancy contributes to high blood pressure. Although high blood pressure is most common in adults, children may be at risk, too. for some children, high blood pressure is caused by problems with the kidneys or heart. But for a growing number of kids, poor lifestyle habits such as an unhealthy diet and lack of exercise contribute to high blood pressure. (MFMER, 2009).

2 .6 Poor control of blood pressure in primary care

. The study included 2519 hypertensive patients. The interventions were antihypertensive medication, and the main outcome measures were control of systolic and diastolic blood pressure (BP). The independent variables considered were: age of patient and GP; patient gender, body mass index, history of smoking, diabetes mellitus, or cholesterol tests; family history of hypertension; previous visits for cardiologic, nephrologic, or vascular surgery evaluation; prior hospitalizations for myocardial infarction or heart failure, and number of

admissions for surgery; length of patient follow-up, type of antihypertensive medication, mean daily dosage, adherence to the drug regimen, and number of other medications currently being taken by the patient. Blood pressure was uncontrolled (>140/90 mmHg) in 1525 (60%) of the 2519 hypertensive patients enrolled.. The researcher conclude that the failure of antihypertensive medication to adequately control BP is determined by both the patient's characteristics and factors related to the patient-doctor relationship. Successful treatment of hypertension requires patient adherence to the regimen that has been agreed on by the patient and the physician.(Degli, et al, 2004).

2 .7 Family history

A family history of hypertension, obesity, diabetes, or stroke was a significant risk factor for obesity and hyperlipidaemia. With increase of age, more pathological manifestations can develop in this high-risk group. Health professionals should therefore utilize every opportunity to include direct family members in health education. Non communicable diseases (NCD), particularly cardiovascular diseases, are an important determinant of morbidity and mortality of people all over the world ,Hypertension. In industrialized countries, the risk of becoming hypertensive for an individual with a family history of hypertension has been estimated to be up to four times higher than average .Health professionals who deal with patients with cardiovascular diseases should utilize every opportunity to involve the families concerned in health education. An intervention that includes individuals in high-risk families, e.g. to promote lifestyle changes in their diet and physical activity, is therefore a rational strategy that will contribute to the control and prevention of cardiovascular diseases in transitional societies where family coherence is strong **(**Marianne, et al, 2001).

2 .8 Smoking

The prevalence of current tobacco smoking is an important predictor of the future burden of tobacco-related diseases. In 36 countries, over 25% of youths smoke. Harmful use of alcohol can cause chronic alcohol dependence, hepatic cirrhosis, cancer and acute injuries. Of the 20 countries with the highest alcohol consumption per capita, 18 are European. Factors that influence the reliability of this indicator include: unmeasured informal production, tourist consumption, stockpiling, waste and spillage, smuggling, duty-free sales and variations in beverage strength (World Health Statistics,2009).

Smoking has a dominant effect in increasing cardiovascular risk in hypertensives. Clustering of risk factors is often associated with clustering of unhealthy lifestyle characteristics and both are most prominent in lower socio-economic groups and in Developing Countries adopting a more sedentary lifestyle and Western diet patterns (Beilin, 1999).

.2 .9 Symptoms of high blood pressure

Uncomplicated high blood pressure usually occurs without any symptoms (silently) and so hypertension has been labeled "the silent killer." It is called this because the disease can progress to finally develop any one or more of the several potentially fatal complications of hypertension such as heart attacks or strokes. Uncomplicated hypertension may be present and remain unnoticed for many years, or even decades. This happens when there are no symptoms, and those affected fail to undergo periodic blood pressure screening.

Some people with uncomplicated hypertension, however, may experience symptoms such as headache, dizziness, shortness of breath, and blurred vision. The presence of symptoms can be a good thing in that they can prompt people to consult a doctor for treatment and

make them more compliant in taking their medications. Often, however, a person's first contact with a physician may be after significant damage to the end-organs has occurred. In many cases, a person visits or is brought to the doctor or an emergency room with a heart attack, stroke, kidney failure, or impaired vision (due to damage to the back part of the retina). Greater public awareness and frequent blood pressure screening may help to identify patients with undiagnosed high blood pressure before significant complications have developed. About one out of every 100 (1%) people with hypertension is diagnosed with severe high blood pressure (accelerated or malignant hypertension) at their first visit to the doctor. In these patients, the diastolic blood pressure (the minimum pressure) exceeds 140 mm Hg! Affected persons often experience severe headache, nausea, visual symptoms, dizziness, and sometimes kidney failure(Medicine net, 2009).

Malignant hypertension is a medical emergency and requires urgent treatment to prevent a stroke (brain damage) hypertension is what is diagnosed in most cases when your blood pressure reading is consistently more than 140/90.Pre-hypertension is present when your blood pressure readings are consistently between 120-139/80-89. Although this does not mean you have hypertension, it is a good indicator that you will most likely develop high blood pressure in the future. For either hypertension, or pre-hypertension, your doctor will usually suggest changes in your lifestyle to get it down to a more normal range. You'll be told to adjust your eating habits and begin to eat more healthy foods, as well as get on an exercise program if you're not already doing so. While this may not sound like something fun or what you really want to hear, it's your life we're talking about. High blood pressure is known as the "silent killer". You don't feel like anything is wrong so you may be inclined to simply ignore the signs and symptoms of hypertension. This can prove to be a fatal mistake. Left untreated and ignored, hypertension will lead to strokes, heart failure, heart attacks, aneurysm or death. It is a very serious health issue. Some of the symptoms of

hypertension can include: Headaches ,being tired all the time ,blurred vision ,nosebleeds ,ringing in the ears ,chest pain-irregular heartbeat ,feeling of confusion off and on heart failure ,If you experience any of these signs and symptoms of hypertension, get to your doctor immediately (Medicine net, 2009).

2 .10 Lifestyle and hypertension

Successful treatment of hypertension requires a holistic approach. In this connection, focusing on a healthy lifestyle, eating, drinking and consumption behavior and, finally, the quality of foodstuffs and the exercise habits of the patient represents an essential supplement to the classical forms of pharmaceutical treatment. The major dietary-physiological factors have been shown to be weight reduction, the monitoring of salt consumption, appropriate intake of fiber, a preference for vegetables, and a reduction of immoderate alcohol consumption (Berg, et al, 2006)

A healthy diet plays an important role in both the prevention and treatment of hypertension. Under controlled conditions, very good results have been obtained with the 'Dietary approaches to stop hypertension' (DASH) combination diet, which has recently been developed in the United States. The DASH combination diet contains large amounts of fruit, vegetables, fish and nuts, low-fat dairy products and reduced levels of total and saturated fat. This dietary pattern yielded blood pressure reductions of 11.4/5.5 mmHg in mildly hypertensive patients. Intervention studies have shown a favorable effect of salt reduction on blood pressure in hypertensive patients, even in the case of mild hypertension. Simultaneous increases in potassium and magnesium intake could have an additional beneficial effect. The use of a low-sodium, high-potassium mineral salt could make a useful contribution to the prevention and treatment of hypertension. In case of hypertension, it is further recommended to reduce the intake of liquor rice to less than 50 g

per day. These dietary measures, combined with weight loss and physical exercise, may prevent drug treatment in patients with mild hypertension (Tijdschr, 2003).

The main 6-month results from the PREMIER trial showed that comprehensive behavioral intervention programs improve lifestyle behaviors and lower blood pressure.: To compare the 18-month effects of 2 multi component behavioral interventions versus advice only on hypertension status, lifestyle changes, and blood pressure. Multi center, 3-arm, randomized trial conducted from January 2000 through November 2002. 4 clinical centers and a coordinating center 810 adult volunteers with pre hypertension or stage 1 hypertension (systolic blood pressure, 120 to 159 mm Hg; diastolic blood pressure, 80 to 95 mm Hg). Interventions: A multicomponent behavioral intervention that implemented long-established recommendations ("established"); a multicomponent behavioral intervention that implemented the established recommendations plus the Dietary Approaches to Stop Hypertension (DASH) diet ("established plus DASH"); and advice only.: Lifestyle variables and blood pressure status. Follow-up for blood pressure measurement at 18 months was 94%., Compared with advice only, both behavioral interventions statistically significantly reduced weight, fat intake, and sodium intake. The established plus DASH intervention also statistically significantly increased fruit, vegetable, dairy, fiber, and mineral intakes. Relative to the advice only group, the odds ratios for hypertension at 18 months were 0.83 (95% CI, 0.67 to 1.04) for the established group and 0.77 (CI, 0.62 to 0.97) for the established plus DASH group. Although reductions in absolute blood pressure at 18 months were greater for participants in the established and the established plus DASH groups than for the advice only group, the differences were not statistically significant..: Over 18 months, persons with prehypertension and stage 1 hypertension can sustain multiple lifestyle modifications that improve control of blood pressure and could reduce the risk for chronic disease.(Elmer, et al,2006**)**

Healthy lifestyles are associated with less risk of cardiovascular disease. The aim of this study is to evaluate the effectiveness of a group educational strategy in lifestyle changes, as well as the control of risk factors and cardiovascular risk in hypertensive patients. Methods: Randomized clinical trial carried out in Primary Care. 101 hypertensive patients were selected by random sampling, The researcher performed a basal evaluation and an educational intervention on lifestyles, six sessions during one year, and final-point evaluation. Effect of intervention was evaluated through of cardiovascular risk (Framingham), blood pressure, lipid profile, waist circumference, body mass index (BMI), nutrient consumption, physical exercise (7-PAR day) and quality of life(SF-36). Results: Basal blood pressure was 136,8/82,7 mmHg IG and 139,3/79,3 CG, cardiovascular risk was 11,1% y 12,3% respectively. Systolic blood pressure decreased 5,6+/-19,6 (p=0,07) IG and 7,1+/-16,3 mmHg (p=0,004) GC, diastolic decreased 3,9+/-10,8 (p=0,02) and 2,7+/-11,5 mmHg (p=0,10) respectively. BMI decreased 0,3+/-1,6 points IG (p=0,17) and increased 0,1+/-1,5 CG (p=0,81). Coronary risk decreased 0,8+/-6,5 points IG and increased 0,2+/- 6,8 CG; effect of intervention was a reduction in 1 point (CI95%-3,9/1,9)(p=0,48). Calories ingestion decreased 42,8+/-1141,2 Kcal/day p=0,14) IG and 278,9+/-1115,9(p=0,62) CG. Physical exercise increased in both groups: 3,6+/-19 IG (p=0,20) and 3,9+/-14,9 mets/hour/week CG (p=0,07). There was a higher decline of cardiovascular risk in the intervention group than control group, we did not SS differences between both groups in parameters **(** Rodríguez , et al. 2009)

2 .11 Lifestyle and dietary in hypertension

The total BP effect of all dietary and lifestyle interventions in this study was more than 20mmHg. We need to point out that prevalences of hypertension in our study are overestimated due to single BP measurements in epidemiological surveys. However, this is

unlikely to have had a large effect. Data on intake of fish fatty-acids (eicosapentaenoic acid and docosahexaenoic acid) on a population-based level were scanty and the number of people consuming less than 200 mg/day could only roughly be estimated. For coffee, uniform assessment was hampered by differences in cup size among populations. We considered a cup of coffee to be equal to 125 ml, but for Italy cup size may be only 50 ml. A study by Ferraroni et al13 among 395 Italian adults (median age of 50 years) showed an average coffee intake of 100–110 ml per day, which is in line with the low intake that we report. In a case–control study by Tavani et al15 in Northern Italian women, however,over 10% consumed four or more cups of coffee per day, and in another case–control study in this population, this prevalence exceeded 20% (cup size in these studies was not reported). From this study, we conclude that effective dietary and lifestyle interventions could make a major contribution to the prevention of hypertension in Western societies. For several risk factors, the impact on hypertension varied among populations, which is important for setting priorities in preventive strategies. Hypertension itself, however, is not the outcome of primary interest (Geleijnse, et al,2005)**.**

Dietary and other lifestyle factors play a major role in the prevalence of hypertension. Many of the behaviours likely to reduce blood pressure also have independent beneficial effects on other cardiovascular risk factors to general health and survival. This is particularly the case with weight control, exercise, dietary patterns characterised by a low intake of saturated fat and a high intake of fruit, vegetables and fish and moderation of heavy alcohol consumption. High salt intakes remain a major contributor to hypertension, especially when potassium intake is low. Recent trials suggest substantial cardiovascular benefits by a combination of weight control and sodium moderation in the elderly, by non-vegetarian diets rich in fruit and vegetables and low in saturated fat, and by incorporation of regular fish meals into weight control diets (Beilin, 1999).

Highly saturated diet during gestation led to offspring which, when adults, presented a gender related hypertension . The mechanism of this effect maybe related to the polyunsaturated/saturated ratio (p/s).During the past 20 years, trans fatty acids have been suspected of deleterious health effects, but the investigations have shown that these fatty acids display a biological behavior close to that of saturated fatty acids (SFA). Moreover, epidemiological investigations did not confirm the relationship between trans fatty acids and cardiovascular pathology. Polyunsaturated fatty acids have been shown to exert a positive action on hypertension. This effect could be attributed to the alteration of the p/s, but mainly to the x3 poly unsaturated fatty acids (PUFAs). The comparison of several animal models led to the conclusion that long-chain x3PUFAs (eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA)) can prevent the increase in blood pressure and reduce established hypertension, but the efficient dose remains an object of discussion. Moreover, the two long-chain x3 PUFAs, EPA and DHA, display specific effects, which vary with the etiology of hypertension, because their mechanism of action is different (Grynberg, 2005)

A total of 810 participants were recruited from local communities and randomized into the study. Individuals were eligible if they were aged 25 years or older, had body mass index between 18.5 and 45.0, not taking antihypertensive medication, and had pre hypertension or stage 1 hypertension: The two active intervention programs were a behavioral lifestyle intervention that implements established recommendations, and an established intervention plus the DASH dietary pattern. Both interventions consisted of intensive group and individual counseling sessions. The control group received a brief advice session after randomization and again after 6 months of data collection. Dietary intakes were collected by two random 24-hour recalls at baseline, 6 months, and 18 months. The primary outcome of the PREMIER study was change in systolic blood pressure at 6 months. The main

outcomes examined here include dietary variables collected by 24-hour recall at each time point. Both the established intervention and established intervention plus DASH dietary pattern group intervention were effective in helping participants follow established recommendations to control blood pressure. The advice-only control group also made some behavior changes, mainly decreasing energy and sodium intake. Only the established intervention plus DASH dietary pattern group significantly increased intakes of DASH-specific food groups, including fruits, vegetables, and dairy products, and nutrients, including protein, fiber, calcium, potassium, and magnesium. Most of the increases did not reach the levels consumed in the original DASH feeding studies (Lin , et al,2007).

2 .12 The role of dietary sodium, potassium, calcium and magnesium

Decreased intake of sodium alone, and increased intakes of potassium, calcium, and magnesium each alone decrease elevated blood pressure. The most pronounced effects are brought about by a combination of several of these dietary factors. The most recent US recommendations emphasize decrease in sodium, and increase in potassium, calcium, and magnesium intakes, which are characteristic of the so-called DASH (Dietary Approaches to Stop Hypertension) diets. Such changes bring the levels towards the levels that are encountered in the Natural Diet, which has blood pressure lowering effect. For the prevention and basic treatment of elevated blood pressure, various methods to decrease the intake of sodium and to increase the intakes of potassium, calcium, and magnesium should be comprehensively applied in the communities ,Hypertension has gained a panel of therapeutic treatments more diversified and efficient than many other diseases, as shown by the reduction of hypertension-related morbidity and mortality over the past 25 years (Karppanen, et al, 2005)

2 .13 **Exercise and Hypertension**

The researcher performed meta-analyses of randomized controlled trials involving dynamic aerobic endurance training or resistance training. The meta-analysis on endurance training involved 72 trials and 105 study groups. After weighting for the number of trained participants, training induced significant net reductions in resting and daytime ambulatory blood pressure of, respectively, 3.0/2.4 mmHg (P<0.001) and 3.3/3.5 mmHg (P<0.01). The reduction in resting blood pressure was more pronounced in the 30 hypertensive study groups (-6.9/-4.9) than in the others (-1.9/-1.6; P<0.001 for all). Systemic vascular resistance decreased by 7.1% (P<0.05), plasma norepinephrine by 29% (P<0.001), and plasma renin activity by 20% (P<0.05). Body weight decreased by 1.2 kg (P<0.001), waist circumference by 2.8 cm (P<0.001), percentage body fat by 1.4% (P<0.001) and the homeostasis model assessment index of insulin resistance by 0.31 units (P<0.01); high-density lipoprotein cholesterol increased by 0.032 mmol/l (P<0.05). Resistance training has been less well studied. A meta-analysis of nine randomized controlled trials (12 study groups) on mostly dynamic resistance training revealed a weighted net reduction in blood pressure of 3.2 (P=0.10)/3.5 (P<0.01) mmHg associated with exercise. Endurance training decreases blood pressure through a reduction in systemic vascular resistance, in which the sympathetic nervous system and the renin-angiotensin system appear to be involved, and favourably affects concomitant cardiovascular risk factors. The few available data suggest that resistance training can reduce blood pressure. Exercise is a cornerstone therapy for the prevention, treatment and control of hypertension (Fagard_ and Cornelissen, 2007).

The researcher has performed meta-analyses of randomized controlled trials involving dynamic aerobic endurance training or resistance training. Inclusion criteria were: random allocation to intervention and control; physical training as the sole intervention; inclusion

of healthy sedentary normotensive and/or hypertensive adults; intervention duration of at least 4 weeks; availability of systolic and/or diastolic blood pressure; The meta-analysis on endurance training involved 72 trials and 105 study groups. The reduction of resting blood pressure was more pronounced in the 30 hypertensive study groups (-6.9/-4.9) than in the others (-1.9/-1.6; $P < 0.001$ for all). Systemic vascular resistance decreased by 7.1% ($P < 0.05$), plasma noradrenaline by 29% ($P < 0.001$) and plasma renin activity by 20% ($P < 0.05$). Bodyweight decreased by 1.2 kg ($P < 0.001$), waist circumference by 2.8 cm ($P < 0.001$), percentage body fat by 1.4% ($P < 0.001$) and the Homeostatic Model Assessment (HOMA) index of insulin resistance by 0.31 units ($P < 0.01$). High-density lipoprotein-cholesterol increased by 0.032 mmol/L ($P < 0.05$). 4. Resistance training has been less well studied. A meta-analysis of nine randomized controlled trials (12 study groups) on mostly dynamic resistance training revealed a weighted net reduction of diastolic blood pressure of 3.5 mmHg ($P < 0.01$) associated with exercise and a non-significant reduction of systolic blood pressure of 3.2 mmHg ($P = 0.10$). 5. In conclusion, dynamic aerobic endurance training decreases blood pressure through a reduction of systemic vascular resistance, in which the sympathetic nervous system and the renin-angiotensin system appear to be involved, and favourably affects concomitant cardiovascular risk factors. In addition, the few available data suggest that resistance training is able to reduce blood pressure(Fagard, 2006).

