Deanship of Graduate studies

Al -Quds University

Prevalence of Depression and/or Anxiety Disorders among Patients with Diabetes and/or Hypertension at UNRWA Health Centers at Gaza Strip

Taysier Awadallah El-Amassie

M. Sc. Thesis

Jerusalem – Palestine

2010/1431

Al -Quds University

School of Public Health

Prevalence of Depression and/or Anxiety among Patients with Diabetes and/or Hypertension at UNRWA Health Centers at Gaza Strip

Prepared by:

Taysier Awadallah El-Amassie

Bachelor Degree of Medicine

Supervisor

Dr. Abdel Aziz Mousa Thabet, MD, PhD

Associate Professor of Psychiatry

School of Public Health

A thesis Submitted in Partial Fulfillment of requirement for the Master degree of Community Mental Health

At the School of Public Health – Gaza

Al-Quds University- Palestine

2010/1431

Al Quds University
Deanship of Graduate Studies
Master of Public Health

Thesis Approval

Prevalence of Depression and/or Anxiety Disorders among Patients with Diabetes and/or hypertension at UNRWA Health Centers at Gaza Strip

Prepared By: Taysier Awadallah El-Amassie

Registration No.: 20714208

Supervisor: Dr Abed - El Aziz Mousa Thabet

Master thesis submitted and accepted, Date: June, 19th 2010.
The names and signatures of the examining committee members are as follows:

1-Head of Committee: Dr Bassam Abu Hamad Signature .....

2-Internal Examiner: Dr Mohamed Ulayan Signature .....

3-External Examiner: Dr Ahmed Abu Tawahina Signature .....

Jerusalem- Palestine

2010/1431

بِسْم ٱللهِ ٱلرَّحْمَـنِ ٱلرَّحِيـم

ِ" اقرأ باسم ربك الذي خلق، خلق الإنسان من علق، اقرأ

وربك الأكرم، الذي علم بالقلم علم الإنسان ما لم يعلم. "

صَدَقَ اللهُ الْعَظِيمُ

سورة العلق (اي 1-5)

Dedication

To the knight's soul who
urged my mind towards
awareness and broad-
mindedness

To the soul of my cousin Ali
who motivated me to read.

To my beloved father's soul,
who inculcated the love of
knowledge

in me.

Declaration

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

Signed:

Taysier Awadallah El-Amassie

Date: Saturday, August 07, 2010

Acknowledgements

I am grateful to school of Public Health, Al-Quds University for giving me the opportunity, to study master degree in community mental health.

I would like to express my sincere gratitude to my respected teacher and my academic supervisor, Dr.Abdel. Aziz Thabet**,** Associated professor of psychiatry**,** AL Quds University, for his guidance, supervision, and encouragement in carrying out this research. He had been a source of inspiration, I am highly indebted to him for his advice and guidance .

Deep thanks and acknowledgements to all my teachers in the school of public health. Dr Yehia Abed Dr Ahmad Abu Tawahina,Dr. Bassam Hamed, Dr Fadel Abu Hein, Dr .Mohammad El Hlou **,** who gave support and guidance.

I would like to acknowledge Dr. Mohamed Maqadma the CFHP, Dr. Amna El Shurabasy the DCFHP, Dr. Ali El-Jeish the FDCO for their assistance.

Deep thanks to my colleagues who gave me helpful support during the study period.

A great thanks and appreciation to my wife for her sacrifice and patience during the difficult times of the study.

Finally, I would like to express my sincere thanks and appreciation to the hidden hands who assisted me throughout the study period , this study would not have been done without their support.

Researcher:

Taysier El-Amassie

Abstract

Aims: The aim of this study was, to determine the prevalence of depression and/or anxiety disorders among patients with diabetes and /or hypertension, attending the UNRWA health centers at Gaza Strip.

Method: The study sample consisted of 400 patients, selected from five health centers, 80 subjects from each center, selected randomly, every tenth patient was selected. The subjects were tested using; sociodemographic scale, Beck's Inventory depression scale, and Taylor's Manifest anxiety scale.

Results: Three hundred and eighty eight patients responded, the response rate was (97.0%), 62.6% were females, and 37.4% were males. The study showed that 44.3 % had diabetes, 28.1% had hypertension, and 27.6% had both diseases. The study showed that, anxiety rate was51.3% and depression rate was 48.1%. The study showed that, 44.2% of diabetics had depression and 45.4% of hypertensive patients had depression, 49.3% of diabetics had anxiety while 45.1% of hypertensive had anxiety. The study showed that among patients with visual problems, 11.6% with severe depression, and among patients with amputation of the limps, 25.0% had severe depression. The study showed that, those with visual problems, 6.1% with severe anxiety , and with amputated limps 25.0% with severe anxiety, the figures related to other complications were statistically not significant. The study showed that patients with uncontrolled hypertension reported 20.2% with severe depression, patients with uncontrolled hypertension reported 5.0% with severe anxiety.

The results showed that, depression among females was 52.1%, and among males 43.1% and anxiety was 54.3% among females and 46.2% among males. The results showed that 29.0% of the 5th age group had severe depression, and 62.8% had anxiety. Depression and anxiety among who live in villages, where 52.8% had depression, and 26.0% had severe depression, and 59.8 % had anxiety. 53.9% of unemployed had depression, and 56.6% had anxiety, 56.6% with income less than 250$/month had depression, and 59.0% had anxiety. 91.5% of illiterate had depression, and 85.7% had anxiety. 36.0% of the widowed had severe depression, and 12.1% with sever anxiety. The study showed, who live in nuclear families 54.4% had depression and 54.8% had anxiety.

Conclusion: Both diabetes and hypertension were an important contributor to the presence of depression and anxiety, their contribution increased with the uncontrollability of either of them, and with the development of their complications, additional risk factors were female, unemployment, poverty, low educational level, live in a village, live in a nuclear family, and being widow.

Table of Contents

Abstract

Aims: The aim of this study was, to determine the prevalence of depression and/or anxiety disorders among patients with diabetes and /or hypertension, attending the UNRWA health centers at Gaza Strip.

Method: The study sample consisted of 400 patients, selected from five health centers, 80 subjects from each center, selected randomly, every tenth patient was selected. The subjects were tested using; sociodemographic scale, depression scale (Beck's depression scale), and anxiety scale (Taylor's anxiety scale).

Results: Three hundred and eighty eight patients responded, the response rate was (97.0%), 62.6% were females, and 37.4% were males. The study showed that 44.3 % had diabetes, 28.1% had hypertension, and 27.6% had both diseases. The study showed that, anxiety rate was51.3% and depression rate was 48.1%. The study showed that, 44.2% of diabetics had depression and 45.4% of hypertensive patients had depression, 49.3% of diabetics had anxiety while 45.1% of hypertensive had anxiety. The study showed that among patients with visual problems, 11.6% with severe depression, and among patients with amputation of the limps, 25.0% had severe depression. The study showed that, those with visual problems, 6.1% with severe anxiety, and with amputated limps 25.0% with severe anxiety, the figures related to other complications were statistically not significant. The study showed that patients with uncontrolled hypertension reported 20.2% with severe depression, patients with uncontrolled hypertension reported 5.0% with severe anxiety.

The results showed that, depression among females was 52.1%, and among males 43.1% and anxiety was 54.3% among females and 46.2% among males. The results showed that 29.0% of the 5th age group had severe depression, and 62.8% had anxiety. Depression and anxiety among who live in villages, where 52.8% had depression, and 26.0% had sever depression, and 59.8 % had anxiety. 53.9% of unemployed had depression, and 56.6% had anxiety, 56.6% with income less than 250$/month had depression, and 59.0% had anxiety. 91.5% of illiterate had depression, and 85.7% had anxiety. 36.0% of the widowed had sever depression, and 12.1% with sever anxiety. The study showed, who live in nuclear families 54.4% had depression and 54.8% had anxiety.

Conclusion: Both diabetes and hypertension were an important contributor to the presence of depression and anxiety, their contribution increased with the uncontrollability of either of them, and with the development of their complications, additional risk factors were female, unemployment, poverty, low educational level, live in a village, live in a nuclear family, and being widow.

Chapter 1

Introduction

1.1Background

Prevalence of depression among Primary healthcare patient's about 10% (Kaplan and Sadock 1996) ,at least one out of four people worldwide, will suffer from depression, at some stage of their lives (Moussaoui, D.,2008), the impact of mental disorders is diverse, e.g. depression includes all aspects of the individual, emotional, motivational, occupational, cognitive, social, and somatic, complaints and difficulties, in spite of that; the knowledge of the mental disorders is scarce, and even among some of who knows the stigma is manifest(Afana,A.,2002).

The mental health services are not facing the needs of the Gazian people, where at the governmental sector there are only eight community mental health centers, while no one at the UNRWA health services that reflects the marginalization of the mental health services, which is reflected at the knowledge of the health staff and so the possibility of diagnosing mental disorders is minimal (Afana, A., 2002).

Patients with either diabetes and/or hypertension form one of the main group of patients attending the UNRWA primary health care centers, in term of the number of patients, costs of their management hoping to control the condition, in order to prevent the development of early and in turn late complications, both diseases are psychologically based or the psychological factors play an important role in their development (Taylor,S.E., 1995), both diseases carry with them to the patient a great deal of stress, from the view that a lot of changes are supposed to be carried out by the patient at the level of emotions ,cognition, and behavior in order to help in controlling the chronic disease , but at the same time a lot of patients are expecting the hazardous effects of both diseases.

Diabetes mellitus and arterial hypertension with their hazardous and fatal complications, specifically cardiovascular complications, forms the main threat to human beings, where 30% of deaths globally are due to cardiovascular causes, the major cause of cardiovascular complications is either diabetes and or hypertension (UNRWA,2008), globally one billion of adult population have hypertension and 246 million have diabetes (UNRWA,2007),the prevalence of both diseases is increasing worldwide, our community is not unique, it shows

the same trends as the world, e.g. the No. of files opened for patients with Diabetes and/or hypertension is increasing from year to year

The management of both diseases is life long, once diagnosed which necessitates life style modification, adherence to drugs, recurrent investigations, and recurrent evaluation by specialist(cardiologist, ophthalmologist) to detect early complications, besides regular visits to get the required medications ,all of these besides the potential complications are stressful and people under stress are more prone to mental disorders (WHO,2000) that have an important influence on their psychological well being.

The prevalence of mental disorders is increasing all over the world, and patients with either diabetes and/ or hypertension are more liable to develop mental disorders (Han, J.2008), the co morbidity with either of both disorders increase the complications of both of them (Paterniti, S.1999).

The interaction of mental disorders and diabetes and/ or hypertension is bidirectional, where patients with diabetes and/ or hypertension, are at more risk of getting mental disorders and patients with mental disorders are at more risk of getting diabetes and/ or hypertension, where it was found that major depressive disorder in diabetic patients has a longer duration and a higher rate of recurrence (Talbot, F.2000)

The co morbidity of mental disorders with diabetes and/ or hypertension , decrease the possibility of controlling the chronic disease, where they make compliance to medications more difficult, change of life style more difficult, and commitment to scheduled visits less, that in turn increase the possibility of complications of both diseases(Groot,M.2001),and at the same time the development of complications themselves increase the prevalence of mental disorders, where it was found in one study that 1/3 of patients subjected to their first amputation developed major depression(Ismail,K.2007).

Chronic diseases diabetes and/ or hypertension prevalence is increasing ,even now a day's type II diabetes affect children(UNRWA,2007),with their future deterministic dangerous and lethal complications, forms the major challenge to human beings, the interaction of chronic diseases and mental disorders is complex, and bidirectional.

Her at Gaza Strip the situation is unique, where besides the high degree of poverty, unemployment, loss of security, mass loss of hope, continuous incursions and social troubles comes the siege which is continuous for three year, which adds to the previous stressors a severe stressor and at the same time lead to deprivation and deficiency of the basic needs of the whole Gazian population in general, and in particular those with chronic diseases in terms of deficiency of drugs and special needs ,unavailability of specific services needed for who develop early or late complications due to the chronic diseases, all that lead to increase the possibility of the occurrence of mental disorders among the whole the Gazian people in general and among who have chronic diseases in particular, the last destructive war increased all the difficulties and challenges to unprecedented level. Where the number of new patients opening new files for the management of their newly discovered chronic disease/s is increasing, at the same time the knowledge of mental disorders among the staff members at the health centers is scarce, and their attitudes is usually negative, the controllability of these disease/s becomes more difficult, and the patient is the one accused as the cause for being his disease uncontrolled by most if not all the staff members, as being not complying with the orders, where the role of the mental illness in complying with the needed changes in the patient's life, is ignored or is unknown.

This study comes to assess the prevalence of depressive and anxiety disorders among patients with chronic disease/s namely diabetes and/ or hypertension and to share in increasing awareness of mental illness and their role in the prognosis of both diabetes and/ or hypertension.

This study is the first of its kind to investigate the prevalence of depressive and anxiety disorders among patients with diabetes and/ or hypertension.

1.2 Justification of the study

As a general practitioner, working at the UNRWA health centers at Gaza Strip , specifically at the clinics managing diabetes mellitus and arterial hypertension, for the last six years, the researcher have observed, that patients with either or both diseases are more liable to mental disorders, and at the same time using tricyclic anti-depressants though they

increase blood glucose level(Kaplan and Sadock 1996), but through the improvement of the mood of the depressed diabetic lead to better control of the diabetes, without the increase of the dose of the hypoglycemic (Lustman,P.J.,1997).

Different epidemiological studies in diabetics, showed the higher prevalence rate of psychiatric disorders, in particular mood disorders' and anxiety disorders, (Eiber, R., 1997), and that not only with diabetes mellitus but also with hypertension, where it was found that depression and anxiety are higher in patients with hypertension, and at the same time as a risk factor for hypertension, (Han,J., 2008),and if someone had depression early in his life there is about 35% increase risk of developing diabetes mellitus type II, and two fold increase of depression among patients with diabetes mellitus (Ulman,K., 2007).

Gaza Strip people are living under siege for about continuous three years, and after the last destructive war , which renders a lot of the Gazian people deprived of the sense of security, absence of electricity for long times, in general it is a situation where life becomes difficult for the normal population , what about who have a chronic disease ?, known for them that it will lead to major general complications up to death, what about his expectation ?, for the prognosis of his condition, while the needed drugs to manage his condition are not available at the treating centers and he should buy, and even who can buy, some necessary drugs are not available in the market.

This study aims ,to shed the light upon an important category of patients, more liable to mental disorders than the other people, namely depression and anxiety among diabetics and hypertensive patients, this study gave an evidence based data about the burden of the problem, the role of these mental disorders in the control of diabetes and hypertension and in turn, their role in the development of the complications, aiming to increase awareness of mental disorders helping in planning and setting priorities for the management of diabetes and hypertension and in turn decreasing the costs, where most of the costs go for tertiary prevention i.e. Management of complications.

1.3 Problem statement

The development of diabetes and/or hypertension, adds a new continuous stressor to the sufferer, where in the conscious and the unconscious of each patient ,the dangerous catastrophic complications of either or both diseases, the comorbidity with mental illness ,decreases the possibility of control of both diseases and in turn increases the possibility of complications, this study comes, to measure the prevalence of the mental disorders among patients with diabetes and/ or hypertension in order to increase awareness of mental illness, and their role in the prognosis of both diabetes and/ or hypertension.

1.4 Objectives of the study

1.4.1General objective

To determine the prevalence of depressive and/or anxiety disorders among patients with Diabetes Mellitus and/or Arterial Hypertension.

1.4.2Specific objectives

.To estimate the prevalence of depressive and anxiety disorders, in relation to the sociodemographic variables (including, age, gender, educational level, poverty...etc.), among patients with diabetes and/ or hypertension

.To study which patient with diabetes and/ or hypertension at more risk of developing depression and/ or anxiety.

.To examine the relation between depressive and anxiety disorders & diabetes and/ or hypertension in relation to the controllability of diabetes and/or hypertension, compliance to medications, commitment to life style modification, and commitment to scheduled follow up visits**.**

.To verify the relation between depressive and anxiety disorders among patients with diabetes and/ or hypertension and the development of complications of diabetes and/or hypertension**.**

1.5 Research questions

1-Are patients with arterial hypertension more liable to depressive and/or anxiety disorders than patients with diabetes mellitus?

2- Is the control of diabetes and/or hypertension affect to the occurrence of the depression and/or anxiety?

3-Is the co-morbidity with depression and anxiety has an effect at the control of diabetes and/or hypertension?

4-Dose the presence of diabetes and/ or hypertension complications increases the prevalence of depression and anxiety?

5-Who is more liable to mental disorders, female or male?

6-What is the effect of, the marital status, place of residency, employment, and income among patients with diabetes and hypertension at the development of depression and anxiety?

1.6 Demographic context:

Gaza Strip is a small area of Palestine ,it is about 362 square kilometers, with length about 45 kilometers, and width ranging between 6-12 kilometers, it lies between Egypt, Mediterranean sea and the occupied Palestine. Most of the populations are refugees; they are distributed at five cities, eight refugee camps and about eight villages. It is divided into five governorates the North, Gaza, Middle, Khanyounis, and Rafah governorate.

The refugees constitutes about two thirds of the total populations at Gaza Strip, about half of them live at camps, while the rest live at cities and villages of the Strip Gaza Strip is one of the most crowded area of the world, the population density is 3808 inhabitants/km^2, the

poverty is manifest with unemployment, siege, imparkation, where the work chances are minimal, , the poverty levels doubled compared to pre-intifada levels, where 50% are under the poverty line, (UNRWA,2006), increase of unemployment, it's rate is up to 34% (UNRWA,2006), besides poor housing ,poor sanitation, and the most important is the absence of the sense of security, for decades especially the last three decades since the eruption of the 1st intifada at 1987.

1.7 Health services at Gaza Strip

The health services at Gaza Strip as all other fields, is affected by the social, political, and economic situations. Where since the 2nd intifada the whole populations where subjected to collective punishments the suffer of the Gazian people increased since the last elections and the one sided Israeli withdrawal, where the whole Gaza Strip is under imparkation and siege, that leads to deprivation of the resources, specially the medical ones.

The health services are provided by:

1.7.1-Govermental sector: which supply more than50%of the primary health care and most of the secondary and all the tertiary health care.

1.7.2-The nongovernmental sector, shares in providing the primary health care and part of the secondary health care.

1.7.3-The UNRWA health sector, it shares in supplying most of the remaining half of the primary health care, through 18 health centers distributed at the eight refugee camps, each centre presents a lot of services, e.g. Maternal health care, child health care, non communicable disease management clinic, the later is the one responsible for the management of diabetes and hypertension.

1.7.4-The private sector role in the health system is minimal.

The UNRWA health sector is the only one sector providing the services without fees, and due to the exceptional situation at Gaza Strip, the load of patients at the UNRWA health services increased to unprecedented levels.

The mental health services are provided through the same health sectors, at the governmental sector a psychiatric hospital, and eight community mental health centers, and at the UNRWA the psychosocial programme, with psychosocial workers allocated at the different schools and health centers, working to increase the awareness of the population about the mental health and mental illness, managing simple cases through counseling, doing home visits to who is in need, and referring the cases in need, to the governmental sector or to Gaza community mental health programme, which is a non –governmental committee adopting the community mental health notion, having three community mental health centers.

1.8 Definitions

1.8.1 Depression

There are four sets of symptoms in depression, besides the mood or the emotional one there are cognitive or thought symptoms, motivational symptoms, and physical or somatic complaints, (Rosenham, D.L., 1995 and Ainsworth,P.,2008), depression is a total body illness, depressed peopole may experience symptoms in any or all the last four categories, depending on personal charecterstics, severity and type of depression.

Depressed peopole describe their mood as sad, depressed, anxious, or flat,they often report additional feelings, hoplessness, helplessness, worthlessness, pessmism, self reproach. Their self esteem is usually low, and they may feel overwhelmed, restless, or irritable.

Loss of interest in activaties previously enjoyed is common, and is usually accompanished by a diminished ability to feel pleasure even in sexual activity (Rosenham, D.L., 1995 and Ainsworth,P.,2008).

As the illness worsens the cognitive functions of the brain are affected,slowed thinking, difficulty with concentration, memory problems, and problems with decision making becomes manifest.

Those losses lead to frustrations and futher aggrivate the sense of the individual that he is overwhelmed, the sufferer longs for escape, and thoughts of death intrudes (Ainsworth,P.,2008).

The researcher will adopt Beck,s criteria of depression.

1.8.2 Anxiety

Anxiety is a state of expectations of coming harm, with somatic complaints or bodily reactions, both external and internal reactions, and emotional component in the form of, terror ,chills,apprehension, and behavioral component in the form of fight or flight, (Rosenham, D.L., and Seligman, M., 1995).

The researcher will adopt the criteria of Taylor.

1.8.3 Diabetes mellitus

Diabetes Mellitus is a chronic disease, due to relative or absolute deficiency of insulin, characterized by the presence of elevated blood sugar, which lead to osmotic diuresis, leading to polyurea and in turn polydepsia. It is diagnosed if two fasting blood sugar, is 126mg/dl or more, two tests are done within a week.

1.8.4 Arterial Hypertension

It is defined as, systolic blood pressure 140mmhg or higher, and /or diastolic blood pressures 90mmhg or higher, for the diagnosis of hypertension two or more successive readings are needed. Arterial hypertension is a symptomless disease, against the popular belief (UNRWA, 2004).

1.9General review of study chapters

This study consists of five chapters, Chapter one includes, study proposal which includes the introduction, background, research problem, justification, objectives, questions, and Geographical and Demographical background in addition to general presentation to the study chapter. In chapter two, revision of the different studies, and literature related to the topic of

the study and to the different variables. Chapter three includes the design of study, methodology instruments used, the way of analysis of the results. Chapter four includes the results of the study while chapter five includes discussions of the results and recommendations.

Chapter 2

Conceptual Frame Work And

Literature Review

2.1Introduction

Research conducted by the WHO showed that one in four patients in primary health care suffers from mental disorder. The most common of these currently includes depression, anxiety, and alcohol addiction. According to research results from recent years, the incidence of depression ranges from 6% to as high as 12% of the population,(Andrzejewski,W., 2006).

At least one out of four people worldwide will suffer from depression at some stage of their live. This means that some 1.6 billion people are directly concerned by this illness. Also, one woman in five who gives birth is likely to develop depression. Such figures are found in every country in which epidemiological studies have been conducted, and were sometimes higher in developing countries,(Ainsworth,P., 2000, and Mossaoui,D., 2008). It affects people of all social, economic, geographic, age, gender, religious, and occupational groups, (Thompson, M., 2007), more than half of all adults will experience some form of mental illness at some time in their life.

Globally, mental illness ranks second only to cardiovascular disease on the burden of disease scale (Thompson, M., 2007).

Depression has become one of the major problems for all age groups today. There are no age group which is spared from the same. The growing rates of depression cases, in adolescents and even children are on the rise at alarming rates. In the last decade, a number of studies in Tunisia, including the first epidemiological survey in the general population, had characterized the clinical features of depressive disease in this sociocultural context and shown it to be increasing in frequency (Douki, S., 2003). The prevalence of recognized depression in Romanian general practices (diagnosis of depression), was 7.31% in the general population: 11.32% in the female population and 3.21% in the male population. However, the prevalence of symptoms relevant to depression as well as other symptoms that could reveal a masked symptoms relevant to depression (Cristina, I., 2006). Depression today is considered one of the so- called concomitant pathologies in somatic patients for which we have not nearly enough information neither for the diagnosis nor for the management, (Blagova, O., 2006).

Depression is an important concern in family practice because of its high prevalence, the key role played by family physicians in its assessment and management, and its powerful effect on health and medical care (Ridvan, S. 2006). Although depression is one of the more common illnesses in outpatient medicine, it is often overlooked (Ridvan, S., 2006), to overcome this problem it is the role of the primary health workers to diagnose and manage this depilating disease.

Anxiety and depression are the two commonest disorders accounting for 79 % of all psychiatric diagnoses , higher rates of depression (2/3) are found among women, versus anxiety among men, (Lecrubier, 1993). The usual reported rate of depression in primary care in western countries was very high 10-20 %, depending on the criteria used to define the cases (Lecrubier, 1993).

The existence of a continuum rather than two independent categories was supported by the Zurich study, (Lecrubier, 1993) Generalized anxiety disorder, is a common mental disorder with early age onset, chronic course, with high degree of comorbidity with other anxiety disorders and mood disorders, and family studies show distinct aggregation of anxiety and depression(Kessler,RC.,2001). Depression is in fact the more stable diagnosis, whereas anxiety often changes into depression. Even if, traditionally, anxiety and depression are considered as two distinct conditions, everyday clinical practice as well as many studies conducted in the community, in primary care, and in specialized mental health settings had underlined the high prevalence and the importance of their association,(Lépine,J.P., 1994), in the United States, the most serious mental disorders, primarily major depressive disorders, which can occur simultaneously with anxiety disorders and substance abuse, affected approximately 5 percent of adults (almost 10 million) and 9 percent of children (approximately5 million) in any given year (Thompson, M., 2007). A 2005 survey by Harvard Medical School indicated that approximately half the adult population in the United States will at some point in their lives meet the DSM-IV criteria for a mental disorder (Thompson, M., 2007), the NAMI (National Alliance on Mental Illness) ,predicted that major depressive illnesses would be the greatest cause of disability among women and children worldwide by 2020,and the percent of total DALY at 1990(see the definition of

DALY),for cardiovascular diseases was 18.6%,and for mental disorders was 15.4%, (Thompson, M., 2007).

Cardiovascular complications constituted 30% of deaths globally, diabetes and /or hypertension, constituted the major cause of cardiovascular complications, so they form the main threat to human being (UNRWA, 2008), globally one billion of adult population have hypertension and 246 million have diabetes mellitus and by the year 2025, expected to rise to 1.6 billion and 380 million respectively, where for diabetes seven million cases are detected yearly (UNRWA, 2007), the prevalence of both diseases is increasing worldwide, our community is not unique, where it shows the same trends as the world, the prevalence of diabetes at the five fields of UNRWA operations is 10.7% and that for hypertension is 16.4% of the Palestinian refugees attending the UNRWA health centers, for people aged 40 years and above (UNRWA, 2008), the real prevalence of both diseases is believed to be higher, it is clear that the No. Of discovered cases is jumping in the last two years, by the implementation of screening system for both of them, where the whole cases are not discovered and not all refugees presents to the UNRWA health centers, complications of diabetes and/or hypertension are not limited to cardiovascular complications, they affect the eyes, kidneys, legs, feet and the nervous system either the central or the peripheral one.