2 .14 Effects of exercise, diet and their combination on blood pressure

Longitudinal intervention studies are more appropriate to assess the effect of physical activity and training on blood pressure. In the present review, we will assess the effects of dynamic physical exercise on blood pressure from longitudinal intervention studies in man. There view will be restricted to studies in adults. Blood pressure was most often measured

in resting conditions, but also by the use of ambulatory monitoring techniques or in response to stress, particularly during exercise testing .Epidemiological studies suggest an inverse relationship between physical activity or fitness and blood pressure. In a meta-analysis of 44 randomized controlled intervention trials, the weighted net change in conventional systolic/diastolic blood pressure in response to dynamic aerobic training averaged _3.4/_2.4mmHg (Po0.001). The effect on blood pressure was more pronounced in hypertensives than in normotensives. This type of training also lowered the blood pressure measured during ambulatory monitoring and during exercise. However, exercise appears to be less effective than diet in lowering blood pressure (Po0.02), and adding exercise to diet does not seem to further reduce blood pressure (Fagard, 2005).

The researcher included randomized, controlled trials with at least 8 weeks' follow-up, comparing lifestyle with control interventions, enrolling adults with blood pressure at least 140/85 mmHg. Primary outcome measures were systolic and diastolic blood pressure. Two independent reviewers selected trials and abstracted data; differences were resolved by discussion. the researcher categorized trials by type of intervention and used random effects meta-analysis to combine mean differences between endpoint blood pressure in treatment and control groups in 105 trials randomizing 6805 participants. Robust statistically significant effects were found for improved diet, aerobic exercise, alcohol and sodium restriction, and fish oil supplements: mean reductions in systolic blood pressure of 5.0 mmHg [95% confidence interval (CI): 3.1-7.0], 4.6 mmHg (95% CI: 2.0-7.1), 3.8 mmHg (95% CI: 1.4-6.1), 3.6 mmHg (95% CI: 2.5-4.6) and 2.3 mmHg (95% CI: 0.2-4.3), respectively, with corresponding reductions in diastolic blood pressure. Relaxation significantly reduced blood pressure only when compared with non-intervention controls. We found no robust evidence of any important effect on blood pressure of potassium, magnesium or calcium supplements.: Patients with elevated blood pressure should follow a

weight-reducing diet, take regular exercise, and restrict alcohol and salt intake. Available evidence does not support relaxation therapies, calcium, magnesium or potassium supplements to reduce blood pressure (Dickinson, et al,2006)

2 .15 Management of hypertension

2 .16 The role of diet in the prevention and treatment of hypertension

An impressive body of evidence strongly supports the concept that multiple dietary factors influence blood pressure and that modification of diet can have powerful, beneficial effects on this highly prevalent, yet modifiable, cardiovascular risk factor. Dietary therapies with a proven ability to lower blood pressure include reduced sodium intake, weight loss, moderation of alcohol intake, increased potassium intake, and a diet that emphasizes fruits, vegetables, and low-fat dairy products that is low in fat and cholesterol. Several other dietary factors, such as an increased intake of protein or monounsaturated fatty acids, may also reduce blood pressure, but evidence to date is insufficient for policy recommendations. Still, widespread implementation of those therapies with a proven ability to lower blood pressure should have an enormous impact on the adverse patterns of blood pressure that remain highly prevalent in the United States and most other countries (Atheroscler, 2000).

For lifestyle modifications to prevent and treat hypertension, restrict dietary sodium to less than 2300 mg (100 mmol)/day (and 1500 mg to 2300 mg [65 mmol to 100 mmol]/day in hypertensive patients); perform 30 min to 60 min of aerobic exercise four to seven days per week; maintain a healthy body weight (body mass index 18.5 kg/m(2) to 24.9 kg/m(2)) and waist circumference (smaller than 102 cm for men and smaller than 88 cm for women); limit alcohol consumption to no more than 14 units per week in men or nine units per week

in women; follow a diet that is reduced in saturated fat and cholesterol, and that emphasizes fruits, vegetables and low-fat dairy products, dietary and soluble fibre, whole grains and protein from plant sources; and consider stress management in selected individuals with hypertension (Khan , et al ,2009).

2 .17 Controlling hypertension by Natural Way

High blood pressure is a serious heath issue in American today. It is one that affects millions of people, with millions more having it and not even knowing it. That is one of the reasons high blood pressure is know as the silent killer. You really can't see it or feel it until it's too late. While high blood pressure is caused by many different health reasons, and even some hereditary ones, there are some natural ways of preventing and controlling it. Here are a few of the better ones.Lower the amount of salt in your diet ..Stop smoking – Reduce your stress -.Exercising and maintaining healthy weight helps to maintain strength in your heart and prevent it from working too hard. This in turn will lower your blood pressure level (Medicine net .com,2009).

There are three very important concepts to remember related to hypertension: Controlling blood pressure is something that will be ongoing for a lifetime. Control of high blood pressure can be assisted by eating sensibly, exercising regularly, and quitting smoking.

If medication is needed to control blood pressure, it should be taken every day, and at the same time every day. Remember that certain drugs may cause blood pressure to go up, or may interact with blood pressure medication.< Controlling blood pressure may help you avoid several very serious conditions - heart attack, stroke, kidney failure, and blindness. Be aware of side effects that might be related to the medications being taken. Seek medical attention if you develop any symptoms of dangerously high blood pressure, such as: severe headache, confusion, or dizziness; severe chest or back pain; severe shortness of breath;

weakness or numbness in the arms or legs; coughing up blood , nose bleeds, or visual disturbances (Federal Bureau of Prisons, 2004 **).**

Advice on the best drugs for first-line treatment of hypertensive patients, to a discussion of ways to educate populations about relevant lifestyle changes ,Throughout the report, population-based and individual approaches are presented as complementary, synergistic strategies for hypertension control. To assist physicians as well as policy makers, the report includes abundant recommendations, based on the best scientific evidence, for the management of different patient groups. A section on the clinical assessment of the hypertensive patient explains the components of a coherent, step-wise diagnostic process involving history taking, physical examination, and laboratory investigation. Included are an assessment of the most suitable drugs for first-line treatment and guidelines for developing management plans for mild hypertension, moderate and severe hypertension, resistant hypertension, and hypertensive emergencies. In view of the need to assure that scarce resources are invested wisely, the report also discusses and compares the cost-effectiveness of different management strategies (WHO, 1996)**.**

Good management is central to any strategy formulated to control hypertension at the community level. These guidelines are aimed at standardizing the management and care of hypertension, including control of blood pressure and complications in people with established hypertension and identification of individuals with high blood pressure who are at increased risk of complications; and at promoting integration of prevention of hypertension into primary health care settings, including lifestyle measures for prevention and management and cost-effectiveness. The guidelines are intended to benefit physicians at primary, secondary and tertiary level, general practitioners, internists and family

medicine specialists, clinical dieticians and nurses as well as health and policy-makers. They provide the necessary information for decision-making by health care providers or patients themselves about disease management in the most commonly encountered situations (WHO, 2005).

2.18 Combined calcium, magnesium and potassium supplementation for the management of primary hypertension in adults

Three combinations of minerals were investigated: potassium & magnesium, calcium & magnesium, and calcium & potassium. One trial investigated combinations of calcium & magnesium and of calcium & potassium, and for each found a statistically non-significant increase in both SBP and DBP. All three trials investigated the combination of potassium & magnesium. None of the trials provided data on mortality or morbidity. The combination of potassium & magnesium compared to control resulted in statistically non-significant reductions in both Systole and diastole, BP A sensitivity analysis using alternative reported values which accounted for missing data had very little effect on DBP but resulted in a larger, statistically significant reduction in SBP (mean difference = -5.8 mmHg, 95% CI: -10.5 to -1.0).The quality of the trials was not well reported. the researcher found no robust evidence that supplements of any combination of potassium, magnesium or calcium reduce mortality, morbidity or BP in adults. More trials are needed to investigate whether the combination of potassium & magnesium is effective (Beyer , et al, 2006).

2 .19 Relaxation therapies for the management of primary hypertension in adults

To evaluate the effects of relaxation therapies on cardiovascular outcomes and blood pressure in people with elevated blood pressure, Current Controlled Trials and reference lists of systematic reviews, meta-analyses and randomised controlled trials (RCTs)

included in the review.: Inclusion criteria: RCTs of a parallel design comparing relaxation therapies with no active treatment, or sham therapy; follow-up >/=8 weeks; participants over 18 years, with raised systolic blood pressure (SBP) >/=140 mmHg or diastolic blood pressure (DBP) >/=85 mmHg); SBP and DBP reported at end of follow-up. Exclusion criteria: participants were pregnant; participants received antihypertensive medication which changed during the trial.. results : In view of the poor quality of included trials and unexplained variation between trials, the evidence in favour of causal association between relaxation and blood pressure reduction is weak. Some of the apparent benefit of relaxation was probably due to aspects of treatment unrelated to relaxation (Dickinson, et al, 2008).

The overall prevalence of hypertension (WHO–International Society for Hypertension criteria) was 65% (95% confidence interval = 62–67%). The prevalence was higher in urban than rural areas, but did not differ significantly between the sexes. Multiple logistic regression analyses identified a higher body mass index, higher education status and prevalent diabetes mellitus as important correlates of the prevalence of hypertension. Physical activity, rural residence, and current smoking were inversely related to the prevalence of hypertension. Among study subjects who had hypertension, 45% were aware of their condition, 40% were taking anti-hypertensive medications, but only 10% achieved the level established by the US Sixth Joint National Committee on Detection, Evaluation and Treatment of Hypertension WHO criteria. A visit to a physician in the previous year, higher educational attainment and being female emerged as important correlates of hypertension awareness. Conclusions Our findings emphasize the need to implement effective and low cost management regimens based on absolute levels of cardiovascular risk appropriate for the economic context. From a public health perspective, the only sustainable approach to the high prevalence of hypertension in the Indian subcontinent is through a strategy to reduce the average blood pressure in the population (WHO, 2001).

Initial therapy should include thiazide diuretics. Other agents appropriate for first-line therapy for diastolic and/or systolic hypertension include angiotensin- converting enzyme (ACE) inhibitors (in patients who are not black), long-acting calcium channel blockers (CCBs), angiotensin receptor antagonists (ARBs) or beta-blockers (in those younger than 60 years of age). A combination of two first-line agents may also be considered as the initial treatment of hypertension if the systolic blood pressure is 20 mmHg above the target or if the diastolic blood pressure is 10 mmHg above the target. The combination of ACE inhibitors and ARBs should not be used. Other agents appropriate for first-line therapy for isolated systolic hypertension include long- acting dihydropyridine CCBs or ARBs. In patients with angina, recent myocardial infarction or heart failure, beta-blockers and ACE inhibitors are recommended as first-line therapy; in patients with cerebrovascular disease, an ACE inhibitor/diuretic combination is preferred; in patients with proteinuric nondiabetic chronic kidney disease, ACE inhibitors or ARBs (if intolerant to ACE inhibitors) are recommended; and in patients with diabetes mellitus, ACE inhibitors or ARBs (or, in patients without albuminuria, thiazides or dihydropyridine CCBs) are appropriate first-line therapies (Khan, et al, 2009).

2 .20 The future of antihypertensive treatment

In spite of the availability of more than 75 antihypertensive agents in 9 classes, BP control in the general population is at best inadequate. Therefore, antihypertensive therapy in the future or near future should be directed toward improving BP control in treated hypertensive patients with the available drugs by using the right combinations at optimum doses, individually tailored gene-polymorphism directed therapy, or development of new modalities such as gene therapy and vaccines. Several studies have shown that BP can be reduced by lifestyle/behavior modification. lifestyle/behavior modification (obesity, high

dietary intake of fat and sodium, physical inactivity, smoking, excessive alcohol intake, low dietary potassium intake) can control BP and improve the efficacy of pharmacologic. . New classes of antihypertensive drugs and new compounds in the established drug classes are likely to widen the armamentarium available to combat hypertension. These include the aldosterone receptor blockers, vasodilator beta-blockers, renin inhibitors, endothelin receptor antagonists, and dual endopeptidase inhibitors. The use of fixed-dose combination drug therapy is likely to increase (Hernandez and Valasco, 2007).

2 .20.1Genotype therapy

There is a conceptual possibility that gene therapy may yield long-lasting antihypertensive effects by influencing the genes associated with hypertension. But, the treatment of human essential hypertension requires sustained over-expression of genes. Some of the challenging tasks for successful gene therapy that need to be mastered include identification of target genes, ideal gene transfer vector, precise delivery of genes into the required site (target), efficient transfer of genes into the cells of the target, and prompt assessment of gene expression over time. Targeting the RAS by antisense gene therapy appears to be a viable strategy for the long-term control of hypertension. Several problems that are encountered in the delivery of gene therapy include 1) low efficiency for gene transfer into vascular cells; 2) a lack of selectivity; 3) problem in determining how to prolong and control transgene expression or antisense inhibition; and 4) difficulty in minimizing the adverse effects of viral or nonviral vectors. In spite of the hurdles that face gene therapy administration in humans, studies in animals indicate that gene therapy may be feasible in treating human hypertension, albeit not in the near future. DNA testing for genetic polymorphism and determining the genotype of a patient may predict response to a certain class of antihypertensive agent and thus optimize therapy in individual patients. In

this regard, there are some studies that report the effectiveness of antihypertensive therapy based upon the genotype of selected patients. Treatment of human hypertension with vaccines is feasible but is not likely to be available in the near future (Hernandez and Valasco, 2007)

2.21 Quality of life and Health

Theorists of quality of life as well as technicians of quality of life can enter the arena. There is now reason to ask a number of questions. Who are the experts on this subject? What are its scientific foundations and how could it genuinely help the personnel in health care and social care as well as the decision-makers of health care and social policy? Is it possible to define the concept of quality of life? Can one in any sense measure the quality of life of single individuals or of collectives of people? Is it reasonable that quality of life should obtain the status of being the major goal of health care and social care? The sources and the methods will to a great extent be philosophical. These are Aristotle from the 4th century B.C. and the Englishman Jeremy Bentham from the18 th century. I wish to indicate that the question about the nature of quality of life is as old as human thinking itself. I also wish to indicate that many important conclusions have been drawn long before the time of quality-of-life questionnaires. All measurement requires conceptual clarity. measurement, however technically sophisticated, can never compensate for unclarity or incompleteness in the conceptual analysis on which it is based. Therefore,the practitioners of measurement of quality of life must, in order to become credible, seriously consider certain theoretical objections, in particular such as that concerning the question of validity (Lennart,1996).

2 .22Current state of the art in quality of life measurement

Quality of life is a collection of interacting objective and subjective dimensions. Quality of life is also a dynamic concept; values and self-evaluations of life may change over time in response to life and health events and experiences. Each area of quality of life can also have knock on effects on the others. For example, retaining independence and social participation may promote feelings of emotional wellbeing, but are partly dependent on retaining health and adequate finances. These can also be influenced by local transport facilities, type of housing, community resources, and social relationships. Quality of life is multidimensional and its parts affect each other as well as the sum. It poses inevitable challenges for measurement (Bowling, 2003).

2 .22 .1 Models of Quality of life definitions

A broad range of, often overlapping, models of quality of life has been developed. These range from the needs and satisfaction-based models used widely in the evaluation of mental health services, models of life satisfaction, social wellbeing and social network employed in social gerontology, and psychological models which emphasize personal growth, control over life, cognitive competence and adaptability. In relation to the latter, Zizzi *et al.* (1998)2 pointed to the confusion surrounding the many psychological concepts. They argued that perceived quality of life is likely to be *mediated* by several interrelated variables, including self related constructs (for example, self-mastery and self-efficacy, morale and self-esteem, perceived control over life) and these perceptions are likely to be influenced by cognitive mechanisms (for example, expectations of life, social values, beliefs, aspirations, and social comparison standards). Although the model is attractive, there is still little empirical data to support or refute the distinction between psychological constructs as mediating or influencing variables. Another approach has led to a negative

focus in measurement, at the expense of the positive. Descriptive and evaluative research based on negative models inevitably underestimates the quality of life of people. A different approach to definition has conceptualized health-related quality of life as the gap between present health and functional status and one's aspirations for these ("gap" theory).This model is based on social expectations and comparisons with others. While innovative attempts have been made to operationalize and measure this gap, there is little supporting evidence of the content validity of this model. Recognition of the need for broader, more positive and balanced definitions of quality of life has resulted in more general adoption of the WHO Quality of Life Group's (WHOQOL) definition: "… an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, and standards and concerns. It is a broad-ranging concept affected in a complex way by the person's physical health, psychological state, level of independence, social relationships, and their relationships to salient features of their environment(Bowling, 2003).

2 .23 Quality of life determination

Two factors driving this change are first, a recognition of the importance of the social consequences of disease and second, an acknowledgement that medical interventions aim to increase the quantity and quality of survival. For these reasons, the quality effectiveness, and efficiency of healthcare are often evaluated by their impact on "quality of life". There is no consensus definition of health-related quality of life but there is a tendency to regard it as a constant concept. Yet perceptions of health and its meaning vary between individuals and within an individual over time. The writer propose a model for the relationship between expectations and experience and use it to illustrate current problems in quality of life measurement. The implications of these concepts for the use of quality of

life as an indicator of treatment need and as an outcome of care will be discussed. This feature is what distinguishes them from measures of disability, which enquire about ability to complete specific tasks such as climbing stairs or dressing oneself. Health-related quality of life is a broader concept concerned with whether disease or impairment limits one's ability to fulfill a normal role, Understanding the mechanisms through which health, illness, and healthcare interventions influence quality of life may highlight ways in which quality of life can be maximized. A major aim of treatment, particularly in chronic disease, is to enhance quality of life by reducing the impact of disease. Yet patients with severe disease do not necessarily report poor quality of life. Considering quality of life as the discrepancy between our expectations and experience provides a way of explaining how we evaluate our quality of life (Alison, et al,2003)

.2 .24 What is quality of life

Health-related QoLis still a loose definition. What aspects of QoL should be included? It is generally agreed that the relevant aspects may vary from study to study but can include general health, physical functioning, physical symptoms and toxicity, emotional functioning, cognitive functioning, role functioning, social well-being and functioning, sexual functioning and existential issues. In the absence of any agreed formal definition of QoL, most investigators circumvent the issues by describing what *they* mean by QoL, and then letting the items (questions) in their questionnaire speak for themselves. Thus some questionnaires focus upon the relatively objective signs such as patient-reported toxicity, and in effect define the relevant aspects of QoL as being, for their purposes, limited to treatment toxicity. Other investigators argue that what matters most is the impact of toxicity, and therefore their questionnaires place greater emphasis upon psychological

aspects, such as anxiety and depression. Yet others try to allow for spiritual issues, ability to cope with illness, and satisfaction with life (Peter and David,2007).

2 .24 .1 Historical Development instruments

One of the first instruments that broadened the assessment of patients beyond physiological and clinical examination was the Karnofsky Performance Scale proposed in 1947 (Karnofsky and Burchenal, 1947) for use in clinical settings. Over the years, it has led to a number of other scales for functional ability, physical functioning and daily activities . The next generation of questionnaires, in the late 1970s and early 1980s, that quantified health status were used for the general evaluation of health. These instruments focused on physical functioning, physical and psychological symptoms, impact of illness, perceived distress and life satisfaction . Priestman and Baum measured a variety of subjective effects, including well-being, mood, anxiety, activity, pain, social activities and the patient's opinion as to 'Is the treatment helping?' Much of the development of QoL instruments has built upon these early attempts, although newer instruments emphasize more strongly subjective aspects, such as emotional, role, social and cognitive functioning. Frequently, one or more general or global questions concerning overall QoL are included. However, despite a shift to the inclusion of psychological and social aspects, these instruments continue to link QoL to the functional capacity(Peter and David, 2007).

Thus, if a patient is unable to achieve full physical, psychological or social functioning, it is assumed that their QoL is poorer. Although this may in general seem a reasonable assumption, it can lead to theoretical problems. A number of other theoretical models for QoL have been proposed. The expectations model of Calman (1984) suggests that individuals have aims and goals in life and that QoL is a measure of the difference between the hopes and expectations of the individual and the individual's present experience. It is

concerned with the difference between perceived goals and actual goals. The gap may be narrowed by improving the function of a patient or by modifying their expectations. The needs model relates QoL to the ability and capacity of patients to satisfy certain human needs. QoL is at its highest when all needs are fulfilled, and at its lowest when few needs are satisfied. *Needs* include such aspects as identity, status, self-esteem, affection, love, security, enjoyment, creativity, food, sleep, pain avoidance and activity. Hunt and McKenna (1992) use this model to generate other QoL measures (Peter and David, 2007).

2 . 25 Quality of life in hypertension :

.The authors evaluated the self-reported quality of life in patients with systemic arterial hypertension and assessed whether clinicians and normotensive respondents from the general public appreciate the impact that hypertension has on health-related quality of life. A quality-of-life questionnaire was completed by 385 individuals: persons with hypertension (n=188), normotensive persons (n=148), and clinicians (n=49). A utility score, which represents one's self-perceived health-related quality of life, was generated for each group by using standardized time tradeoff questionnaires. Quality of life with hypertension was judged to be significantly higher according to affected individuals (mean utility score, 0.980), compared with normotensive persons (mean utility score, 0.948) and clinicians (mean utility score, 0.942), who were asked to assume that they had hypertension ($p<0.0005$). Clinicians and normotensive individuals tend to overemphasize the impact that hypertension has on quality of life, as compared to affected patients. The relatively low impact that hypertensive individuals indicate high blood pressure has on their quality of life may contribute to their lack of compliance with treatment regimens (Stein ,et al ,2008).

2 .26 Factors affecting the quality of life of hypertensive patients.

Using the Hypertension Health Status Inventory and multivariate analysis, predictors of quality of life were determined for a random selection of 316 hypertensive patients. Controlling for the effects of demographic and socioeconomic factors and existing co-morbidity, a better quality of life was independently predicted by achieving a controlled blood pressure and absence of target organ complications. Neither the number of antihypertensive drugs received nor the dose frequency affected patients' quality of life. Presence of drug side-effects independently predicted a lower quality of life in the physical and emotional domains but not on aspects of daily living. The independent predictors explained 25%-30% of the variation in the quality of life of hypertensive patients. The study highlights the role of achieving blood pressure control to ensure a better quality of life for hypertensive patients(Youssef , 2005).

Telemonitoring of home blood pressure (BP) is a new advance in home BP monitoring (HBPM) and has proved effective in improving BP control. The impact of telemedical HBPM on health-related quality of life (HRQOL) has not yet been studied. The purpose of this study is to compare HRQOL using a generic scale (SF-36) in patients with antihypertensive treatment based on telemedical HBPM and in patients with antihypertensive treatment based on conventional monitoring of office BP. Hypertensive patients (n = 223) recruited by general practitioners participated in the study. In the intervention group, antihypertensive treatment was based on telemedical HBPM. In the control group, patients (n = 118) received usual care with office visits to monitor BP. After 6 months, participants filled out SF-36 questionnaires. Patients in the telemonitoring group (T) had higher mean scores in the bodily pain domain than patients in the control group (C), indicating less pain and interference with activities among telemonitored patients [T:

85.3(20.2), C: 78.3(26.4), p = 0.026)]. Patients were more likely to feel their general health had worsened during the last year if antihypertensive treatment was based on conventional office measurements. In the bodily pain domain and health transition scale, scores were slightly better among telemonitored patients compared with control (Madsen ,et al, 2008).

2 .27 Medical therapy, symptoms, and the distress the cause: relation to quality of life in patients with angina pectoris and/or hypertension

Adverse events during drug therapy can be assessed through measurement of 2 features: their frequency and their severity. Their severity, in turn, can be measured by assessing the distress that they cause. Our goal was to relate the magnitude of the distress induced by treatment with calcium-channel blocking agents to the change in quality of life assessed through psychosocial instruments in patients treated with calcium-channel blocking agents, either for hypertension or for angina pectoris. Four hundred seventy-five patients with angina pectoris were randomized to double-blind treatment with PPR (physiological pattern release) verapamil hydrochloride, amlodipine besylate, amlodipineatenolol combination, or placebo. In addition, 557 hypertensive patients were randomized either to PPR verapamil or nifedipine GITS (gastrointestinal system). Both studies were double-blind., Significant differences in treatment of angina pectoris or hypertension, were not found between the regimens. Overall quality of life also failed to show a significant difference in either group. In both groups, however, remarkable concordance was found between the degree of distress associated with specific symptoms and a change in quality of life. An unchanged, stable symptom distress was associated with a significant improvement in the quality of life of about 0.1 SD. Improvement or erosion of symptom distress represented by 1 step was associated with a 0.1- to 0.2-SD change. The extreme change in symptom distress was associated with a substantially larger change in global

quality of life. The magnitude of symptom distress or relief associated with symptoms in 2 patient populations correlated strongly with a shift in quality of life. The assessment of distress associated with symptoms provides valuable additional information on drug therapy(Hollenberg, et al,2000)**.**

2 .28 Health-related quality of life and hypertension status

The researcher examined health-related quality of life measures by hypertension status, awareness, treatment, and control.: Five unfavorable health-related quality of life measures were analyzed among 8303 adults aged 20 years or older who participated in the 2001--2004 National Health and Nutrition Examination Survey. Multivariable logistic regression analyses examined differences in health-related quality of life with adjustment for age, race, sex, healthcare coverage, and other medical conditions. The 30% of respondents with hypertension were more likely to report fair or poor health status , Having hypertension and being aware of it was related to lower health-related quality of life. Antihypertensive medication was associated with more physically unhealthy days, while there were no differences in health-related quality of life by control status. Further study is needed to examine these differences including: disease severity, sex and racial/ethnic differences, co morbidities not examined, and impact of health-related quality of life and its changes on outcomes (Hayes, et al, 2008).

To explore the health-related quality of life (HRQOL) for hypertensive patients (HBP) and to provide reasonable evidence for evaluating the effectiveness of antihypertensive therapy in clinical practice.: A cross-sectional study was used to survey 106 patients with HBP and 127 nomotensives using SF-36 short form of quality of life in the community. The cutoff point score of HRQOL was decided by receiver operating characteristic (ROC) Curve analysis. There were 60 patients with BP > or = 160/95 mm Hg who had been treated by

antihypertensive drugs for 6 months. Before and after the treatment, their HRQOL was measured and evaluated, and the relationship between the change of HRQOL and antihypertensive effect was evaluated.: Apart from physical function and pain, other 7 domains were significantly lower in the hypertensive group than in the normotensive group, which included social function, role limitations attributed to both physical and emotional problems, mental health, activity or fatigue and overall evaluation of health ($P < 0.05$-0.001). A cutoff point of HRQOL was decided using ROC analysis in which the 290 score was the best one for diagnostic HRQOL with the sensitivity of 80% and a specificity of 70%. The target rate of the antihypertensive care and the improved rate of HRQOL for 60 patients with HBP were 63% and 75% separately for a 6-month treatment. The HRQOL of these hypertensives was significantly lower than that in the normotensives in the study. The measurement of HRQOL was more useful to evaluate the antihypertensive effectiveness in clinical practice (Wang, et al, 1999).

To evaluate the relationship between quality of life and several clinical, therapeutic and sociodemographic variables in the hypertensive population. The EuroQol-5D questionnaire included quality of life issues and psychological evaluation scales for the evaluation of depression and anxiety. In addition, the questionnaire contained five health-related, quality of life dimensions and a visual analogue scale for the self-evaluation of health status. A higher score indicates that a poorer quality of life was reported. Previous use of different antihypertensive classes (diuretics, calcium antagonists, angiotensin-converting enzyme inhibitors, beta-blockers and other hypertensive) did not influence the quality of life of the hypertensive patients. Current treatment status, however, influenced quality of life. Those individuals currently undergoing no treatment reported having a better quality of life than did those individuals being treated with one or more drugs. To examine whether irbesartan, an angiotensin receptor antagonist, would improve the hypertensive patient’s quality of

life, the drug was introduced to the hypertensive patients after their first evaluative visit. At the second visit, the quality of life questionnaire scores had decreased, indicating a perceived improvement of the patients' quality of life. The authors concluded that, although the use of antihypertensive drugs before inclusion of irbesartan appeared to make quality of life worse, the addition of irbesartan produced a positive impact on quality of life (Pullen , 2008).

To determine the relationship between symptoms and health-related quality of life (HRQOL) in patients receiving drug therapy for hypertension. Design: Cross-sectional survey. Setting: Outpatient general medicine and university-based hypertension clinics. Patients: All patients prescribed one or more antihypertensive drugs seen during a 6-month period in the clinics. Intervention: Data were obtained from a mailed questionnaire and medical records. Measurements , Symptoms were measured by a symptom count and total symptom distress. Two scores derived from the Short Form-36 (SF-36) -- the Physical Component Summary (PCS) and the Mental Component Summary Symptoms have a greater impact on HRQOL than patient characteristics, blood pressure, or drug-related factors. Among patients receiving drug therapy for hypertension, detailed review of symptoms may yield important information for assessing and improving HRQOL (Erickson, et al , 2004).

The goal of antihypertensive treatment is to reduce blood pressure without interfering in health-related quality of life (HRQL) This study aimed to assess the influence of hypertension control upon HRQL in hypertensive patients with and without complications. Seventy-seven hypertensive outpatients (71% women, 58% white, 60% with elementary school level education, average age 54 ± 8 years) were observed during a 12-month special care program (phase 1: clinical visits every two months, donation of all antihypertensive

medications, meetings with a multidisciplinary team, and active telephone calls) and three years of standard care (phase 2: clinical visits every four months, medication provided by the drugstore of the hospital with a two-hour wait and a possible lack of medication, no meetings with a multidisciplinary team or active telephone calls). The patient HRQL was assessed using Bulpitt and Fletcher's Specific Questionnaire, as well as the SF-36 scores. Hypertensive patients were divided into "with complications" (*n*=37, diastolic blood pressure great than 110 mm Hg for patients with or without treatment, with clinically evident target-organ or other associated illness) and "without complications" (*n*=40). The variables studied were quality of life, blood pressure control, hypertension gravity, and demographic characteristics. Special care programs with multidisciplinary activities, individualized and personalized assistance, easy access to pharmacological treatment, frequent meetings, and active telephone calls for hypertensive patients significantly increase blood pressure control but do not interfere with the HRQL (Angela and Geraldo, 2009)

Analyze the impact of known and unknown hypertension on health-related quality of life (HRQOL): A descriptive cross-sectional study in the health coverage area of the Rio Hortega University Hospital, in north-western Spain, on a simple random sample of 33022 individuals. Following a multiphase sampling, a final sample of 466 people, representative of the general population, was analyzed. The blood pressure of patients with known hypertension and those with a blood pressure of >or= 140/90 mmHg was subjected to ambulatory monitoring in order to evaluate the degree of blood pressure control and to detect those patients with white-coat hypertension, respectively.. Patients with known hypertension presented a poorer HRQOL. This deterioration of the subjective state of health was not observed in patients who had not yet been diagnosed,

which suggests it is due, above all, to the labeling effect and/or to the treatment more than to the hypertension.(Mena , et al , 2003)

The health-related quality of life (HRQOL) of hypertensives may be influenced by blood pressure, adverse effects of drugs used to treat hypertension, or other factors, such as the labelling effect, or beliefs and attitudes about illness and treatment. This study describes the HRQOL and its determinants among black patients diagnosed and treated for Hypertension in Nigeria.: The study was a cross sectional in design that involved 265 hypertensive patients receiving treatment at the medical outpatient unit of the Federal Medical Centre Abeokuta, Nigeria. They were all consecutive patients that presented at the hospital during the period of the study who meet the inclusion criteria and consented to participate in the study. Demographic data, disease characteristics such as symptoms and signs and recent drug history were obtained from the patients and their hospital records as documented by the physician. The SF-36 questionnaire was administered once by interview to the participants to measure their HRQOL. This study provides evidence for a model that links patients' status with regard to biology (blood pressure), symptoms, and functionality (HRQOL) and may prove useful in guiding follow-up of patients who receive treatment for hypertension. Identification of patient's symptoms, blood pressure, complication/co morbidity and changes in functioning may help clinicians increase their effectiveness in helping patients maintain adherent behavior with drug and non drug interventions in chronic diseases such as hypertension (Ogunlana , et al. 2009)

The goals of antihypertensive therapy are to achieve and maintain blood pressure control by the least intrusive means possible to prevent future cardiovascular and renal events. To achieve these goals, pharmacologic agents must be chosen so as to minimize drug-related adverse events, increase patient adherence to treatment regimens, and minimize the

negative impact on health-related quality of life (HRQL). Although the effects of antihypertensive therapy on HRQL have been extensively investigated, there is little synthesis of the research findings. This review was undertaken to provide a synthesis of the available data on the impact of antihypertensive therapy on HRQL and to provide recommendations for future research. literature search was conducted to identify English-language articles published from 1990 to 2000 that included random assignment to antihypertensive treatment and HRQL as an outcome. In addition, reference lists of published reviews and other trials were reviewed to identify other studies of HRQL and antihypertensive therapy . A standardized approach to the assessment of HRQL in hypertensive patients is needed so that research in this area can be of value to clinical practice and to hypertensive patients and their families (Coyne ,et al, 2002).

Compliance with the pharmacological and non-pharmacological therapeutic regimen is essential to prevent occurrence and worsening hypertension and stroke. The main aim to identification of predictors of Quality of Life (QOL) among hypertensive patients without stroke and hypertensive patients with stroke. Self-reported QOL was obtained from 112 patients with hypertension and stroke and 224 patients with hypertension only with the WHO-QOL-BREF questionnaire and compliance with the pharmacological and non-pharmacological therapeutic regimen was assessed with a standardized questionnaire. Means of QOL were compared with ANOVA procedures and predictors were estimated using multiple linear regression models. The results of this study showed that selfreported QOL is poorer in patients with stroke than in hypertensive patients. Male gender appears to be a strong predictor of quality of life in patients either with hypertension or stroke. Follow up health care programs are essential for good quality of life among both patient groups. Diet, physical exercise, low level of stress are important factors for enhanced QOL. Current smoking seems to enhance the psychological and social dimensions for both

patients groups. Multiple linear regression models indicate that low level of stress and male gender are genuine predictors of all dimensions of QOL among hypertensive patients, but not in stroke patients. It is concluded in this study that compliance with the pharmacological and non-pharmacological therapeutic regimen is strongly linked with a better QOL among patients with stroke and hypertension or hypertension only (Aljeesh et al, 2005).

2 .29 Perceived symptoms and health-related quality of life

This study compared the prevalence and intensity of symptoms and the health-related quality of life (HQL) of patients taking antihypertensive medications and patients without disease. This cross-sectional study used surveys mailed to patient's homes. All consecutive patients over age 30 years attending either a general medicine or hypertension clinic during 3 months were eligible (n = 437). 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. Hypertensive patients receiving antihypertensive medications have more symptoms and lower HQL. Differences were detected by both a brief, general HQL instrument and a detailed, disease-specific instrument. Routine screening of treated hypertensive patients using a brief HQL questionnaire to detect physical symptoms may prove feasible and useful (Erickson ,et al ,2001).

2 .30 Relationship between symptoms and health-related quality of life in patients treated for hypertension

To determine the relationship between symptoms and health-related quality of life (HRQOL) in patients receiving drug therapy for hypertension. Cross-sectional survey. Outpatient general medicine and university-based hypertension clinics. All patients prescribed one or more antihypertensive drugs seen during a 6-month period in the clinics. Data were obtained from a mailed questionnaire and medical records . Symptoms were measured by a symptom count and total symptom distress. Two scores derived from the Short Form-36 (SF-36)--the Physical Component Summary (PCS) and the Mental Component Summary (MCS)--were used to assess HRQOL. Symptoms have a greater impact on HRQOL than patient characteristics, blood pressure, or drug-related factors. Among patients receiving drug therapy for hypertension, detailed review of symptoms may yield important information for assessing and improving HRQOL (Erickson **,** 2004).

2 .31 Antihypertensive therapy and quality of life: a comparison of atenolol, captopril, enalapril and propranolol.

This randomized, double-blind parallel study compared the effects of atenolol, captopril, enalapril and propranolol in 360 men with mild-to-moderate essential hypertension. Patients were titrated until diastolic blood pressure (Korotkoff phase V) decreased by at least 10 mmHg or to 90 mmHg or less. Quality of life assessments, based on validated psychometric questionnaires and objective measurements of cognitive function, occurred after three study phases: placebo run-in (3-5 weeks), titration (1-4 weeks), and maintenance (4 weeks). After four weeks of maintenance therapy, atenolol, captopril and enalapril generally had equivalent effects on quality of life, as measured by psychometric

questionnaires, whereas propranolol consistently evidenced worsening or less improvement. Global scores of distressing psychological symptoms differed as a function of specific treatment (P = 0.01), with improvements significantly better for the atenolol, captopril and enalapril groups as compared with the propranolol group. There were no statistically significant differences among treatments for changes in cognitive function at maintenance. Thus, the quality of life questionnaires differentiated among drugs of the same class, indicating that selection among antihypertensive drugs should be based on their specific qualities, not on general class characteristics **(**Steiner, et al.1990).