Epidemiological studies carried out at patients with diabetes, showed high prevalence rates of psychiatric disorders, in particular mood and anxiety disorders (Eiber, R., 1997), and other research proved that patients with depression were more prone to develop diabetes even developing depression once in the patient's life, increased the possibility of developing diabetes by 35% later on (Ulkman, k. 2007). The comorbidity of diabetes with depression made the controllability of it more difficult, (William, A., et al 2008 and Sherita, H., et al, 2008). Where compliance to medications becomes poor in the occurrence of depression comorbidity (Lustman, J.W.1997), anxiety is present in 14% and elevated symptoms in 40% in patients with diabetes who participate in clinical studies, (Grigsby,A., 2002), the presence of anxiety with diabetes and /or hypertension decreased the possibility of control of the disease, where the degree of anxiety, and the change of its state was inversely related to hypertension control (Hildrum,B, B. 2008 and Grigsby, A., 2002). Anxiety used to be a comorbidity with somatic diseases namely, cardiac and hypertension, and as a risk factor for

the development of hypertension (Harter, Mc., 1999), and at the same time the risk of high blood pressure, increased with increase of the anxiety scores, (Paterniti,S. 1999).

Depression is a risk factor for hypertension, and at the same time the controllability of hypertension became more difficult, (Hildrum, B., 2008).

The development of complications either due to diabetes and /or hypertension increase the like hood of the occurrence of mental disorders, where it was found that 1/3 of diabetics who were subjected to their 1st time amputations developed clinical depression, which is associated with increased mortality (Ismail, K., 2007).

As mentioned above it is clear that both physical diseases are highly prevalent, highly dangerous and even their complications are nearly deterministic, especially the cardiovascular complications which forms the 1st disease burden globally and on the other hand the two mental disorders chosen to be studied (their prevalence), are also so common with severe suffer of the patient with them, so it is expected that the comorbidity of patients with diabetes and/or hypertension, with depression and/ or anxiety is going to increase suffering and complications, of both diseases, as depression is the 4th cause of disease burden all over the world now a days, and it is expected to be the 2nd cause of disease burden at 2020 and that is in need for increased attention at all levels , policy makers, courses, workshops, seminars, training courses…etc. All to increase the awareness of the medical staff and the population about mental disorders and their management.

2.2Diabetes Mellitus

2.2.1Definition:

Diabetes Mellitus is a chronic debilitating disease; it is a chronic disease with no known cure, but it is manageable disease. Due to relative or absolute deficiency of insulin, characterized; by the presence of elevated blood sugar, which leads to osmotic diuresis, leading to polyurea and in turn polydipsia.

2.2.2Prevalence and Trends of diabetes mellitus:

The prevalence of diabetes is increasing all over the world, the prevalence of diabetes had been more than doubled in the last ten years in Maine and increases are projected to continue through 2025, according to national estimates, (Harvey, B.M. et al, 2004), other studies showed the increasing prevalence of diabetes to be by 40% since 1980 (Bostro, G., 2006).

The registered cases were 246 million; it is expected to rise to 380 million by the year 2025, where yearly 7 million new cases are discovered, (UNRWA, 2007). The prevalence at Asia and the Middle East is 12-20% (UNRWA,2007), the prevalence at the five fields of UNRWA operations is 8.8%,the prevalence at Gaza Strip among registered Palestinian refugees is 10.9%, (UNRWA,2006),the real prevalence is thought to be higher, being not all refugees present to UNRWA health centers, and high number of cases are not detected, where the number of newly discovered cases is jumping form one year to another, since the implementation of the screening programme two years ago. It was the sixth leading cause of death in 2000 and was associated with healthcare costs of $132 billion at USA, (Egede, L.E., 2005).

There is evidence that diabetes is more prevalent (14%) in the mentally ill than in the general population (6%) (Harvey, B.M. et al, 2004), depression is highly prevalent in people with diabetes. Approximately 30% of people with diabetes have depression, and there is a two-fold odd of having depression among people with diabetes. Multiple studies had shown that coexisting depression in people with diabetes was associated with poorer glycemic control, increased risk of complications, increased healthcare utilization and cost, increased odds of functional disability and lost productive work time (Egede, L.E., 2005), hypertension, coronary artery disease (CAD), chronic arthritis, stroke, chronic obstructive pulmonary disease (COPD), and end-stage renal disease (ESRD) , are highly prevalent in people with diabetes,(Egede, L.E., 2005), these conditions were associated with increased odds of having depression, that may explain the increased odds of having depression in people with diabetes, the prevalence of diabetes differs a cross communities due to different factors ,ethnicity, stressful situations , gender, e.g. It has been well established that African-Americans had an increased prevalence of type 2 diabetes compared with Whites, 10.1 vs.

5.2%, respectively (Groot, M., 2001), both White and African-American women have a 40% greater prevalence rate of type 2 diabetes compared with men, depression may be a factor in the disproportionate prevalence rates of diabetes in African-American women, (Groot, M., 2001).

2.2.3Types of Diabetes Mellitus:

2.2.3.1 Type I: characterized by absolute deficiency of insulin due to autoimmune destruction of Beta -cells in the islets of Langerhans of the pancreas, finally there is a total lack of auto insulin, commonly it occurs in children and adolescents, but it can occur at any age, its prevalence is rising globally by 3% each year (UNRWA, 2007), and patients are in need for insulin replacement for ever, autoimmune, genetic and environmental factors are the etiological factors.

2.2.3.2Type II: The mechanism of diabetes Type II is different from that in Type I, her there is increased resistance to insulin action, in the important tissues namely the muscles and the liver and the body cannot produce enough insulin to overcome the resistance.

Nine out of ten cases of diabetes are type 2, due to relative deficiency of insulin, predisposed to, by obesity, sedentary life style, hereditary, educational level (Bostro,G., 2006) and smoking is considered a risk factor for the development of diabetes (Nakanishi,N., 2000). It is well known that the psychological factors play an important role in the development of diabetes (Taylor, S.E., 1995), and Gazian people are living under severely stressful situations, including, poverty, unemployment, siege, imparkation, and above all; loss of security feelings, these are psychological stressors, and predispose to psychological disorders and at the same time, some psychological disorders are linked with hyperglycemia and with an increased risk for diabetes e.g. Depression (Lustman, P.J., 2005), and people with diabetes have a 20% higher prevalence of anxiety, (Barker,L 2008).

Usually affect adults above the age of forty, but recent data and research proved that it's prevalence is growing among children and adolescents, where in Japan it's prevalence among children and adolescents equals the prevalence of Type I (UNRWA, 2006). The onset of type

II diabetes is far more insidious than many other diseases, and in the absence of hyper-or hypoglycemia, patients with early type II diabetes may be asymptomatic.

2.2.3.3-Gestational Diabetes Mellitus: It is any change of glucose in tolerance during pregnancy and purperium, its incidence is about 2-5% among all pregnancies (UNRWA, 2004).

2.2.4Complications:

2.2.4.1-Acute complications:

A-Hypoglycemia: due to decrease of blood sugar, as manifested by, dizziness, tremors, sweating, and may proceed to stupor, loss of consciousness, and then death. It occurs due to increase of insulin dose; increase the dose of oral hypoglycemic drugs, omission of a meal, or excessive muscular exercise, (UNRWA, 2004).

B-Diabetic ketoacidosis: occurs due to omission of insulin dose, infection, stress, and decrease of physical activity, manifested by vomiting, bradycardia, dehydration, acetone odor, and may proceed to stupor, coma (UNRWA, 2004), usually occurs in patients with type I diabetes mellitus, both of these two acute complications are common, and they are one of the causes of death due to D.M. and have an impact at the adherence to medications, where they are attributed to the medications by the patient and his family members, (Polonsky, W.H., and Jackson,R.A., 2004).

2.2.4.2-Late or complications:

These complications occurs due to macrovascular, and microvascular changes, affecting almost all the blood vessels, so affecting almost all body vital organs,(UNRWA,2004),such complications occur due to poor control of blood sugar for long periods, where it take years to develop, a lot of factors play role in the uncontrollability of diabetes, smoking, obesity, sedentary life, and comorbidity with psychiatric disorders the commonest is depression, depression appears to play an important role in the development and worsening of diabetes, the prevalence rate of depression is twice as high in people with type 1 and type 2 diabetes as in non diabetic controls.

Depression is associated with higher blood sugar levels, poorer adherence, more diabetes related medical complications, higher hospitalization rates, and higher mortality (Sacco, W.P., 2006),depression is also associated with other risk factors, smoking and obesity, smoking is associated with increased insulin resistance and a risk factor for macrovascular complications (Katon,W.,et al, 2004), a higher smoking prevalence was found among patients with depression, which is at the same time high among diabetics, the comorbidity between depression and obesity may worsen the course of diabetes because both factors were associated with increased risk of adverse cardiac outcomes(Katon,W.,et al, 2004).

1-Opthalmic complications: this is the commonest leading cause of blindness in adults between 20-70 years old (UNRWA, 2004), the ophthalmic complications are different including retinopathy, early cataract, and early glaucoma, retinopathy is the commonest microvascular complications the prevalence of visual impairment though decreased at USA to 17.7% at 2005 still high (Deshpande, A. D., 2008).

2-Cardiovascular complications: Ischemic heart disease and stroke due to atherosclerosis, which may lead to thrombosis, myocardial infarction, or stroke all may end by death or incapacitating the patient. More than 65% of adult deaths with diabetes and /or hypertension are due to heart disease or stroke (UNRWA, 2007), and (Deshpande, A. D., 2008).

3-Renal complications: Nephropathy is early diagnosed by the presence of microalbuminuria, i.e. the presence of albumin less than 300mg in 24 hour urine, it may proceed to renal failure, if blood creatinine exceeds 3mg/dl; where the patient becomes in need for dialysis or renal transplantation, diabetes-related nephropathy accounted for 44% of end stage renal failure (Deshpande, A. D., 2008).

4-Neuropathy: It is the commonest complication of diabetes, it means damage to peripheral nerves, it is not a direct cause of death, but a cause of disability and morbidity, it's prevalence is high it affects about 30% to 50% of diabetics, (Deshpande, A. D., 2008). Both the autonomic (sympathetic and parasympathetic) and the somatic nerves are liable to damage, with resultant multiple complaints and complications; from loss of function to disturbed function of the damaged nerves and in turn the function of the related organ.

5- Foot problems: Occurs due to microvascular, macrovascular, and neuropathy complications, the foot complications though not fatal they, incapacitate the patient, they range from disturbed function (Charcot's joint), to amputation, the possibility of the different late complications increases by increase of the duration of the disease, and poor glycemic control during that duration.

2.2.5Management

Both types necessitate lifelong follow up, with life style modifications, muscular exercise, the use of drugs, abstinence of smoking, regular investigations for blood sugar, lipids, cholesterol, renal function tests, and glysolated hemoglobin(Hba1), and urine tests for microalbuminuria, and regular check up of vital organs by specialists, (UNRWA,2004).

2.2.5.1 Type I and gestational diabetes, the drug of choice is insulin, with no role for oral hypoglycemic drugs.

2.2.5.2 Type II oral hypoglycemic drugs are used, either the sulphonylurea group which increase the secretion of insulin from the pancreas, and/or the biguanide group which increases the utilization of glucose by the peripheral tissues (UNRWA,2004).

.In order the case to be considered as controlled, fasting blood sugar should not exceed 140mg/dl, or two hours postprandial <180mg/dl, at least for two successive readings of the last three readings, while for gestational diabetes it post prandial blood sugar should not exceed 130mg/dl, with the presence of depression the control of diabetes became poorer, (Roy, M., 2007).

.The adherence to all of these is difficult, it does not exceed 15% (Taylor, S.E. 1995), a lot of difficulties prevent the adherence one of these difficulties, is compliance to medications, which is low and it is aggravated by the presence of mental disorder, where it was found that, patients with moderate and severe depression are less adherent to dietary recommendations use of oral hypoglycemic drugs, and with poor physical functioning, (Ciechanowski, P.S.,2000).

.The presence of the disease itself is stressful, where most patients know that it is a killer, with a lot of remote complications, and stress may predispose to the disease but surely it aggravates it (Taylor, S.E. 1995), the management of the disease itself is also stressful, where the patient is obliged to go for the treating physician not once or twice but for the rest of his life, and stress itself affects the adherence to all what is needed for the control of the disease, and in turn the prevention of complications (Taylor,S.E.1995).

Diabetes is considered one of the most psychologically demanding of the chronic medical illnesses; where the quality of life is mainly undermined by complications of the disease, good glycaemic control could delay the onset and the progress of complications, where the role of the patient is central, for the management of diabetes the patient is supposed to be an active participant, at all sides from the side of taking the needed medications, at the prescribed doses, at the correct time, that is considered the simplest one; compared to; self-blood glucose monitoring, stopping smoking ,managing body weight, and living an active life , migrating the sedentary life, in both types, but his role is aggravated in type II; where his role may be the sole needed for management of it; if not for ever, but at least for long time, without the need for medications and also still needed with medications, so what is going be the case in case of comorbidity with; depression and death ideation?, or with depression and polyphagia? How is he going to think to decrease weight and he is full with negative ideas about the self as he is a failed one, with hopelessness and helplessness? At the same time what is he going to do with hypercotilosaemia associated with depression, and anxiety (where cortisol works as antidote to insulin)? What is he /she going to do with apprehension and worry continuous most of the time (in case of anxiety)? Almost a third (30%) of the records with a diabetes diagnosis also had a diagnosis of a mental health disorder; the category of mental health diagnoses with the highest frequency was that of affective disorders, which includes depression and anxiety, (Harvey, B.M. et al, 2004).

2.3Arterial Hypertension

2.3.1Definition

.It is defined as a systolic blood pressure 140mmhg or higher, and /or diastolic blood pressure 90mmhg or higher, for the diagnosis of hypertension; two or more successive readings are needed. Arterial hypertension is a symptomless disease, against the popular belief, (UNRWA, 2004), it is estimated by the year 2025, that more than 1.2 billion of the world adult populations, over the age 25 years old will have hypertension, i.e. One of every three adults (UNRWA, 2008), hypertension is the world 1st killer, where it is the biggest single risk factor for coronary heart disease, and stroke (UNRWA, 2008).

2.3.2 Prevalence and Trends of Hypertension:

The global prevalence of hypertension is high it is about 30% of the total adult population, (Brookes, L., 2004), it varies around the world the lowest rate 3.4% was recorded at the Indian men in the rural areas, and the highest rate at Poland 75.5% among the Polish females, (Brookes, L., 2004),at the Mediterranean area it is about 50% of the total adult population, (Brookes, L., 2007),the prevalence increases with age it is about 2% among who are 15 -24 years compared with 45% of who are 55 years old and above, (Brookes, L., 2007), it varies according to the economical levels, in economically developed countries, the prevalence of hypertension is 20% to 50%, In the United States, it had been calculated as 27.1% in men and 30.1% in women, national studies from Latin America have estimated that about one third of the population had hypertension, the studies showed that over the past decade, the prevalence of hypertension had remained stable or decreased in economically developed countries, but increased in economically developing countries (Brookes, L., 2004), the prevalence among the five areas of the UNRWA operations is 16.4% while her at Gaza Strip is 10.6% in people above the age of 40 (UNRWA , 2009), the educational level is also a variable for the prevalence of hypertension were it was found that, with more than 42% of all those ending their education at age 15 years receiving long-term treatment for hypertension, compared with 32% of those who ended their education at age ≥ 20 years.

2.3.3Etiology

In 90% of the cases the cause is unknown, it is called essential or primary hypertension, in less than 10% of the cases a direct cause can be detected that is called secondary hypertension.

2.3.3.1Essential hypertension is related to a lot of interrelated interacting; factors, including, sedentary life style, salt intake, obesity, environmental, smoking, stress, and a genetic factor is implicated (Kumar, P.,1990), the role of psychiatric disorders is not focused, though some research show the linkage not only between the development of hypertension and comorbidity with mental disorders, but also between the uncontrollability, and complications of hypertension, and comorbidity with mental disorders, and vice versa where anxiety is associated with increased risk for high blood pressure (Patereniti,S.1999),and the change of anxiety or depressive state is irreversibly linked with systolic blood pressure(Hildram,B.,86), and it was found in a research that depression and anxiety were higher in patients with hypertension and at the same time as a risk factor for the development of hypertension (Han,J., 2008).

2.3.3.2Secondary hypertension: A small percentage of patients (2-10%) have a secondary cause. The following is a list of secondary causes of hypertension:

1-Renal: constitute 2.5-6% of the secondary causes of hypertension, including the following causes: Renal parenchymal disease, polycystic kidney disease, urinary tract obstruction, rennin- producing tumor, and Liddle syndrome.

2- Renovascular hypertension: constitutes 0.2-4%, of the secondary causes of hypertension, including the following causes: coarctation of aorta, vasculitis and collagen vascular disease.

3-Endocrine: constitutes 1-2% of the secondary causes of hypertension, including the following causes:

4- Oral contraceptives, adrenal; including primary aldosteronism, Cushing syndrome, pheochromocytoma, and congenital adrenal hyperplasia, hyperthyroidism and hypothyroidism, hypocalcaemia, hyperparathyroidism, and acromegaly.

5-Neurogenic: including; brain tumor, bulbar poliomyelitis, intracranial hypertension.

6-Pregnancy induced hypertension.

7-Drugs and toxins: alcohol, cocaine, cyclosporine and erythropoietin, (Sharma, S., 2008).

2.2.4Complications: They include

2.2.4.1Stroke: sixty-two per cent of stroke is attributable to SBP >115mmhg worldwide (Carlene M.M. et al, 2003).

2.2.4.2-Coronary heart disease, forty-nine per cent of ischemic heart disease, is attributable to SBP >115mmhg worldwide (Carlene M.M., et al , 2003), each 10mmhg decrease in usual systolic blood pressure was associated with about a 25% lower risk of ischemic heart disease (Carlene M.M., et al, 2003).

In general however, in most studies the absolute effects of ischemic heart disease tended to be greater because, ischemic heart disease was so much more common than stroke (Carlene M.M., et al ,2003), where each 10mmhg decrease in usual systolic blood pressure was associated with 46% lower risk of hypertension (Carlene M.M., et al, 2003), about two thirds of stroke, one half of ischemic heart disease, and about three quarters of hypertensive disease were attributable to non-optimal blood pressure.

2.2.4.3-Heart failure and myocardial infarction.

2.2.4.4-Renal disease up to end stage renal failure.

2.2.4.5-Peripheral vascular disease.

Hypertension is a risk factor for all of the above mentioned complications, (UNRWA, 1999), cardiovascular complications ,are number one killer all over the world, where they lead to 17.5 million deaths at 2005, representing 30% of all global deathes,7.6 million were due to coronary heart disease and 5.7 million due to stroke (UNRWA,2008). Different risk factors are implicated in the development of hypertension complications, including age,

hereditary, obesity, gender, severity of hypertension, and comorbidity with other physical disease or mental disorder, where in one research it was found that people with mental disorders had impairments in everyday functioning and had greater difficulty following medical regimens, leading to poorer response, moreover people with mental disorders were more likely to smoke and abuse alcohol and drugs, leading to greater risk for medical illnesses and decrease adherence to medical treatment, (Sederer, L., 2006), and in case of comorbidity with anxiety, hypertension complications, increased with increase of anxiety scores (Paterniti, S., 1999), and deaths due to unnatural causes (suicide) and due to natural causes (cardiovascular) increased in the presence of mental disorder (Roy and Byrne, 1998).

2.2.5Management

The goal of antihypertensive therapy is to prevent cardiovascular complications and premature death. High blood pressure is a modifiable risk factor; the higher the blood pressure, the greater the risks for complications, and it is worthwhile to observe that patients with diabetes and/or hypertension, will have somatic complaints which increases, with depression and /or anxiety comorbidity, so addressing the mental disorders, and it's management will decrease the somatic symptoms of the physical illness , even without improving the physiological measures (Katon, W.,2007), where depression has somatic symptoms like fatigue, which may result from the physical disease that lead to a dilemma (Drayer, RA., et al, 2005). Life style modifications including muscular exercise, decrease body weight, smoking cessation and decrease salt intake, all the previous are in need for active participation of the patient, which is not the case in case of comorbidity with mental disorder, where people with mental disorders also have impairments in everyday functioning and have greater difficulty following medical regimens (Sederer, L.I., 2006), leading to poorer response, if the previous measures failed to control hypertension ,so drugs are indicated, the goal of these measures, is to achieve a maximal reduction in the total risk of cardiovascular morbidity and mortality (UNRWA, 2004).The criteria for considering the blood pressure as a controlled state, the systolic bellow 140mmhg and the diastolic ,bellow 90mmhg. The patient is put on scheduled visits, with annual investigations, fasting blood sugar, cholesterol, low density lipoproteins, high density lipoproteins , and creatinine in order to detect early complications, and scheduled examination by specialist.

2.3Depressive Disorders

The condition that today we label depression has been described by a number of ancient writers under the classification of "melancholia." The first clinical description of melancholia was made by Hippocrates in the fourth century B. C. He also referred to swings similar to mania and depression, (Chapman, D., and Perry, G., 2008). Depression is a major public health problem, due to high prevalence, and impact upon the depressed and the society.

2.3.1Definition:

Depression is a recurrent disorder, consisting of discrete episodes of abnormal low mood, associated with functional impairment. The core symptoms of depression include depressed mood and/or loss of interest (anhedonia). Vegetative symptoms include alterations in sleep (insomnia or hypersomnia), appetite (increased or decreased), and low energy. Cognitive symptoms include excessive guilt, hopelessness, worthlessness, helplessness, and suicidal ideation. Depression may also be associated with impaired concentration or even frank cognitive impairment. Severe depression may be complicated by psychosis; that is, hallucinations and/or delusions (typically persecutory delusions or delusional of guilt), (Kaplan, and Sadock 1996)

2.3.2 Prevalence and Trends of depression:

Depression is a major public health problem, it has severe consequences; it is a problem facing the developing and developed countries, the rich and the poor, young and old, male and female, it affects people of all social, economic, geographic, age, gender, religious, and occupational groups, no identifiable group is exempt from it.

It is the commonest psychiatric disorder, with primary health care patient's prevalence of 10% (Kaplan and Sadock 1996), globally major depression causes the fourth-highest burden of disease among all medical diseases (Thompson, M., L., 2007), major depressive disorder already has the second-highest burden of disease in high-income countries such as the United States, in any given year, approximately 19 million adults in the United States (10 percent)

will experience depressive illness, and half of them will suffer from a major depressive disorder, (Thompson, M., L.,2007), in the United States, the most serious mental disorders, primarily major depressive disorders, which can occur simultaneously with anxiety disorders and substance abuse, affect approximately 5 percent of adults (almost 10 million) and 9 percent of children (approximately 5 million) in any given year (Thompson, M., L., 2007),in a research conducted by the WHO showed that one in four patients in primary health care suffered from mental disorder, the most common of these currently included depression, anxiety, and alcohol addiction, according to research results from recent years, the prevalence of depression ranges from 6% to as high as 12% of the population (Andrzejewski, W., 2006).

Prevalence of unipolar depression has been estimated in a number of large-scale community epidemiological surveys, lifetime prevalence estimates of having either major depressive disorder or dysthymia in these surveys were in the range 4.2% to 17.0% percent, prevalence estimates were consistently higher in North America and lower in Asia, with prevalence estimates of major depressive disorders generally higher than those of dysthymia, (WHO, 2006), two thirds of the general population consult a physician over a period of one year (Health Interview Survey, 1974, USA), 62 % of men and70 % of women according to the Royal College of General Practitioners (1979), among these subjects, the risk of developing a psychiatric illness before the age of 60 was 43 % for men and73 % for women, it is, therefore, not surprising to find that 10-30 % of the population presenting to primary care in one year have psychiatric problems, (Schulberg and Burns, 1988), anxiety and depression are the two commonest disorders accounting for 79 % of all psychiatric diagnoses, of patients with mental disorders attending the primary health care centers , (Sartorius & Harding, 1983).
Depression is the fourth leading cause of disease burden, accounting for 4.4% of total DALYS in the year 2000, and it causes the largest amount of non-fatal burden, accounting for almost 12% of all total years lived with disability worldwide (Üstün, T.,T., 2000).

2.3.3Prevalence and sociodemographic variables:

The prevalence of depression is highest among females than males with a ratio of approximately 2:1, where up to 25% of adult women and 12% of men will experience clinical depression, (Morrison, J., 2002), in prepubertal children, boys and girls are affected equally **(**Bhalla,R.,2009) ,depression usually begins in a person's 20s or 30s, which constitutes the peak incidence (Morrison, J., 2002), age of symptom onset has decreased, (Chengappa ,KN., et al, 2003), but no one is immune, prevalence among the elderly was less than the young's (Dan G. Blazer, et al, 1994), blacks were somewhat at less risk than whites, persons of a lower socioeconomic status were at greater risk than those who were more well-off economically, and persons in urban areas were at greater risk than persons in rural areas, (Dan G. Blazer, et al, 1994).

2.3.4Prevalence and chronic diseases:

The prevalence of depressive disorders increases with the presence of chronic diseases ;it had been observed that 25% to 40% of individuals with certain neurological conditions like multiple sclerosis, Parkinson's disease, stroke, or Alzheimer's disease, developed a marked depressive disorder at some point during the course of the illness, while for organic chronic illness without direct involvement of the CNS, rates were far more variable, ranging from more than 60% in Cushing's syndrome to less than 8% in end-stage renal disease, (Koenig et al, 1991), it had been estimated that anxiety depression syndromes occurred in about 30% to 60% of all medically ill patients (Okasha, A., 1995). There is growing evidence that the existence of depression may increase the incidence and prevalence of diabetes, depression worsened the prevalence and severity of insulin resistance, in adult patients, worsening their diabetic condition and if not diabetic predisposing them to diabetes (Musselman, DL.,2003) and at the same time the prevalence of depression among diabetic patients was higher than normal population, (Katon, WJ., et al 2004), the prevalence of depression was roughly twice as high among diabetic patients as among the general population, (Katon W, et al, 2004),some studies found that the prevalence of depression among diabetics was 11% and elevated depressive symptoms was 31% in diabetic patients, (Anderson, RJ., 2001), the

increased prevalence of depression among diabetics, is not the same in regard to the different variables, the prevalence of comorbid depression was significantly higher in diabetic women (28%) than in diabetic men (18%), in uncontrolled (30%) than in controlled studies (21%),

(Anderson, R., 2001), such prevalence has a lot of sociodemographic variables, with increasing prevalence of depression among less educated diabetics (Egede, L., Zheng, D., 2003),and among diabetics with less income (Egede, L., 2002),and with increased blood level of Hba1c, (Lustman, PJ., et al, 2000),and with the occurrence of diabetic complications, (De Groot et al, 2001), e.g. one-third of people with their first diabetic foot ulcer suffer from clinical depression (Ismail, K., 2007).