A multicenter, randomized double-blind clinical trial was conducted among 306 black men and women with mild to moderate hypertension to determine effects of atenolol, captopril, and verapamil SR on measures of quality of life. Patients were randomly assigned to a stable or forced-dose titration sequence. After an 8-week treatment period, the rate of withdrawal from treatment because of adverse effects was low and did not differ by drug treatment group or titration level. Patients taking verapamil SR showed a significantly greater reduction in mean blood pressures than patients treated with atenolol or captopril. Along with absence of worsening on any quality of life total scale scores examined over the treatment period, we found either improvement or no change in the total scale scores for all three treatment groups. Among both male and female patients, comparisons between drug treatment groups showed no differences in degree of change on the total scale scores. In comparisons within each treatment group, improvement in scores of male patients after 8 weeks appeared among those taking atenolol in general well-being and physical symptoms reduction; among male patients taking captopril in general well-being, physical symptoms, and sexual performance; and among male patients receiving verapamil SR in scores in irritability, sleep, and the Digit Span test. Improvement in scores among female patients taking atenolol was found in scores on general well-being, physical symptoms, and

sleep; among women taking captopril on general well-being, physical symptoms, and irritability; and among women taking verapamil SR on general well-being. Patients in all treatment groups improved on measures of visuomotor functioning. The research shows that with the three newer generation antihypertensive medications studied, blood pressure control was achieved during the treatment period without negative effects on quality of life scales, along with findings of improvement on some measures. Given the special clinical features of hypertension in black patients, the study underlines as well the potential and utility of systematic tracking of measures of quality of life, while monitoring blood pressures in this patient population (Croog, et al, 1990).

The researcher reports on the distress associated with physical symptoms in 761 male hypertensive patients enrolled in a clinical trial of the effects of captopril, methyldopa or propranolol on quality of life. Educational level at entry into the trial showed a negative association with a series of physical symptom distress items among patients not previously treated with antihypertensive medications but no association with symptoms among the previously treated. Over the 24 weeks of therapy captopril as monotherapy was associated with no change from baseline in distress in all symptoms examined. In contrast, distress increased in the methyldopa treated patients for dry mouth and blurred vision. Propranolol treated patients had increased "trouble getting breath," bradycardia, shortness of breath or wheezing, and blurred vision. Between group comparisons revealed significant differences favorably comparing captopril to both methyldopa and propranolol in regard to fatigue, and blurred vision, as well as to methyldopa alone for dry mouth and "feeling worn out." There were significant differences as well between captopril and propranolol with patients on propranolol worsening in bradycardia. Other comparisons of patients on propranolol and methyldopa monotherapy showed propranolol patients worsening in bradycardia and loss of taste, but methyldopa patients reported more dry mouth and feeling worn out than

those on propranolol. The addition of hydrochlorothiazide to therapy worsened total physical symptom distress scores for methyldopa and propranolol patients. This study confirms the value of methods which assess the degree of distress associated with symptoms commonly reported by hypertensive patients receiving antihypertensive medications. This approach can be useful in establishing a treatment regimen least likely to cause distress and can be of value in preserving quality of life, preventing noncompliance, and withdrawal from treatment. (Schoenberger ,et al ,1990).

To compare the effects of captopril and atenolol on quality of life of hypertensive patients. In a randomly allocated double-blind crossover trial with two 6-week treatment periods captopril at 25 mg twice a day or atenolol at 50 mg once a day were administered to 265 hypertensive patients (mean age 56 years; 55% men). Of these, 65% were newly treated hypertensives and 35% were previously uncontrolled on a diuretic alone. A seated diastolic blood pressure of 95-115 mmHg was required after a 3-week placebo run-in period. Any previous diuretic therapy was changed to hydrochlorothiazide (25 mg once a day) and the dose was kept constant throughout the trial. Newly diagnosed patients did not take a diuretic at any time. Quality of life was assessed from self-completed questionnaires measuring psychological well-being, symptomatic side effects of treatment, and activity and perceived well-being (a health index). A relative's perception of the patients' mood was also obtained where possible. Twelve patients withdrew on atenolol and 10 on captopril. No differences between the drugs were observed in quality of life measures, and 95% confidence intervals suggested that important differences were excluded. The researcher conclude that at the doses used in this trial there were no important differences between captopril and atenolol in their effects on quality of life(Palmer ,et al,1992).

Differences in quality of life (QoL) using antihypertensive drugs may account for differences in compliance, persistence and blood pressure control. As this is the prerequisite for cardiovascular risk reduction, QoL was investigated using highly tolerable drugs (such as olmesartan). The non-interventional study was carried out in 4252 primary care patients with 6 weeks of follow up. Documentation of patient characteristics included concomitant diseases and antihypertensive medication, blood pressure, pulse pressure, pulse rate and evaluation of QoL using the SF-12 questionnaire. Comparison of data at 6 weeks after adding or switching to olmesartan treatment (median dose: 20 mg) with baseline values. patients on olmesartan treatment not only achieve adequate blood pressure control but also experienced a substantial improvement of QoL (Schmidt ,et al ,2008)**.**

Participants were randomized to either a usual mean arterial blood pressure (MAP) goal group (102-107 mm Hg) or a low-MAP goal group (< or = 92 mm Hg) and to a drug regimen (initial therapy with either atenolol, amlodipine, or enalapril). Quality of life was assessed by the Medical Outcomes Short-Form 36 (MOS SF-36) at baseline and the last follow-up visit for 84 of the 94 participants of the Pilot Study. Symptoms were assessed at baseline and throughout the course of therapy by participant self-report. Mean SF-36 scores increased significantly on physical functioning (9.2), role limitations (physical) (19.0), social functioning (9.0), and vitality dimensions (5.6) from baseline to the last follow-up visit in the usual MAP goal group. Scores for the eight health dimensions assessed by the MOS SF-36 did not change significantly during the same time period either in the low-MAP goal group or in any of the drug regimens. The mean score for general health perception was significantly lower at the last follow-up visit in the enalapril drug regimen (49.9) compared to drug regimens with atenolol (65.4) or amlodipine (63.9). Physical functioning, role limitations (emotional), social functioning, mental health, vitality, and general health perception scores were negatively correlated with self-reported

symptoms during treatment. We conclude that selected dimensions of quality of life improved during the AASK Pilot Study only in participants randomized to the usual MAP goal group. Significant differences between MAP goal groups and drug regimens at the end of follow-up were observed for only a few health dimensions (Kusek, et al,1996).

Chapter III

Methodology

Chapter III

Methodology

3 .1 Research design

The research study is conducted through quantitative Case Control study. This study design based on the registrations of UNRWA clinics in Gaza City.

Case control study has been selected because this method is useful for this type which is easy, less expensive, and simple & requires little time. (Altman, 1999)

3 .2 Period of the study

The study was started at August 2009 (questionnaire preparation,Target population preparation, Ethical Approval, Data collection which started in September 2009 and finished with the end of the same month, Data entry, analysis reviewing the literatures and writing the report till to started of November 2009 .

3 .3 Target population

All hypertensive patients who are 20 years and above and registered in UNRWA centers in Gaza City. "patients marked organs' lesions and complications well be excluded from the study" .

The distribution of cases until October 2009 in UNRWA centers in Gaza City .

Table 3.1 Distribution of cases in the target Population :

Clinic	Recorded patients	Cases	Controls
El-Remal	3800	40	40
El-Shatee	1520	20	20
El-Zytoon	1260	20	20
Gaza Almadina	1320	20	20
Total	7900	100	100

3 .4 Sampling and sample size

Sample size decided according to Epi. info program at 95% confidence interval and 80% power, on assumption risk was 20% among non diseased and 40% among diseased, the sample size was 91 for cases and 91 for control. But the investigator decided to take 100 cases and 100 controls.

The total sample size was 100 registered as hypertensive patients and 100 unregistered.

After the sample size was determined, the investigator selected sample subjects accidentally, Only 2 subjects were loosed from the sample , so the response rate, 99%.

3 .5 Pilot testing

A pilot study was conducted before starting the real data collection, to make pre-test for the questionnaire. 20 participants included in pilot study, 10 cases and 10 controls. No changes were done on questionnaire and the pilot participants were included in the study .

3 .6 Statistical Analysis

The researcher used statistical package for social science program (SPSS), version 13. Statistical analysis included coding, data entry, data cleaning, and data processing. For description of the study variables the researcher used frequency, percentage, and histogram charts or pie. In measuring of central tendency the researcher used mean, median, mode, and standard deviation. Cross tabulation to describe the relationships between two variable or more also used. Statistical testing was used in this study are:

- For continuous variable t-test used.
- For categorical variable chi-square used.

3 .7 Selection criteria

Hypertensive patients:

- Age of patient ranged within 20years and above .
- Both gender (male and females) were included.

- Registered in one of the selected centers as hypertensive patients.

Non hypertensive (controls):

-Age of them ranged within 20 years and above .

- Both gender (male and females) were included.

- Any person unregistered as hypertensive patient.

3 .8 Data collection:

The researcher collected data though administered questionnaire (interviewed questionnaire appendex1), and also from the patients files and records.

Before starting, all questionnaire forms were prepared ,organized and classified with serial numbers to ensure the availability of the needed information.

3 .9 Instruments

Personal, Social, economical and health history data.

A questionnaire was administered and used for all the sample chosen from the study population, it saved time, analysis of data seems easier. Questionnaire was administered by the interviewer, to ensure the professionalism, accuracy, and seriousness of the data collection process. Data was collected from participants and records. triangulation involved checking data from the three resources to ensure consistency and accuracy. WHOQOL-BREF questionnaire was cited from WHO website for measurement of quality of life which is designed for this purpose, questions are arranged in a logical sequence to facilitate the interview . The expected interview time may need about 25-30 minute, the questions answers are ranked from 1-5 scores, training for how to fill this form will be provided .

Quality of Life Questionnaire- short version (WHOQOL-BREF) (Appendix 1). The WHOQOL-BREF is an abbreviated version of the WHOQOL-100 quality of life assessment. It produces scores for four domains (physical health, psychological, social

relationships and 89 environment) related to quality of life (see below table). It also contains two other questions that will be examined separately: question 1 asks about an individual's overall perception of quality of life and question 2 asks about an individual's overall perception of their health. The four domain scores denote an 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). The mean score of items within each domain is used to calculate the domain score. Mean scores are then multiplied by 4 in order to make domain scores comparable with the scores used in the WHOQOL-100 (WHO, 1996).

Validity & Reliability of the study

The researcher tried to validate the research through: trained of the data collector, standardized the tool, pretest of the instrument through the piloting, and prepared questionnaires which were filled by well trained personnel "implementation standardization" and face validity: through well organized, printed, coordinated & articulated questionnaire with adequate spacing between sentences & word were kept

3 .10 Statistical analysis

SPSS version 13 was used. Data was entered to the program then analysis was carried out as the following:

- Coding of data
- Frequency table for study variables
- Cross tabulation of the results
- Statistical test of significant , t-test and ANOVA.

3 .11 Ethical considerations

Permission from UNRWA.

- Approval from Helsinki Committee.

- Approval from patients.

- Approval from health sectors for field study administration.

3 .12 Limitations:

- Limited statistical data . Limited Time, and money.

- Lack of previous studies and researches.

- Case – control were not matched with age and gender .

Chapter IV

Results

&

Discussions

Chapter IV

Results and Discussions

Within this chapter we will explain the major results which meet our objectives in a comparative design by using t-test, p value, chi square and ANOVA test as statistical tools of measurements, the total study population was 198 subjects : 99 cases and 99 controls .

4 .1Characteristics of the study population

As we shown in (table 4. 1).The results of this study revealed that the majority of the study population were married they represent 86.9% of the subjects .

In this study age was classified into three groups the largest group represented 49% of the study pop. were from 20-35 years , second group represented 33% of the study pop. were from 36- 50 and the third group represented 14% were more 50 years .

In this study education level was classified into three groups , the highest group represented 37% had general secondary or diploma , second group represented 32%had less than meanwhile the third group represented 29% had bachelor or above .

Approximately there was similarity in both gender .

. .

Table 4.1:Characteristics of the Study Population

Sn	Items	Case 50%		Control 50%		Total	
1.	**Age**	No.	%	No.	%	No.	%
	20 years to 35	8	8.1	49	28.8	57	49.5
	From 36 to 50 Yrs	38	38.4	36	37.4	74	36.4
	More than 50 Yrs	53	53.5	14	33.8	67	14.1
	Total	99	100	99	100	198	100
2.	**Sex**						
	Male	43	43.3	54	54.5	97	49.0
	Female	56	56.7	45	45.5	101	51.0
	Total	99	100	99	100	198	100
3.	**Marital Status**						
	Single	1	1	13	7.1	14	13.1
	Married	98	99	86	92.9	184	86.9
	Total	99	100	99	100	198	100
4.	**Education**						
	Less than secondary	50	50.5	32	41.4	82	32.3
	Secondary and diploma	37	37.4	37	37.4	74	37.4
	Bachelor and above	12	12.1	30	21.2	42	29.3
	Total	99	100	99	100	198	100
5	**Work**						
	Yes	20	20.2	50	35.4	70	50.5
	No	79	79.8	49	64.6	128	49.5
	Total	99	100	99	100	198	100
6.	**Income**						
	Less than 1500 NIS	73	73.7	61	67.7	134	61.6
	From 1500 to 2500 NIS	18	18.2	26	22.2	44	26.3
	More than 2500 NIS	8	8.1	12	10.1	20	12.1
	Total	99	100	99	100	198	100
6.	**Clinic**						
	El-Remal	40	40.4	40	40.4	80	80.8
	El-Shatee	20	20.2	20	20.2	40	26.3
	El-Zytoon	19	19.2	19	19.2	38	12.1
	Gaza Almadina	20	20.2	20	20	40	100
	Total	99	100	99	100	198	100

4 .2 Distribution of cases and controls according to gender:

Table 4.2: **Distribution of cases and controls according to gender:**

	Cases		Controls		total	
	NO	%	NO	%	NO	%
Male	43	43.3	54	54.5	97	49.0
Female	56	56.7	45	45.5	101	51.0
Total	99	100	99	100	198	100

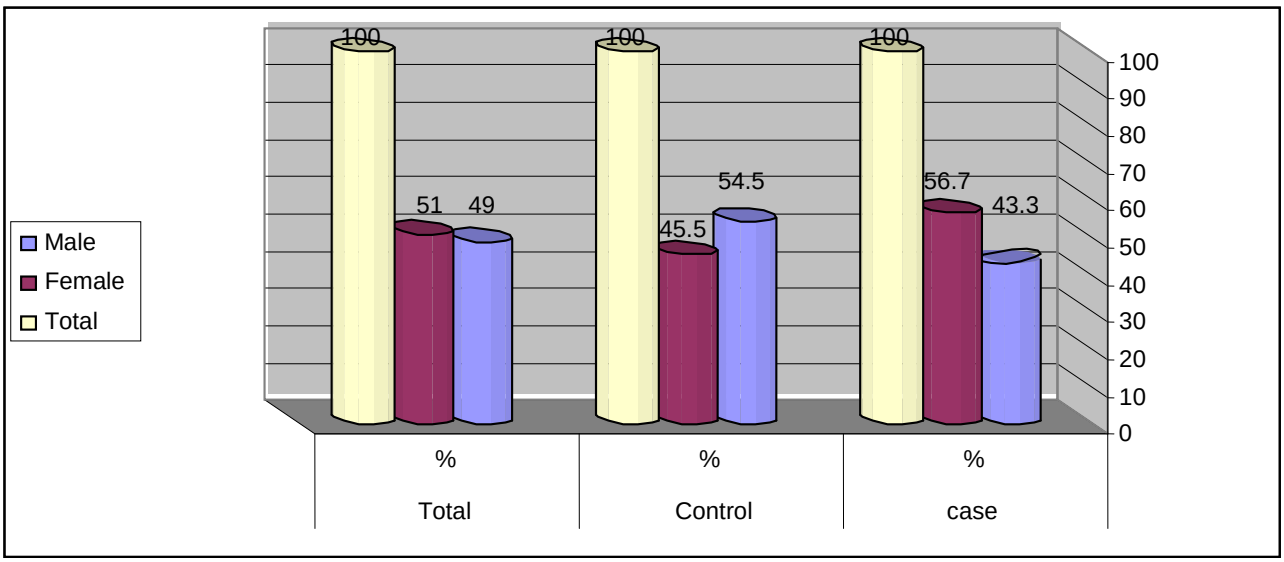

Figure 4 .1 Distribution of cases and controls according to gender

The prevalence of hypertension in female is more than male, many of the studies find that there is relationship between sex and hypertension, After 55, there are a higher percentage of women at risk for high blood pressure. High blood pressure is 2 to 3 times more common in women taking oral contraceptives, especially in obese and older women, than in women not taking them. 64% of men over 75 years old have hypertension.77% of women over 75 years old have hypertension. Older females have a significant risk of

developing high blood pressure. More than 50% of women over age 60 have high blood pressure. African-Americans who live in the United States have the highest prevalence of hypertension in the world (WHO, 2004). Women are more likely to develop high blood pressure after menopause (MFMER, 2009).

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 11.590 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 31.1%, 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 (Efstratopoulos, 2006).

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 . 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 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) > 140mm hg or diastolic Blood pressure (DBP) > 90mm hg, or both. Results showed that, the prevalence of hypertension (Bp ≥ 140 or ≥ 90mm hg, or broth 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 amongst women 528 (78.3%) than among men 334(68.9%) (p< 0.001) (Bener, et al, 2004).

4 .3 Distribution of cases and controls according to age groups

Population Mean=43.76 , MD=44.0 and STD=12.9 . For cases the mean =50.96 range =44 and STD =10.10 . For controls the mean =36.57, range =45 **and** STD =11.323 **.**

Table 4.3: **Distribution of cases and controls according to age groups**

AGE	case NO.	case %	Control NO.	Control %	Total	Total %
20 years to 35	8	8.1	49	49.5	57	28.7
From 36 to 50 Yrs	38	38.4	36	36.4	74	37.4
More than 50 Yrs	53	53.5	14	14.1	67	33.9
Total	99	100	99	**100**	198	100

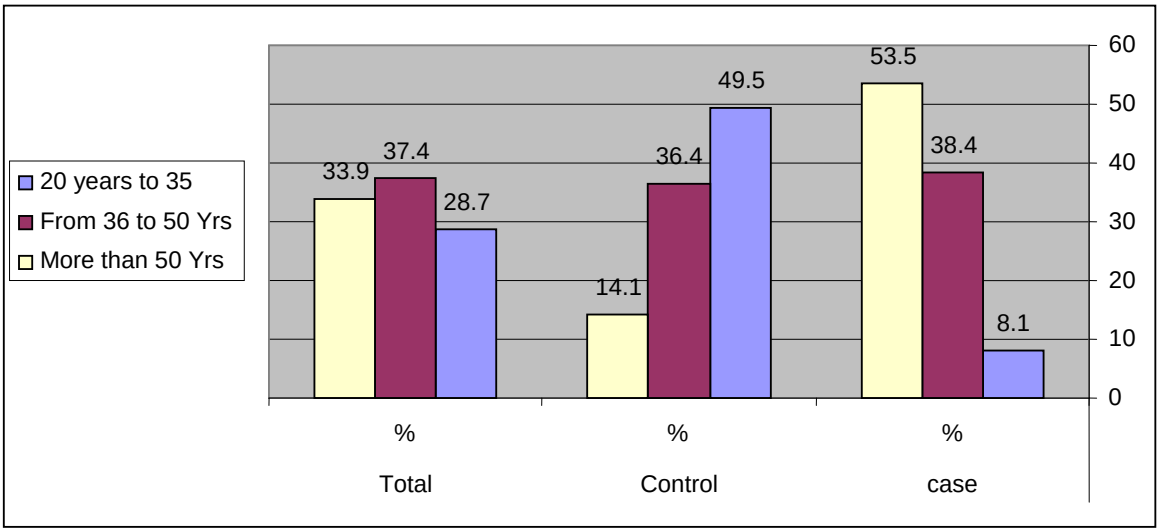

Figure 4 .2 Distribution of cases and controls according to age groups

The highest prevalence of the disease in people more than 50 Yrs and follow them who from 36 to 50 Yrs . All of the studies find that there is strong relationship between age and hypertension, Also aged people are considered at high risk for hypertension.

The risk of high blood pressure increases as age increase. Through early middle age (MFMER, 2009).

4 .4 Distribution of cases and controls according to Educational level

Table 4.4: Distribution of cases and controls according to Educational level

Educational level	**case NO.**	**case %**	Control NO.	Control %	**Total** NO.	**Total** %
Less than secondary	50	50.5	32	32.3	82	41.4
Secondary and diploma	37	37.4	37	37.4	74	37.4
Bachelor and above	12	12.1	30	29.3	42	21.2
Total	**99**	**100**	**99**	**100**	**198**	**100**

The highest prevalence of hypertension is in less educated people (Less than general secondary) and the lowest prevalence in highest educated people (Bachelor and above), All of the studies find that there is strong relationship between educational level and hypertension, because the less educated person hasn't enough information (risk factors , causes ,role of lifestyle , signs and symptoms and prognosis) about the disease, So that they become at high risk. There is similarity in middle educated people (general secondary and diploma) between cases and controls in percentage of HTN.

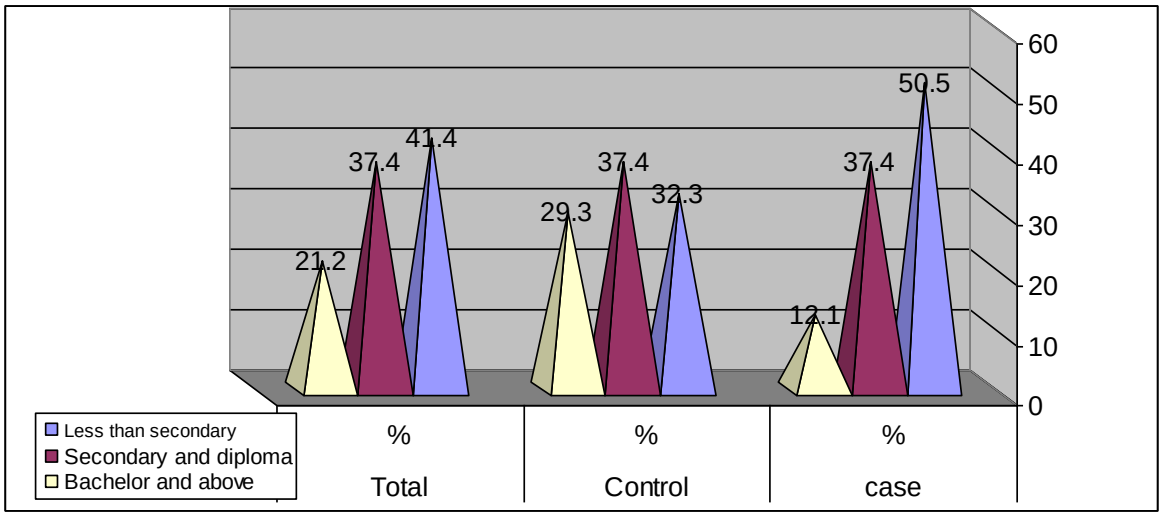

Figure 4 .3 Distribution of cases and controls according to educational level

4 .5 Distribution of cases and controls according to income level

Table 4.5: Distribution of cases and controls according to Income **level**

Income	**Case NO**	**case %**	**Control NO.**	**Control %**	**Total NO.**	**Total %**
Less than 1500 NIS	73	73.7	61	61.6	134	67.7
From 1500 to 2500 NIS	18	18.2	26	26.3	44	22.2
More than 2500 NIS	8	8.1	12	12.1	20	10.1
Total	99	100	99	100	198	100

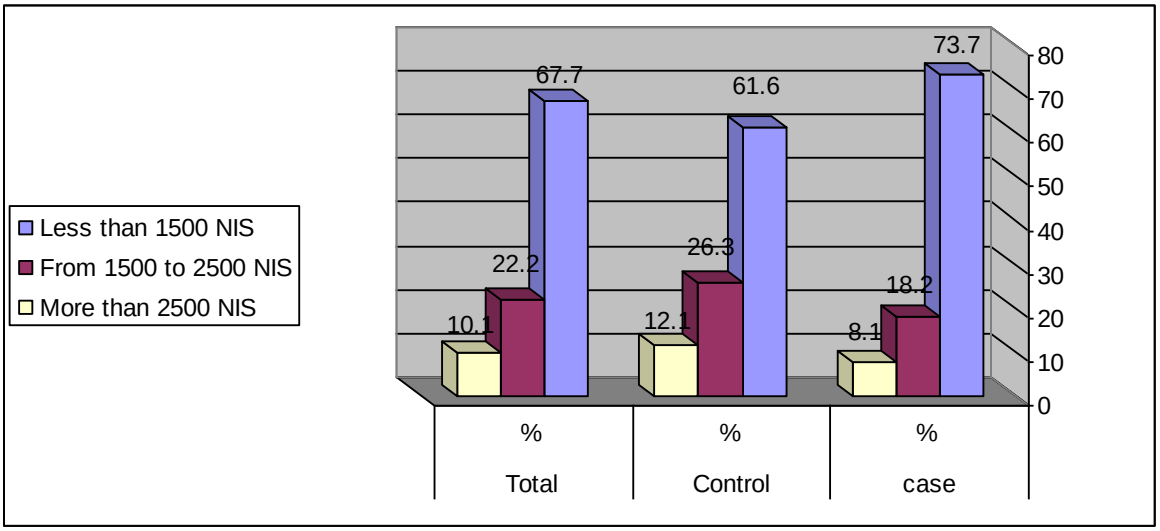

Figure 4 .4 Distribution of cases and controls according to Income level

The highest prevalence of hypertension is in low income people (Less than 1500 NIS) and the lowest prevalence in high income people (More than 2500 NIS), Many of the studies find that there is relationship between economic and hypertension .

There is slight deference in middle and high income

People between cases and controls in percentage of HTN.

The estimated total number of adults with hypertension in 2000 was 972 million. Of these 333 million were estimated in economically developed countries and 639 million in economically developing countries(WHO,2004).

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 services which means they can live a long stavle 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 & healthy 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 marched for age, sex, nationality and education. The survey included 500 hypertensive adults aged 20-65 years old ascertained form urban and semi-urban primary health care 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 and lifestyle habits> hypertension was defined according to WHO criteria as having systolic Blood pressure (SBP) ≥90mm 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. Result 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).

4 .6 Occupation and work

Table 4.6: Distribution of cases and controls according to working status

Work	Case%	Control%
Yes	20.2	35.4
No	79.8	64.6
Total	**100**	**100.0**

Cesena 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 ask 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 debased 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 3mm hg increase of systolic blood pressure ($p< .001$) moving from low to high strain fob categories. This difference was independent from age, education, body mass index, alcohol invade, smoking habits, leisure time physical activity, and survey. No relevant differences among job strain categories were fund 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 wardens 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 nomotensive, diastolic blood pressure less than 90mm hg and systolic blood pressure less than 14mm hg in the initial year, was followed for 15 years to observe the occurrence of hypertension. Hypertension was defined as a systolic blood pressure (DBP) of 95 mm hg or higher, or the imitation 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 mangers, sales person and blue-collar workers (sugimon, et al, 1995).

4 .7 Compliance with management in cases :

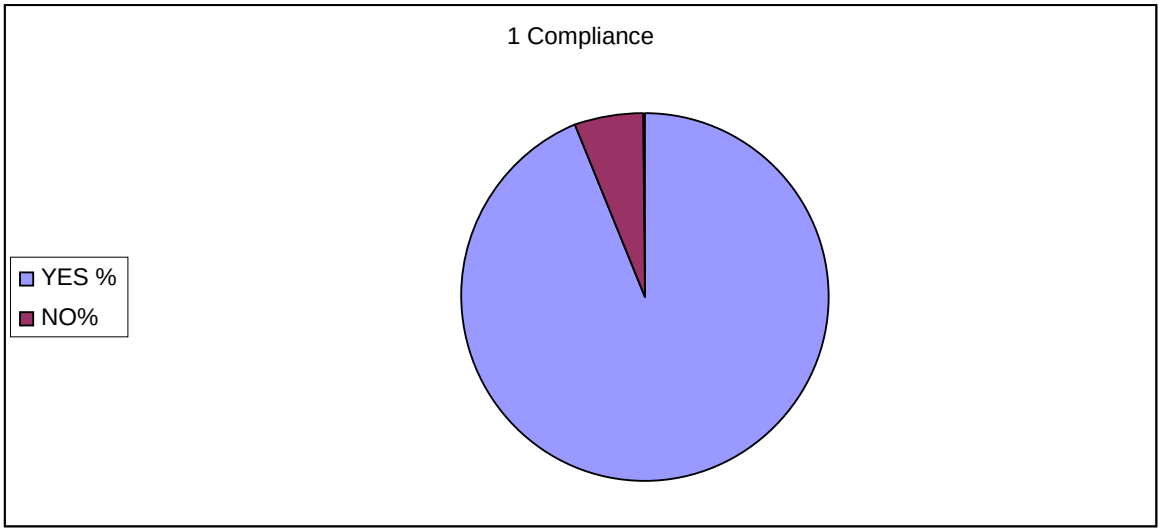

Figure 4 .5 Distribution of cases according to Compliance with management

There is very high percentage of cases are complaints with management program (93.9%) and this result was supported by other studies .

Compliance with the pharmacological and non-pharmacological therapeutic regimen is essential to prevent occurrence and worsening hypertension and stroke. The main aim to identification of predictors of Quality of Life (QOL) among hypertensive patients without stroke and hypertensive patients with stroke. Self-reported QOL was obtained from 112 patients with hypertension and stroke and 224 patients with hypertension only with the

WHO-QOL-BREF questionnaire and compliance with the pharmacological and non-pharmacological therapeutic regimen was assessed with a standardized questionnaire (Aljeesh, et al , 2005).

4 .7.1 Family history in cases

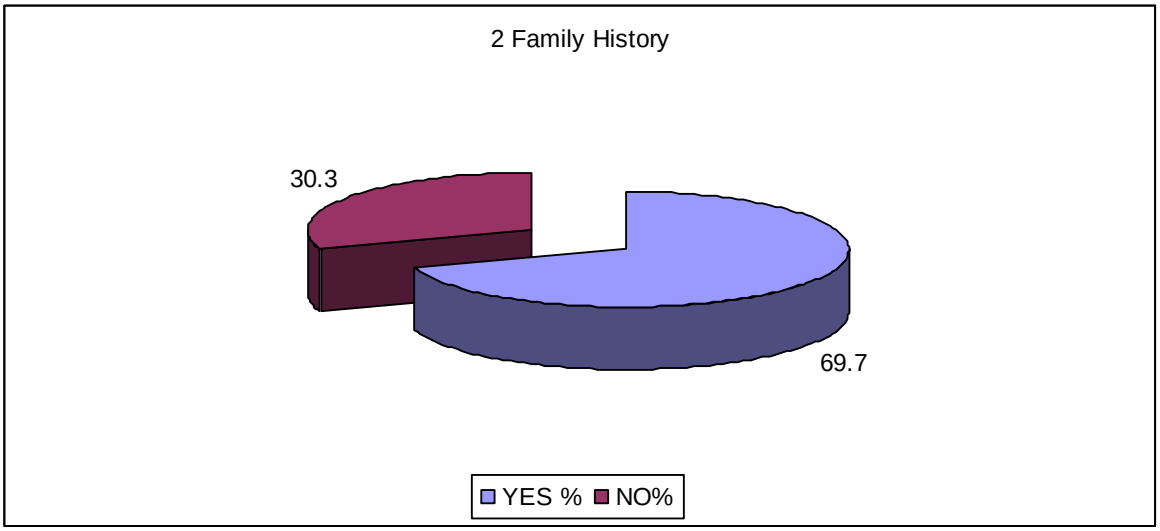

Figure 4 .6 Distribution of cases according to family history

There is high percentage of cases have one of their relatives or more complain of hypertension 69.7% ,there are many studies reached the same result:

A family history of hypertension, obesity, diabetes, or stroke was a significant risk factor for obesity and hyperlipidaemia. With increase of age, more pathological manifestations can develop in this high-risk group. Health professionals should therefore utilize every opportunity to include direct family members in health education , Hypertension. In industrialized countries, the risk of becoming hypertensive for an individual with a family history of hypertension has been estimated to be up to four times higher than average(Marianne, et al, 2001).

Family history. High blood pressure tends to run in families(MFMER, 2009).

4 .8 Exercises

There is high percentage of population study never perform any kinds of exercises this make them at high risk for several diseases especially NCD, There is slight deference between percentage of people who perform or don't perform any kinds of exercises in cases and controls (In cases less than controls).

Table 4.7: Distribution of Cases and Controls According to Exercises Doing

Exercises	Yes		No	
	No.	%.	No.	%
Cases	40	40.4	59	59.6
Controls	41	41.4	58	58.6
Total	81	40.9	117	59.1

Epidemiological studies suggest an inverse relationship between physical activity or fitness and blood pressure. In a meta-analysis of 44 randomized controlled intervention trials, the weighted net change in conventional systolic/diastolic blood pressure in response to dynamic aerobic training averaged _3.4/_2.4mmHg. The effect on blood pressure was more pronounced in hypertensives than in normotensives. This type of training also lowered the blood pressure measured during ambulatory monitoring and during exercise. However, exercise appears to be less effective than diet in lowering blood pressure, and adding exercise to diet does not seem to further reduce blood pressure **(**Fagard, 2005)

Several large epidemiological studies have reported an inverse relationship between blood pressure and physical activity. However, longitudinal intervention studies are more appropriate for assessing the effects of physical activity .(Fagard and Cornelissen, 2007) .

Although several epidemiological studies have not observed significant independent relationships between physical activity or fitness and blood pressure, others have concluded that blood pressure is lower in individuals who are more fit or active. However, longitudinal intervention studies are more appropriate for assessing the effects of physical activity on blood pressure(Fagard , 2006).

4 .9 Smoking

There is high percentage of population study never smoke 69%, but the percentage 22% of the them smokers also give us bad indicator . the prevalence of smoking in controls higher than in cases . This result doesn't mean there is no relationship between HTN and smoking .

Table4.8: Distribution of Cases and Controls According to smoking status

Smoking	**Yes**		**No**	
	No.	**%.**	**No.**	**%**
cases	**18**	**18.2**	**81**	**81.8**
Controls	**25**	**25.3**	**74**	**74.7**
Total	**43**	**21.7**	**155**	**78.3**

The prevalence of current tobacco smoking is an important predictor of the future burden of tobacco-related diseases. In 36 countries, over 25% of youths smoke**.** (World Health Statistics, 2009).

Using tobacco. Not only does smoking tobacco immediately raise your blood pressure temporarily, but the chemicals in tobacco can damage the lining of your artery walls. This can cause your arteries to narrow, increasing your blood pressure. (MFMER, 2009).

4 .10 Overweight or Obesity

There is slight deference between cases and controls in people who complain from overweight or obesity , there is 55% of cases complain from overweight or obesity , It is high percentage .

There is no doubt that the obesity and overweight are considered as risk factors for NCD and HTN

.

Table 4.9: Distribution of Cases and Controls According to overweight or obesity

overweight or obesity	**Yes**		**No**		**Total**	
	No.	**%.**	**No.**	**%**	**No.**	**%**
cases	**55**	**55.5**	**45**	**45.5**	**99**	**50**
controls	**49**	**49.5**	**50**	**50.5**	**99**	**50**
Total	**98**	**54**	**100**	**46**	**198**	**100**

Being overweight or obese. The more you weigh, the more blood you need to supply oxygen and nutrients to your tissues. As the volume of blood circulated through your blood vessels increases, so does the pressure on your artery walls. (MFMER, 2009).

Diet affects significantly the incidence and severity of cardiovascular diseases and fatty acid intake, in its qualitative as well as quantitative aspects, and influences several risk factors including cholesterol (total ,LDL and HDL), triglycerides, platelet aggregation and blood pressure, as evidenced in the 2001 WHO report. This review focuses on the qualitative concern of lipid intake, the various classes of fatty acids of the lipid fraction of the diet, saturated, monounsaturated and polyunsaturated, and their effects on blood pressure. Saturated fat have a bad file and several experimental studies in the rat showed a progressive increase in blood pressure in response to a highly saturated diet. Moreover, a highly saturated diet during gestation led to offspring which, when adults, presented a gender related hypertension (Grynberg, 2005).

4 .11 Was the Lifestyle the reason for HTN (for cases)

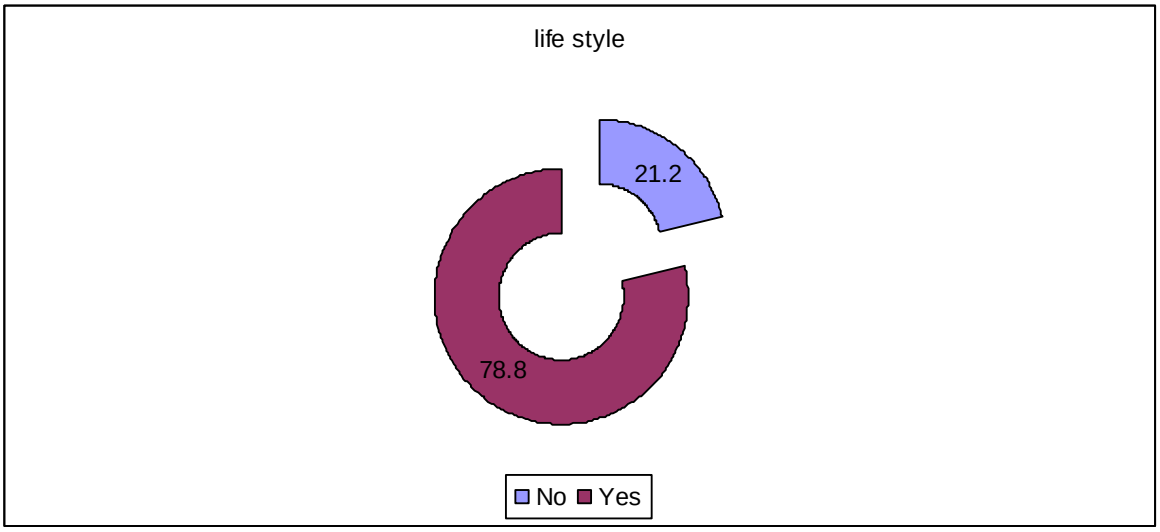

Figure 4 .10 Distribution of cases according to lifestyle effect

There is high percentage of cases 79% said that their poor and bad lifestyle was the reason for the disease and this result was supported .