2.3.5Trends of Depression:

Depression is a frequent enough, and its consequences are such that it constitutes a major public health problem. Unfortunately there is likelihood that the frequency of depressive disorders will increase, life expectancy is increasing in most countries, and the number and percentage of people running a higher risk of developing depression are also increasing accordingly, the rapidly changing psychosocial environment of man - marred by phenomena such as uprooting, family disintegration and social isolation, often gives rise to situations of acute and/or prolonged environmental stress which may lead to depressive reactions; so the trends of the disorder are on the rise, the prevalence of major depression had risen over the last several generations in every country examined (JAMA, 1992),e.g. , rates of major depression in the United States rose markedly in the decade from 1991–1992 to 2001–2002, from 3.33% to 7.06% (Kessler, RC., et al, 2003),though depressive disorders were seen as the price of development, so such disorders were underestimated in the developing world, in the last decade, a number of studies in Tunisia, including the first epidemiological survey in the general population, had characterized the clinical features of depressive disease in this sociocultural context and shown it to be increasing in frequency (Douki, S., 2003), and by 2020, it is expected to rise to second place of the disease burden, preceded only by cardiovascular disease (Thompson, M., L., 2007).

2.3.6Course:

Depressive episode may begin suddenly or develop slowly and may occur just once or many times throughout a person's life (Thompson, M., L., 2007), but most probably depression appears to evolve over time, depression is an episodic disorder (WHO, 2006), following the first depressive episode, subsequent episodes can be triggered by much more minor life situations or even occur spontaneously with no stressor present at all, most individuals suffering from a-depressive episode will have a recurrence, with recurrence risk greater among those with early-onset disease (WHO, 2006),of all people who experience one major depressive episode, 80–90 % will experience another within the following 2 years; and50 %of those people will experience further recurrence, with recurrence; the depressive episodes evolve into major depression, and each recurrence increases the risk of the disorder becoming chronic, which in turn increases the risk of disability and suicide (Thompson, M., L., 2007), Suicide risk increases during depression: between 10 and 15 %of individuals who have been hospitalized at some time due to depression eventually commit suicide, and 60% of all suicides occur among people suffering from depression (Thompson, M., L., 2007).

2.3.7Comorbidity:

Even if, anxiety and depression are considered as two distinct conditions, everyday clinical practice as well as many studies conducted in the community, in primary care and in specialized mental health settings had underlined the high prevalence and the importance of their association, the main result was that the occurrence of anxiety and affective disorders is far more frequent than the occurrence of either a single disorder or a combination of only affective or only anxiety disorders (Lépine, et al, 1993) , nearly three-quarters of persons with depression have at least one other comorbid psychiatric disorder , most common are anxiety disorders (59%), followed by impulse control disorders (30%) and substance use disorders (24%) (Andrew, A., 2005), up to 50 percent of people suffering from depression also experience symptoms of anxiety disorder, such as panic attacks, excessive fears about health, or phobias; approximately 33 % experience a full-blown anxiety disorder, most often a social phobia, panic disorder, or obsessive-compulsive disorder. The combination of anxiety and major depression worsens an individual's ability to function, decreases treatment

effectiveness, and increases the risk of suicide (Thompson, M., L., 2007), as there is a marked overlap between the two disorders, the distinction from anxiety states may be difficult, for that, it was considered by some authors that the existence of a continuum rather than two independent categories, where depression is in fact the more stable diagnosis and anxiety is the changeable one always to depression, prognosis is particularly poor if both disorders were associated, 85 % of poor outcome (Surtees et al, 1986).

2.3.8Etiology& Pathophysiology of Depression:

Depression is a persistent alteration in mood, behavior, and cognition that has biological and psychological underpinnings and that results in functional decline. Depression is a disorder of the brain that arises in the context of the medical illnesses and psychosocial stressors that accompany the journey of the life .The etiology of depression is multifactorial in origin, where genetic, cultural, biological, social and environmental factors all interact to produce the full blown picture of the disorder, known as depression which has multiple symptoms, that encourage the view of having multiple origins.

2.3.8.1 Genetic factors:

First degree relatives of depressed one has 2-5 times the risk of developing depression than others (Rosenham.1993), the genetic role is supported by the finding that identical twins of depressed people have over twice the chance of depression as fraternal twins (Morrison, J., 2002), genetic factors likely play a less role in late-onset than early-onset depression; a family history of depression is less common among older adults with depression than younger adults, (Halverson, J., 2009).

For that the genetics of major depression has been a focus of a great deal of research over the past several decades; though linkage studies failed to establish clearly any single candidate gene, which led investigators to argue that depression represented a complex genetic disorder, to which many different genes could potentially contribute, either alone or in combination with other genes or with environmental factors such as stress, however, a significant gene-by-stress interaction was noted, with s/s homozygotes at greater risk of developing depression if three or more stressful life events were encountered (Schatzberg,

A., 2005),others see the relation between depression and genetics as approximately one third of the risk for the development of depression is inherited and two thirds is environmental, (Sullivan PF., 2000).

Decreased serotonin activity has long been thought to play a key role in the pathophysiology of depression and response to treatment. Serotonin is synthesized from tryptophan via a tryptophan hydroxylase, Recently Zhang et al, elegantly demonstrated that neuronal synthesis of serotonin is controlled largely via tryptophan hydroxylase 2 (TPH-2) and not the 1 form, which was formerly thought to regulate synthesis in the brain but is now seen to be involved mostly in the periphery (Zhang, X., 2004), this observation was recently supported by a report that a mutation in TPH-2 was found in some 10% of subjects with unipolar major depression, compared with 1.5% of control (Zhang X et al, 2004), this mutation was associated with 80% decrease in serotonin levels.

2.3.8.2 Psychological factors:

2.3.8.2.1-Life events and environmental stressors:

There is wide consensus and support from preclinical and clinical data that stress exposure conceivably plays a causal role in the etiology of depression, and depression-like disorders, (Caspi, A., et al, 2003), stressful life event more often precedes the 1st episode of depression (Kaplan and Sadock, 1996), it is the loss of spouse or a parent before the age of eleven years which may lead to depression than other stressors, family relate stressors affect the development, the outcome ,and relapses of depression (Kaplan and Sadock, 1996), emotional traumas are major triggers of depression, such traumas can include significant life changes, loss of a loved one, loss of a job, financial difficulties, and stress, biological, psychological, and environmental, social stressors seem to play a role in the onset of depression as well, studies of consecutive cases with psychiatric diagnoses culled from the databases of two large Swedish insurance companies showed that about 80% of patients met DSM-IV criteria for depression, the depression episodes were mild to moderate and accompanied by significant working memory impairment, a closer examination of the case histories revealed that a majority, was clearly induced by psychosocial stress, either at the workplace or often in

combination with stress factors in the family (Bartolomucci1, A., 2009). Major depression can also be triggered by physical conditions, which are stressors such as stroke, heart attack, cancer, or medication, but depression due to these types of triggers were given a separate classification within the group of mood disorders, called depression due to medical condition, (Thompson, M., L., 2007), occurrence of depression during the course of, or shortly after a physical illness, is more frequent than usually thought, the relationships between the two illnesses may be of several types:

Depression can occur independently of the physical illness; it can be a psychological reaction to the disability caused by the physical illness; the depression and the physical illness can share several common etiologic factors; and, lastly, depression can be a direct consequence of organic lesions produced by the physical illness (Krebs, M.O., 1995), the distinction of the etiology carry utmost importance in the management, if the cause is physical so dealing with the physical condition will help in the cure of depression, e.g. hypothyroidism, frontal meningioma, drug toxicity, and hypocalcaemia are among the curable causes of 2ry depression, (Krebs, M.O., 1995).

The pathopysiological role of stress in the development of depression is a complex one, however, no specific mechanism linking stress exposure and stress response to the occurrence of depression has yet been fully elucidated, but there is growing evidence indicates several classical candidates, including neurotransmitters and neuropeptides, as well as conceptually novel immune and inflammatory mediators, as likely intermediate links between stress exposure, depressive symptoms, and depression(Kloet, ER., 2005), stress had been shown in animal models to decrease gene expression of bcl-2 and BDNF, (proteins necessary to maintain robust and healthy neurons), antidepressants have been found to increase gene expression of BDNF and block the decrease precipitated by stress (Nierenberg, A.A., 2005).

2.3.8.2.2- Learned helplessness:

After the individual being subjected to uncontrollable events, and such events were

independent of his responses, and the events are attributed to internal, global, and or stable factors (Rosenham, D.L., 1995).

2.3.8.2.3 Psychoanalytic and psychodynamic factors:

Freud postulated that there is a relation between loss and depression with rage directed inward due to identification with the lost object (Rosenham, D.L., 1995 and Kaplan 1996).

2.3.8.2.4 The depressed are love seeking; when it is not fulfilled they got depressed, (Rosenham, D.L., 1995).

2.3.8.3The biological Factors:

2.3.8.3.1The depletion of certain biological amines:

Serotonin, Norepinephrine, and Dopamine , are implicated to be the cause of depression, that is fostered by similarity of symptoms across cultures, and the use of antidepressant increase the implicated amines in the synapses, and it is induced sometimes with some drugs which lead to depletion of these implicated amines e.g. Reserpine (Kaplan,1996), the role of central nervous system serotonin activity in the pathophysiology of major depressive disorder is suggested by the efficacy of selective serotonin reuptake inhibitors (SSRI) , in the treatment of major depressive disorder. Furthermore, studies have shown that an acute, transient relapse of depressive symptoms can be produced in research subjects in remission using tryptophan depletion, which causes a temporary reduction in CNS serotonin levels, **(**Bhalla, R., 2009), three catecholamine's are implicated in the etiology of depression, Serotonin, Norepinephrine, and Dopamine, NE reuptake inhibitors such as nortriptyline is effective antidepressants (Nemeroff, C.B., 2008). The emergence of a DA hypothesis of depression is not surprising in view of the fact that the inability to experience pleasure, anhedonia, is considered by many to be the most important pathognomonic symptom of depression, and pleasure, whether associated with eating, social, or sexual behavior, is well documented to be primarily mediated by DA neurons, both postmortem tissue and PET

imaging studies have revealed reduced DA transporter binding sites and increased postsynaptic DA D2/D3 receptor density, indicative of a reduction in the synaptic availability of DA in depression (Nemeroff, C.B., 2008). These findings suggest that treatments that enhance DA neurotransmission such as monoamine oxidase inhibitors (MAOI), dopamine receptor agonist , or triple (5HT, NE, and DA) reuptake inhibitors (currently under development) may represent a novel approach to SSRI nonresponders, (Nemeroff, C.B., 2008).

Another biological factor is the vascular factor; which is manifest in late onset depression, various lines of evidence support this hypothesis, including (1) higher incidence of depression following a stroke, (2) higher prevalence of ischemic white-matter changes in older adults with depression than those without, (3) bidirectional association between depression and coronary artery disease, and (4) higher rates of depression among patients with Alzheimer disease than those with vascular dementia, (Halverson, J., 2009).

2.3.8.3.2 Stress, the Hypothalamic-Pituitary –Adrenal Axis and Chorticotropin Releasing Factor:

Reports indicating that a significant number of patients with depression hyper secrete cortisol, the major adrenocortical stress hormone, first appeared fifty years ago (Sachar, EJ., 1970), about half of all patients with major depression have a raised cortisol output, which tends to return to normal on recovery (Michael, G., 2003).

The observation that patients with Cushing's disease or syndrome often experience severe depression and anxiety and the increased production and secretion of glucocorticoids in healthy individuals exposed to stress, in part, contributed to the modern stress-diathesis hypothesis of depression. Thus, excess secretion of cortisol and other hormones of the hypothalamic-pituitary adrenal (HPA) axis have been posited to play a significant role in the etiology of depression (Nemeroff, C.B., 2008), about half of all patients with major depression have a raised cortisol output, which tends to return to normal on recovery, in major depression there is peripheral hypertrophy of the adrenal glands, measurable in MRI

body scans, and an enhanced response to corticotrophin. The MRI change, like the hypercortisolaemia itself, reverses on recovery (Gelder, M., 2003).

One of the first tests of HPA axis function to be studied in psychiatric patients was the dexamethasone suppression test (DST), a test originally designed to aid in the diagnosis of Cushing's syndrome. Small (1 mg) dose of the synthetic glucocorticoid, dexamethasone, is administered orally at 11:00 p.m., and plasma cortisol concentration is measured at two or three time points on the following day, Failure to suppress plasma cortisol concentrations after dexamethasone administration suggests impaired feedback regulation and hyperactivity of the HPA axis (Evans, DL., 1983), a large percentage of drug-free patients with depression exhibit failure to suppress secretion of cortisol after administration of dexamethasone, commonly referred to as dexamethasone non suppression and this was proposed as a biological diagnostic test for depression, but it is not the case where it is shared by other mental disorders. However, in depressed patients, DST non suppression has generally been found to be associated with depression severity, and when persistent, with a significant-risk for relapse.

2.3.8.4The role of the immune system in depression

Unfortunately, most patients with depression do not experience a complete resolution of symptoms with conventional antidepressant treatment, and 10%–20% of patients have depression that is refractory to all currently available modalities, including electroconvulsive therapy (Greden, JF., 2001), in addition to efficacy issues, many patients are unable to tolerate the side effects associated with antidepressants or electroconvulsive therapy, those patients not responsive to medications or intolerant to medications, these two issues have encouraged the investigators to look for the contributions of other body systems in the pathogenesis of depression, namely the immune system.

The immune response is roughly divided into two big categories:

1-Acquired immune response: It develops slowly, (i.e., over days) and is highly specific in it's recognition of pathogens, through the production of antibodies, each antibody is specific towards the pathogen stimulating it's production.

2-The innate immune system:

It provides a rapid, front-line defense against a variety of pathogens and damaged or dead cells, using relatively crude (nonspecific) pattern recognition receptors, referred to as Toll-like receptors, to initiate and mobilize the response to infection and/or tissue damage and destruction (Abbas, AK., 2003), Toll-like receptors in turn are linked to fundamental inflammatory signaling pathways including nuclear factor-κB (NF-κB) and mitogen-activated protein kinases (MAPK), when activated stimulate the production of the innate immune cytokines interferon (IFN)-α, interleukin (IL)-1, IL-6, and tumor necrosis factor-α (TNF-α); chemokines; adhesion molecules; and other inflammatory mediators including the prostaglandins, histamine, and reactive oxygen and nitrogen species, (Sweeney, SE., 2007), these molecules then work in harmony producing the local immune response by recruiting and activating relevant immune cells, which leads to swelling, redness, heat, and pain that constitute the clinical characteristics of inflammation.

Innate immune cytokines also enter the peripheral blood, and stimulate local nerve fibers mobilizing systemic response to infection, and tissue trauma that includes activation of the acute-phase response in the liver, it involves production of acute-phase proteins such as C-reactive protein (CRP), and a central nervous system (CNS) response, involves fever, fatigue, reduced environmental exploration, anorexia, and altered sleep. This CNS response, has been referred to as "sickness behavior," is believed to represent a reorganization of behavioral priorities to conserve and divert essential energy resources to pathogen elimination, tissue repair processes, and protection from future injury or attack, (Maier, SF.,1998).

Patients with major depression, had been found to exhibit significant elevation, of innate immune cytokines, and their soluble receptors in both peripheral blood and cerebrospinal fluid (CSF), and had exhibited elevation in acute-phase proteins, chemokines, and adhesion molecules, as well as inflammatory mediators such as, prostaglandins, the data indicated that elevation in IL-6 and CRP are the most reliable, (Zorilla, E., et al, 2001), in addition to mean increase in inflammatory biomarkers in depressed patients versus control subjects, correlations between depressive symptom severity and increases in measures of peripheral inflammation had been observed in multiple studies, (Miller, A., 2008), it should be noted

that fatigue, loss of energy, and psychomotor retardation are some of the most common symptoms after cytokine administration (Capuron, L., et al, 2002).

Major body evidence supporting an immune system, contribution to the development of depression**,** is the behavioral disturbances that occur in patients treated with the innate immune cytokine, IFN-α, it has both antiviral and antiproliferative activities, therefore used to treat both infectious diseases and cancer, IFN-α is a notorious causing a variety of behavioral alterations, including symptoms sufficient to meet criteria for major depression in up to 50% of subjects, depending on the dose (Raison, CL., 2005), treatment of patients before and during IFN-α therapy with antidepressants had been shown to markedly reduce the incidence of depression (Musselman, DL., et al, 2001).

Finally rates of depression are on average 5–10 times higher in diseases that involve the immune system including infectious diseases, cancer, and autoimmune disorders (Evans, DL., et al, 1999),and patients with autoimmune disorders treated with cytokine antagonists had exhibited significant improvement in depressive symptoms (Persoons, P., et al, 2005), In addition, there is increasing recognition that inflammation may play a prominent role in a number of common disorders including cardiovascular disease, diabetes, and cancer all disorders with increased rates of depression, taken together these data suggest that inflammation may be a shared pathology between these diseases and depression (Pradhan, AD., 2001).

Cytokines also decrease the peripheral tryptophan (the precursor of serotonin), and patients treated with IFN-α, had shown correlations between decreases in peripheral blood tryptophan and increase in depression as well as increase in peripheral blood tryptophan metabolites, in patients who developed symptoms of major depression (Capuron, L., et al 2003).

Cytokines are potent activators of the hypothalamic-pituitary-adrenal (HPA) axis, and in turn the release of corticotrophin-releasing hormone (CRH), (Sapolsky, R., et al, 1987), it is also known that CRH has a role in the development of depression (Owens, MJ., 1991), cytokine-induced activation of CRH in the brain, may be a major pathway by which cytokines influence behavior manifested in the form of depression.

Cytokines as a part of the innate immune response; in the development of depression is also manifested in the role of psychosocial stress, and the development of depression, through the activation of the innate immune response in response to psychosocial stress, studies demonstrated that a variety of both acute and chronic emotional and physical stressors are associated with increase in inflammatory markers including innate immune cytokines and their soluble receptors as well as acute-phase proteins (Steptoe, A., 2007).

2.3.8.5Neuroanatomical Consideration:

Symptoms and research of mood disorders support the hypothesis that mood disorders involve pathology of the limbic system, basal Ganglia, both of them, have a major role in the production of emotions ,the motor slowness, and minor cognitive impairment are similar to the signs in disorders of the basal ganglia e.g. Parkinson's disease (Kaplan & Sadock, 1995).

By brain Structural Imaging techniques, it was shown that smaller hippocampal volume has been reported in depressed patients in several studies (Mervaala, E., et al, 2000). A related finding, antidepressants appear to increase neurogenesis in the hippocampus, some had argued, may be a key mechanism of action for these medications (Santarelli,L., et al,2003), Vythilingam and colleagues reported that, depressed patients with a history of early child abuse, had smaller hippocampal volume than did healthy controls, which is consistent with an effect of cortisol on hippocampal volume (Vythilingam, M., et al, 2002), a number of other perspectives suggested, that lower hippocampal volume could be a risk factor for depression rather than a result of it (Schatzberg, AF., 2002), depression and stress could still result in a further diminution of hippocampal size. For example, Brown and colleagues reported that medical patients taking steroids had smaller hippocampus than did medical control subjects (Brown, ES., et al, 2004).

2.3.8.6Functional Imaging:

Bremner and colleagues recently reported that verbal memory impairment; in depression is associated with difficulty in activating both the hippocampus and the anterior cingulate using position emission tomography (Bremner, JD., 2004), of particular interest is the work of

Drevets and Mayberg showing that the subgenual cortex (inferior/posterior aspect of the frontal lobe), is activated during sadness induction in depression, that it may be significantly reduced in volume, it's activity may change in response to antidepressants (Drevets, WC., et al, 1997).

In major depression there is peripheral hypertrophy of the adrenal glands, measurable in MRI body scans, and an enhanced response to corticotrophin. The MRI change, like the hypercortisolaemia itself, reverses on recovery (Gelder, M 2003).

2.3.9Types of Depressive Disorders

2.3.9.1Major Depressive Disorder: For the diagnosis of depression MDD see Annex I. Major depressive disorder may be specified as single or recurrent episode.

2.3.9.2. Minor depressive disorder:

It is like M.D.D except less in severity, with 5%prevelance in the population, more in females than males, with similar duration like MDD (Kaplan & Sadock, 1995).

2.3.9.3. Recurrent Brief Depressive Disorder:

It is characterized by multiple brief (less than two weeks) depressive episodes, except for duration it meets the criteria for MDD (Kaplan & Sadock, 1995).

2.3.9.4. Pre-menstrual dysphoric disorder:

The pattern of symptoms occurs during the menstrual cycle; and resolve for sometimes between menstrual cycle (Kaplan & Sadock, 1995).

2.3.9.5Dysthymia:

Requires the presence of depressed mood most of the time for at least 2 years, (one year in adolescents and children, who may have irritable mood), with the presence of two of the following, poor appetite or over eating , insomnia or hypersomnia , low energy or fatigue, low self-esteem, poor concentration, feeling of hopelessness, and during the two years the patient never to be free of the symptoms, for more than one month period, and no major

episode has been present, during the 1st two years, it is characterized by the presence of a steady state of symptoms and it is not episodic but may have variations in the severity of symptoms (Kaplan & Sadock, 1995).

2.3.9.6Depressive Disorders due to general medical condition:

2.3.9.6.1Depressive disorders secondary to CNS conditions:

These include a broad range of physiologic and structural CNS processes that can produce changes in mood and behavior. Note that major depressive disorder can produce measurable cognitive deficits or a worsening of preexisting dementia. This decline in cognitive functioning, on formal testing, appears to arise from impaired concentration or motivation, is referred to as pseudodementia or, more currently, as dementia of depression and should remit with successful treatment of the depressive episode. Major depressive disorder does not cause focal neurologic signs.

1-Degenerative diseases:

Alzheimer disease and other degenerative and vascular dementias can be associated with affective symptoms. Mood disorders are very prominent in Parkinson disease, Huntington disease, multiple sclerosis, stroke, and seizure disorders.

2-Neoplastic lesions of the CNS:

These lesions also can cause changes in mood and behavior before the onset of focal neurologic signs.

3-Inflammatory conditions:

Conditions such as systemic lupus erythematosus (SLE), can produce a wide range of neuropsychiatric signs and symptoms, likely because of alterations in the blood-brain barrier and autoimmune encephalitis.

4-Sleep disorders:

Obstructive sleep apnea especially, can cause significant medical and psychiatric symptoms and often is missed as a diagnosis. Patients, and, if necessary, their partners, should be interviewed regarding their sleep quality, daytime sleepiness, and snoring. Polysomnography can help make the diagnosis and guide treatment.

5-Infectious processes:

These include syphilis, Lyme disease, and HIV encephalopathy, which can cause mood and behavior changes.

6-Pharmacologic agents:

Substances that can produce changes in mood include antihypertensive medications (especially beta-blockers, reserpine, methyldopa, and calcium channel blockers); steroids; medications that affect sex hormones (e.g., estrogen, progesterone, testosterone, gonadotropin-releasing hormone [GRH] antagonists); H2 blockers (e.g., ranitidine, cimetidine); sedatives; muscle relaxants; appetite suppressants; and chemotherapy agents (e.g., vincristine, procarbazine, L-asparaginase, interferon, amphotericin B, vinblastine).

7-Endocrinological disorders: Disorders involving the hypothalamic-pituitary-adrenal axis or thyroid are especially likely to produce changes in mood. These include Addison disease, Cushing disease, hyperthyroidism, hypothyroidism, prolactinomas, and hyperparathyroidism.

8-Substance use, abuse, or dependence: These can cause significant mood symptoms. This is especially true of alcohol, cocaine, amphetamines, marijuana, sedatives/hypnotics, and narcotics. Inhalant abuse also should be considered, particularly among young male patients. Other substance-related and psychiatric processes either can present with mood disturbance as the primary symptom or can occur together with major depressive disorder.

N.B. 1- There are other disorders having the criteria of MDD, but with swings of mood namely Bipolar I and bipolar II disorders which are not included in this research.

2- Major depressive disorder is the one in focus of this research.

2.3.10Diagnosis:

Though depression is regarded widely as a disorder of mood (Kaplan and Sadock 1996), it leads to four group of symptoms, emotional or mood symptoms, cognitive where the patient has distorted thinking taking different forms, e.g. Arbitrary inference i.e. taking conclusions without supporting evidence (Goery,G.2000), that lead to distorted interpretation of events so they maintain negative view of the self, the environment, and the future, (Barlow,D.H.,19 93),the third symptom is lack of motivation to work and in the severest form lack of response, the fourth is somatic complaints in the form of loss of power, psychomotor retardation, headache, backache, insomnia, anorexia or polyphagia loss of interest in sex, erectile dysfunction for males, and loss of arousal for females (Goery,G.2000),so it is considered as whole-body illness, because it affects not just mood, thoughts, and feelings—particularly feelings about oneself—but also how a person feels physically, it results in marked functional impairment and disabling physical symptoms and is a leading cause of decreased productivity and absenteeism in the work place. Because of the combination of high prevalence, early onset, persistence, recurrences and impairment, depressive disorders make a major contribution to total disease burden.

Depression as a disease should be clearly differentiated from depressive symptoms or depressive moods, which are an integral part of human emotions. There are qualitative as well as quantitative differences between a state of unhappiness in reaction to the adverse events in the world outside, and depression as a disease state. It is essential to understand that; depression as a disease, unlike depressive moods, is neither a normal variation of mood nor an appropriate reaction to severe stress. Also, depression does not constitute a failure of "will power" or "weak character" in a person. .(WHO, 2006).

For the diagnosis of depression, will knowledge of the signs and symptoms of the disorder is needed, her is a detailed discussion of the symptoms of the disorder and the signs, the chief complaint may take a variety of forms**:**

2.3.10.1 The Emotional Manifestations: The term emotional manifestations refer to the changes in the patient's feelings or the changes in the overt behavior directly attributable to

the feeling states.

2.3.10.1.1Depressed Mood: The depressed feel sad, or some equivalent, mournful, , and it usually lasts for months (Morrison, J., 2002), eighty-eight per cent of the severely blue, despondent, and anguished, "down", or other people think you look depressed. You may cry a lot; time passes slowly and everything looks gray. Clinical depression isn't just a brief "I have a bad day at work" sort of feeling. It sticks with you most of the time for at least a couple of weeks, depressed patients reported some degree of sadness or unhappiness, as compared with 23 per cent of the nondepressed patients (Beck, A., 1970).

2.3.10.1.2Anhedonia—Loss of Interest: Anhedonia and loss of interest are symptoms closely associated with the depressed mood, varying in intensity along with the feeling of sadness. Patients are unable to express emotions, even their own psychic pain. They are unable to draw pleasure from previously enjoyable activities or to preserve their interests and affections. In severe cases they disregard and abandon most of the things they valued in life. Yet to a great extent they retain insight of their own inability to experience and express normal emotions and this intensifies their suffering, (Maj, M., 2002).

2.3.10.1.3Negative Feelings towards the Self; the frequency of self-dislike ranged from 37% in the nondepressed group to 86 %,among the severely depressed. From disappointed in himself e.g. I've let everybody down, to self disgust; e.g. I don't do anything right, or I'm no good up to self dislike and hate e.g. I'm a terrible person, I don't deserve to live, I loathe myself (Beck, A., 1970).