The researcher categorized trials by type of intervention and used random effects meta-analysis to combine mean differences between endpoint blood pressure in treatment and control groups in 105 trials randomizing 6805 participants. Robust statistically significant effects were found for improved diet, aerobic exercise, alcohol and sodium restriction, and fish oil supplements: mean reductions in systolic blood pressure of 5.0 mmHg [95% confidence interval (CI): 3.1-7.0], 4.6 mmHg (95% CI: 2.0-7.1), 3.8 mmHg (95% CI: 1.4-6.1), 3.6 mmHg (95% CI: 2.5-4.6) and 2.3 mmHg (95% CI: 0.2-4.3), respectively, with corresponding reductions in diastolic blood pressure (Dickinson HO,et,al.1999)

Over 18 months, persons with prehypertension and stage 1 hypertension can sustain multiple lifestyle modifications that improve control of blood pressure and could reduce the risk for chronic disease.(Elmer, et al, 2006).

Successful treatment of hypertension requires a holistic approach. In this connection, focusing on a healthy lifestyle, eating, drinking and consumption behavior and, finally, the quality of foodstuffs and the exercise habits of the patient represents an essential supplement to the classical forms of pharmaceutical treatment. The major dietary-physiological factors have been shown to be weight reduction, the monitoring of salt consumption, appropriate intake of fiber, a preference for vegetables, and a reduction of immoderate alcohol consumption (Berg, et al, 2006).

The result was that the factors significantly discriminating patients for whom BP was controlled (C) from those patients whose BP was not controlled (NC) were an age less than 65 years, smoking, obesity, alcohol consumption, sedentary lifestyle and multiple anti-hypertensive treatment. On the psycho-behavioral front, the NC patients were more often anxious and irritable, claiming to lead a stressful life and for whom hypertension was often perceived as a "foreign entity" and a source of frustration and multiple deprivations. The factors discriminating the NC doctors from the C doctors were essentially psycho-behavioral,

with the NC doctors considering the management of hypertension as being less gratifying, and hypertension as a condition with fluctuating progression, poorly understood and dramatized by patients. The survey underlines the weight of reciprocal representation systems in hypertension for patients and their doctors, as well as the quality of the doctor-patient relationship in blood pressure control. It prompts the development of sensitizations actions for practitioners centered on improving the doctor-patient relationship. (Vaiss, 2003).

4 .12 The effect of signs and symptoms on quality of life and the complaining of hypertensive management

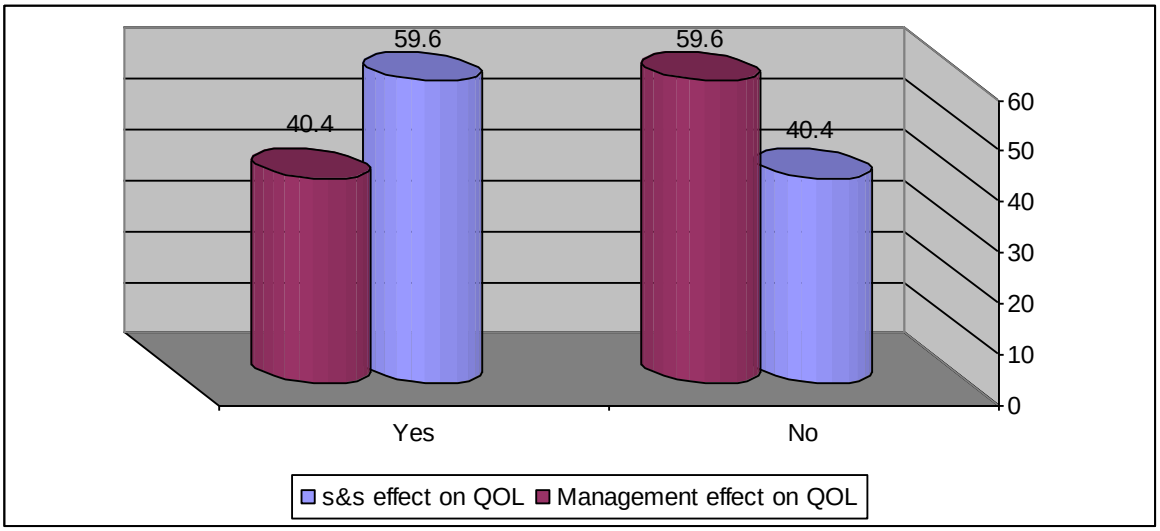

Figure 4 .11 Distribution of cases according to Effect of s&s on QOL and the complaining of hypertensive management .

There is high percentage of cases 60% said that there is effect of s&s of hypertension on quality of their life and 28.3% was hospitalized as result of hypertension, and 40% complain of management.

.The authors evaluated the self-reported quality of life in patients with systemic arterial hypertension and assessed whether clinicians and normotensive respondents from the general public appreciate the impact that hypertension has on health-related quality of life. A quality-of-life questionnaire was completed by 385 individuals: persons with hypertension (n=188), normotensive persons (n=148), and clinicians (n=49). A utility score, which represents one's self-perceived health-related quality of life, was generated for each group by using standardized time tradeoff questionnaires. Quality of life with hypertension was judged to be significantly higher according to affected individuals (mean utility score, 0.980), compared with normotensive persons (mean utility score, 0.948) and clinicians (mean utility score, 0.942), who were asked to assume that they had hypertension ($p<0.0005$). Clinicians and normotensive individuals tend to overemphasize the impact that hypertension has on quality of life, as compared to affected patients. The relatively low impact that hypertensive individuals indicate high blood pressure has on their quality of life may contribute to their lack of compliance with treatment regimens (Stein ,et al ,2008).

The magnitude of symptoms distress or relief associated with symptoms in 2 patient populations correlated strongly with a shift in quality of life. The assessment of distress associated with symptoms provides valuable additional information on drug therapy(Hollenberg , et al,2000).

Having hypertension and being aware of it was related to lower health-related quality of life. Antihypertensive medication was associated with more physically unhealthy days, while there were no differences in health-related quality of life by control status. Further study is needed to examine these differences including: disease severity, sex and racial/ethnic differences, comorbidities not examined, and impact of health-related quality of life and its changes on outcomes(Hayes, et al, 2008).

4.13 General quality of life scores

When the researcher asked the subjects to rate their quality of life 40.6% of the cases said moderate and 44.4 of controls said moderate, and 25.9 % rate cases quality of life good and 32.8 of controls said good, that's means about 70% of cases accepting their quality of life in presence of hypertension, Rate quality of life in controls is better than cases .

The patients considered this disease from God, and they believe that this exam from the God. For that they believe that they must be patient because this was their fate.

When the researcher asked the subjects to rate their satisfaction with health on the scale from very dissatisfied to very satisfied, according to the table, 42% of cases were satisfied and very satisfied and more than 50% of controls were satisfied and very satisfied .

The researcher's explanation for this result was related to religion factor and warmth that received from the family and friends.

Table 4.10 **General quality of life scores**

How would you rate your quality of life?		Very Bad	Bad	Moder	Good	Very Good
1.	Cases	8.2	21.1	40.6	25.9	3.2
2.	Cotrols	4.5	12.1	44.4	32.8	6.2
How satisfied are you with your health?						
1.	Cases	11.2	29.3	17.4	37.4	4.7
2.	Cotrols	5.3	21.2	21.8	42.5	9.2

4 .14 T test between domains in case and control

Table 4.11: T test Comparing Means Among Domains in Cases and Controls

Sn.	Domains	Case	No.	Mean	Std	T	Sig.
1.	**Physical**	Case	99	66.93	15.06	-2.122	0.035*
		Control	99	71.17	13.00		
2.	**Psychology**	Case	99	63.87	13.93	-0.586	0.559
		Control	99	64.98	12.75		
3.	**Social**	Case	99	66.40	17.58	-1.296	0.197
		Control	99	69.56	16.77		
4.	**Environment**	Case	99	61.09	12.05	0.470	0.639
		Control	99	60.30	11.36		
5.	**Quality of life**	Case	99	64.15	11.80	-1.031	0.304
		Control	99	65.80	10.69		

*statistically significance

In Physical domain the Control mean is higher than case and this difference reach statistically significance because **(*p value*<0.05)**.

There is slight difference between Social domain means in case and control but didn't reach statistically significance , Nearly there is no differences between Psychology and Environment domain means and case and control but didn't reach statistically significance .

Quality of life domain in Control is slightly better than case and this difference didn't reach statistically significance because ***p value* > *0.05***.

4 .15 T test between domains and gender

Table 4.12 : T test Comparing Means Among Domains and gender

Sn.	Domains	Sex	No.	Mean	Std	t	Sig.
1.	**Physical**	Female	97	69.31	13.74	0.252	0.801
		Male	101	68.80	14.68		
2.	**Psychology**	Female	97	65.95	13.37	1.576	0.117
		Male	101	62.97	13.19		
3.	**Social**	Female	97	68.32	17.51	0.269	0.788
		Male	101	67.66	17.01		
4.	**Environment**	Female	97	60.44	11.94	-0.302	0.763
		Male	101	60.94	11.49		
5.	**Total**	Female	97	65.39	11.28	0.504	0.615
		Male	101	64.58	11.28		

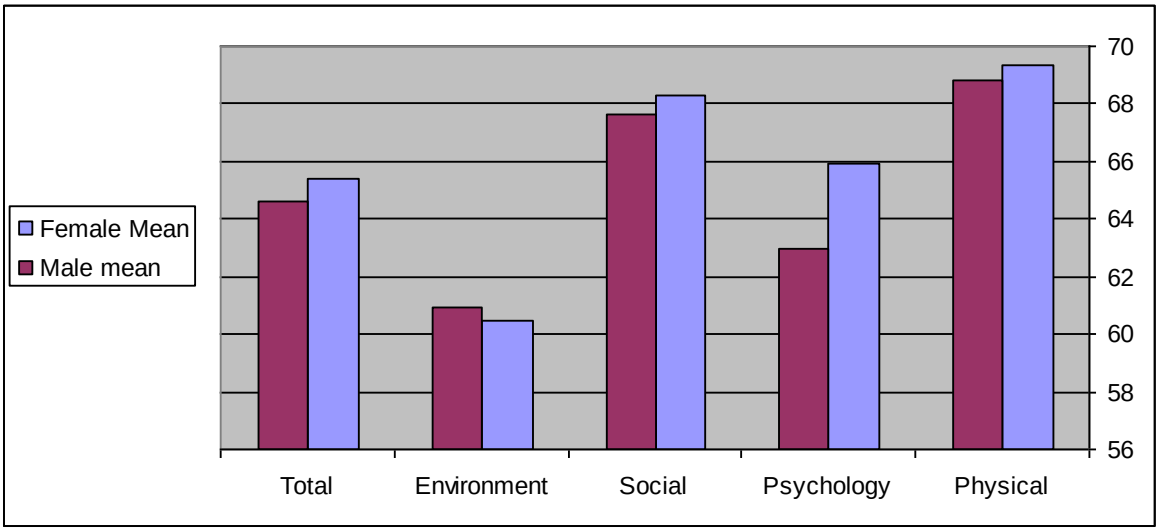

Figure 4 .13 Comparing Means Among Domains and gender

In Psychology domain the Female mean is slightly higher than male and this difference didn't reach statistically significance because ***p value > 0.05***.

Nearly there is no differences between male and female in Environment Social and Physical domain means and case and control but didn't reach statistically significance .

Quality of life domain in female is slightly better than male and this difference didn't reach statistically significance because ***p value > 0.05***.

4 .16 T test between domains and Marital status

Table 4.13: T test Comparing Means Among Domains and Marital status

Sn.	Domains	MS	No.	Mean	Std	t	Sig.
1.	Physical	Single	14	72.24	6.18	0.874	0.383
		Married	184	68.80	14.60		
2.	Psychology	Single	14	62.86	11.68	-0.456	0.649
		Married	184	64.55	13.47		
3.	Social	Single	14	58.57	15.06	-2.141	0.034
		Married	184	68.70	17.19		
4.	Environment	Single	14	58.21	6.82	-0.823	0.412
		Married	184	60.88	11.97		
5.	Total	Single	14	63.51	5.98	-0.503	0.615
		Married	184	65.09	11.56		

In **Social** domain the Married mean is higher than single and this difference reach statistically significance because ***p value > 0.05*** .

In **Physical** domain the single mean is higher than married and this difference didn't reach statistically significance because ***p value > 0.05***.

In Psychology domain the married mean is slightly higher than single and this difference didn't reach statistically significance because ***p value >0.05***.

In **Environment** domain the married mean is slightly less than single and this difference didn't reach statistically significance because ***p value > 0.05.***

Quality of life domain in married is slightly better than single and this difference didn't reach statistically significance because ***p value >0.05.***

4 .16 T test between domains and Working

Table 4.14: T test Comparing Means Among Domains and Working status

Sn.	Domains	Working	No.	Mean	Std	t	Sig.
1.	**Physical**	Yes	70	74.16	12.31	3.882	0.000*
		No	128	66.25	14.42		
2.	**Psychology**	Yes	70	69.05	11.72	3.723	0.000*
		No	128	61.90	13.52		
3.	**Social**	Yes	70	71.14	17.61	1.925	0.056*
		No	128	66.25	16.81		
4.	**Environment**	Yes	70	63.07	11.60	2.135	0.034*
		No	128	59.39	11.57		
5.	**Total**	Yes	70	68.81	10.19	3.654	0.000*
		No	128	62.88	11.29		

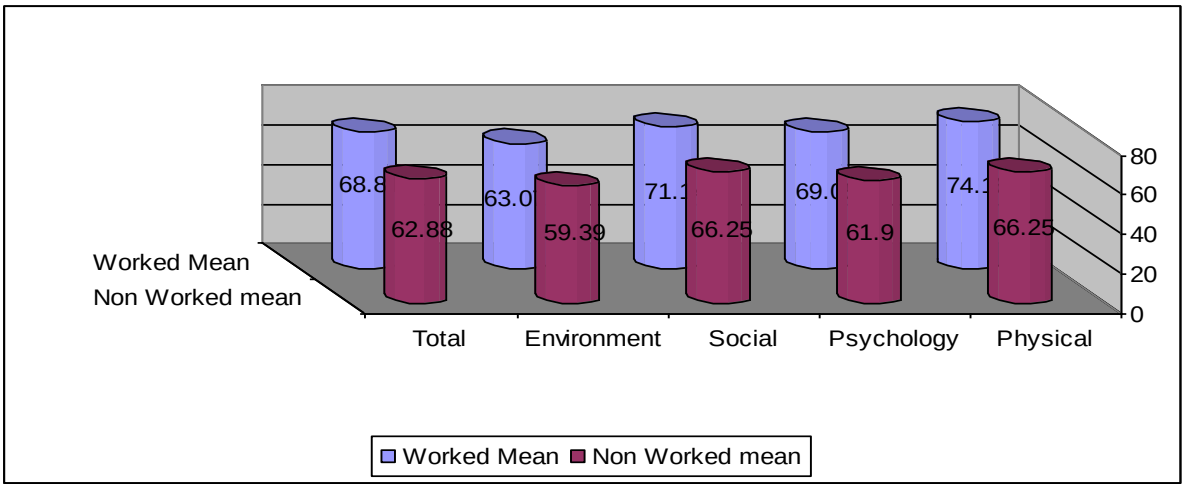

Figure 4 .14 Comparing Means Among Domains and working status

In Physical, Psychology, Social ,Environment and total domains the worked people means are higher than who didn't and these differences in all domains reach statistically significance because ***p value < 0.05***.

These results are accepted , simply who work has power and ability to work (strong body ,good health and mental ability) so that they complain from fewer problems than others .

4 .18 ANOVA among domains and age group

Table 4.15: ANOVA Comparing Means among domains and age group

Sn.	Domains	Age	No.	Mean	Std	F	Sig.
1.	**Physical**	**35 Yrs and less**	57	72.58	11.90	4.855	0.009*
		From 36 to 50 Yrs	74	70.00	14.55		
		More than 50 Yrs	67	64.99	14.78		
2.	**Psychology**	**35 Yrs and less**	57	63.74	13.03	0.267	0.766
		From 36 to 50 Yrs	74	65.32	14.28		
		More than 50 Yrs	67	64.03	12.61		
3.	**Social**	**35 Yrs and less**	57	69.82	15.23	2.791	0.064
		From 36 to 50 Yrs	74	70.18	17.28		
		More than 50 Yrs	67	63.98	18.24		
4.	**Environment**	**35 Yrs and less**	57	61.27	10.51	0.400	0.671
		From 36 to 50 Yrs	74	59.73	12.74		
		More than 50 Yrs	67	61.27	11.52		
5.	**Total**	**35 Yrs and less**	57	66.26	9.61	1.101	0.335
		From 36 to 50 Yrs	74	65.43	12.12		
		More than 50 Yrs	67	63.38	11.54		

In Physical domain, the group less than 35 Yrs mean is higher than group from 36 to 50 yrs mean and the group more than 50 yrs mean is the lowest mean and these differences reach statistically significance because ***p value 0.009.***.

In **Psychology** and social domains, the group from 36 to 50 Yrs mean is higher than group more mean than 50 yrs and the group less than 35 Yrs mean is the lowest mean and these differences didn't reach statistically significance because ***0.766.***.

In **social** domain, the group from 36 to 50 Yrs mean is higher than group more than 50 yrs mean and the group less than 35 Yrs the lowest mean and these differences didn't reach statistically significance because ***p value 0.064.***.

In **Environmental** domain, the group from 36 to 50 Yrs mean is lower than the group more than 50 yrs and the group less than 35 Yrs and these differences didn't reach statistically significance because ***p value 0.671.***

The QOL-total- domain the group less than 35 Yrs mean is higher than the group from 36 to 50 Yrs mean and the group more than 50 yrs mean is the lowest .

4. 19 ANOVA between domains and Education

Table 4.16: ANOVA Comparing Means among domains and Education

Sn.	Domains	Education	No.	Mean	Std	F	Sig.
1.	Physical	less than general secondary	82	65.19	13.10	5.728	0.004*
		general secondary and diploma	74	71.00	14.44		
		Bachelor and above	42	73.13	14.29		
2.	Psychology	less than general secondary	82	60.73	12.76	5.863	0.003*
		general secondary and diploma	74	66.44	13.20		
		Bachelor and above	42	68.10	13.17		
3.	Social	less than general secondary	82	64.80	18.36	3.916	0.021*
		general secondary and diploma	74	72.25	14.35		
		Bachelor and above	42	66.67	18.33		
4.	Environment	less than general secondary	82	57.68	10.91	4.839	0.0098
		general secondary and diploma	74	62.70	11.91		
		Bachelor and above	42	63.04	11.75		
5.	Total	less than general secondary	82	61.52	10.30	6.997	0.001*
		general secondary and diploma	74	67.25	11.09		
		Bachelor and above	42	67.70	11.81		

In Physical and Psychology and Environment domains, the group Bachelor and above mean is higher than group general secondary to and diploma mean and the group less than general secondary mean is the lowest mean and these differences reach statistically significance because ***p value < 0.05***.

In **Social** domain, the group general secondary to and diploma mean is higher than the group Bachelor and above mean and the group less than general secondary mean is the lowest mean and these differences reach statistically significance because ***p value < 0.05*** .

In The QOL-total- domain, the group Bachelor and above mean is higher than group general secondary to and diploma mean and the group less than general secondary mean is the lowest mean and these differences reach statistically significance because ***p value <0.05*.4**

4.20 ANOVA between domains and Income

Table 4.17: ANOVA Comparing Means among domains and Income

Sn.	Domains	Income	No.	Mean	Std	F	Sig.
1.	Physical	Less than1500 NIC	134	66.20	13.74	9.076	0.000*
		From 1500 to 2500	44	75.45	13.15		
		More than 2500 NIC	20	74.00	14.09		
2.	Psychology	Less than1500 NIC	134	62.09	13.12	7.192	0.001*
		From 1500 to 2500 N	44	68.33	12.85		
		More than 2500 NIC	20	71.50	11.67		
3.	Social	Less than1500 NIC	134	66.37	16.91	1.832	0.163
		From 1500 to 2500	44	71.36	16.93		
		More than 2500 NIC	20	71.33	19.11		
4.	Environment	Less than1500 NIC	134	58.99	11.52	5.014	0.008*
		From 1500 to 2500	44	63.35	11.39		
		More than 2500 NIC	20	66.25	11.17		
5.	Total	Less than1500 NIC	134	62.79	10.80	8.487	0.000**
		From 1500 to 2500	44	69.13	11.01		
		More than 2500 NIC	20	70.46	10.85		

In Physical domain, the group From 1500 to 2500 NIC mean is higher than group More than 2500 NIC mean and the group Less than1500 NIC mean is the lowest mean and these differences highly statistically significance because ***p value > 0.05***.

In Psychology and Environment domains, the group More than 2500 NIC mean is higher than group From 1500 to 2500 NIC mean and the group Less than1500 NIC mean is the lowest mean and these differences high statistically significance because ***p value > 0.05***.

In Social domain, the group From 1500 to 2500 NIC mean is higher than group More than 2500 NIC mean and the group Less than1500 NIC mean is the lowest mean and these differences didn't reach statistically significance because ***p value < 0.05***.

In The QOL-total- domain, the group More than 2500 NIC mean is higher than group From 1500 to 2500 NIC mean and the group Less than1500 NIC mean is the lowest mean and these differences highly statistically significance because ***p value > 0.05***.

As total the Physical domain mean is the highest mean (69) and the Environment domain is the lowest mean(60.9).

4 .21 ANOVA between domains and Clinics

Table 4.18: ANOVA Comparing Means among domains and Clinics

Sn.	Domains	Clinics	No.	Mean	Std	F	Sig.
1.	Physical	Elremal	79	67.99	15.05	4.982	0.002*
		Elshatee	40	76.43	12.00		
		Elzytoon	40	66.57	14.49		
		Gaza Almadina	39	66.15	11.90		
2.	Psychology	Elremal	79	65.61	12.97	3.773	0.012*
		Elshatee	40	69.00	13.80		
		Elzytoon	40	60.50	12.35		
		Gaza Almadina	39	61.37	13.15		
3.	Social	Elremal	79	66.33	17.70	1.293	0.278
		Elshatee	40	72.50	17.62		
		Elzytoon	40	68.33	18.29		
		Gaza Almadina	39	66.32	14.18		
4.	Environment	Elremal	79	61.42	12.50	1.595	0.192
		Elshatee	40	62.88	11.13		
		Elzytoon	40	57.50	12.52		
		Gaza Almadina	39	60.26	9.06		
5.	Total	Elremal	79	65.00	11.92	3.521	0.016*
		Elshatee	40	69.56	11.03		
		Elzytoon	40	62.25	10.92		
		Gaza Almadina	39	63.01	9.18		

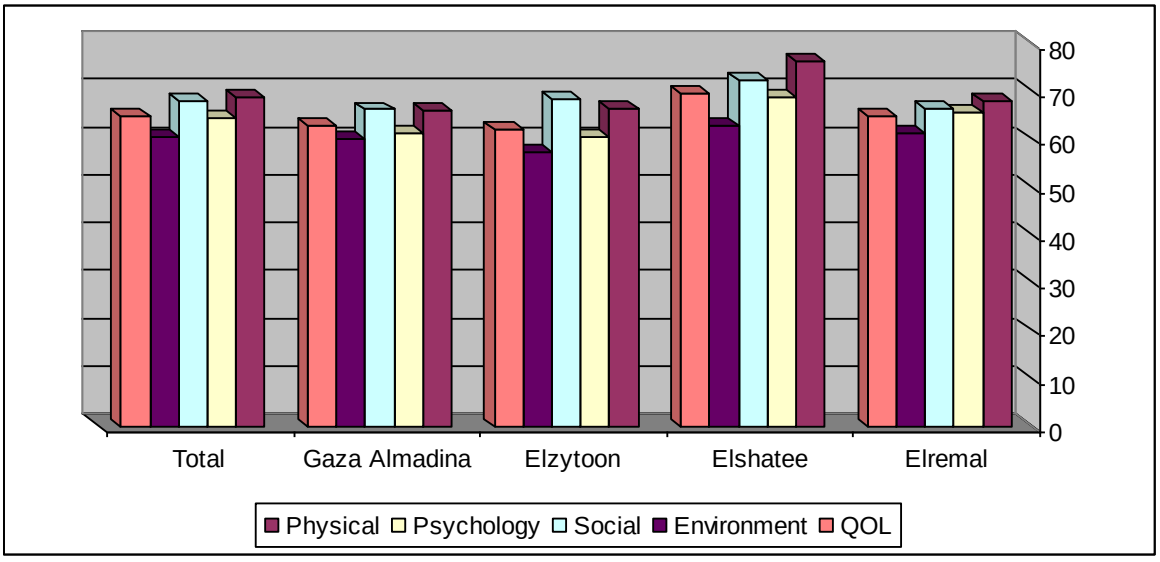

Figure 4 .18 Comparing Means Among Domains and Clinics

In Physical domain, Elshatee mean is the highest, Elremal mean is higher than Elzytoon mean and Gaza Almadina mean is the lowest mean and these differences reach statistically significance because ***p value > 0.05***.

In **Psychology** domain, Elshatee mean is the highest, Elremal mean is higher than Gaza Almadina mean and Elzytoon mean is the lowest mean and these differences reach statistically significance because ***p value > 0.05***.

In **Social** and **Environmental** domains, Elshatee mean is the highest, Elremal mean is higher than Gaza Almadina mean and Elzytoon mean is the lowest mean and these differences didn't reach statistically significance because ***p value < 0.05***

In The QOL-total domain, Elshatee mean is the highest, Elremal mean is higher than Gaza Almadina mean and Elzytoon mean is the lowest mean and these differences reach statistically significance because ***p value > 0.05***.

Chapter V

Conclusions

&

Recommendations

Chapter V

Conclusions

Hypertension is a common condition, and continues to be one of the most important causes of death and illness, Hypertension affects approximately 1 billion individuals worldwide, this associated with an increased risk of mortality and morbidity, And the fifth-leading cause of cardiovascular diseases deaths in Palestine 2004,

Quality of life is a complex measure by assessing it we will improve QOL .

The population study all hypertensive patients who are 20 years and above and registered in UNRWA centers in Gaza City.(patients marked organs' lesions and complications well be excluded from the study) ,and by accedentally as case control study we select 99 case and 99 control ,

The results of this study revealed that the majority of the study population were married they represent 86.9% of the subjects .

In this study age was classified into three groups the largest group represented 49% of the study pop. were from 20-35 years , second group represented 33% of the study pop. were from 36- 50 and the third group represented 14% were more 50 years .

In this study education level was classified into three groups , the highest group represented 37% had general secondary or diploma , second group represented 32%had less than meanwhile the third group represented 29% had bachelor or above .

Approximately there was similarity in both gender The highest prevalence of the disease in married people and follow them who didn’t work , After that low income people , In the group age above 50 years higher than less age ,In female more than male , In low educated people higher than educated .

.In Physical domain the Control mean is higher than case and this difference reach statistically significance.

There is slight difference between Social domain means in case and control but didn't reach statistically significance , Nearly there is no differences between Psychology and Environment domain means and case and control but didn't reach statistically significance . Quality of life domain in Control is slightly better than case and this difference didn't reach statistically significance.

There is high percentage of cases 79% said that their poor and bad lifestyle was the reason for the disease.

There is high percentage of cases have one of their relatives or more complain of hypertension 69.7% .

There is very high percentage of cases are complaints with management program (93.9%).

There is high percentage of population study never perform any kinds of exercises this make them at high risk for several diseases especially NCD,

There is high percentage of population study never smoke 69%, but the percentage 22% of the them smokers also give us bad indicator . the prevalence of smoking in controls higher than in cases . When the researcher asked the subjects to rate their quality of life 40.6% of the cases said moderate and 44.4 of controls said moderate, and 25.9 % rate cases quality of life good and 32.8 of controls said good, that's means about 70% of cases accepting their quality of life in presence of hypertension, Rate quality of life in controls is better than cases .

When the researcher asked the subjects to rate their satisfaction with health on the scale from very dissatisfied to very satisfied, according to the table, 42% of cases were satisfied and very satisfied and more than 50% of controls were satisfied and very satisfied

Recommendations

If you feel with any of these signs and symptoms which include: Headaches ,being tired all the time ,blurred vision ,nosebleeds ,ringing in the ears,chest pain-irregular heartbeat and feeling of confusion, You must go to you doctor immediately because all of these signs and symptoms for hypertension .

To determine and avoid as possible the risk factors for high blood pressure which are within control and have effects on the quality of life for hypertensives :

1-Aviod overweight or obese. more weight, need more blood to supply oxygen and nutrients to your tissues. As the volume of blood circulated through your blood vessels increases, so does the pressure on your artery walls .

2- Who are inactive have higher heart rates. So the heart must work harder with each contraction and the stronger the force on your arteries. Lack of physical activity also increases the risk of being overweight.

3- Avoid smoking because smoking tobacco immediately raise blood pressure , Also the chemicals in tobacco can damage the lining of your artery walls. This can cause your arteries to narrow, increasing your blood pressure.

4- Avoid too much salt (sodium) in diet. can cause the body to retain fluid, which increases blood pressure

5- Avoid too little Potassium, Calcium and Magnesium in diet. which helps balance the amount of sodium in the cells.

6- Some researchers think vitamin D may affect an enzyme produced by your kidneys that affects your blood pressure. More studies are necessary to determine vitamin D's role in blood pressure.

7- High levels of stress can lead to a temporary, but dramatic, increase in blood pressure. And when try to relax by eating more or using tobacco, may increase problems with high blood pressure.

8- Certain chronic conditions. also may increase your risk of high blood pressure, including high cholesterol, diabetes, kidney disease and sleep apnea. Sometimes pregnancy contributes to high blood pressure.

9- Patient education, family counseling, and social support networks through specialized associations.

10- If you have in your family who complain from hypertension you must take care .

For future researches:

1- Lifestyle for hypertensive patients.

2- Family History in hypertensive patients.

3-Signs and symptoms of hypertension affect on quality of life .

4-The role of society in improvement quality of life .

5-Case Control study in QOL of HTN within complete matching between case and control .

References

References:

Anderson RB, Hollenberg NK and Williams GH (1999), "Physical Symptoms Distress Index: a sensitive tool to evaluate the impact of pharmacological agents on quality of life", Commensa Inc, Arlington, Mass 02176, USA.

Appel LJ (2000),"The role of diet in the prevention and treatment of hypertension", Curr Atheroscler Rep. 2000 Nov;2(6):521-8.

Bernhard T. Baune , Yousef I. Aljeesh, and Ina Adrian.(2005), Predictors of Quality of life among hypertensive patients with and without stroke. Journal of The Islamic University of Gaza (Natural Sciences Series) Vol.13, No.2, P91-107 ,2005 Islamic University, Gaza, Palestinian Authority.

Beilin LJ (1999), "Lifestyle and hypertension-an overview", University Department of Medicine, and West Australian Heart Research Institute, Royal Perth Hospital.

Berg A, Kloock B, and König D (2006), "Dietary modification in hypertensives", Medizinische Klinik, Abt. für Rehabilitative und Präventive, Sportmedizin, Universitätsklinikum Freiburg.

Beyer FR, Dickinson HO, Nicolson DJ, Ford GA and Mason J (2006), "Combined calcium, magnesium and potassium supplementation for the management of primary hypertension in adults", University of Newcastle, Centre for Health Services Research, 21 Claremont Place, Newcastle upon Tyne,Tyne & Wear, UK NE2 4AA.

Coyne KS, Davis D, Frech F and Hill MN (2002), "Health-related quality of life in patients treated for hypertension: a review of the literature from 1990 to 2000", MEDTAP International, Inc, Bethesda, Maryland 20814, USA.

Croog SH, Kong BW, Levine S, Weir MR, Baume RM and Saunders E (1990), "Hypertensive black men and women. Quality of life and effects of antihypertensive medications. Black Hypertension Quality of Life Multicenter Trial Group", Department of

Behavioral Sciences and Community Health, University of Connecticut Health Center, Farmington 06032.

David Griffiths ,John Morga and Kimberley (1996) Edwards Replacement with the Carpentier Aortic and mitral valve. Murakam,indt.oxfordjournals.org/cgi/content/short/24/2/400

Degli Esposti E, Di Martino M, Sturani A, Russo P, Dradi C, Falcinelli S and Buda S (2004), "Risk factors for uncontrolled hypertension in Italy", Clinical Effectiveness Unit, AUSL Ravenna, Italy.

Dickinson HO, Campbell F, Beyer FR, Nicolson DJ, Cook JV, Ford GA and Mason JM (2008), "Relaxation therapies for the management of primary hypertension in adults", University of Newcastle, Institute of Health and Society, 21 Claremont Place, Newcastle upon Tyne, Tyne & Wear, UK, NE2 4AA.

Dickinson HO, Mason JM, Nicolson DJ, Campbell F, Beyer FR, Cook JV, Williams B and Ford GA (2006), "Lifestyle interventions to reduce raised blood pressure: a systematic review of randomized controlled trials", University of Newcastle upon Tyne, Centre for Health Services Research, Newcastle upon Tyne, UK

.

Dickinson HO, Mason JM, Nicolson DJ, Campbell F, Beyer FR, Cook JV, Williams B and Ford GA (2006), "Lifestyle interventions to reduce raised blood pressure: a systematic review of randomized controlled trials", University of Newcastle upon Tyne, Centre for Health Services Research, Newcastle upon Tyne, UK.

Dennis , Raphael, Clift , Bygren and Hancox,(1996) , Quality of life. Journal of Advanced Nursing, Vol. 18, No. 1, p. 32 Scotland, www.scotland.gov.uk/Publications/2006/01/13

Elmer PJ, Obarzanek E, Vollmer WM, Simons-Morton D, Stevens VJ, Young DR, Lin PH, Champagne C, Harsha DW, Svetkey LP, Ard J, Brantley PJ, Proschan MA, Erlinger TP, Appel LJ and PREMIER Collaborative Research Group (2006), "Effects of comprehensive lifestyle modification on diet, weight, physical fitness, and blood pressure control: 18-

month results of a randomized trial", Kaiser Permanente Northwest, Portland, Oregon 97227, USA

Erickson SR, Williams BC and Gruppen LD (2004), "Relationship between symptoms and health-related quality of life in patients treated for hypertension", Department of Clinical Sciences, College of Pharmacy, University of Michigan, Ann Arbor 48109-1065, USA.
Erickson SR, Williams BC and Gruppen LD (2001), "Perceived symptoms and health-related quality of life reported by uncomplicated hypertensive patients compared to normal controls", University of Michigan, College of Pharmacy, 428 Church Street, Ann Arbor, MI 48109-1065, USA..

Fagard RH (2006), "Exercise is good for your blood pressure: effects of endurance training and resistance training", Hypertension and Cardiovascular Rehabilitation Unit, Department of Cardiovascular Diseases, Faculty of Medicine, University of Leuven, KU Leuven, Leuven, Belgium.

Fagard RH (2005), "Effects of exercise, diet and their combination on blood pressure", Journal of Human Hypertension, 19, S20–S24, Department of Molecular and Cardiovascular Research, Hypertension and Cardiovascular Rehabilitation Unit, Faculty of Medicine, University of Leuven, KU Leuven, Leuven, Belgium.

Fagard RH and Cornelissen VA (2007), "Effect of exercise on blood pressure control in hypertensive patients", Hypertension and Cardiovascular Rehabilitation Unit, Department of Cardiovascular Diseases, Faculty of Medicine, University of Leuven, K.U. Leuven, Leuven, Belgium.

Fayers P and Machin D (2007), "Quality of Life: The assessment, analysis and interpretation of patient-reported outcomes", 2nd Ed, John Wiley & Sons Ltd, The Atrium, Southern Gate, Chichester, England.

Federal Bureau of Prisons - Clinical Practice Guidelines Hypertension June, (2004)
.

Ftekhar Quasem and others (2001), "Prevalence, awareness, treatment and controlof hypertension among the elderly in Bangladesh and India: a multicentre study", Bulletin of the World Health Organization the World Health Organization, Ref. No. 00-0990

Gaining health The European Strategy for the Prevention and Control of Non communicable Diseases WHO Regional Office for Europe (2008)

Geleijnse JM and Grobbee DE (2003), "Nutrition and health—hypertension", Wageningen Universiteit, afd. Humane Voeding en Epidemiologie, Postbus 8129, 6700 EV Wageningen.

Geleijnse1 JM, Grobbee2 DE and Kok1 FJ (2005), "Impact of dietary and lifestyle factors onthe prevalence of hypertension in Westernpopulations", Journal of Human Hypertension, 19, S1–S4, Division of Human Nutrition, Wageningen University, Wageningen, The Netherlands; 2Julius Center for Health Sciences and Primary Care, University Medical Center Utrecht, Utrecht, The Netherlands.