2.3.10.2. Cognitive Manifestations:

The cognitive manifestations of depression include a number of diverse phenomena: The 1st group is composed of the patient's distorted attitudes toward himself, his experience, and his future. This group includes low self-evaluations, distortions of the body image, and negative expectations.

The 2nd group expresses the patient's notion of causality: He is prone to hold himself responsible for any difficulties or problems that he encounters, with self blame.

The 3rd group: involves the area of decision-making: The patient typically vacillates and is indecisive.

2.3.10.3.1Low Self-Evaluation: Low self-esteem is a characteristic feature of depression. Self-devaluation is apparently part of the depressed patient's pattern of viewing himself as deficient in those attributes that are specifically important to him: ability, performance, intelligence, health, strength, personal attractiveness, popularity, or financial resources, (Beck, A., 1970).

2.3.10.2.2Negative Expectations: A gloomy outlook and pessimism are closely related to the feelings of hopelessness, the patient's pattern of expecting the worst and rejecting the possibility of any improvement poses obstacles in attempts to engage him in a therapeutic program. His negative outlook is often a source of frustration to his friends, family, and physician when they try to help him. Not infrequently, for example, a patient may discard his antidepressant pills because he believes *a priori* that they "cannot do him good." This sense of permanence and irreversibility of his status or problems seems to form the basis for his consideration of suicide as a logical course of action, (Beck, A., 1970).

2.3.10.2.3Self-Blame and Self-Criticism: He is particularly prone to ascribe adverse occurrences to some deficiency in himself, and then to rebuke himself for having this alleged defect. Also the cognitive manifestations take the form of distorted form of thinking , which take s different forms , e.g. Arbitrary inferences, maximization, minimization, generalization…etc, difficulty in concentrating, low self confidence, hopelessness, self-depreciation and self-reproach, a sense of worthlessness and sinfulness, negative outlook on the world and suicidal thoughts are some of the most common cognitive features accompanying the depressed person's state of feeling, (Maj, M., and Sartorius, N., 2002).

2.3.10.3Psychomotor Disturbances: readily observed and even objectively measured. They include, on the one hand, agitation psychomotor disturbances have the advantage of being (hyperactivity) and on the other, retardation (hypoactivity). Although agitation, usually accompanied by anxiety, irritability and restlessness, is a common symptom of depression, it

lacks specificity. In contrast, retardation, manifested as slowing of bodily movements, mask-like facial expression lengthening of reaction time to stimuli, increased speech paucity and, at its extreme, as an inability to move or to be mentally and emotionally activated (stupor), is considered a core symptom of depression. Their presence is currently being used as a diagnostic symptom of the melancholic type of depression in DSM-IV and the severe depression with somatic symptoms in ICD-10, (Maj, M., and Sartorius, N., 2002).

2.3.10.4Vegetative Symptoms: Vegetative symptoms constitute the most biologically rooted clinical features of depressive disorders and are commonly used as reliable indicators of severity (severe depression with somatic symptoms in ICD-10 and melancholia in DSM-IV). They are manifested as profound disturbances in eating; anorexia and weight loss, or the reverse, bulimia and weight gain, in sleep (insomnia or hypersomnia), in sexual function decreased sexual desire or in a minority of cases the reverse, loss of vitality, motivation, energy and capacity to respond positively to pleasant events. Additionally, concomitant bodily sensations usually diffuse pains, and complaints of fatigue and physical discomfort are reported, (Maj, M., 2002).

The physical symptoms forms one of the major complaints of the depressed, and these complaints have a specific significance, in case of discussing depression with diabetes and/or hypertension, both have somatic symptoms, specifically diabetes, so the differentiation is of utmost importance for the sake of the management and the decrease of the suffer of the patient, somatic symptoms of depression such as fatigue create a diagnostic dilemma when assessing an older patient with medical comorbidities, since chronic medical illnesses may produce similar symptoms, taking in consideration that depressive and medical disorders often occur concomitantly, causing amplification of somatic symptoms, it has been estimated that anxiety -depression syndromes occur in about 30% to 60% of all medically ill patients, (Okasha, A.,1995), for example in one study, somatic symptoms attributed to medical illness may actually be caused by depression (Drayer, RA., et al, 2005),and these symptoms carry importance being the research is conducted upon patients with diabetes and/ or hypertension, ,where recognizing depression is not an easy task for family doctors, their education emphasizes a biomedical model, thinking on a somatic level is generally the rule; therefore, looking for depression in a patient with physical complaints may be considered careless by

patients, or risky by the doctors themselves. The presenting complaints often can be somatic, such as fatigue, headache, abdominal distress, or change in weight (Bhalla, R., 2009), and not complaining of the classical symptoms of depression such as depressed mood or anhedonia, the physical symptoms are extremely prevalent , in fact they account for greater than 50% of outpatient clinic visits, at least one third of these symptoms are medically unexplained; recent research has established a strong relationship between somatization and depression, (Greco, T., 2004), in an international study in 15 countries revealed that more than two thirds of depressed patients in primary care present exclusively with physical complaints. In fact, half of these patients report multiple somatic symptoms (Greco, T., 2004), the associations between depression and somatic syndromes may largely be responsible for the low detection rate of depressed patients by the general practitioner. This detection rate is lower than 50 % in most studies and may be as low as 14 % (Moffic & Paykel, 1975), in comparison with patients present with clear psychological complaints, the detection rate is substantially higher: 95 % of those presenting with psychological complaints and 47 % of those presenting with somatization were recognized by their treating doctor (Lecrubier, Y., 1993), this form of depression presenting with atypical symptoms; is a variety of masked depression this type of sub diagnostic depressive syndrome may render the treatment of diabetes mellitus or hypertension more difficult in that motivation to follow a dietary or pharmacotherapeutic regimen is diminished (Helmsmen, H., 1993), Masked" or "vegetative" depressions strictly speaking are characterized by manifold somatic complaints, particularly loss of appetite, or even weight loss, sleep disturbances, feelings of fatigue and loss of energy, various somatic complaints, and aches and pains, Lesse, 1977 a pioneer in the field of masked depression , who estimated that between one and two thirds of all patients over 40 years of age consulting their general practitioners, had masked depression (Ballus, C., 1995), these patients emphasize their somatic symptoms, and tend to minimize psychological ones although it is easy to elicit other depressive symptoms (Helmsmen, H., 1993), if patients with these complaints, no pathological somatic finding can be assessed then the physician should not tell the patient that he "has nothing because the patient feels that he has some burden and impairment. Instead, the physician should consider a depression behind the face of somatic complaints and ask about other depressive symptoms.

Physical symptoms, for depressed patients, are the most frequent reasons for consultation a physician; come in clusters: pain (undifferentiated "all-over" pain, headache, chest pain, or low back pain), heart trouble (stabbing pain, palpitations, or interruptions), sleep disturbances (insomnia), gastrointestinal troubles (stomach upset, or diarrhea), and unexplained weight loss, symptoms of hyperventilation, dizziness, light headedness, muscle cramps, tachycardia, chest pressure, palpitations, a knot in the throat, sensation of suffocation, fear of imminent death, frozen extremities, cold sweats, and paresthesia in the limbs (Isar, C., 2006), in one study for the evaluation of somatic complaints among the patients with depression physician classified 52% of symptoms as physical in etiology, 37% as idiopathic, and 10% as psychiatric, depressive and anxiety disorders are present in 50% or more of patients with unexplained, persistent, or multiple somatic complaints, (Kroenke, K., 1994), the physical symptoms are different, and may take the whole body systems, most frequently pain, burning sensation, and numbness of body parts, fatigue, physical weakness, at times persistent diarrhea, appetite changes, and sexual disorders (Andrzejewski, W., 2006), such diverse nonspecific symptoms, at the level of the primary health care centers ,where the general practitioner, is unable to diagnose the mental disorders (Affana, A., 2002), lead to delayed diagnosis ; if diagnosed! And in turn increase the suffer of the patient, these symptoms do account for substantial health care utilization and costs, and that is with special importance in case of patients with diabetes and/or hypertension, where both will lead to somatic symptoms, e.g. Numbness, paresthesia, due to peripheral polyneuropathy, which are shared with depression. Moreover, inadequacies in our current understanding of the etiology and epidemiology of common symptoms results in diagnostic uncertainty, ineffective management, inability to meet patients' expectations and frustration (Jackson, JL., 2001). Headache (including neck pain), shoulder pain, and backache were the most common types of pain. Chronic painful symptoms were more commonly seen in subjects with MDD than was guilt, and nearly as commonly as loss of energy (Schatzberg, AF., 2005). The somatic complaints carry more importance with the elderly, where they may be considered as a normal process of aging.

The aged may complain of impairment in cognition due to depression which is called pseudodementia which may be thought as a dementia (Chapman, D., 2008), symptoms of

depressive disorder are frequently masked in older adults and may initially appear to be cognitive impairment or an early sign of neuroendocrine and related chronic disorders, somatic symptoms of depression such as fatigue create, diagnostic dilemma when assessing an aged patient with medical comorbidities, since chronic medical illnesses may produce similar symptoms, alternatively, somatic symptoms attributed to medical illness may actually be caused by depression (Drayer, RA., et al, 2005), older adults with depression frequently complain of cognitive difficulties (Kliegel, M.,2005), at the same time, depression is common during dementia, with reported prevalence rates of up to 86%, (Migliorelli, R., 1995).

2.3.11Morbidity and Mortality

Depression is among the disorders and illnesses with the greatest social impact and impairment with high treatment rates, low working abilities and high impairment of social and leisure activities. The association of days spent in bed with depression was greater than that with hypertension, diabetes, and arthritis, these findings applied not only to depressive disorder but also to depressive symptoms of sub threshold level (Judd, LL., 1996), depression is the fourth leading cause of disease burden, accounting for 4.4% of total DALYS in the year 2000, and it causes the largest amount of non-fatal burden, accounting for almost 12% of all total years lived with disability worldwide **(**Üstün,T., B., 2004), they are likely to result from the known effects of depression, such as impaired concentration, lack of energy, indecisiveness, and psychomotor retardation, the effects of work disability are particularly important for family bread winners, who are most frequently male, the impact of job loss may persist for a long time (Aro, et al, 1995). Although impairment of work is a particularly marked feature, it is also important to remember that unipolar depression shows a female predominance. For women, the major instrumental functions may be in the home in housework and childcare, rather than work outside the home. There are no formal mechanisms for taking sick leave, may be misinterpreted by family members, leading to increased friction and worsening relationships, social withdrawal is another consequence of dysfunction in depression which has been well documented (De Lisio et al, 1986).

The depressed patients with minor and moderate symptoms were found to be impaired with high health service consumption and a high suicidal rate similar to that of major depression. In addition to the personal and socio-economic costs, depression is associated with increased mortality. Suicide rates among treated depressed patients are as high as 12 to 25%. Mortality is also increased for somatic reasons especially from cardiovascular disorders, Depression is consistently found in community surveys to be associated with substantial impairments in both productive and social roles (WHO, 2006), the recurrent nature and disabling consequences of depression mean that overall disease burden estimates are high in all regions of the world (5,000 to 10,000 DALYS per 1 million population, as much as 5 percent of the total burden of disease from all causes, depression is in fact, ranked as the fourth leading cause of disease burden globally and represents the single largest contributor to nonfatal burden (WHO, 2006), depressed patients show impairment in all major areas of functioning-- personal care, family responsibilities, social and occupational functioning. The gravity of such impairment /disabilities is almost equal to or greater than that for patients with other chronic illnesses like hypertension, diabetes, coronary artery diseases, and arthritis (WHO, 2006), the burden caused by psychiatric disorders has been underestimated in the past. At present out of the 10 leading causes of suffering worldwide, five are psychiatric conditions, including depression. By 2020 depression will become the second largest cause of suffering -- next only to heart disease.

Because depression in the elderly is often wrongly dismissed as a normal function of aging, many depressed elderly remain undiagnosed, and an estimated 90 % of the depressed elderly are untreated, the depressed elderly seem to resist admitting to feelings of hopelessness or helplessness, to unusually long periods of grief following a loss, or to other emotional conditions that are significant in depression, they focus, instead, on physical manifestations that can occur due to age, or that are perhaps due to the depression, and physicians therefore often misdiagnose a patient who would otherwise respond to simple treatment methods, depression in older adults causes a high percentage of suicide: 19 percent of all suicides occur in individuals 65 years of age and older (Thompson, M., 2007).

Depression is a multisystem disease; that involves changes not only in the brain, but also in blood vessels, heart, and bones. "Of the major common mental illnesses, depression really

stands out as looking like ordinary disease across a number of body systems, where it poses similar mortality risks to smoking (Anderson, P., 2009), by what mechanism does depression affect the outcome of processes of the body? The usual explanations are that depression reduces adherence to care recommendations, and is associated with negative health behaviors; such as smoking and less exercise , that is true but it is not the whole picture, these explanations may apply to some situations, but in most cases, the answer is probably far more complex, depression adversely affects many physiologic processes, including autonomic dysregulation, inflammation, insulin resistance , platelet aggregation, and decreased cellular immunity (Jackson, J., L., 2004).

Patients with comorbid depression; after a myocardial infarction, are more likely to die of cardiac causes than similar patients without depression, and, moreover, the severity of depression is inversely related to long-term survival, this relationship has also been observed in patients after coronary artery bypass graft surgery and in patients with isolated systolic hypertension. Due to the following causes:

1) Depressed patients have multiple defects in the platelet clotting cascade, resulting in a net increase in the likelihood of thrombus formation, (Nemeroff, C., B., 2008).

2) Inflammation has long been known to play a role in the pathophysiology of cardiovascular disease, and there is now considerable evidence that patients with depression exhibit an increase in several markers of inflammation including inflammatory cytokines such as interleukin 6 and tumor necrosis factor (Nemeroff, C.,B., 2008).

3) Heart rate variability (HRV) is a well-validated measure of the heart's ability to respond to physiological demand. Reduced HRV is a well-established risk factor for myocardial infarction. Several studies have revealed that depressed patients without heart disease exhibit reductions in HRV (Nemeroff, C., B., 2008).

Of particular interest is the finding that treatment of depressed patients with SSRI normalizes their platelet clotting and HRV alterations, effects likely to also reduce the risk of myocardial infarction (Nemeroff, C., B., 2008).

2.3.12Management:

The management of depression is by different ways, drugs, cognitive behavioral therapy, cognitive therapy, and psychoanalytic psychodynamic psychotherapy. Both the use of drugs and cognitive therapy gave approximately the same results of success, of about 75% cure, while both of them together, the success rate up to 85% (Kaplan and Sadock, 1996).

2.4Anxiety Disorders

2.4.1Definition

Generalized anxiety disorder (GAD) is a common disorder; it is characterized by chronic, uncontrollable worry compounded by physiologic symptoms such as restlessness, muscle tension, impaired concentration, and disturbed sleep. Significant impairment in social and occupational functioning can occur with GAD, and it has been estimated that 6 days a month are lost to missed or shortened work days for individuals with the disorder (Hoge, E., 2004). People with GAD continuously worry uncontrollably, excessively, and disproportionately about everyday situations, which can interfere with their ability to focus, concentrate, and function effectively (Thompson, M., 2007), anxiety disorders, indeed, manifest in many unpleasant physical symptoms, including the following:

Sweating, trembling, cold clammy hands, nausea, intestinal problems, diarrhea , difficult swallowing, difficult breathing, muscle tension, rapidly pounding heart and palpitation, chest pain or tightness, tingling in the hands and feet, dizziness, weakness (Thompson, M., 2007), people suffering anxiety tire easily, often have difficulty sleeping, feel edgy and jumpy, and hyper alert.

2.4.2Prevalence

The prevalence of anxiety in the general population was 1.2%–6.4 % (Hoge, E**.,** 2004), among individuals with anxiety, 9.6% reported that it was their only lifetime psychiatric disorder, and 12.2% reported that the onset of anxiety preceded that of any other disorder;

these relatively high proportions both suggest that anxiety does indeed exist as a separate, diagnosable disorder. In the NCS, predictors of anxiety included an age of 24 years or older, being separated, widowed, or divorced, being unemployed, and being a homemaker, (Wittchen, HU., 1994), the prevalence of anxiety is similar across the world, in Australia, 2.8% of interview subjects in the general public met DSM-IV criteria for anxiety in the previous 30 days (Hunt, C., 2002), as with other psychiatric disorders, anxiety is found at higher rates in medical settings. This was clearly demonstrated in a 14-country World Health Organization (WHO) study of primary care in which a mean 1-month prevalence of 7.9% was found for anxiety on the basis of ICD-10 criteria (Maier, W., 2000), it forms one of the most common psychiatric disorders, that presents to primary health care centers, due manifest somatic complaints of the patient, and at the same time it's not will diagnosed for the same reason, for example, in a German survey of over 20,000 patients and their primary care physicians, physicians recognized and diagnosed pure anxiety only 34% of the time when it was actually present, in addition 44% of all patients with pure anxiety did not receive treatment or a referral to a specialist, the authors of the study surmised that the vagueness of anxiety symptoms and the common somatic presentation tend to confuse primary care providers (Wittchen, HU., 2003).

2.4.2.1Gender

Anxiety occurs more commonly among women, with a lifetime prevalence of nearly 7% for women in community samples, compared with about 4% for men (Wittchen, HU., 1994), the rate of anxiety is particularly elevated among women 44 years of age and older, the 14-country WHO study found an average current prevalence of 9.2% among women and 5.7% among men (Maier, W., 2000), though the rate differs across different countries, In Brazil, for example, the current prevalence of anxiety was 26% for women, and 14% for men, whereas in China it was 2.1% for women, and 1.7% for men, suggesting cultural and/or genetic factors may contribute to diagnostic prevalence (Maier, W., 2000).

2.4.2.2Age

Prevalence rates of anxiety, appear to vary somewhat with age, studies of overanxious disorder in children had found rates ranging between 2.9% to 4.6% among children below 11 years (Benjamin, RS., 1990), and 3.6% to 7.3% among adolescents (Wagner, KD., 2001), it has been hypothesized that anxiety had later onset than other anxiety disorders, perhaps because of, accumulation of chronic stressors over time (Kessler, RC., 2002), anxiety also may have an onset in late adulthood. Community-based studies of anxiety had found prevalence rates of about 4% in individuals above 65 years (Krasucki, C., 1998), in other studies anxiety disorders were the most prevalent Psychiatric disorder among old age, late-life anxiety disorders are a "geriatric giant," being twice as prevalent as dementia among older adults, and four to eight times more prevalent than major depressive disorders, causing significant impact on the quality of life, morbidity, and mortality of older adults, 90% of late-life anxiety are accounted for, by either generalized anxiety at least 50% of cases among older adults, or specific Phobia (Cassidy, KL., 2008),older adults are at risk for anxiety disorders ,increasing frailty, medical illness, and losses can contribute to feelings of vulnerability and fear, and can reactivate anxiety disorders, a lack of social supports, a recent traumatic event, medical illnesses and medications, poor self-rated health, the presence of another psychiatric illness (particularly another anxiety disorder or depression), an early onset anxiety disorder, - and female gender are all risk factors for late-life anxiety disorders (Cassidy, KL., 2008), So anxiety disorder are the commonest late life disorder.

2.4.3Comorbidity

2.4.3.1Psychiatric Comorbidity

Most individuals suffering from GAD, meet diagnostic criteria for other psychiatric DSM diagnoses, as well (Hazlett-Stevens, H., 2008,), in the National Comorbidity Survey; major depression was present in 62% of subjects with GAD(Wittchen, HU., 1994), dysthymia (40%), alcohol abuse or dependence (38%), social Phobia (34%), and simple phobia (35%) were commonly comorbid with GAD. The overall current psychiatric comorbidity rate with

GAD was 66.3%, and the lifetime comorbidity was 90.4%. It should be noted, however, that comorbidity rates are high across psychiatric diagnoses in general, at approximately 50%, (Kessler, RC., et al, 1994); pure GAD is present in10%–18% of patients, (Manela, MV., 1996), when comorbidity is present, individuals with GAD have greater symptom severity and greater impairment. Comorbidity is associated with a greater degree of interference with daily activities, with more help seeking, medication taking, laboratory tests, hospitalization, conflict with others, and with a poorer outcome for GAD (Noyes, R., 2001), the impairment may be due to the GAD, the comorbid disorder, or the combination of the two.

2.4.3.2Medical Comorbidity

Anxiety may occur more frequently in individuals with certain medical illnesses,18 studies of diabetes mellitus in aggregate suggested that 14% of patients with diabetes also have GAD (Grigsby, A., 2002), a lot of studies found higher prevalence of GAD among patients with obstructive air way disease, thyrotoxicosis and peptic ulcer, in these studies, the order of onset of the disorders is unclear, as what is the etiology of the comorbidity, while the pathophysiology of a general medical disease and the stress and functional impairment associated with the disease may each serve as a risk factor for GAD, GAD may also increase the risk of developing some medical disorders, the most common non-psychiatric comorbidity was hypertension, which was present in approximately 22% of study patients with anxiety disorders (McLaughlin, T., 2003), the following are some of the commonest medical comorbidities associated with anxiety disorders:
Anemia, Asthma, Arrhythmia, Angina, Early dementia, Fibromyalgia, Gastro esophageal reflux, Hyperparathyroidism, Hyperthyroidism, Hypoglycemia, Irritable Bowel Syndrome, Obstructive Lung disease, Parkinson's disease, Paroxysmal Atrial Fibrillation, Pheochromocytoma, Pulmonary Embolism, Substance Abuse, Seizure Disorders, Supraventicular Tachycardia, and Vestibular dysfunction.

2.4.4Course:

For the diagnosis of the disorder it needs a duration of worry for 6 months, that predict a long course of the disorder, and at the same time increase the suffer of the patient, a

prospective longitudinal clinical study, the Harvard-Brown Anxiety Research Program (HARP),(Yonkers, KA.,1996), similarly found GAD to be persistent. After 2 years, 60% of subjects still had active GAD, at 5 years, 66% of this group had only had partial remission or no remission of their GAD, several follow-up studies have examined the course of GAD and found that the presence of a comorbid psychiatric disorder or a personality disorder predicts poor outcome (Mancuso, 1994).

2.4.5 Burden and Impact on Quality of Life

Individuals with GAD live in a constant state of hyper vigilance, because anticipated threats typically are highly unlikely or vague in nature, the innate human capability to plan ahead by thinking into the future generates subjective anxiety and tension rather than constructive problem-solving action (Hazlett-Stevens, H., 2008), GAD-associated disability was also examined in the WHO Collaborative Study on Psychological Problems in General Health Care, pooled data from 14 countries, the study included measurements of physical disability, number of disability days per month (i.e., days when the respondent was unable to carry out his or her usual daily activities), 38% of subjects with GAD had moderate or severe impairment of occupational role functioning, with a mean of 6.3 disability days per month (Ormel, J., 1994), GAD has been shown to be at least as impairing as some medical disorders, the Macarthur Foundation's Midlife Development in the U.S. Survey, examined the frequency of work impairment days, associated with the 20 most common chronic health problems, including several psychiatric disorders, individuals with GAD had more work impairment days , 6 days per month , those suffering from ulcers 5.8 days /month, suffering from asthma, diabetes, or arthritis 3.1 to 3.5 days /month (Kessler, RC., 2001).

GAD, affect function in academic and occupational settings and negatively affect relationships with family and friends, given their early onset, anxiety disorders may adversely affect normal developmental processes (Stein, D., 2004), the financial cost of anxiety disorders has also been documented, an early set of data suggested that anxiety disorders accounted for one-third of the costs of psychiatric disorders; these costs were primarily indirect affecting occupational and social functioning, rather than direct, affecting cost of medical treatment (Stein, D., 2004), so early diagnosis and rigorous treatment of the

anxiety disorders may well prove to be highly cost-effective, anxiety disorders account for approximately one third of the total (direct plus indirect) economic costs of psychiatric disorders, amounting to over $46 billion annually (McLaughlin, T., 2003).

2.4.6Etiology of Anxiety Disorders

2.4.6.1Genetic factors

As with all traits, GAD is not an exempt, where the interplay of the genetic factors, stress, with the environmental factors has the basic and main role in the evolve of GAD, in one research, in a study of 63 monozygotic twins and 81 dizygotic twins, 21% of monozygotic twins both had GAD, whereas 13% of the dizygotic twins did (Andrews, G., 1990), study of genetic underpinnings of anxiety disorders, using the most modern techniques didn't yet identify a gene or even multiple genes for any single anxiety disorder, although some interesting findings had been reported for OCD and agoraphobia (Weissman, MM., 2000), however, family and twin studies suggested that some genetic components may be shared between different anxiety disorders, depression, and alcohol and drug abuse, (Hettema, JM., 2001).

2.4.6.2Psychological factors

2.4.6.2.1Cognitive theory: Assigns primary importance to abnormal or "catastrophic" cognitions, as an underlying mechanism of all of the anxiety disorders, in majority of anxiety disorders, information about threat is processed in a very peculiar way; patients typically catalog the information in excessive detail or divide the information into "good" and "bad," with no gray area in between, and later question whether or not the threat exists, under these circumstances, the only safe way to deal with the situation is to consider the worst-case scenario (i.e., using catastrophic cognition), and then act to protect oneself against the danger, (Bystritsky, A., 2004), the patient respond incorrectly to perceived danger the inaccuracy is generated by selective attention to negative details, by distortion information processing. **2.4.6.2.2 It is well known that anxiety disorders are stress dependent;** Stress is an important risk factor in the emergence and maintenance of anxiety syndromes for example,

increased stress usually accounts for relapses in chronic anxiety conditions such as generalized anxiety disorder, in PTSD it is the main etiological factor, even without genetic predisposition, it is well known that anxiety disorders are stress dependent, for example, increased stress usually accounts for relapses in chronic anxiety conditions such as generalized anxiety disorder (Bystritsky, A., 2004).

2.4.6.2.3 Psychodynamic models: Explaining anxiety as, displacement of an intra psychic

conflict, social anxiety is conceptualized according to the psychodynamic theory as, a symptom of a deeper conflict, for instance, low self-esteem or unresolved conflicts with internal objects (Preda, A., 2008), the psychoanalytic considers GAD as a form of unresolved unconscious conflict, or as a fear of separation from a loved object, at a more mature it is connected to the loss from an important object (Kaplan and Sadock, 1996).

2.4.6.2.4The behaviorists see anxiety, as a learned conditioning.

2.4. 6.3Biological Factors

Chronic stress in patients with anxiety and mood disorders can cause dysregulation of the hypothalamic-pituitary-adrenal axis (Axelson, DA., et al 1993), in addition, acute and chronic stress causes an elevation in glutamate levels, that can cause secondary toxicity in some parts of the brain, such as the hippocampus, which can account for the reduction of hippocampal volume seen in patients with PTSD (Nutt, DJ., 2000).

Anxiety disorders can occur in the context of medical illness, the list of medical conditions that should be considered in the differential diagnosis of anxiety disorder is extensive;

Cardiac causes: include the following;

Arrhythmias, Supraventicular Tachycardia, and Mitral valve Prolapse.