Grynberg A (2005), "Hypertension prevention: from nutrients to (fortified) foods to dietary patterns. Focus on fatty acids", Journal of Human Hypertension, 19, S25–S33,France.

Hayes DK, Denny CH, Keenan NL, Croft JB and Greenlund KJ. (2008), "Health-related quality of life and hypertension status, awareness, treatment, and control: National Health and Nutrition Examination Survey, 2001—2004", Centers for Disease Control & Prevention, National Center for Chronic Disease & Health Promotion, Division for Heart Disease & Stroke Prevention, Atlanta, Georgia 30341, USA.

Hollenberg NK, Williams GH and Anderson R. (2000), "Medical therapy, symptoms, and the distress the cause: relation to quality of life in patients with angina pectoris and/or hypertension", Department of Medicine, Brigham and Women's Hospital and Harvard Medical School, Boston, Mass 02115, USA.

Hypertension Control Report of a WHO Expert Committee Technical Report Series, No 862 (1996)

Israili ZH, Hernández-Hernández R and Valasco M (2007), "The future of antihypertensive treatment", Department of Medicine, Emory University School of Medicine, Atlanta, GA 30303, USA.

Josiane Lima de GusmãoI,II; Decio Mion Jr.I and Angela Maria Geraldo PierinII (2009), "Health-related quality of life and blood pressure control in hypertensive patients with and without complications", School of Nursing, Universidade de São Paulo - São Paulo/SP, Brazil. .

Karppanen H, Karppanen P and Mervaala E (2005), "Why and how to implement sodium, potassium, calcium, and magnesium changes in food items and diets?", Journal of Human Hypertension, 19, S10–S19, Institute of Biomedicine, Pharmacology, University of Helsinki, Helsinki, Finland.

Kearney PM et al. (2005) Global burden of hypertension: analysis of worldwide data. Lancet Jan 15–21; 365 (9455): 217.

Khan NA, Hemmelgarn B, Herman RJ, Bell CM, Mahon JL, Leiter LA, Rabkin SW, Hill MD, Padwal R, Touyz RM, Larochelle P, Feldman RD, Schiffrin EL, Campbell NR, Moe G, Prasad R, Arnold MO, Campbell TS, Milot A, Stone JA, Jones C, Ogilvie RI, Hamet P, Fodor G, Carruthers G, Burns KD, Ruzicka M, DeChamplain J, Pylypchuk G, Petrella R, Boulanger JM, Trudeau L, Hegele RA, Woo V, McFarlane P, Vallée M, Howlett J, Bacon SL, Lindsay P, Gilbert RE, Lewanczuk RZ, Tobe S and Canadian Hypertension Education Program (2009), " The 2009 Canadian Hypertension Education Program recommendations for the management of hypertension: Part 2-therapy" Division of General Internal Medicine, University of British Columbia, Vancouver, BC, Canada.

Kim SH, Kim YD, Lim DS, Yoon MH, Ahn YK, On YK, Lee JW, Kim IJ, Park JB, Kim JJ, Chung WS, Yang JY, Seo HS, Shin EK, Kim HS and Korean Multicenter Amlodipine Study Investigators (2007), "Results of a phase III, 8-week, multicenter, prospective, randomized, double-blind, parallel-group clinical trial to assess the effects of amlodipine camsylate versus amlodipine besylate in Korean adults with mild to moderate hypertension", Cardiovascular Laboratory and Clinical Research Center, Division of

Cardiology, Department of Internal Medicine, Seoul National University College of Medicine, Chongno-gu, Seoul, ROC.

Kong BW, Bean JA and Stephens D (1995), "Assessment of the Vital Signs Quality of Life Questionnaire in three studies on hypertension", Department of Epidemiology and Public Health, University of Miami, FL 33101, USA.

Kusek JW, Lee JY, Smith DE, Milligan S, Faulkner M, Cornell CE, Kopple JD and Greene PG. (1996), "Effect of blood pressure control and antihypertensive drug regimen on quality of life: the African American Study of Kidney Disease and Hypertension (AASK) Pilot Study", NIDDK, NIH, Bethesda, MD 20892-6600, USA.

Laurent S, Consoli S, Girerd X, Thomas D, Amouyel P, Levy A and Pouchain D (2003), "Causes of uncontrolled hypertension. DUO-HTA survey", Service de pharmacologie, Inserm EMI 0107, Hôpital Européen Georges-Pompidou..

Lin PH, Appel LJ, Funk K, Craddick S, Chen C, Elmer P, McBurnie MA and Champagne C. (2007), "The PREMIER intervention helps participants follow the Dietary Approaches to Stop Hypertension dietary pattern and the current Dietary Reference Intakes recommendations", Department of Medicine, Duke University Medical Center, Durham, NC 27710, USA..

Madsen LB, Kirkegaard P and Pedersen EB (2008), "Health-related quality of life (SF-36) during telemonitoring of home blood pressure in hypertensive patients: a randomized, controlled study", Department of Medical Research, Holstebro Hospital and Aarhus University, Denmark.

Manuel and Schultz,(2004), Specific diseases and risk factors Inputs global scores Mean Quality of life health related. Schultz www.iariw.org/papers/2008/wolfson

Marcia A. Testa, Richard B. Anderson, Johanna F. Nackley, Norman K. Hollenberg and the Quality-of-Life Hypertension Study Group (1993), "Quality of Life and Antihypertensive Therapy in Men - A Comparison of Captopril with Enalapril", April, Volume 328:907-913, No. 13.

Marianne A.B. van der Sande, Gijs E.L. Walraven, Paul J.M. Milligan, Winston A.S. Banya, Sana M. Ceesay, Ousman A. Nyan, and Keith P.W.J. McAdam (2001), "Family history: an opportunity for early interventions and improved control of hypertension, obesity and diabetes", Bulletin of the World Health Organization, 79: 321–328.

Mena-Martin FJ, Martin-Escudero JC, Simal-Blanco F, Carretero-Ares JL, Arzua-Mouronte D and Herreros-Fernandez V (2003), "Health-related quality of life of subjects with known and unknown hypertension: results from the population-based Hortega study", Department of Internal Medicine, Rio Hortega University Hospital,Valladolid, Spain.

MOH, ministry of Palestinian health annual reports (2003,2004.2005).

Ogunlana MO, Adedokun B, Dairo MD and Odunaiya NA (2009), "Profile and predictor of health-related quality of life among hypertensive patients in south-western Nigeria", Department of Epidemiology and Medical Statistics, Faculty of Public Health, College of Medicine, University of Ibadan, Oyo State, Nigeria.

Palmer AJ, Fletcher AE, Rudge PJ, Andrews CD, Callaghan TS and Bulpitt CJ. Palmer AJ Fletcher AE, Rudge PJ, Andrews CD, Callaghan TS and Bulpitt CJ (1992). " Quality of life in hypertensives treated with atenolol or captopril: a double-blind crossover trial", Department of Medicine, Royal Postgraduate Medical School, London, UK.

PCBS,(2006) Demographic and Socioeconomic Status of the Palestinian .

Pullen (2004) Irbesartan Improves Quality Of Life In Hypertensives webmaster@pslgroup.com 22|6|2008

Renwick, (2002) Quality of life, www.absolutearts.com/artsnews 15|7|2009

Rodríguez Martín C, Castaño Sánchez C, García Ortiz L, Recio Rodríguez JI, Castaño Sánchez Y and Gómez Marcos MA (2009), "Effycacy of an educational intervention group on changes in lifestyles in hypertensive patients in primary care: a randomized clinical trial", Unidad de Investigación, Centro de salud La Alamedilla, Salamanca.

Reuters,(2005). The Health News New YORK

.

Schmidt AC, Bramlage P, Limberg R and Kreutz R, "Quality of life in hypertension management using olmesartan in primary care", Charité - Universitätsmedizin Berlin, Department of Clinical Pharmacology and Toxicology, CharitéCentrum für Therapieforschung, Charitéplatz 1, D-10117 Berlin, Germany.

Schoenberger JA, Croog SH, Sudilovsky A, Levine S and Baume RM (1990), "Self-reported side effects from antihypertensive drugs. A clinical trial. Quality of Life Research Group", Rush-Presbyterian-St. Luke's Medical Center, Chicago, Illinois 60612.

Stein JD, Brown GC, Brown MM, Sharma S, Hollands H and Stein HD, "The quality of life of patients with hypertension", Center for Evidence-Based Health Care Economics, Flourtown, PA 19031, USA.

Steiner SS, Friedhoff AJ, Wilson BL, Wecker JR and Santo JP (1990), "Antihypertensive therapy and quality of life: a comparison of atenolol, captopril, enalapril and propranolol", Clinical Technologies Associates, Inc., Mt. Kisco, New York 10523.

Steven R. Erickson, Brent C. Williams and Larry D. Gruppen (2004), "Relationship Between Symptoms and Health-Related Quality of Life in Patients Treated for Hypertension", NAMENDA.

Testa MA, Anderson RB, Nackley JF and Hollenberg NK (1993), "Quality of life and antihypertensive therapy in men. A comparison of captopril with enalapril. The Quality-of-Life Hypertension Study Group", Department of Biostatistics, Harvard School of Public Health, Boston, MA 02115.

Testa MA, Anderson RB, Nackley JF and Hollenberg NK. (1993), "Therapy in men. A comparison of captopril with enalapril. The Quality-of-Life Hypertension Study Group", Department of Biostatistics, Harvard School of Public Health, Boston, MA 02115.

Valensi P (2005), "Hypertension, single sugars and fatty acids", Journal of Human Hypertension, 19, S5–S9, Laboratory of Nutrition, Metabolic Diseases and Cardiovascular Prevention, Paris-Nord University, and Jean Verdier Hospital, AP-HP, Bondy, France.

Wang J, Kang D and Hong Q (1999), "Health-related quality of life in hypertensive patients", Department of Clinical Epidemiology, First University Hospital, West-China University of Medical Sciences, Chengdu 610041, China.

Youssef RM, Moubarak II and Kamel MI (2005), "Factors affecting the quality of life of hypertensive patients", Department of Community Medicine, Faculty of Medicine, University of Alexandria, Alexandria, Egypt.

.

ANNEXES

Consent Form

الأخ الكريم | الأخت الكريمة .....السلام عليكم ورحمة الله:

نهديكم تحياتنا ونتمنى أن تتفضلوا علينا بجزء من وقتكم الغالي شاكرين لكم كرمكم وحسن تعاونكم مع تمنياتنا لكم بدوام العافية.

نحن بصدد إجراء دراسة بعنوان (جودة الحياة لمرضى الضغط) ,ولأهمية هذا الموضوع فإننا نبذل جهوداً لدراسته وذلك للعمل على تحسين ظروفهم .

فأنت أفضل من يجيب على هذه الاستبانة التي صممت بعناية وذلك حتى لا نأخذ من وقتك الكثير وستحظى إجاباتك بسرية تامة ولن تستخدم إلا لأغراض البحث العلمي.

وكل ما نرجوه التكرم بإمعان قراءة الأسئلة والإجابة عليها بدقة حسب ما يناسبك لما لذلك من أثر كبير في نتائج الدراسة.

شكراً لتعاونكم .

الباحث :تامر وجيه يونس

استمارة الوضع الاقتصادي الاجتماعي الصحي للمريض

أمام ما يناسبك Xمن فضلك، ضع إشارة

العمر:	الجنس : ☐ ذكر .	☐ أنثى .	
الحالة الاجتماعية: ☐ أعزب/ آنسة	☐ متزوج/ة .	عدد أفراد الأسرة :	
المؤهل العلمي:	☐ المهنة.	☐ يعمل.	☐ لا يعمل.
مصدر الدخل الشهري:	☐ عملك.	☐ عمل غيرك من أفراد الأسرة.	☐ مؤسسات اجتماعية.
مقدار الدخل الشهري:	☐ أقل من 1500 شيكل	☐ من 1500 - 2500 شيكل	☐ أكثر من 2500 شيكل
مكان التشخيص:	تاريخ التشخيص:	العمر عند التشخيص:	
متوسط الضغط: ☐ أقل من 140\90 .	☐ 140\90 -160\100 .	☐ أعلى من160\100.	
مضاعفات المرض:	☐ بدون.	☐ بسيطة .	☐ متعددة أو شديدة.
نوع العلاج:	☐ دوائي.	☐ غير دوائي .	☐ كلاهما .

م.	السؤال	الاستجابة	
		نعم	لا
1.	هل تأخذ العلاج بانتظام؟		
2.	هل يعاني أحد أقاربك من المرض؟		
3.	هل لديك معلومات عن المرض؟		
4.	هل تمارس أي نوع من الرياضة؟		
5.	هل أنت مُدخن؟		
6.	هل تعاني من السمنة أو زيادة الوزن ؟		
7.	هل تعتقد أن أسلوب حياتك كان سبب بارتفاع ضغط الدم لديك ؟		
8.	هل دخلت المستشفى بسبب ارتفاع ضغط الدم خلال العام الأخير؟		
9.	هل لأعراض المرض أو مضاعفاته تأثير على جودة حياتك؟		
10.	هل لطريقة العلاج تأثير على جودة حياتك؟		

في هذه الورقة نقوم بتقييم مستوى معيشتك "جودة حياتك" وصحتك ومجالات أخرى من حياتك.

على ما Xمن فضلك، اقرأ كل سؤال بتمعن وتذكر كيف شعرت خلال الأسبوعين الماضيين ثم ضع علامة

يناسبك

م.	قبل أسبوعين من الآن	سيئ جداً	سيئ	متوسط	جيد	جيد جداً
1	صِف كيف كان مستوى معيشتك (جودة حياتك)					
		غير راضٍ جداً	غير راضي	ليس لي رأي	راض	راضي جداً
2	هل أنت راضي عن حالتك الصحية؟					
	الأسئلة التالية تقوم على أشياء محددة عايشتها قبل أسبوعين	أبداً	قليلاً	متوسط	كثيراً	إلى أقصى حد
3	هل منعتك الآلام(أو أي مشاكل ناجمة عن المرض) من القيام بنشاطاتك اليومية الضرورية؟					
4	هل احتجت إلى علاج طبي حتى تمارس حياتك اليومية؟					
5	هل كنت قادراً على التمتع بالحياة؟					
6	هل تعتبر أن حياتك كان ذات معنى (هل أحسست أنك عايش) ؟					
7	هل كنت قادراً على العمل بتركيز؟					
8	هل كنت تشعر بالأمان خلال حياتك اليومية؟					
9	هل تعتقد أن الظروف البيئية في منطقتك السكنية كانت صحية؟					

والأسئلة التالية تقوم على أشياء محددة عايشتها في خلال الأسبوعين الماضيين أو كنت قادراً على أدائها

م.	خلال الأسبوعين الماضيين	أبداً	قليلاً	جزئياً	غالباً	بشكل كامل
10	هل كان لديك طاقة كافية لمواصلة الحياة اليومية؟					
11	هل كنت راضي عن مظهرك؟					
12	هل كان لديك نقود كافيه لإشباع حاجاتك؟					
13	هل كانت لديك المعلومات الكافية التي تحتاج إليها في حياتك اليومية؟					
14	هل كنت راضياً عن نشاطاتك الترفيهية؟					
		سيئ جداً	سيئ	متوسط	جيد	جيد جداً
15	هل كنت تتحرك أو تمشي بطريقة مناسبة؟					

والأسئلة التالية تقوم على مدى السعادة والرضا والجودة بالنسبة لأشياء قمت بها في خلال الأسبوعين الماضين بالنسبة لمجالات عديدة في حياتك اليومية

م.	قبل أسبوعين من الآن	غير راضٍ جداً	غير راضي	متردد	راضي	راضي جداً
16	هل كنت راضي عن نومك؟					
17	هل تشعر بأنك قادراً على ممارسة حياتك اليومية؟					
18	هل كنت راضي عن لياقتك في العمل؟					
19	هل كنت راضي عن نفسك؟					
20	هل كنت راضي عن علاقاتك الشخصية؟					
21	هل كنت راضي عن حياتك الجنسية؟					
22	هل كنت راضي عن مساندة الأصدقاء لك؟					
23	هل كنت راضي عن ظروفك السكنية؟					
24	هل كنت راضي عن الخدمات الصحية التي تتلقاها؟					
25	هل كنت راضي عن وسائل النقل المتاحة لك؟					

م.	قبل أسبوعين من الآن	أبداً	نادراً	أحياناً	غالباً	دائماً
26	هل كان لديك مشاعر سلبية مثل الحزن واليأس والاكتئاب؟					

ملخص الدراسة

يؤثر مرض ضغط الدم على حوالي بليون إنسان في العالم، مما يزيد من أعداد المرضى وأعداد الوفيات، ويجعله المسبب الخامس للوفاة من أمراض القلب والأوعية الدموية في فلسطين في العام 2004م، ولهذا كان من الضرورة بمكان التعرف على جودة الحياة لهذه الفئة من الناس.

ويمكن تعريف مقياس جودة الحياة بأنه معيار مؤقت يعكس اللحظة التي جرى فيها التقييم. ولقد هدفت هذه الدراسة قياس جودة الحياة لمرضى ضغط الدم المسجلين في عيادات وكالة الغوث في مدينة غزة، حيث كانت الفئة المستهدفة من هذه الدراسة هى مرضى ضغط الدم الذين تزيد أعمارهم عن 20 سنة ومسجلين في عيادات وكالة الغوث في مدينة غزة.

تم استخدام منهج الحالة والحالة الضابطة في هذه الدراسة، حيث تم اختيار 99 حالة مرضية بضغط الدم، و99 حالة ضابطة. ولقد توصلت الدراسة إلى العديد من النتائج وكان من أهمها:

مرض ضغط الدم كان أكثر شيوعاً عند المتزوجين، ومن ثم من لا عمل لهم، وذوي الدخل المنخفض، ومن عمره أكثر من 50 سنة، والنساء، والفئة الأقل تعليماً.

توجد فروق ذات دلالة إحصائية بين متوسطي الحالة والحالة الضابطة في البعد الجسماني، وكانت لصالح الحالة الضابطة، ولا توجد فروق ذات دلالة إحصائية بين متوسطي الحالة والحالة الضابطة في الأبعاد الأخرى.

توجد فروق ذات دلالة إحصائية بين متوسطي الحالة والحالة الضابطة في البعد الجسماني، وكانت لصالح من كان دخلة الشهري ما بين 1500 إلى 2500 شيكل.

توجد فروق ذات دلالة إحصائية بين متوسطات البعد الاجتماعي.

توجد فروق ذات دلالة إحصائية بين متوسطات المجالين النفسي والبيئي.

متوسط جودة الحياة للفئة الضابطة أفضل بقليل من الفئة المريضة، ولكن ذلك غير دال إحصائياً توجد فروق ذات دلالة إحصائية بين متوسط مجموع الأبعاد لذوي التعليم العالي والأقل تعليماً لكلٍ من الحالة والحالة الضابطة، وهي لصالح ذوي التعليم العالي.