Endocrinal Causes: including the following;

Hyperparathyroidism, Pheochromocytoma, and Hypoglycemia.

Metabolic or autonomic abnormalities caused by an illness could produce the syndrome of anxiety, for example, hyperthyroidism could produce panic attacks, and the symptoms of a medical illness, could serve as a trigger for anxiety, such as the sensation of an abnormal heartbeat in arrhythmia triggering a panic attack, (Bystritsky, A., 2004).

Three major neurotransmitter systems, serotonin, dopamine, and norepinephrine, have been extensively studied in normal and pathological anxiety states, the significance of these systems is clear from the fact that most of the effective treatments of anxiety affect one or several of these systems, it is clear, however, that anxiety disorders are not a result of a simple deficiency of one of the neurotransmitters, the accumulated body of research shows that the networks governed by these transmitters have extensive interrelationships, multiple feedback mechanisms, and complex receptor structures, this complexity can explain the unpredictable and sometimes paradoxical responses to medication, (Bystritsky, A., 2004).

2.4.7Types of Anxiety Disorders

Anxiety Disorders are Multiple Disorders; the anxiety (fear), is felt in some of the disorders while it is inferred in other group of disorders:

It is felt in the following disorders:

I-PTSD &phobias her fear (anxiety) is towards will defined object.

II-generalized Anxiety Disorder, Agoraphopia, the fearful object is not will defined the anxiety in the 1st is chronic, while it's acute in the later

The anxiety is inferred in the following disorders and it is chronic anxiety, obsessive compulsive neurosis, conversion disorders, and dissociation disorders (Rosenham, 1995).

GAD is the one that is going to be considered in this research.

GAD has four components:

1-Cognitive component: in the form of expecting impending harm.

2-Emotional component: feel of terror and panic.

3-Behavioral: fight or flight.

4- Somatic in the form of body reactions to danger (Rosenham, 1995).

2.4.8Diagnosis

It is defined in DSM-IV, as excessive i.e. Intensity,(duration and frequency) out of proportion (Barlow, D.1993), pervasive worry accompanied by a variety of somatic complaints, causing significant impairment, in social and occupational functioning with marked distress (Kaplan and Sadock 1996) for sex months duration, associated with three of the following symptoms, restless, easily fatigability, difficult concentration, irritability, muscle tension, and sleep disturbance, in the absence of a specific feared object, class of stimuli, or situation.

In the case of anxiety disorders in old age, the most common disorder in later life is GAD, there is difficulty at its diagnosis due to the high rate of comorbidity, with either psychiatric disorder the commonest is major depression which shares some of the symptoms of GAD, e.g. Impaired sleep, concentration, attention, and memory; and agitation, and/or somatic illnesses, e.g. diabetes and hypertension, may have similar somatic symptoms, including chest and abdominal pain, headaches, and shortness of breath.

2.4.9Morbidity and Mortality

Anxiety disorders produce a plethora of physical symptoms; sufferers are likely to visit a doctor three to five times more frequently than the general population and people who reported feeling abnormally anxious and nervous had a higher incidence of attempting suicide in the subsequent 5–10 years (Thompson, M., 2007), though anxiety disorders are highly treatable, only about one-third of sufferers receive treatment, hypertensive and diabetic patients with co morbid anxiety were as debilitated as patients with depression or heart disease, and this low health- related quality of life persisted over time, this highlights the clinical and societal importance of identifying co morbid anxiety in these patients, (Camp, P., 1996), in another study it was found that substantial amount of GAD occurs

independently of major depression and that the role impairment of GAD is comparable to that of major depression, (Ronald, K., 1999), in another study it was found that the mortality due to GAD: is attributable to cardiovascular diseases, and this risky association increased in case of comorbidity with MDD, it would seem that these disorders may interact synergistically to affect mortality (Phillips, A. Et al 2009), the increased morbidity and mortality associated with anxiety disorders may be related to the high rate of comorbidity, either with other psychiatric disorders specifically MDD, or physical disorders e.g. Cardiovascular diseases diabetes or hypertension(Yates, W., 2008).

2.4.10Management

Cognitive behavioral therapy is the best way of management, drugs the use of benzodiazepines, or antidepressants as anxiolytic agents, Progressive Relaxation Meditation, or any combination of the above.

2.5The Interaction of both Diabetes and Hypertension from one Side and Depression and Anxiety from the Other Side

The relationship between chronic physical diseases and mental disorders, is complex bidirectional, and interactional, where there is a strong relationship between chronic somatic diseases and mental disorders (Harter,Mc., et al, 2007), and from another hand the prevalence rates of major depression, hypertensive diseases, cerebrovascular accidents, and other chronic conditions are increasing throughout the world (Kramer,M.2007). The interaction of diabetes and/or hypertension from one hand and depression and anxiety from the other hand is multiple including a lot of aspects of diabetes and hypertension including; their prevalence, prognosis, controllability, morbidity, and mortality, and even at some studies showing similar pathopysiological etiologies, especially for diabetes and depression, at the same time the different studies and research results are not the same but there are incompatible results, with some contradiction.

2.5.1Diabetes Mellitus with depression and /or Anxiety:

Epidemiological studies carried out at patients with diabetes, showed high prevalence rates of psychiatric disorders, in particular mood and anxiety disorders(Eiber, R.,1997), the prevalence of depression is roughly twice as high among diabetic patients as among the general population (Katon, W., 2004), some studies found the prevalence of depression among diabetics 11%, and elevated depressive symptoms was 31% of diabetic patients (Anderson, RJ., 2001), even the prevalence of depression among diabetics differed with different variables; the prevalence of depression was significantly higher in diabetic women 28%, than in diabetic men 18%, in uncontrolled 30%, than in controlled 21%, in clinical 32%, than in community 20%, and when assessed by self-report questionnaires 31%, than by standardized diagnostic interviews 11% (Anderson, R., 2001), the prevalence increased with complications; in one study in who were subjected to their first foot ulcer, one third of them developed major depression (Ismail, K., 2007). People with diabetes had a 20% higher prevalence of anxiety (Barker, L., 2008). Other research found the increased prevalence of depressive symptoms in diabetics if associated with other two chronic diseases, e.g. stroke , arthritis, CHD, …etc (Egede, L., 2005), other studies denied the possibility of increased prevalence among diabetics; without the presence of other chronic diseases (Engum, A., 2005),patients treated with insulin had an unadjusted 34% increase in their risk of developing depression being introduced to type II diabetes uncontrolled with oral drugs (Wexler, DJ., 2006) and other research proved that patients with depression were more prone to develop diabetes even developing depression once in the patient's life, that increase the possibility of developing diabetes by 35% later on (Ulkman,k.,2007).
The primary goal in treating patients with diabetes are maintaining blood glucose levels as close to normal as possible, and making a relatively normal quality of life achievable, the role of the patient in the control of diabetes is not in need to be ascertained, the relationship of depression and poor self-management is consistent across different socioeconomic and cultural groups(Elizabeth H. B. Lin, 2006), depression is known to negatively alter eating patterns, sleep patterns, and activity levels, so made the controllability of it more difficult (William, A., 2008, and Sherita, H., 2008). The first line of management, of diabetes is life style modification, it was found that patients with diabetes and comorbid with depression had

a bad quality of life (Goldney, RD., et al, 2004), where it is well known that obesity and smoking are risk factors for the development of diabetes and hypertension, and the first to be addressed in the management of diabetes and hypertension, is to decrease weight and to stop smoking,, smoking itself increase and even predispose to macrovascular complications; and it was found that smoking was more in patients with depression, as well as obesity (Katon, W., et al, 2004), and even patients who smoke found to be 40% less to quit smoking than the non depressed (Anda et al, 1990), the association between both major and minor depression and cigarette smoking is especially worrisome among people with diabetes (Katon, W., et al 2004),where it was found in a study reviewing different studies that, diabetic patients with depression were more likely to have an A1C > 8%, a BMI > 30 kg/m^2, and serum triglyceride levels > 400 mg/dl, and were more likely to smoke than patients without depression, and depressed patients exercise less (Leichter, SB., 2005), the suffer of the patient with diabetes is not going to be limited to himself; but is going to affect the family specially if he is the bread winner, where more days are going to be stayed at home, so increasing his/her suffer and the suffer of the family (Jayati Das-Munshi, 2007).
Compliance to medications became poor in case of depression comorbidity (Lustman, J.W., 1997), adherence to drugs is directly proportional to the severity of depressive symptoms, besides depressive symptom severity is associated with poorer diet and medication regimen adherence, functional impairment, and higher health care costs in diabetic patients, (Ciechanowski, PS., 2000), that is not the whole effect, but depression worsens the prevalence and severity of insulin resistance in adult patients, in addition, the existence and severity of depression correlated positively with the severity of insulin resistance in patients at risk of developing diabetes (Leichter, SB., 2005).
The uncontrollability is known through different parameters, e.g. glysolated Hemoglobin which is found to be high in case of comorbid depression (Lustman, PJ., 2005),at UNRWA clinics the follow up is through the estimation of, blood sugar two hours after meal, so it is expected that after depression control and management, the control of diabetes is going to be improved, but some studies showed the reverse, where in one study it was found that ,no increase in healthy nutrition or physical activity and lower adherence to oral anti diabetic medications among intervention participants (Elizabeth H. B. Lin, et al, 2006), and in another

study; depression care management did not affect how well patients followed their diabetes diet, whether patients took their diabetes medications as prescribed, or how often patients tested their blood sugar, in addition, it did not affect hemoglobin A_{1c} levels (Williams, J., et al, 2004), and in turn had no effect at the outcome of diabetes management (Pirraglia, PA., 2008). Other study showed the expected improvement of diabetes control by the improvement of depressive symptoms, in one study carried out at the Pima Indians it was found that, treatment of depression improved glycemic control in diabetic patients (Singh, PK., et al, 2004), and in my experiences the use of Nortryptaline (tricyclic antidepressant),though it increases blood glucose level, but by the improvement of depressive symptoms, it lead to better control of patients with diabetes.

So there is increased possibility of developing complications, including coronary heart disease, nephropathy, retinopathy and neuropathy (Nicholson, A. et al 2006 and Groot,M 2001),and so the late complications of diabetes occurred earlier, as well as death (Zhang,X. 2005), major depression was an independent risk factor that accelerated the development of coronary heart disease (Clouse, RE., et al, 2003), besides patients with diabetes if they harbor any disease like other people, those with depression their cure rate is less than that of non depressed (Keitner, GI.1991), patients subjected to myocardial infarction were more liable to die earlier, if they had depression, and even the duration of survival is inversely related to the severity of depression (Nemeroff, CB.,2008), for that it is not the life style ,adherence to medication, obesity and smoking which determine, the effects of depression, but there are a lot of physiological mechanisms that interfere , and gives the net results of depression effect, these include, autonomic dysregulation, platelet aggregation, inflammation, increased insulin resistance, and decreased cellular immunity, some studies had shown that markers of inflammation, improved with treatment of depression. In addition, selective serotonin reuptake inhibitors seem to affect platelet aggregation, suggesting that treatment of depression might have other beneficial effects (Jackson, 2000).

Anxiety and depression predict all-cause mortality in a veteran population after adjusting for a range of covariates. However, those with both anxiety and depression were at greatest risk of subsequent death, and it would seem that these disorders may interact synergistically

to affect mortality **(**Phillips, AC., et al, 2009), anxiety is a common mental disorder, with high comorbidity with chronic illnesses (Azad,N., 2006),and diabetes was significantly associated with anxiety (Lic, 2006, and Hall, P., 2008), the presence of anxiety with diabetes decreased the possibility of control of the disease, where the degree of anxiety, and the change of its state is inversely related to diabetes control (Hildrum,B.,2008 and Grigsby AB. 2002). So patients with diabetes and anxiety were more liable to early complications; new research proved that patients with diabetes comorbid with anxiety were at fivefold increase to have angina pectoris than those without, and at threefold of having angina in case of comorbidity with depression (Anderson, P., 2009). Also in a new prospective research, to study the link of depression, and mortality in patients with diabetes, it was found that the rate of mortality in patients with diabetes comorbid with depression due to other causes than the cardiovascular causes was higher than patients with diabetes without comorbid depression (Lin, E., 2009).

All the mentioned above, drawbacks due to the comorbidity of mental disorders with diabetes, seems not to be enough; where the situation is worsened by, the less care provided to diabetic patients with comorbid mental disorders, compared to the other people, researchers found that individuals with serious mental illness received fewer recommended services and less education about diabetes (Krein, S.L, 2006). At the level of the cost; the presence of either depression and /or anxiety, with their bad effect at the prognosis of diabetes increase the cost, depression increased costs by 50%, whereas persistent elevation in hemoglobin A_{1c} (A1C) levels increased costs by 11%, (See, S., 2000).

2.5.2Arterial Hypertension with depression and /or Anxiety

Anxiety used to be a comorbidity with somatic diseases namely, cardiac and hypertension, and as a risk factor for the development of hypertension (Harter, Mc., 1999), and at the same time the risk of high blood pressure, increases with the increase of the anxiety scores, (Paterniti, S., 1999),in another study it was found that the prevalence of depression and anxiety, among patients with hypertension, was 4.9% and 8.1% respectively, if hypertension was comorbid with another physical illness, but if not, the prevalence is the same like the other people (Grimsrud, 2009), depression is a risk factor for hypertension, and at the same

time the controllability of hypertension becomes more difficult (Hildrum,B., 2008), both anxiety and depression are higher in patients with hypertension and at the same time as a risk factor for the development of hypertension (Han,J., 2008), hypertension complications , increased with increase of anxiety scores (Paterniti, S., 1999), while other studies proved that depression was not a risk factor for the development of hypertension, on the contrary depression is associated with hypotension, and the use of some antidepressants, especially tricyclic antidepressants, while SSRI are not a risk factor for the development of hypertension, (Carmilla M.M., 2009), even in the last study depression was associated with low systolic blood pressure, while in another study, it was found that patients with hopelessness; which is a core symptom of depression; were at three fold risk of developing hypertension, than the others who were free of hopelessness (Everson, S., 2000). For the management of H.T., life style modification, comes at the top, in case of anxiety comorbid with depression, it makes life style modification more difficult, where Patients with comorbid anxiety; had lower levels of functioning and well-being than those without anxiety (Sherbourne, CD.,1996), the prevalence of diabetes and hypertension is higher among older adults with considerable prevalence among those who were above 40 years, with the progress of aging it is expected for the aged above 60, to have higher % of diabetes and/ hypertension , which imposed more challenge at the adherence to medications especially if it is associated with mental disorder, where the non-adherence was 60% (Wetherell, JL., Unützer, J.,2003).

Anxiety and depression predict all-cause mortality in a veteran population after adjusting for a range of other variables. However, those with both anxiety and depression were at greatest risk of subsequent death, and it would seem that, these disorders may interact synergistically to affect mortality (Anna C. Phillips, et al, 2009), taking in consideration that more than 50% of depressive patients are comorbid with other mental disorder, the most prevalent one is anxiety, that is called compound depression, and the recovery rate for compound depression was lower than that for pure depression (Keitner, GI., 1991), the comorbidity with both anxiety and depression, predict all-cause mortality, and at greatest risk of subsequent death, , and it would seem that these disorders may interact synergistically to affect mortality, **(**Phillips, AC., et al, 2009), the major cause of death is cardiovascular, in a new research showed that ischemic heart disease patients, who suffer significant anxiety have

close to a 5-fold increased risk of experiencing frequent angina and those with depression have more than a 3-fold increased risk for these episodes (Anderson, P., 2009).

Chapter 3

Research Methodology

3.1 Introduction

In this chapter the main methodological parts will be indicated by the researcher. They include; study design, study sample (study population, sample size, sampling process), study place, ethical consideration, study instruments, data collection procedures and data analysis procedures.

3.2 Study Design

.The current study aimed to estimate the prevalence of depression and anxiety disorders among patients with diabetes and /or hypertension**.** The study is quantitave, descriptive, correlational, and analytical design tries to answer the study questions correlated with the different variables, associated with diabetes and /or hypertension.

.In this study the prevalence of the phenomenon under the study, (depression and anxiety), is going to be estimated, as dependent variables and the correlation between them and the independent variables i.e. diabetes and hypertension from one hand, and on the other hand the correlation with other variables, including the sociodemographic variables, controllability, complications and compliance to medications, also are going to be estimated.

3.3 The Study Population

The study population is all patients with diabetes and/or hypertension.

3.4Target population

All Patients with diabetes and/or hypertension, registered at the non-communicable (NCD) clinics at the UNRWA health centers, at Gaza Strip.

3.5 Accessible population

Patients registered at the NCD clinics, attending the health centers regularly.

3.6 Period of the study

The study performed in the second semester of the scholastic year 2009/2010; the estimate duration of the study is approx four months, at the five centers selected randomly, still alive, living at the catchment area of the health centers, and they are regular attendants of the NCD clinics i.e. not defaulters.

A defaulter is a patient with diabetes and/or hypertension, and he/she didn't attend the health center for one calendar year.

3.7The study sample

The sample size consisted of 400 patients.

3.8 Process of sampling

The researcher selected the study sample by using stratified cluster random sample. Five centers were selected from the five Gazian governorates by random selection; from the northern governorate, Beit Hanoon health centre, from Gaza governorate, Al-Rimal health Centre, from the middle Der El-Ballah Health centre, from Khan-Younis, Maen Health centre, and from Rafah, Rafah health centre.

The sample size is 400 participants, they were distributed equally at the five health centers, i.e. 80 for each center, and all the patients who were registered had the same equal chance to participate in the study, so each tenth patient attending the NCD clinic was selected as a participant in the study.

3.9Place of study

It was carried out at Gaza Strip, at the UNRWA health centers, five centers were selected from the five governorates at Gaza Strip to represent all Gaza Strip.

3.10Eligibility criteria

3.10.1 Inclusion criteria

The sample included patients with diabetes and/or hypertension registered at the randomly selected health centers, each patient had a patient registration file, attending the health centre regularly according to the scheduled visits, and not absent for more than one calendar year, otherwise he is considered defaulter.

3.9.2 Exclusion criteria

Patients under the age of 15 years old and above 65 year are excluded from the study.

3.10Limitation of the study

Due to patients overload, and overcrowding and due to the poverty, some patients are not coming regularly, and at the same time they are not defaulters, so they cannot be excluded from the study, and that will affect the results, the absence of the mainly used hypotensive drugs make the availability of patients with hypertension, less than usual.

3.11Ethical Considerations:

1-An approval letter from Helsinki committee, is obtained to carry out the research.

2- An approval letter from the director of the health department at the UNRWA is obtained.

3- An approval consent from each participant was obtained.

3.12 Data Collection

The data was collected directly from the patients by using a standardized questionnaires

Detailed information about the study was given to each participant using their own Arabic language, consent to participate was obtained.

3.13 Instruments of the study

3.13.1- Socio- Demographic questionnaire:

It includes demographic data such as; age, sex, place of residency, type of work, and monthly income, educational level, marital status, type of family(extended or nuclear),and No. of family member under the responsibility of the participant,

3.13.2- Organic Disorder Questionnaire:

The physical disorder the patient has, are the medication taken as prescribed, are the follow up visits regular for medication ,lab. Investigations, specialist evaluation, the presence of complications, and at the end the controllability of the condition.

3.13.3—Beck Depression Inventory scale:

Beck Depression Inventory (Beck et al, 1988), the original form of this scale, contains 21 items and aims to assess, depression and it's severity. The severity of depression is classified on the basis of the total score; in a normal community sample, a BDI score <20 suggests no or minimal depression, 21 to 31 represents mild to moderate depression, 32 to 41 is moderate to severe, and <= 43 indicates a severe level of depression (Gareeb,2000). It is a universal scale; it[s] validity and reliability are already tested.

3.13.4- Manifest Anxiety scale:

Manifest Anxiety Scale (MAS), Taylor's MAS was reported to be useful in identifying adults with chronic anxiety (Reynolds & Richmond, 1978, 1997), I used the Arabic version with 50 items, and answers of "Yes" or "No". The score ranged from 0-26 (no anxiety), 27-32 (Mild anxiety), 33-40 (severe anxiety), and 41 and above (very severe anxiety). It is a universal scale with already tested reliability and validity.

3.14Data management

SPSS programme (Statistical Package for Social Science), is the one going to be used for data entry, cleaning and analysis.

The collected data had been processed and analyzed under the supervision of the academic supervisor.

1-Data entry: it had been daily entered. Data had been entered at two different pages for the sake of comparison and accuracy.

2-Data cleaning: Studying the measures of central tendency, the mean, mode, median, and standard deviation, of the different variables, will help the researcher to know if there are errors of the entered data or not.

3- Data analysis: Many statistical test like descriptive statistics; frequencies, percentages, means and standard deviation. In addition to differences between study variables using chi square test for categorical data.

Chapter 4

Results

4.1 Introduction

In this chapter the researcher will present the main results of the study after data collection and analysis by using statistical tool (SPSS ver11.5), of a sample of 400 patients attending UNRWA primary health care centers, the results are represented under the following findings and headings. The researcher used many statistical test like descriptive statistics; frequencies, percentages, means and standard deviation. In addition to differences between study variables using chi square test for categorical data.

4.2 Demographic results of the study sample:

The tables 1 and 2 shows the demographic results of the study sample, which described the study sample according to sex, place of residence, type of residence, educational level, and monthly income. Beside, medical history including types of diseases, follow-up and attending clinics, and complications was included.

4.2.1Demographic characteristics of the study sample:

The sample consisted of 400 subjects, the respondents were 388 with response rate of (97%), 243 of them were females (62.6%), and 145 were males (37.4%). The age ranged from 16 to 65 years old (mean age was 48.01, SD = 9.69). According to place of residency189 of them live in cities, (48.7%), 32.7% live in villages, and 18.6% live in camps, according to educational level 16.25% of them were not educated at all, while 9.3% finished the elementary schools, 23.7% finished the preparatory schools, 32.7% finished the secondary school, and 18% have a university degree, according to the marital status 85.1% were married, while 5.7% were single, 8.5% were widowed, and 0.8% were divorced, according to the type of family 64.7% live in a nuclear family, and 35.3% live in an extended family, according to accordance in the family 7.5% have family problems and 92.5% have no family problems, according to the work 72.9% were not working, 14.7% were employee,

10.3% were simple worker, and 2.1% were skilled workers, according to the monthly income 70% with monthly income less than 250$,17.7% with monthly income between 250-500, 11% with monthly income between 501-1000$, and only 4.4% with monthly income above 1000$.

Table 1

Demographic characteristics of the study sample (No. = 388)

		No	%
Sex	Male	145	37.4
	Female	243	62.6
Place of residence	City	189	48.7
	Village	127	32.7
	Camp	72	18.6
Education	Uneducated	63	16.2
	Elementary	36	9.3
	Primary	92	23.7
	Secondary	127	32.7
	University	70	18
Marital status	Married	330	85.1
	Single	22	5.7
	Widowed	33	8.5
	Divorced	3	0.8
Type of Family	Nuclear	251	64.7
	Extended	137	35.3
Family relationships	With problems	29	7.5
	Without problems	359	92.5
Type of work	Unemployed	283	72.9
	Employee	57	14.7
	Simple worker	40	10.3
	Skilled worker	8	2.1
Family monthly income	Less than 250 $	268	69.1
	251-500 US $	64	16.5
	501-1000$	40	10.3
	More than 1001 US $	16	4.1

4.2.2 Physical disorders

According to type of disease 43.9% had been diagnosed as Diabetes Mellitus, 28.3% had hypertension, and 27.8% had both diseases (diabetes and hypertension).

Table 2

Physical disorders

Type of disease	No	%
Diabetes	172	44.3
Hypertension	109	28.1
Diabetes and hypertension	107	27.6

4.3 Physical disorders and complications

According to medical complications, 46.85% had visual problems, 7.1% had heart failure, 6.5% had myocardial infarction, 2.6% had cardiovascular accidents, 2.3% had renal failure, and 2.3% had amputated extremities.

Table 3

Physical disorders and complications

	Yes		No	
	No.	%	No.	%
Visual problems	164	46.85%	186	46.9%
Heart Failure	25	7.1%	326	92.9%
Myocardial Infarction	23	6.5%	329	93.5%
Cardiovascular accidents	10	2.8%	342	97.2%
Renal Failure	9	2.6%	341	97.4%
Amputation of extremities	8	2.3%	342	97.7%

4.4 Prevalence and level of depression among the whole sample

The following table shows that 51.9% of the patients had no depression (i.e.48.1%had depression), 23.8% had mild, 10.6% had moderate and 13.7% had severe depression. Using the Beck depression scale, mean depression was 22.16 (SD = 14.45).

Table 4

Prevalence and level of depression among the whole sample

	No.	%
No depression	201	51.9
Mild depression	92	23.8
Moderate depression	41	10.6
Severe depression	53	13.7

4.5 Prevalence and level of depression in relation to type of disease

As shown in table 5, the study showed that 55.8% of diabetic patients had no depression (i.e.44.2 had depression), 19.2% had mild, 12.8% had moderate, and 12.2% had severe depression. The study showed that 54.7% of hypertension patients had no depression (i.e. 45.4% had depression), 27.8% had mild, 7.4% had moderate, and 10.2% had severe depression. Also, 43.0% of both diabetic and hypertension patients had no depression (i.e. 56.0% had depression), 27.1% had mild, 10.3% had moderate, and 19.6% had severe depression. Chi square test showed that patients with combined hypertension and DM had severe depression than diabetic and hypertension in single diagnosis patients, but this was not statistically significant (χ^2 =10.8, p = 0.09).

Table 5

Prevalence of depression in relation to type of disease

Type of disease		Depression level				χ^2 = 10.8
		No depression	Mild depression	Moderate depression	Severe depression	P= 0.09
DM	No.	96	33	22	21	
	%	55.8	19.2	12.8	12.2	
Hypertension	No.	59	30	8	11	
	%	54.6	27.8	7.4	10.2	
Both DM and Hypertension	No.	46	29	11	21	
	%	43.0	27.1	10.3	19.6	

4.5.1 Prevalence and level of depression in relation to sex

As shown in table 6, 56.9% of males had no depression (i.e.43.1% had depression), 13.2% had severe depression and 48.8% of females had no depression (i.e.51.2% had depression), 14.0% had sever depression. This was not statistically significant (χ^2 =2.9, p = 0.39).

Table 6

Prevalence and level of depression in relation to sex

Sex		No depression	Mild depression	Moderate depression	Severe depression	χ^2 =2.9
Male	No.	82	28	15	19	P =0.39
	%	56.9%	19.4%	10.4%	13.2%	
Female	No.	119	64	26	34	
	%	48.8%	32.2%	10.7%	14.0%	

4.5.2 Prevalence and level of depression inrelation to the age groups

The sample ages were divided into the following age groups (16-25y, 26-35y, 36- 45y, 46-55y, and above 56years old). The mean age was 48 years (SD= 9.69). In comparing severity of depression according to age group, 6.2% of patients age 16-25 years had severe depression, 9.5% of age group 26-35y had severe depression, 8.1% of age group 36-45 years

had severe depression, 8.4% of age group 46-55years had severe depression, and 29.0% of patient of age group 56years and above had severe depression. Chi square test showed that patients age 56years old and above had severe depression than those in other age groups. These differences reached statistically significant level (χ^2 =29.1, p = 0.04).

Table 7

Prevalence and level of depression in relation to the age groups

Depression level	**16-25y**	**26-35y**	**36-45y**	**46-55y**	**Above 56y**	χ^2 = 29.1
No depression	9	11	58	86	37	P= 0.04
	56.3%	52.4%	58.6%	54.1%	39.8%	
Mild depression	4	6	24	42	16	
	25.0%	28.6%	24.2%	26.4%	17.2%	
Moderate depression	2	2	9	15	13	
	12.5%	9.5%	9.1%	9.4%	14.0%	
Severe depression	1	2	8	15	27	
	6.2%	9.5%	8.1%	8.4%	29.0%	

4.5.3 Prevalence and level of depression in relation to place of residence

In comparing severity of depression according to place of residency, 5.9% of patients with diabetes and/or hypertension, live in cities had severe depression, 26.0% live in villages had severe depression, and 12.5% live in camps had severe depression. Chi square test showed that patients live in villages had severe depression than those live in cities and camps. This differences reached statistically significant level (χ^2 =33.7, p = 0.001).

Table 8

Prevalence and level of depression in relation to place of residence

Place of residence		No depression	Mild depression	Moderate depression	Severe depression	$\chi^2 = 33.7$
City	No.	110	43	24	11	P = 0.001
	%	58.5%	22.9%	12.8%	5.9%	
Village	No.	60	23	11	33	
	%	47.2%	18.1%	8.7%	26.0%	
Camp	No.	31	26	6	9	
	%	43.0%	36.1%	8.3%	12.5%	

4.5.4 Prevalence and level of depression in relation to education level

In comparing severity of depression according to education level, 9.5% of uneducated patients with diabetes and/or hypertension had no depression (91.5% had depression) 46.0% of them had severe depression, 9.5% of patient finished elementary class patient had severe depression, 8.8% of patient finished primary class had severe depression, 6.3% of patient finished secondary class had severe depression, 78.6% of patient finished university had no depression (i.e.21.4% had depression), 2.9% of them had severe depression. Chi square test showed that uneducated patients had severe depression than those in other groups. These differences reached statistically significant level (χ^2 =11.06, p = 0.001).

Table 9

Prevalence and level of depression in relation to education level

		No depression	**Mild depression**	**Moderate depression**	**Severe depression**	χ^2 =11.06
Uneducated	No.	6	16	12	29	P = 0.001
	%	9.5%	23.8%	19.0%	46.0%	
Elementary	No.	15	11	4	6	
	%	57.7%	42.3%	15.4%	9.5%	
Primary	No.	46	30	7	8	
	%	50.4%	33.0%	7.7%	8.8%	
Secondary	No.	79	25	15	8	
	%	62.2%	19.7%	11.8%	6.3%	
University	No.	55	10	3	2	
	%	78.6%	14.3%	4.3%	2.9%	

4.5.5 Prevalence and level of depression in relation to the marital status

In comparing level and severity of depression according to marital status,55.6% of married had no depression (i.e44.4% had depression), 11.6 % them had severe depression, 13.6% of single patients had severe depression, 12.15 of widowed had no depression (i.e.81.9% had depression), 36.4% of them had severe depression, and no one divorced had severe depression. Chi square test showed that married patients with diabetes and/or hypertension had severe depression than those in other groups. These differences reached statistically significant level (χ^2 =15.81, p = 0.001).

Table 10

Prevalence and level of depression in relation to the marital status

Marital status		**No depression**	**Mild depression**	**Moderate depression**	**Severe depression**	χ^2 =15.81
Married	No.	183	75	33	38	P = 0.001
	%	55.6%	22.8%	10.0%	11.6%	
Single	No.	12	5	2	3	
	%	54.5%	22.7%	9.1%	13.6%	
Widowed	No.	4	11	6	12	
	%	12.1%	33.3%	18.2%	36.4%	
Divorced	No.	2	1	0	0	
	%	66.7%	33.3%	0.0%	0.0%	

4.5.6 Prevalence and level of depression in relation to the type of family

In comparing severity of depression according to type of family, 21.2 % of nuclear families had severe depression and no one from extended families had severe depression. Chi square test showed that patients from nuclear families had more moderate to severe depression. These differences reached statistically significant level (χ^2 =15.81, p = 0.001).

Table 11

Prevalence and level of depression in relation to the type of family

Type of family		No depression	Mild depression	Moderate depression	Severe depression	χ^2 =34.98
Nuclear	No	114	56	27	53	P = 0.001
	%	45.6%	22.4%	10.8%	21.2%	
Extended	No	87	36	14	0	
	%	63.5%	26.3%	10.2%	0.0%	

4.5.7 Prevalence and level of depression in relation to type of work

In comparing level and severity of depression according to type of work, 46.1% of unemployed patients had no depression (i.e.53.9% had depression), 12.4 % of them had severe depression, 78.9% of employee patients had no depression (i.e.21.1% had depression), 0.3% of them had severe depression, 0.3% of skilled workers had severe depression, and 0.8% of simple workers had severe depression. Chi square test showed that unemployed patients had more severe depression. These differences reached statistically significant level (χ^2 =25.2, p = 0.003).

Table 12

Prevalence and level of depression in relation to the type of work

Type of work		No depression	Mild depression	Moderate depression	Severe depression	χ^2 = 25.2
Unemployed	No.	130	72	32	48	P= 0.003
	%	46.1%	25.5%	11.3%	17.0%	
Employee	No.	45	7	4	1	
	%	78.9%	12.3%	7.0%	1.8%	
Skilled worker	No.	4	3	0	1	
	%	50.0%	37.5%	0.0%	12.5%	
Simple worker	No.	22	10	5	3	
	%	55.5%	25.0%	12.5%	7.5%	

4.5.8 Prevalence and level of depression in relation to monthly income

In comparing prevalence and severity of depression according to type of family monthly income, 43.4% of patients with family monthly income less than 250 US $ had no depression i.e. 57.6% had depression, 19.1% of them had severe depression, 1.6% of patients with family monthly income ranged from 251-500 US $ had severe depression, 2.5% of patients with family monthly income ranged from 501-1000 US $ had severe depression, and75.0% with family monthly income more than 1000 US $ had no depression i.e. 25.0% had depression, and no one of them had severe depression. Chi square test showed that patients with family monthly income less than 250 US $ had more severe depression. These differences reached statistically significant level (χ^2 =25.2, p = 0.003).

Table 13

Prevalence and level of depression in relation to monthly income

Monthly income		No depression	Mild depression	Moderate depression	Severe depression	χ^2 =37.08
Less than 250 $	No.	116	67	33	51	P= 0.001
	%	43.4%	25.1%	12.4%	19.1%	
251-500 US $	No.	41	17	5	1	
	%	64.1%	26.6%	7.8%	1.6%	
501-1000$	No.	32	5	2	1	
	%	80.0%	12.5%	5.0%	2.5%	
More than 1001 US $	No.	12	3	1	0	
	%	75.0%	18.8%	6.3%	0.0%	

4.6 Prevalence of depression and medical complications

4.6.1 Prevalence of depression and visual problems

Table 14 showed that 42.1% of patients with diabetes and/or hypertension with visual complications had no depression i.e.57.9% had depression, 29.2% of patients with visual complications had mild depression, 17.1% had moderate depression and 11.6% had severe depression.

Table 14

Prevalence of depression in relation to visual problems

		Visual problems		$\chi^2 = 27.8$
		No	**Yes**	P = 0.001
No depression	No.	107	69	
	%	57.8%	42.1%	
Mild depression	No.	36	48	
	%	19.5%	29.2%	
Moderate depression	No.	9	28	
	%	4.9%	17.1%	
Severe depression	No.	33	19	
	%	17.8%	11.6%	

4.6. 2 Prevalence of depression and heart failure

Table 15 showed that 44.0% of patients with diabetes and/or hypertension with heart failure had no depression (i.e.66.0% had depression), 16.0% of patients had mild depression, 28.0% had moderate depression, and 12.0% had severe depression.

Table 15

Prevalence of depression in relation to heart failure

		Heart Failure		χ^2=14.803
		No	**Yes**	
No depression	No.	165	11	P = 0.02
	%	50.8%	44.0%	
Mild depression	No.	81	4	
	%	24.9%	16.0%	
Moderate depression	No.	30	7	
	%	9.2%	28.0%	
Severe depression	No.	49	3	
	%	15.1%	12.0%	

4.6.3 Prevalence of depression in relation renal failure

Table 16 showed that 55.6% of patients with renal failure had no depression, 22.2% of patients had mild depression, 11.1% had moderate depression, and 11.1% had severe depression. No statistically significant differences between the two groups (χ^2= 5.6, p= 0.46).

Table 16

Prevalence of depression in relation renal failure

		Renal Failure		χ^2= 5.6
		No	Yes	P= 0.46
No depression	No.	171	5	
	%	50.3%	55.6%	
Mild depression	No.	82	2	
	%	24.1%	22.2%	
Moderate depression	No.	36	1	
	%	10.6%	11.1%	
Severe depression	No.	51	1	
	%	15.0%	11.1%	

4.6.4 Prevalence of depression in relation to myocardial infarction

Table 17 showed that 43.5% of patients with myocardial infarction had no depression i.e. 57.5% with depression, 26.1% of patients had mild depression, 21.7% had moderate depression, and 8.7% had severe depression. No statistically significant differences between the two groups (χ^2= 9.2, p= 0.15).

Table 17

Prevalence of depression in relation to myocardial infarction

		Myocardial infarction		χ^2= 9.2
		No	Yes	P= 0.15
No depression	No.	167	10	
	%	50.9%	43.5%	
Mild depression	No.	79	6	
	%	24.8%	26.1%	
Moderate depression	No.	32	5	
	%	9.8%	21.7%	
Severe depression	No.	50	2	
	%	15.2%	8.7%	

4.6.5 Prevalence of depression in relation to cerebrovascular accidents

Table 18 showed that 40.0% of patients with cerebrovascular accidents had no depression, i.e. 60.0% had depression 40.0% of patients had mild depression, 10.0% had moderate, and 10.0% had severe depression. No statistically significant differences between the two groups (χ^2= 5.6, p= 0.46).

Table 18
Prevalence of depression in relation to cerebrovascular accidents

	Cerebrovascular accidents			$\chi^{2=}$ 5.6
		No	Yes	P = .64
No depression	No	173	4	
	%	50.7%	40.0%	
Mild depression	No	81	4	
	%	23.8%	40.0%	
Moderate depression	No	36	1	
	%	10.6%	10.0%	
Severe depression	No	51	1	
	%	15.0%	10.0%	

4.6.6 Prevalence of depression in relation to amputation of extremities

Table 19 showed that 50.0% of patients with amputation of extremities had no depression, 12.5% of patients had mild, 12.5% had moderate, and 25.0% had severe depression. No statistically significant differences between the two groups (χ^2= 5.6, p= 0.46). No statistically significant differences between the two groups (χ^2= 6.55, p= 0.36).

Table 19

Prevalence of depression in relation to amputation of extremities

		Amputation of extremities		$\chi^{2=}$ 6.5 P = .36
		No	**Yes**	
No depression	No.	172	4	
	%	50.4%	50.0%	
Mild depression	No.	83	1	
	%	24.3%	12.5%	
Moderate depression	No.	36	1	
	%	10.6%	12.5%	
Severe depression	No.	50	2	
	%	14.7%	25.0%	

4.7 Prevalence and level of anxiety

The following table shows that 48.7% of the patients had no anxiety, i.e.51.3% had anxiety, 15.5% had mild, 30.9% had moderate and 4.9% had severe anxiety. Using the Taylor's manifest anxiety scale, mean anxiety was 22.16 (SD = 14.45).

Table 20

Prevalence and level of anxiety

	No.	**%**
No anxiety	189	48.7
Mild anxiety	60	15.5
Moderate anxiety	120	30.9
Severe anxiety	19	4.9

4.7.1 Prevalence and level of anxiety in relation to type of disease

As shown in table 21, the study showed that 51.7% of diabetic patients had no anxiety, i.e. 49.3% had anxiety, and 15.1% had mild, 29.1% had moderate, and 4.1% had severe anxiety. The study showed that 56.0% of hypertension patients had no anxiety, i.e. 44.0% had anxiety 13.8% had mild, 24.7% had moderate, and 5.5% had severe anxiety. Also, 36.4% of both diabetic and hypertension patients had no anxiety, i.e.63.6% had anxiety, 17.6% had mild, 40.2% had moderate and 5.6 % had severe anxiety. Chi square test showed not statistically significant differences between the three groups (χ^2 =10.83, p = 0.11).

Table 22

Prevalence and level of anxiety in relation to type of disease

Disease		No anxiety	Mild anxiety	Moderate anxiety	Severe anxiety	χ^2 = (10.3)
DM	No.	89	26	50	7	P= 0.11
	%	51.7%	15.1%	29.1%	4.1%	
Hypertension	No.	61	15	27	6	
	%	56.0%	13.8%	24.7%	5.5%	
Both DM and Hypertension	No.	39	19	43	6	
	%	36.4%	17.6%	40.2%	5.6%	

4.7.2 Prevalence and level of anxiety in relation to sex

As shown in table 22, 3.4 % of males had severe anxiety and 5.8% of females had sever anxiety. This was not statistically significant (χ^2 =3.8, p = 0.38).

Table 22

Prevalence and level of anxiety in relation to sex

Sex		**No anxiety**	**Mild anxiety**	**Moderate anxiety**	**Severe anxiety**	χ^2 =3.8
Male	No.	78	22	40	5	P =0.38
	%	53.8%	15.2%	27.6%	3.4%	
Female	No.	111	38	80	14	
	%	45.7%	15.6%	32.9%	5.8%	

4.7.3 Prevalence and level of anxiety in relation to age groups

The sample ages were categorized into the following age groups (16-25y, 26-35y, 36- 45y, 46-55y, and above 56years old). The mean age was 48 years (SD= 9.69).In comparing prevalence and severity of anxiety according to age group, patients age 44.8% of ages 16-25 years had no anxiety, i.e. 56.2% had anxiety, no one had severe anxiety, 66.7% of age group 26-35y had no anxiety, that means 33.3% had anxiety, 4.8% with sever anxiety, 52.5% of age group 36-45 years had anxiety i.e.48.5% had anxiety 2.0% had sever anxiety, 51.3 % of age group 46-55 years had no anxiety i.e. 48.7% had anxiety, 4.45of them with sever anxiety, and 37.2%patient of age group 56 years and above had no anxiety i.e. 63.8%had anxiety 9.6 of them with sever anxiety. Chi square test showed that patients age 56years old and above had severe anxiety than those in other age groups. These differences did not reached statistically significant level (χ^2 =17.4, p = 0.13).

Table 23

Prevalence and level of anxiety in relation to age groups

Anxiety level	**16-25y**	**26-35y**	**36-45y**	**46-55y**	**Above 56y**	χ^2 =17.4
No anxiety	7	14	52	81	35	P = 0.13
	43.8%	66.7%	52.5%	51.3%	37.2%	
Mild anxiety	4	1	15	27	13	
	25.0%	4.8%	15.2%	17.1%	13.8%	
Moderate anxiety	5	5	30	43	37	
	31.2%	23.7%	30.2%	27.2%	39.4%	
Severe anxiety	0	1	2	7	9	
	0.00	4.8%	2.0%	4.4%	9.6%	

4.8.4 Prevalence and level of anxiety in relation to place of residence

In comparing prevalence and severity of anxiety according to place of residence, 52.4% of patient live lives in cities had no anxiety, i.e. 47.6% had anxiety 3.2% of them had sever anxiety, 40.2% live in villages had no anxiety, i.e.59.8% had anxiety, 6.3% of them with sever anxiety, and 62.9% live in camps had no anxiety, i.e.38.1% had anxiety 8.1% of them had sever anxiety. Chi square test showed that patients live in camps had severe anxiety than those live in cities and villages. This differences reached statistically significant level (χ^2 =33.7, p = 0.001).

Table 24

Prevalence and level of anxiety in relation to residence

Type of residence		**No anxiety**	**Mild anxiety**	**Moderate anxiety**	**Severe anxiety**	χ^2 =33.7
City	No.	99	31	53	6	P = 0.001
	%	52.4%	16.4%	28.0%	3.2%	
Village	No.	51	19	49	8	
	%	40.2%	15.0%	38.6%	6.3%	
Camp	No.	39	10	18	5	
	%	62.9%	16.1%	29.0%	8.1%	

4.8.5 Prevalence and level of anxiety in relation to education level

In comparing prevalence and severity of anxiety according to education level, 14.3% of uneducated patients had no anxiety (i.e.85.7% had anxiety) 17.4% with sever anxiety, 2.8% of patient finished elementary class patient had severe anxiety, 5.4% of patients finished primary class had severe anxiety, 1.6% of patient finished secondary class had severe anxiety, 75.7% of patient finished university level had no anxiety i.e.24.3% had anxiety and no one had sever anxiety. Chi square test showed that uneducated patients with diabetes and/or hypertension had severe anxiety than those in other groups. These differences reached statistically significant level (χ^2 =103.39, p = 0.001).

Table 25

Prevalence and level of anxiety in relation to education level

Education level		No anxiety	Mild anxiety	Moderate anxiety	Severe anxiety	χ^2 = 103.39
Uneducated	No.	9	3	40	11	P= 0.001
	%	14.3%	4.6%	63.7%	17.4%	
Elementary	No.	12	4	19	1	
	%	33.3%	11.1%	52.8%	2.8%	
Primary	No.	45	19	23	5	
	%	48.9%	20.7%	25.0%	5.4%	
Secondary	No.	70	26	29	2	
	%	55.1%	20.5%	22.8%	1.6%	
University	No.	53	8	9	0	
	%	75.7%	11.4%	12.9%	0.0%	

4.8.6 Prevalence and level of anxiety in relation to the marital status

In comparing severity of anxiety according to marital status, 51.2% of married patients had no anxietyi.e.49.8% had anxiety, 4.4 % of them had server anxiety, 0.0% single patients had severe anxiety, 27.3 % of widowed patients had anxiety, i.e.72.7% had anxiety, 12.1% of them with sever anxiety, and no one divorced had severe anxiety. Chi square test showed that married patients had severe anxiety than those in other groups. These differences reached statistically significant level (χ^2 =15.8, p = 0.07).

Table 26

Prevalence and level of anxiety in relation to marital status

Marital status		**No anxiety**	**Mild anxiety**	**Moderate anxiety**	**Severe anxiety**	χ^2 = 15.8
Married	No.	169	51	95	15	P= 0.07
	%	51.2%	15.5%	28.8%	4.5%	
Single	No.	11	4	7	0	
	%	50.0%	18.2%	31.8%	0.0%	
Widowed	No.	9	4	16	4	
	%	27.3%	12.1%	48.5%	12.1%	
Divorced	No.	0	1	2	0	
	%	0.0%	33.3%	66.7%	0.0%	

4.8.7 Prevalence and level of anxiety in relation to type of family

In comparing severity of anxiety according to type of family, 4.78 % of nuclear families had severe anxiety and 5.11% from extended families had severe anxiety. Chi square test showed that patients from extended families had more severe anxiety. These differences reached statistically significant level (χ^2 =8.9, p = 0.03).

Table 27

Prevalence and level of anxiety in relation to type of family

Type of family		**No anxiety**	**Mild anxiety**	**Moderate anxiety**	**Severe anxiety**	χ^2 =8.9
Nuclear	No	116	33	90	12	P= 0.03
	%	46.22%	13.15%	35.86%	4.78%	
Extended	No	73	27	30	7	
	%	53.28%	19.71%	21.90%	5.11%	

4.8.8 Prevalence and level of anxiety in relation to type of work

In comparing severity and prevalence of anxiety according to type of work, 43.46% of unemployed patients had no anxiety, that means 56.6% had anxiety 5.7% of them had sever anxiety, while 75.6% of employee had no anxiety (i.e.24.6% had anxiety), and no one of employee or skilled worker patients had severe anxiety, and 7.5% of simple workers had severe anxiety. Chi square test showed that unemployed patients had more severe anxiety. These differences reached statistically significant level (χ^2 =28.3, p = 0.001).

Table 28

Prevalence and level of anxiety in relation to the type of work

Type of work		No anxiety	Mild anxiety	Moderate anxiety	Severe anxiety	χ^2= 28.3
Unemployed	No.	123	43	101	16	P= 0.001
	%	43.46%	15.19%	35.69%	5.65%	
Employee	No.	43	9	5	0	
	%	75.44%	15.79%	8.77%	0.0%	
Skilled worker	No.	4	0	4	0	
	%	50.0%	0.0%	50.0%	0.0%	
Simple worker	No.	19	8	10	3	
	%	47.5%	20.0%	25%	7.5%	

4.8.9 Prevalence and level of anxiety in relation to monthly income

In comparing severity and prevalence of anxiety according to type of family monthly income, 41.0% of patients with family monthly income less than 250 US $ had no anxiety (i.e.59.0% had anxiety), 5.6% of them had sever anxiety, 4.7% of patients with family monthly income ranged from 251-500 US $ had severe anxiety, 2.5% of patients with family monthly income ranged from 501-1000 US $ had severe anxiety, and 81.25% of patients with family monthly income more than 1000 US $ had no anxiety (i.e.19.3% had anxiety), and no one of them had sever anxiety. Chi square test showed that patients with family monthly income less than 250 US $ had more severe anxiety. These differences reached statistically significant level (χ^2 =79.63, p = .001).

Table 29

Prevalence and level of anxiety in relation to monthly income

Monthly income in US $		**No anxiety**	**Mild anxiety**	**Moderate anxiety**	**Severe anxiety**	χ^2 = 79.63
Less than 250 $	No.	110	39	104	15	P= .001
	%	41.04%	14.55%	38.81%	5.60%	
251-500 US $	No.	35	12	14	3	
	%	54.69%	18.75%	21.88%	4.7%	
501-1000$	No.	31	7	1	1	
	%	77.5%	17.5%	2.5%	2.5%	
More than 1001 US $	No.	13	2	1	0	
	%	81.25%	12.5%	6.25%	0.0%	

4.9 Prevalence of anxiety and medical complications

4.9.1 Prevalence of anxiety in relation to visual problems

Table 30 showed that 57.5% of patients with visual complications had no anxiety (i.e.43.5% had anxiety), 3.2% of them had sever anxiety, 37.2% of patients with visual complications had no anxiety (i.e.62.8% had anxiety), 23.2% had mild anxiety, and 33.5% had moderate anxiety, and 6.1% had sever anxiety. Chi square test showed that patients with diabetes and/or hypertension and with visual problems had more severe anxiety than patient without visual problems. These differences reached statistically significant level (χ^2 =18.6, p = .001).

Table 30

Prevalence of anxiety in relation to visual problems

		Visual problems		χ^2 =18.62
		No	**Yes**	P= 0.001
No anxiety	No.	107	61	
	%	57.5%	37.2%	
Mild anxiety	No.	19	38	
	%	10.2%	23.2%	
Moderate anxiety	No.	54	55	
	%	29.0%	33.5%	
Severe anxiety	No.	6	10	
	%	3.2%	6.1%	

4.9.2 Prevalence of anxiety in relation to heart failure

Table 31 showed that 34.6% of patients with heart failure had no anxiety (i.e. 63.4% had anxiety), 19.2% of patients had mild anxiety, 34.6% had moderate anxiety, and 34.6% had moderate anxiety, and 7.7% had severe anxiety. Chi square test showed these differences did not reached statistically significant level (χ^2 =1.9, p = .052).

Table 31

Prevalence of anxiety in relation to heart failure

		Heart Failure		
		No	**Yes**	χ^2=1.9
No anxiety	No.	159	9	P = 0.52
	%	48.8%	34.6%	
Mild anxiety	No.	53	5	
	%	16.35	19.2%	
Moderate anxiety	No.	100	9	
	%	30.7%	34.6%	
Severe anxiety	No.	14	2	
	%	42.9%	7.7%	

4.9.3 Prevalence of anxiety in relation to renal failure

Table 32 showed that, 22.2% of patients with Renal Failure had no anxiety (i.e.77.8% had anxiety), 33.3% patients had mild anxiety, 33.3% had moderate anxiety, and 11.1% had severe anxiety. Chi square test showed these differences did not reached statistically significant level (χ^2 =3.8, p = .052).

Table 32

Prevalence of anxiety in relation to Renal Failure

	Renal Failure			χ^2= 3.8
	No.	No	Yes	P= 0.28
No anxiety	no	166	2	
	%	48.6%	22.2%	
Mild anxiety	No	54	3	
	%	15.8%	33.3%	
Moderate anxiety	No	106	3	
	%	31.1%	33.3%	
Severe anxiety	No	15	1	
	%	4.4%	11.1%	

4.9.4 Prevalence of anxiety in relation to myocardial infarction

Table 33 showed that 34.5% of patients with myocardial infarction had no anxiety, 21.7% of them had mild anxiety, 26.1% had moderate anxiety, and 8.7% had severe anxiety. No statistically significant differences between the two groups (χ^2= 1.6, p= 0.65).

Table 33

Prevalence of anxiety in relation to myocardial infarction

	Myocardial infarction			χ^2= 1.6
		No	Yes	P= .65
No anxiety	No.	159	10	
	%	48.3%	34.5%	
Mild anxiety	No.	53	5	
	%	16.1%	21.7%	
Moderate anxiety	No.	103	6	
	%	31.3%	26.1%	
Severe anxiety	No.	14	2	
	%	4.3%	8.7%	

4.9.5 Prevalence of anxiety in relation to cerebrovascular accidents

Table 34 showed that 40.0% of patients with cardiovascular accidents had no anxiety (i.e. 60.0% had anxiety), 30.0% of them had mild anxiety, 30.0% had moderate anxiety, and no one had severe anxiety. No statistically significant differences between the two groups (χ^2= 1.6, p= 0.64).

Table 34
Prevalence of anxiety in relation to Cerebrovascular accidents

	Cerebrovascular accidents			$\chi^{2=}$ 1.67
	No.	**No**	**Yes**	
No anxiety	No	164	4	P = .64
	%	48.0%	40.0%	
Mild anxiety	No	56	3	
	%	16.4%	30.0%	
Moderate anxiety	No	106	3	
	%	30.1%	30.0%	
Severe anxiety	No	16	0	
	%	4.7%	0.0	

4.9.6 Prevalence of anxiety in relation to amputation of extremities

Table 35 showed that 12.5% of patients with amputation of extremities had no anxiety (i.e.87.5% had anxiety), 25.0% of patients had mild anxiety, 37.5% had moderate anxiety, and 25.0% had severe anxiety. There were statistically significant differences between the groups toward moderate anxiety (χ^2= 10.11, p= 0.01).

Table 35
Prevalence of anxiety in relation to amputation of extremities

		Amputation of extremities		$\chi^{2=}$ 10.11
		No	**Yes**	P = .01
No anxiety	No.	167	1	
	%	48.8%	12.5%	
Mild anxiety	No.	55	2	
	%	16.1%	25.0%	
Moderate anxiety	No.	106	3	
	%	31.0%	37.5%	
Severe anxiety	No.	14	2	
	%	4.1%	25.0%	

4.9.1 Prevalence of depression in relation to control of hypertension

In comparing patients who had been visited the clinics and controlled their hypertension, 55.6% reported no depression, 23.2% had mild depression, 9.4% had moderate depression, and 11.8% had severe depression. Chi square test showed differences in severe depression toward patients controlling their hypertension, which reached statistically significant level (χ^2 =7.8, p =0.04).

Table 36
Prevalence of depression in relation to control of hypertension

		Controlled hypertension		χ^2= 7.8
		No	Yes	
No depression	No.	51	142	P= .04
	%	42.9%	55.6%	
Mild depression	No.	29	59	
	%	24.4%	23.2%	
Moderate depression	No.	15	24	
	%	12.6%	9.4%	
Severe depression	No.	24	29	
	%	20.2%	11.4%	

4.10.2 Prevalence of depression in relation to control of diabetes

In comparing patients who had been visited the clinics and controlled their diabetes mellitus, 53.8% reported no depression, 21.1% had mild depression, 9.0% had moderate depression, and 16.1% had severe depression. Chi square test no statistically significant level between the two groups (χ^2 =7.06, p = .31).

Table 37

Prevalence of depression in relation to control of diabetes

		Controlled DM		χ^2= 7.06
		No	Yes	P = 0.31
No depression	No.	87	107	
	%	48.9%	53.8%	
Mild depression	No.	49	42	
	%	27.5%	21.1%	
Moderate depression	No.	21	18	
	%	11.8%	9.0%	
Severe depression	No.	21	32	
	%	11.8%	16.1%	

4.10.3 Prevalence of anxiety in relation to control of hypertension

In comparing patients who had been visited the clinics and controlled their diabetes mellitus, 52.4% reported no anxiety, 16.9% had mild anxiety, 26.4% had moderate anxiety, and 4.3% had severe anxiety. Chi square test showed differences in severe anxiety toward patients controlling their hypertension, which reached statistically significant level (χ^2 =8.46, p = .03).

Table 38
Prevalence of anxiety in relation to control of hypertension

		Controlled hypertension		χ^2= 8.46
		No	Yes	P= .0.03
No anxiety	No.	49	133	
	%	40.8%	52.4%	
Mild anxiety	No.	16	43	
	%	13.3%	16.9%	
Moderate anxiety	No.	49	67	
	%	40.8%	26.4%	
Severe anxiety	No.	6	11	
	%	5.0%	4.3 %	

4.9.4 Prevalence of anxiety in relation to control of diabetes

In comparing patients who had been visited the clinics and controlled their diabetes mellitus, 45.0% reported no anxiety, 17.0% had mild anxiety, 33.0% had moderate anxiety, and 5.0% had severe anxiety. Chi square test no statistically significant level between the two groups (χ^2 =4.22, p = .64).

Table 39
Prevalence of anxiety in relation to control of diabetes

		Controlled DM		χ^2= 4.22
		No	**Yes**	P= .64
No anxiety	No.	93	90	
	%	52.2%	45.0%	
Mild anxiety	No.	26	34	
	%	14.6%	17.0%	
Moderate anxiety	No.	52	66	
	%	29.2 %	33.0%	
Severe anxiety	No.	7	10	
	%	3.9 %	5.0 %	

.

Chapter 5

Discussion and Recommendations

This study, is a quantitave descriptive analytical, aiming to measure the prevalence of depression and/or anxiety among patients with diabetes and/or hypertension, due to the impact of both of them, depression and anxiety prevalence was chosen to be studied being the most prevalent psychiatric disorders, accounting for 79% of all psychiatric disorders, (Lecrubier, 1993).

The sample consisted of 400 subjects, the respondents were 388 with response rate of (97%), 243 of them were females (62.6%), and 145 were males (37.4%). The age ranged from 16 to 65 years old, (mean age was 48.01, SD = 9.69). According to place of residency189 of them live in cities, (48.7%), 32.7% live in villages, and 18.6% live in camps, according to educational level 16.25% of them were not educated at all, while 9.3% finished the elementary schools, 23.7% finished the preparatory schools, 32.7% finished the secondary school, and 18% had a university degree, according to the marital status 85.1% were married, while 5.7% were single, 8.5% were widowed, and 0.8% were divorced, according to type of family, 64.7% live in a nuclear family, and 35.3% live in an extended family, according to accordance in the family 7.5% have family problems and 92.5% have no family problems, according to the work 72.9% were not working, 14.7% were employee, 10.3% were simple worker, and 2.1% were skilled workers, according to the monthly income 70% with monthly income less than 250$,17.7% with monthly income between 250-500, 11% with monthly income between 501-1000$, and only 4.4% with monthly income above1000$ per month.

The sample showed that, 44.3 % had diabetes, 28.1% had hypertension, and 27.6% had both diseases; though the patients with hypertension registered at all the UNRWA health centers alone are approximately double those with diabetes, that can be explained on the basis, that at the time of collecting the data some of the hypotensive drugs specially mostly used, namely enalpril and atenelol were not available, due to the last war on Gaza and due to the continuous siege, reflecting the impact of the political situation at the health of the Gazian people.

The study showed that 51.9% of the patients had no depression, and 48.1%had depression distributed as follows, 23.8% had mild, 10.6% had moderate and 13.7% had severe depression. The study showed that 44.2% of diabetic patients had depression, 19.2% had mild, 12.8% had moderate, and 12.2% had severe depression, the study showed that 45.4% of hypertensive patients had depression, 27.8% had mild, 7.4% had moderate, and 10.2% had severe depression. Also, 57.2% of both diabetic and hypertensive patients had depression, 27.1% had mild, 10.3% had moderate, and 19.6% had severe depression, but it was not statistically significant, these results though they were statistically insignificant came in accordance with other studies, the prevalence in normal population is 25% of females' and 12% of males according to, (Morrison, J., 2002),in my sample females were nearly two third of the sample, and another study showed that the prevalence of depression is roughly twice as high among diabetic patients as among the general population, (Katon W, et al., 2004), other study showed less figures it found that the prevalence of depression among diabetics, approximately 30% of people with diabetes had depression,(Harvey, B.M. et al, 2004), while other studies showed less figures, some studies found that depression among patients with diabetes was 11%, (Anderson, RJ., 2001), and among patients with hypertension there were much lower figures e.g. among patients with end stage renal failure 8.0%. N.B. all ESRF had hypertension, while the high rate of depression in other studies occurred in patients with central nervous system diseases, e.g. parkinsonism, reaching 25-40%, these high figures contrasted the results of other research were one of them denied the increase of depression among diabetics except in association with other chronic diseases at least two, (Egede, L., 2005), which was assured by the research, (Engum, A.,2005), and even the research conducted by, (Carmilla M.M., 2009), had astonishing results that depression is associated with hypotension, but what about other studies that confirmed the correlation? But in this study, the complications prevalence was high to explain the high association where late complications; namely cerebrovascular accidents 2.8%, myocardial infarction 6.9%, heart failure 7.1%,and amputations 2.3%,the total was 19.1% , if the early complications were calculated in the form of visual problems alone which in my sample represented 46%, that high prevalence of early and late complications can explain the high prevalence of depression among patients with diabetes and/or hypertension.

The prevalence of depression varied according to gender, it was 43.1% among males, and 52.1% among females, with nearly the same level as regarding severe depression, 13.1% of males had severe depression, and 13.99% females had severe depression, but these results are statistically insignificant, the other research showed the same trends of depression according to gender , the prevalence in normal population was 25% among females' and 12% among males, in the research, (Morrison, J., 2002), and the prevalence of depression among females nearly doubles that among males, (Kaplan and Sadouk 1996). In this research being statistically not significant may explain the narrower variations according to gender.

Prevalence of depression according to age groups, 5th age group (56 years and above) constituted 24.07% of the total sample, and patients of 56 years and above had 29.0% prevalence of severe depression. This prevalence was above other age groups prevalence of severe depression which can be explained, that this age group usually started to have the different complications of the physical disorder and at the same time, usually suffered from other diseases like osteoarthritis, and at the social level suffered of loss, and live lonely. Where in this study 64.7% live in a nuclear family, while in other studies the peak incidence of depression was in a person's twenties and thirties, (Morrison, J., 2002), but her I had an important variable the presence of diabetes and or hypertension.

The prevalence of depression among who live in villages reached 52.8%, 26.0% of them had severe depression, which was the highest compared to who live in cities with prevalence of depression 41.5%, only 5.9% had severe depression, that can be explained on the bases that the opportunities of work at cities is better than villages, where unemployed constituted 72.9%, 53.9% of them had depression, and 17.0% had severe depression, while the employed formed 14.7% of the sample, 21.1% of them had depression and only1.0% had severe depression, the situation of unemployment was less at the level of camps due to job creation and job training programmes implemented by the UNRWA, also the educational level formed an important factor for the development of depression , where the level and prevalence of depression was inversely related to the educational level, where 91.5% illiterate had depression, 46.0% had severe depression, while those with a university degree only 22.4% had depression, and 2.6% had severe depression where the educational level at the villages was less than the camps and the cities, and it is obvious that the increase of the

educational level increases the opportunity of work specifically for who had a university degree, being the unemployment is the rule at Gaza Strip and in turn the poverty is the result, the prevalence of depression is inversely proportional to the income, in my sample 267 with income less than 250$ per month they constituted 68.8%of the sample, 56.6% of them with depression, and 19.1% with severe depression, while those with income above 1000$ per month represented 4.1%, 25.0% of them with depression while no one with severe depression. The results of this study coincided with other studies as regarding the place of residency educational level , poverty, working and type of work (Dan G. Blazer, et al, 1994),who found that persons in urban areas are at greater risk than persons in rural areas to develop depression, and coincided with research of (Wittchen, HU., 1994), who found that poverty and low educational level were predictors of depression, and (Egede, L., 2003) found that the prevalence of depression increased among less educated, and among diabetics with less income (Egede, L., 2002).

The prevalence of depression among the married was 44.4% only 11.6% with severe depression, while among the widowed prevalence of depression was 87.9%, 36.0%of them with severe depression, this high prevalence of depression among the widowed could be attributed, to loneliness, where a large No. of widowed live alone, though this group are in need for help and support, and that could be clarified by the results of this study, related to type of families, where nuclear families represented 64.7% , 54.4% of them with depression and 21.2% with severe depression while extended families only 36.5% had depression and no one with severe depression, that clarify the role of families in ameliorating the difficult situation of Gaza Strip, which became more clear with the decreased level of depression among the extended families.

The presence of complications, among patients with diabetes and/or hypertension, added a new factor that increased the suffer of patients and at the same time the end stage complications carry with them a great level of stress being a stage of life preceding death, it is obvious from the different tables, that the presence of complications increased the prevalence of depression.

Among patients with visual problems the prevalence of depression, was 57.9%, 11.6% with severe depression, with renal among patients with heart failure the prevalence of depression

was 56.0% and 12.0% with severe depression, among patients failure 55.6% had depression, and 11.1% with severe depression, among patients with myocardial infarction 56.5% had depression , 8.7% with severe depression, among patients with cerebrovascular accidents 60.0% had depression and10.0% with severe depression, and among patients with amputation of the limps,50.0% had depression 25.0% had severe depression, the highest level of severe depression, was found among patients with amputated extremities, that could be explained;, that those group of patients had a continuous suffer in their daily routine activities, while patients with other complications their suffer may be ameliorated by drugs, e.g. patients with heart failure they could carry out their routine daily activities without or with least suffer, with the help of medications, these figures coincided with the research of (De Groot et al, 2001), who found that the prevalence of depression increased among diabetics with complications, and with , (Ismail, K., 2007), who found that on third diabetic with their first diabetic foot ulcer suffer from clinical depression.

As regarding the prevalence and level of anxiety; the study showed that, 51.3% had anxiety, 15.5% had mild, 30.9% had moderate and 4.9% had severe anxiety, as regarding the prevalence of anxiety in relation to specific disease; the study showed that, 49.3% of diabetic patients had anxiety, 15.1% had mild, 29.1% had moderate, and 4.1% had severe anxiety. The study showed that 45.1% of hypertension patients had anxiety, 13.8% had mild, 24.8% had moderate, and 5.5% had severe anxiety. Also 63.6% of both diabetic and hypertension patients had anxiety, 17.6% had mild, 40.2% had moderate, and 5.6% had severe anxiety, though the figures were not statistically significant, in other studies the prevalence of generalized anxiety among normal population, found 7.9% on the basis of ICD-10 criteria, (Maier, W., Gansicke, 2000), but it was with higher prevalence among medical comorbidities, 18 studies of diabetes mellitus in aggregate suggested that 14% of patients with diabetes also had anxiety, (Grigsby, A., 2002), and hypertension was found in approximately 22% of study patients with anxiety disorders, (McLaughlin, T., 2003), where the physical disorder and anxiety are a risk factor for each other, while People with diabetes had a 20% higher prevalence of anxiety, (Barker, L., 2008), both anxiety and depression were higher in patients with hypertension, and at the same time as a risk factor for the development of hypertension.(Han,J., 2008), but in another study it was found that; if the

hypertension was comorbid with another physical illness, but if not comorbid with another physical illness the prevalence was the same like the other people, (Grimsrud, 2009), these different figures may be attributed to genetic and cultural differences, the prevalence of anxiety among patients with both diseases was higher, that could be explained on the bases that each disease alone was a stress provoking, besides the physical complaints and the development of complications all were anxiety provoking , and stress is an important risk factor for the development of the full blown picture of anxiety.

The prevalence of anxiety differed according to different variables; it was among males 46.2%, and 3.5% of them with severe anxiety,and54.3% among females, and 5.8% with severe anxiety, this coincided with other research, that the prevalence of anxiety was higher among females, the 14-country WHO study found an average current prevalence of 9.2% among women and 5.7% among men, (Maier, W., 2000), though the rate differs across different countries, in Brazil, for example, the current prevalence of anxiety was 26% for women and 14% for men, whereas in China it was 2.1% for women and 1.7% for men, which suggested that cultural and/or genetic factors may contribute to diagnostic prevalence, (Maier, W., 2000).

As regarding the age, the 5th age group(56 years and above); showed the highest figures of anxiety, 62.8% of them had anxiety and 9.6% with severe anxiety that could be explained; that this age group suffered of other physical disorders, and at the same time developed the complications of diabetes and/or hypertension, though the highest age prevalence in other studies was at younger age, predictors of anxiety included an age of 24 years or older, being separated, widowed, or divorced, being unemployed, and being a homemaker, (Wittchen, HU., 1994), it has been hypothesized that anxiety has a later onset than other anxiety disorders, perhaps because of an accumulation of chronic stressors over time (Kessler, RC., 2002), and in an other study it was found that anxiety is highly prevalent among old age , due to a lot of factors, medical illness, and losses can contribute to feelings of vulnerability and fear, and can reactivate anxiety disorders, a lack of social supports, a recent traumatic event, and medications, poor self-rated health, all risk factors for late-life anxiety disorders (Cassidy, KL.,2008).

Prevalence of anxiety among live in camps was higher than those live in villages and cities, it reached 59.8%. That high rate could be explained that the chances of work were better, and in turn the income at the level of camps and cities, and the educational level at camps and cities were better, unemployed represented 72.9% of the sample, 56.6% had anxiety, while the prevalence of anxiety among employed was 24.6%, and according to income those the poorest; with income less than 250$ reported the highest prevalence and level of anxiety, 59.0% anxiety and 5.6% of them had severe anxiety compared to those with income of more than1000$, with 19.7% anxiety and no one with severe anxiety, and as regarding the education level the prevalence and severity of anxiety were inversely proportional to the education level, were illiterate reported, 85.7% anxiety, and 17.5% with severe anxiety compared to patients with a university degree only 24.3% with anxiety and no one with severe anxiety, that could be explained that the increase of the level of education increased the opportunity of work , and in turn the income, where it is clear that the poverty is an important risk factor for anxiety. These results consisted with the results of other research, anxiety is a common mental disorder, with high comorbidity with chronic illnesses,(Azad,N., 2006),and diabetes is significantly associated with anxiety,(Lic, 2006, and Hall, P., 2008),and with(Wittchen, HU., 1994) predictors of anxiety being separated, widowed, or divorced, being unemployed, and being a homemaker. The poverty and low educational levels increased the difficulty of life of the Gazian people, and made them unable to face their needs in this imprecation, and was subjected to a lot of incursions on top of them the last war, all increased the poverty and suffer, so how the poor would solve his problems in such a situation?

Prevalence of anxiety among the widowed, 72.8% and 12.1% with severe anxiety, while the prevalence among the married 49.8% and 4.5% with severe anxiety , reflecting the protective effect of the family, and at the same time the widowed are older in age, with their own specific suffer, loss, poverty, loneliness, and the impact of chronic diseases, the role of the family support was manifest with less anxiety level and prevalence among extended families than the nuclear families, where the level of anxiety among nuclear families was 54.78%,and 4.78% with severe anxiety, while the prevalence among extended families was 46.72% .

As regarding the prevalence of anxiety and the presence of complications the results showed the following, those with visual problems, 64.0% had anxiety and 6.1% with severe anxiety , with heart failure 64% had anxiety and 8.0% with severe anxiety , with renal failure 77.8% had anxiety and 11.1% with severe anxiety, with myocardial infarction 56.6% had anxiety and 8.6% with severe anxiety, with cerebrovascular accidents 60.0% with anxiety and no one with sever anxiety and with amputated limps 87.5% with anxiety and 25.0% with severe anxiety, though only the figures related to visual problems and limp amputations were statistically significant, the high figures of the prevalence of anxiety with diabetic and hypertensive complications coincided with previous studies, proved that patients with diabetes comorbid with anxiety are at fivefold increase to have angina pectoris than those without, and at threefold of having angina in case of comorbidity with depression (Anderson, P., 2009), hypertension complications , increased with increase of anxiety scores (Paterniti, S., 1999), in the presence of depression the late complications of diabetes occurs earlier, as well as death (Zhang, X., 2005), hypertension complications , increases with increase of anxiety scores (Paterniti, S., 1999). Late complications may be the cause of death of patients with diabetes and/ or hypertension, or the last step before death carrying with it a great stress and suffer for the patient, for that these high figures of anxiety with late complications, and the highest figures were seen with amputated limps and renal failure; these group of patients are the most suffering one's in their ambulation, and in facing their daily routine activities.

As regarding the controllability of diabetes and hypertension; and the prevalence of and severity of depression; depression reported higher rates and levels among patients with uncontrolled diabetes and /or uncontrolled hypertension. Patients with controlled hypertension reported 45.4% depression and 11.4% with severe depression, and uncontrolled reported 57.1% and 20.2% with severe depression, these figures were statistically significant. While patients with uncontrolled diabetes reported 52.1% with depression and 11.8% with severe depression while the controlled reported 47.2% had depression and 16.1% had severe depression, these were not statistically significant. The uncontrollability of either of both diseases increases the like hood of the development of complications, and early death. The controllability of either of both diseases necessitates life

style modifications, quitting smoking, decrease weight, and muscular exercise which is not the case with depression. These figures coincided with other studies, depression is known to negatively alter eating patterns, sleep patterns, and activity levels, so makes the controllability of diabetes more difficult (William, A., et al, 2008 , and Sherita, H., et al 2008), quitting smoking is an important line of the controllability of both diabetes and hypertension but the case is different in the case of depression, it was found that smoking is more in patients with depression as well as obesity (Katon, W., et al, 2004), and even depressed patients who smoke found to be 40% less to quit smoking than the non depressed (Anda, et al, 1990), and adherence to drugs is directly proportional to the severity of depressive symptoms, besides depressive symptom severity is associated with poorer diet and medication regimen adherence, functional impairment, and higher health care costs in diabetic patients (Ciechanowski, PS., 2000), exercise it self is another way important to control either of both diseases, and it was found that, treatment of depression reportedly improved glycemic control in diabetic patients (Singh, PK., et al, 2004), patients with both anxiety and depression were at greatest risk of subsequent death, and it would seem that these disorders may interact synergistically to affect mortality (Anna C. Phillips, et al, 2009).

As regarding the controllability of diabetes and hypertension; and the prevalence and severity of anxiety; anxiety reported higher rates and levels among patients with uncontrolled hypertension. Anxiety impair the social and occupational role of the patient with a mean of 6.3 disability days per month,(Ormel, J., 1994), Patients with controlled hypertension reported 48.6% anxiety and 4.3% severe anxiety, and uncontrolled reported 51.2% anxiety and 5.0% with severe anxiety, which was statistically significant level. This coincided with other studies , in case of anxiety comorbid with depression, it makes life style modification more difficult, where patients with comorbid anxiety; had lower levels of functioning and well-being than those without co morbid anxiety (Sherbourne, CD.,1996), where non adherence to medications was 60.0% in case of mental disorders (Wetherell, JL., 2003). While patients with uncontrolled diabetes reported 47.2% with anxiety and 3.9% with sever anxiety while the controlled reported 55.0% with anxiety and 5.0% with sever anxiety , these were not statistically significant, other research found that; the degree of anxiety, and the change of its state is inversely related to diabetes control, (Hildrum,B., 2008 and

Grigsby, AB., 2002) and at the same time the risk of high blood pressure which increased with the increase of the anxiety scores (Paterniti,S., 1999), the difference between this study and other research might be , because the figures related to diabetes control were insignificant.

1.5.2Limitation of the study:

At the time of implementation the study, the most used hypotensive agents were not available, at the health centers, and that lasts for months, that limits the No. of hypertensive patients, attending the health center, because of their knowledge of shortage of drugs, that was apparent in the studied sample, where patients with hypertension equaled nearly those with diabetes, though nearly they doubled them at all the UNRWA health centers.

1.5.3Recommendations

This study showed that, both diabetes and hypertension were an important risk factor for the development of both depression and anxiety, and at the same time the development of depression and /or anxiety among patients with diabetes and /or hypertension impeded the controllability of both of them, and it is well known that the uncontrollability of diabetes and/or hypertension pave the way for the development of complications, besides that the study showed that the development of complications increased the development of depression and /or anxiety among patients with diabetes and/or hypertension, additional risk factors were female, old age, unemployment, poverty, illiteracy and low educational level, live in a village, live in a nuclear family, and the presence of family problems.

1- For policy makers:

I-The importance of mental disorders in relation to physical disorders involves all aspects; as an etiological factor , impeding control, the development of complications and at the end early death, so it is of utmost importance the integration of mental health services in the primary health care services.

II- Increase awareness of the community people about mental health, through media, curriculums, educational programs….etc.

2- For Health Providers

I- Due to the scarce knowledge of the health workers of mental health issues, it is recommended to increase awareness of the health staff about mental health and mental disorders, through lectures, training courses…etc.

II-Counseling is an important way for the control of diabetes and hypertension, so the staff managing these diseases are in need to be trained, at the process of counseling.

III-Training staff members about communication skills, that helps in the development of better rapport with the patient, so it helps better control of diabetes and hypertension.

IV- Controllability of both diabetes and hypertension decrease the possibility of development of complications, and both the uncontrollability and complications adds a new risk factor for the development of depression and anxiety, so increase the contact time between the patient and the treating physician is recommended.

3-For New Research

I-This study showed that; widowed, live in a village and live in a nuclear family were risk factors for the development of depression and anxiety. So the role of social factors in the development of depression and anxiety among patients with diabetes and hypertension is recommended.

II-The only available antidepressant is amitriptyline (type of tricyclic antidepressant), and it is known that it increases blood sugar. So study the effect of the available tricyclic antidepressant at the UNRWA health centers, at the controllability of diabetes and/ or hypertension.

III- Patients with depression had distorted thinking and inability to concentrate, and patients with anxiety had inability to wait. So study the effect of depression and /or anxiety at the process of communication between the care giver and the patient is recommended.

IV- Evaluate the effect of depression and/or anxiety at the adherence of patients with diabetes and/or hypertension to medications.

V-Measure the effect of depression and/or anxiety at life style modifications in patients with diabetes and/or hypertension.

VI-Study the effect of depression and/or anxiety management, at the prognosis of early complications of diabetes and/or hypertension.

Abbreviations

1-CAD: coronary artery disease.

2-ESRD: end stage renal disease.

3-D.M.: diabetes mellitus.

4-H.T.: Arterial hypertension.

5-GBD: Global Burden of Disease.

6-YLD: Years Lost due to Disability.

7- IHD: Ischemic heart disease.

8-CVD: Cardiovascular Disease.

9-QOL: Quality of life.

10-B.P.: Blood pressure.

11- DA: Dopamine.

12-SSRI: Selective serotonin reuptake inhibitor.

13-CNS: Central Nervous System.

14 NE: Norepinephrine.

15-MDD: Major Depressive Disorder.

16-SSRI: Selective Serotonin Reuptake Inhibitor.

17- MAOI: Monoamine Oxidase Inhibitors.

18-5-HT: 5-Hydroxytryptamine= Serotonin.

19-HPA: Hypothalamic-Pituitary Adrenal axis.

20-CRH: corticotrophin-releasing hormone.

21-HRV: Heart Rate Variability.

22-GAD: Generalized Anxiety Disorder.

23- ICD-10: International classification of Diseases No. 10.

24-NCS: National Comorbidity Survey.

25-MRI: Magnetic Resonance Imaging.

26-DST: Dexamethasone Suppression Test.

27-PET: Position Emission Tomography.

28-SLE: Systemic Lupus Erythematosus.

29- GnRH: Gonadotropin-Releasing Hormone.

30- Hba1c: Glysolated Hemoglobin.

31-NCD: noncommunicable diseases (her diabetes and hypertension).

Definitions:

1-DALY: Disability-adjusted life year (DALY) is a measure that expresses years of life lost to premature death and years lived with a disability of specified severity and duration (Thompson, M., (2007),it is a measure used to measure the burden of diseases . DALY is based on years of life lost from premature death and years of life lived in less than full health, *One DALY represents the loss of the equivalent of one year of full health*, WHO (2004).

The disability-adjusted life year (DALY) extends the concept of potential years of life lost due to premature death to include equivalent years of "healthy" life lost by virtue of being in states of poor health or disability.

2-- Attributable Burden: refers to the number of deaths or DALYS that would theoretically not have occurred if the population distribution e.g. of blood pressure had been equal to that of the theoretical minimum.

3-Disability: However, the GBD (WHO) uses the term disability to refer to loss of health, where health is conceptualized in terms of functioning capacity in a set of health domains such as mobility, cognition, hearing and vision, WHO, (2004).

4- YLD: measure the equivalent years of healthy life lost through time spent in states of less than full health.

5- Impairment: is regarded as a loss of specific anatomical, physiological, or psychological function.

6- Disability: is defined as the inability to perform a more complex task, but one normally expected of a person.

7- Handicap: is the disadvantage suffered because of ill health and disability.

N.B. the three definitions are from the following source, WHO, (1980).

8-Angina: Angina pectoris was defined as discomfort, usually around the chest, jaw, shoulder, back, or arm, associated with atherosclerotic obstruction.

References

1. Anderson, P., (2009), Depression and smoking pose similar risks for mortality. Http://cme.medscape.com/ view article/ 707816.
2. Anderson, P., (2009), http://Emedecine.medscape.com/article/705085overview.
3. Anderson, R., Freedland, K., Clouse, r., and Lustman, P., (2001), The Prevalence of Comorbid Depression in Adults with Diabetes: A meta-analysis. Diabetes Care 2001 vol. 24. No.6.
4. Anderson, R., Freedland, K., Clouse, R., and Lustman, PJ. (2001), Depression-Related Hyperglycemia in Type 1 Diabetes: A Meditational Approach Diabetes Care 24:1069-1078.
5. Anderson, RJ. Freedland, KE., Clouse, RE., Lustman, PJ.,(2001), The prevalence of comorbid depression in adults with diabetes: a meta-analysis. Diabetes Care 24:1069–1078.
6. Andrew, A., Eidelman, E., Yelena Wu, and Joseph, M., (2005), Depression updates for the clinician. Focus 3:3-12.
7. Andrews, G., Stewart, G., Allen, R., Henderson, AS., 1990.The Genetics of six Neurotic Disorders: a twin study. J Affect Disorder, 19(1):23–29.
8. Andrzejewski, W. (2006). Depressive disorders and their treatment in primary health care centers in Poland. . WPA Bulletin Vol.11-N.31.
9. Andrzejewski, W., (2006), Depressive disorders and their treatment in primary health care in Poland. WPA Bulletin Vol11 - N° 31.
10. Andrzejewski, W., (2006), Depressive disorders and their treatment in primary health care in Poland.WPA Bulletin Vol11 - N° 31.
11. Anonymous: The changing rate of major depression: cross-national comparisons. Cross- National Collaborative Group. JAMA 1992; 268: 3098–3105.
12. Aro et al, (1995), Socio-economic mobility among patients with schizophrenia or major affective disorder: a 17-year retrospective follow-up. Br J Psychiatry. 166:759-76.
13. Axelson, DA., et al 1993, Hypercortisolaemia and hippocampal changes in depression. Psychiatry Res, 47:163–173.3
14. Ballus, C., (1995), Treatment of Masked Depression.WPA Bulletin on depressionvol.3 - N°10.
15. Barker, L., Ford, ES. Zhang, X., Strine, TW. And Mokdad, Ah., (2008),Diabetes and anxiety in US adults: findings from the 2006 Behavioral Risk Factor Surveillance System. Diabetic Medicine: Vol.25 Pages 878-881.
16. Barlow, D.H., (1993), Clinical Hand Book Of Psychological Disorders. New York: the Guilford.
17. Bartolomucci1, A., Leopardi, R., (2009), Stress and Depression: Preclinical Research and Clinical Implications. PLoS ONE- www.plosone.org.
18. Beck, A., (1970), Depression: Clinical, Experimental, and Theoretical Aspects. Philadelphia. University of Pennsylvania press.
19. Benjamin, RS., Costello, EJ., and Warren, M., 1990, Anxiety disorders in a pediatric sample. J Anxiety Disorders ,4:293–316.

20. Bhalla, R., (2009), Depression. Http://Emedecine.medscape.com/article/286759-overview.
21. Blagova, O., (2006), Depression through a General practitioner's Eyes. WPA Bulletin Vo.11-N.31.
22. Bostro, G., and Eliassoni, M., (2006), Prevalence of Diabetes among Scandinavian. Scandinavian Journal of Public Health: Vol. 34 No.67.
23. Bremner, JD. Vythislingam, M., Vermetten, E., Vaccarino, V., and Charney, DS., (2004), Deficits in hippocampal and anterior cingulate functioning during verbal declarative memory encoding in midlife major depression. American J Psychiatry, 161:637–645.
24. Brookes, L.,(2004), Hypertension, But not "Prehypertension," Increases Stroke Risk. Http://medscape.com/viewarticle/471536-8.
25. Brookes, L.,(2004), The Epidemiology of Hypertension: Latest Data and Statistics. Http://Emedecine.medscape.com/article/565720-overview.
26. Brown, ES., et al,(2004), Hippocampal volume, spectroscopy, cognition, and mood in patients receiving corticosteroid therapy. Biological Psychiatry, 55:538–545.
27. Bystritsky, A., 2004, Diagnosis and Treatment of Anxiety. Focus 2:333-342.
28. Capuron, L., et al (2003), Interferon-_-induced changes in tryptophan metabolism: relationship to depression and paroxetine treatment. Biological Psychiatry, 54:906–914.
29. Capuron, L., Et al, (2002), Neurobehavioral effects of interferon in cancer patients: phenomenology and paroxetine responsiveness of symptom dimensions. Neuropsychopharmacology, 26:643–652.
30. Carlene M.M. et al ,(2003), High blood pressure; Comparative quantification of Health Risks. WHO.
31. Carmilla M.M., Licht; et al(2009),Depression is Associated with decreased Blood Pressure, but Antidepressant Use Increases the Risk for Hypertension. Hypertension 53:631.
32. Caspi, A., et al, (2003), Influence of life stress on depression: moderation by a polymorphism in the5-HTT gene. Science 301: 386–389.
33. Cassidy, KL., Rector, NA.,2008, The Silent Geriatric Giant: Anxiety Disorders in Late Life. Http//:www.medscape.com/viewarticle/579825.
34. Chapman, D., and Perry, G., (2008), Depression as a Major Component of Public Health for Older Adults. Preventing Chronic Disease, Vol. 5. No. 1.
35. Chapman, D., and Perry, G., (2008), Depression as a Major Component of Public Health for older Adults. Preventing Chronic Disease, Volume 5: No. 1.
36. Chengappa ,KN., et al,(2003), Relationship of birth cohort and early age at onset of illness in a bipolar disorder case registry. American Journal of Psychiatry 2003; 160:1636–1642.
37. Ciecchanowski, P.S., (2000), Impacts of depressive Symptoms On Adherence, Function and costs in patients With Diabetes. Internal Medicine: 160, 3278-3285.
38. Ciechanowski, PS., Katon, WJ., Russo, JE., (2000) Impact of Depressive Symptoms on Adherence, Function, and Costs. Internal medicine.vol 160 no 2127.212. 212- Wexler, DJ., (2006), Low risk of depression in diabetes? Would that it were so. CMAJ 175 (1). Doi:10.1503/cmaj.060612.

39. Clouse, RE., et al,(2003), Depression and Coronary Heart Disease in Women with Diabetes. Psychosomatic Medicine 65:376-383. American Psychosomatic Society.
40. Cristina, I. (2006), Depressed patients in Romanian primary care settings. WPA Bulletin. Vol.11-N.31.
41. Dan G. Blazer, et al, (1994), The Prevalence and Distribution of Major Depression in a National Community Sample: The National Comorbidity Survey. Am J Psychiatry 1994; 151:979-986.
42. De Groot M, Anderson R, Freedland, KE. Clouse RE., Lustman PJ.,(2001), Association depression and diabetes complications: a meta-analysis. Psychosomatic Med 63:619–630.
43. De Lisio et al (1986), Impairment of work and leisure in depressed outpatients: a preliminary communication. J Affect Discord ,10:79-84.
44. Deshpande, A. D., Marcie, H.H. , and Schootman, M., (2008) ,Physical Therapy Vol. 88 No.11.
45. Douki, S., Taktak, M. J., Z. Hachemi, Z. (2003), Prevalence of depression In Developing Countries. WPA Bulletin Vol.6-N25.
46. Douki, s., Taktak, M., Hachemi, Z.,(2003), Prevalence of depression in developing countries: the example of Tunisia. WPA Bulletin Vol. 06 - N° 25.
47. Drayer, RA., et al, (2005), Somatic symptoms of depression in elderly patients with medical comorbidities, Int J Geriatric Psychiatry. Oct;20(10):973-8.
48. Drayer, RA., et al,(2005), Somatic symptoms of depression in elderly patients with medical comorbidities, Int J Geriatric Psychiatry,20(10):973-8.
49. Drayer, RA., et al.(2005), Somatic symptoms of depression in elderly patients with medical comorbidities. International Journal Geriatric Psychiatry. 2005 Oct; 20(10):973-82.
50. Drevets, WC., et al, (1997), Subgenial prefrontal cortex abnormalities in mood disorders. Nature 386:824–827.
51. Egede, L. (2005), Effect of Comorbid Chronic Diseases on Prevalence and Odds of Depression in Adults with Diabetes. Psychosomatic Medicine 67:46-51. American Psychosomatic Society.
52. Egede, L., Zheng, D., Simpson, K., (2002), Comorbid depression is associated with increased health care use and expenditures in individuals with diabetes. Diabetes Care 25:464–470.
53. Egede, L., Zheng, D.,(2003), Independent factors associated with major depressive disorder in a national sample of individuals with diabetes. Diabetes Care 26:104–111.
54. Egede, L.E., (2005), Effect of Comorbid Chronic Diseases on Prevalence and Odds of depression in Adults with Diabetes. Psychosomatic Medicine vol.67 Pages, 46-51.
55. Eiber,R. Berlin,I., Grimaldi,A.and Bisserbi,Jc.(1997),Insulin-Dependent Diabetes and Psychiatric pathology: general clinical and epidemiological review. Encephale ,23,351- 357.
56. Eiber,R.Berlin,I. Grimaldi,A. Bisserbi,Jc. ,(1997), Insulin-Dependent Diabetes and Psychiatric pathology: general clinical and epidemiological review. Encephale, 23,351-357.

57. Elizabeth H. B. Lin, et al, (2006), Effects of Enhanced Depression Treatment on Diabetes Self-Care. Annals of Family Medicine 4:46-53.
58. Lic, Barker,L. Ford,ES. Zhang, X.,Strine, TW., and Mokdad ,AH., (2008), Diabetes and anxiety in US Adults: findings from the 2006 Behavioral risk factor surveillance system. Diabetes medicine: 25(7), 878-881
59. Elizabeth H. B. Lin, et al, (2006), Effects of Enhanced Depression Treatment on Diabetes Self-Care. Annals of Family Medicine 4:46-53.
60. Engum, A., Mykletun, A., Midthjell, K., Holen, A., and Dahl, AA., (2005), Depression and Diabetes. Diabetes Care 28:1904-1909, by the American Diabetes Association, Inc.
61. Evans, DL., Burnett, GB., Nemeroff ,CB.,(1983), The dexamethasone suppression test in the clinical setting. Am J Psychiatry 1983; 140:586–589.
62. Evans, DL., et al, (1999), Depression in the medical setting: biopsychological interactions and treatment considerations. J Clinical Psychiatry, 60:40 –55.
63. Everson, S., Kaplan, G., Goldberg, D., Salonen, J., (2000), Hypertension Incidence Is Predicted by High Levels of Hopelessness in Finnish Men. Hypertension, 35:561.
64. Gelder, M., Lopez-Ibor, J., Andreasen, N., and Lopez-Idor, J., (2003), New Oxford Textbook of Psychiatry. By Oxford University Press , Oxford.
65. Goldberg,D., et al, (2000) or WHO (2000),Guide to Mental Health in Primary Care.
66. Goldney, RD., et al, (2004), Diabetes, Depression, and Quality of Life. Diabetes Care 27:1066-1070, by the American Diabetes Association, Inc.
67. Gorey, G., (2000), Theory and practice of Counseling and psychotherapy. Stanford: Wadsworth.
68. Greco, T., Eckert, G., and Kroenke, K.,(2004), The Outcome of Physical Symptoms with Treatment of Depression. Http//:www.medscape.com/viewarticle/483790.
69. Greden, JF., (2001), The burden of disease for treatment-resistant depression. Journal Clinical Psychiatry 2001; 62(suppl 16):26 –31.
70. Grigsby, A., Anderson, R., Freedland, K., Clouse, R., and Lustman, P., 2002, Prevalence of anxiety in adults with diabetes: a systematic review. J Psychosomatic Research, 53:1053–1060.
71. Grigsby,A.,Anderson, R., Freedland,k., Clouse, R., and Lustman, PJ.(2002), Journal Psychosomatic Research, Vog.53 No. 6.
72. Grimsrud, Stein, DJ, Seedat, S., Williams, D. And Myer, L., (2009), the association between hypertension and depression and anxiety disorders: results from a nationally- representative sample of South African adults. PLoS One 2009 Vol. 4 No.1.
73. Grimsrud, Stein, DJ, Seedat, S., Williams, D. and Myer, L., (2009), The association between hypertension and depression and anxiety disorders: results from a nationally -representative sample of South African adults. PLoS One Vol 4 No1.
74. Groot, de M (2001), Association of depression and diabetes: A Meta-Analysis. Psychosomatic medicine: 63,619-630.

75. Groot, de M., (2001), Association of depression and diabetes: A Meta-Analysis. Psychosomatic medicine:63,619-630.
76. Groot, M., and Lustman, P.J., (2001), Depression among African-Americans with Diabetes. Diabetes Care 24:407-408.
77. Hall, PA. Coons, NJ. And Vallis, TM., (2008),Anxious temperament and disease progression at diagnosis: The case of TypeII Diabetes. Psychosomatic Medicine:70(7),837-843.
78. Halverson, J., and Walaszek, A., (2009), Late-Onset Depression. http://emedecine.medscape. Com./article/1356106/media.
79. Halverson, J., and Walaszek, A., (2009), Late-Onset Depression. Http://emedecine.medscape.com/article/1356106-media.
80. Han, J. Yin, Xm. Xu, F. Hong, X Liaong Yq and Wang Zy, (2008), A case control study on depression and anxiety in Hypertensive patients: Zhonghua Liu Xing Bing Xue Za Zhi.
81. Han, J. Yin, Xm. Xu, F. Hong, X Liaong Yq and Wang Zy,(2008),A case control study on depression and anxiety in Hypertensive patients: Zhonghua Liu Xing Bing Xue Za Zhi.
82. Harris, R., et al, (2003), Screening Adults for Type 2 Diabetes. Annals Volume 138 Issue3.
83. Harter, Mc. And et al (2007), increased 12-months Prevalence rates of Mental Disorders in Patients with Chronic Diseases. Psychosomatic Psychotherapy: 76,354-360.
84. Harter, Mc. And et al(2007),Increased 12-months Prevalence rates of Mental Disorders in Patients With Chronic Diseases. Psychosomatic Psychotherapy: 76,354-360.
85. Harvey, B.M. et al (2004), Diabetes and Mental Health-Related In-Patient Hospital Utilization in Maine.
86. Hazlett-Stevens, H., 2008, Psychological Approaches to Generalized Anxiety Disorder. Springer Science + Business Media, LLC.
87. Health Interview Survey, 1974, USA, Morbidity Statistics from General Practice 1971- 1972, Second National Study. Royal College of General Practitioners& Office of Population Censuses and Surveys.
88. Helmsmen, H., (1993), the expression of depressive illness.WPA Bulletin on depressionvol.1 - N°2.
89. Hettema, JM., Nealem, MC., Kendler, KS.,2001, A review and meta-analysis of the genetic epidemiology of anxiety disorders. American J Psychiatry, 158:1568–1578.
90. Hildrum, B, B. Mykltun, A. Holmen, J. Dahl, .AA. (2008), Effect of anxiety and Depression on Blood pressure. Department of Psychiatry, Namos Hospital, Norway.
91. Hildrum, B. Mykltun, a. Holmen, J. And Dahi, AA. (1999): Effect of anxiety and Depression on Blood Pressure11 year longitudinal population study, the year is unknown; the study was carried out at Namos hospital at Norway.
92. Hoge, E., Oppenheimer, J., and Simon, N., 2004, Focus 2:346-35. Psychiatric American Association.

93. Hunt, C., Issakidis, C., and Andrews, G.,(2002), DSM-IV generalized anxiety disorder in the Australian National Survey of Mental Health and Well-Being. Psychol Med, 32:649–659.
94. Isar, C.,(2006), How do patients express their illness? WPA Bulletin Vol11 - N° 31.
95. Ismail, K. Winkley,K. Stahl,D. Chalder,T. And Edmonds, M., (2007), Cohort study of diabetes and Their First Foot ulcer: Diabetes Care,30,1473-1497.
96. Ismail, K. Winkley,K. Stahl,D. Chalder,T. And Edmonds, M.,(2007),Cohort study of diabetes and Their First Foot ulcer: Diabetes Care,30,1473-1497.
97. Ismail, K., Winkley,K., Stahl,D., Chalder, T., and Edmonds, M.,(2007), A Cohort Study of People with Diabetes and Their First Foot Ulcer. Diabetes care :1473-1479.
98. Jackson, J., L., Dezee, K., and Berbano, E., (2004), Can Treating Depression Improve Disease Outcomes. Annals Vol. 140 Issue 12.
99. Jackson, JL., Kroenke, K., (2001), The effect of unmet expectations among adults presenting with physical symptoms. Ann Intern Med 2001; 134:889–897.
100. Jayati Das-Munshi, et al, 2007, Diabetes, Common Mental Disorders, and disability: Findings from the UK National Psychiatric Comorbidity Survey. Psychosomatic Medicine 69: 543-550. American Psychosomatic Society.
101. Judd, LL., Paulus, MP., Wells, KB., Rapaport, MH., (1996), Socioeconomic burden of sub syndromal depressive symptoms and major depression in a sample of the general population. Am J Psychiatry.153:1411-1417.
102. Kaplan,I.H. and Sadock,B.J.,(1996),Concise Text Book of Clinical Psychiatry. New York: Williams and Willkins.
103. Katon ,W., Lin, EH., and Kroenke ,K.,(2007), Primary care patients with anxiety and depression often describe multiple physical symptoms. General Hospital Psychiatry; 29; 147- 155.
104. Katon W, et al. (2004), Behavioral and clinical factors associated with depression among individuals with diabetes. Diabetes Care. 27:914-920.
105. Katon, W., et al (2004), Diabetes Smoking and Depression. Diabetes Care Vol. 27 no. 4.
106. Katon, WJ. Et al (2004), The Pathways Study: a randomized trial of collaborative care in patients with diabetes and depression. Arch Gen Psych 61:1042–1049, 2004.

107. Keitner, GI., Ryan, CE ., Miller, IW., Kohn, R .,and Epstein, NB., (1991), 12 Months Outcome of Patients with major depression and comorbid Psychiatric or Medical Illness (compound depression). American journal of psychiatry, 148 : 345-350. By American Psychiatric Association.
108. Kessler, RC., et al, 1994, Lifetime and 12-month prevalence of DSM-III-R psychiatric disorders in the United States: results from the National Comorbidity Survey. Arch Gen Psychiatry, 51:8–19.
109. Kessler, RC., et al,(2003), National Comorbidity Survey Replication: The epidemiology of major depressive disorder: results from the National Comorbidity Survey Replication (NCS- R). JAMA 2003; 289:3095–3105.

110. Kessler, RC., Keller, MB., Wittchen, HU., 2001, The Epidemiology of Generalized Anxiety Disorder. Psychiatric Clinic North Am, 24:19–39.
111. Kessler, RC., Wittchen, HU.,2002, Patterns and correlates of generalized anxiety disorder in community samples. J Clinical Psychiatry , 63 4–10 .
112. Kessler,RC. Keller, Mb. Wittchen, HU.,(2001),The Epidemiology of Generalized Anxiety Disorder. Psychiatric Clinic North America Vol.24 No. 1.
113. Kliegel, M., Zimprich, D., (2005), Predictors of cognitive complaints in older adults: a mixture regression approach. Eur J Ageing ;2:13-23.
114. Kloet, ER., Joe, M., Holsboer, F., (2005), Stress and the brain: from adaptation to disease. Natural Review Neuroscience, 6: 463–475.
115. Koenig HG, Meador KG, Cohen HJ, Blazer DG. Depression in elderly hospitalized patients with medical illness. Arch Intern Med. 1988; 148 (9): 1929-1936.
116. Kramer, M., (2007), The Rising Pandemic of Mental Disorders and associated chronic Diseases. Acta psychiatric Scandinavia: 62,382-397.
117. Krasucki, C., Howard, R., Mann, A., 1998, the relationship between anxiety disorders and age. Int J Geriatric Psychiatry, 13:79–99.
118. Krebs, M.O., Galinovski, A., and Lôo, H., (1995), Management of Concomitant Depression and Physical Illness. WPA Bulletin on Depression Vol.2 - N°7.
119. Krein, S.L.; Bingham, C.R.; McCarthy, J.F.; Mitchinson, A., Payes, J.; and Valenstein, M., (2006), Diabetes treatment among VA patients with comorbid serious mental illness. Psychiatric Services, 57(7), 1016–1021
120. Kroenke, K., Spitzer, RL., Williams, JBW., Linzer, M., Hahn, SR., deGruy, (1994), Physical symptoms in primary care: predictors of psychiatric disorders and functional impairment. Arch Family Med 1994; 3:774–779.
121. Kumar, P. And Clark, M. (1990), Clinical medicine. London: Cambus Lith Ltd.
122. Lépine et al, (1993), Lifetime and current comorbidity of anxiety and affective disorders: results from the International WHO/ADAMHA CIDI Field Trials, Int J Meth Psychiat Res b; 3: 67-77.
123. Lépine, J.P., (1994), The coexistence of Anxiety And Depression. . WPA Bulletin Vol. 2-N.5,
124. Lin, E., (2009), Depression and Increased Mortality in Diabetes: Unexpected Causes of Death. Ann Family Med , Vol 7 No 5.
125. Lustman, P.J., and Griffith, L.S., (1997), Effect of Nortriptaline on Depression And Glycaemic control in Diabetes: double Blind placebo controlled trial. Psychosomatic Medicine, 59, 3,241- 250.
126. Lustman, P.J., Clouse, R.E., Ciechanowski, P.S., Hirsch, I.B., and Freedland, K.E.(2005), Depression-Related Hyperglycemia in Type 1 Diabetes: A Meditational Approach, Psychosomatic Medicine Vol. 67 Pages195-199.
127. 213- Leichter, SB., and See, Y., (2005), Problems That Extend Visit Time and Cost in Diabetes Carre.1. How Depression May Affect the Efficacy and Cost of Care of Diabetic Patients. Clinical Diabetes, vol. 23 no. 2 53-54.
128. Lustman, P.J., Griffith, L.S., Gavard, J.A. and Clouse, R.E., (1992), Depression in adults with diabetes. Diabetes Care, Vol 15.
129. Lustman, PJ. Et al, (2000), Depression and poor glycemic control. Diabetes Care

23:934– 942
130. Lustman, PJ., Clouse, RC., Ciechanowski, PS., Hirsch, IP., and Freedland, KE., (2005), Depression-Related Hyperglycemia in Type 1 Diabetes: A Mediational Approach. Psychosomatic Medicine.
131. Maier, SF., Watkins, LR., (1998), Cytokines for psychologists: implications of bidirectional immune-to-brain communication for understanding behavior, mood, and cognition. Psychological Review 1998; 105:83–107.
132. Maier, W., Gansicke, M., Freyberger, HJ., Linz, M., Heun, R., Lecrubier, Y., (2000), Generalized anxiety disorder (ICD-10) in primary care from a cross-cultural perspective: a valid diagnostic entity? Acta Psychiatr Scand, 101:29–36.
133. Maj, M., and Sartorius, N., (2002), Depressive disorders, Second Edition. Southern, Gate, Chichester, John Wiley & Sons Ltd.
134. Mancuso, DM., Townsend, MH., Mercante, DE., 1994, Long-term follow-up of generalized anxiety disorder. Compr Psychiatry 1993; 34:441–446.
135. Manela, MV., Katona, CL., and Livingston, GA., 1996, How common are the anxiety disorders in old age? Int J Geriatric Psychiatry , 11:65–70.
136. McLaughlin, T., Geissler, EC., Wan, GJ., 2003, Comorbidities and Associated Treatment Charges in Patients with Anxiety Disorders. Http//:www.medscape.com/viewarticle/462700.
137. Mervaala, E., et al, (2000), Quantitative MRI of the hippocampus and amygdala in severe depression. Psychol Med, 30:117–125.
138. Michael, G., Gelder, Juan J., Lopez, I., Andreasen, N., and Jaun J., (2003).New Oxford Textbook of Psychiatry. Oxford, By Oxford University Press.
139. Migliorelli, R., et al, (1995), Prevalence and correlates of dysthymia and major depression among patients with Alzheimer's disease. Am J Psychiatry 152:37-44.
140. Miller, A., and Raison C., (2008), Immune System Contributions to the Pathophysiology of Depression. Focus 6:36-45.
141. Moffic H. & Paykel ES. (1975). Depression in medical in-patients. Brit J Psychiat, 126, 46-353.
142. Morrison, J., (2002), Straight Talk about Your Mental Health. New York, Guilford Press A Division of Guilford Publications.
143. Mossaoui, D., (2008), Depression is a major public health problem. WPA Bulletin Vol.12- N.35, 2008.
144. Musselman DL, Betan E, Larsen H,(2003),Phillips LS, Relationship of depression to diabetes types1 and 2: epidemiology, biology, and treatment Biol Psychiatry 54:317–329 .
145. Musselman, DL., et al, (2001), Paroxetine for the prevention of depression induced by high-dose interferon Alfa. N Engl J Med 2001; 344:961–966.
146. Nakanishi, N., Nakamura,K., Matsuo, Y. Suzuki, K.and Tatara. K. (2000), Smoking and Type 2 Diabetes in Men. Annals, Volume 133 Issue 3.
147. Nemeroff, C.B., (2008), Recent Findings in the Pathophysiology of Depression. FOCUS psychiatry winter, Vol. VI, No. 1.
148. Nicholson, A., Kuper, H., and Hemingway.(2006),Depression as an etiologic and Prognostic facto in Heart disease: a meta-analysis of 6362 events among 146538 participants in54 observational studies. European heart Journal 27(23),2763-

2774.
149. Noyes, R., 2001, Comorbidity in generalized anxiety disorder. Psychiatric Clinical North America, 24:41–55.
150. Nutt, DJ., 2000, The psychobiology of posttraumatic stress disorder. J Clinical Psychiatry 61 :24–29, discussion 30–32.
151. Okasha, A., (1995), Epidemiological data: focus on comorbidity of depression and organic chronic illness. WPA Bulletin on Depression Vol.2 - N°7.
152. Ormel, J., VonKorff, M., Ustun, TB., Pini, S., Korten., A., Oldehinkel, T., 1996, Common mental disorders and disability across cultures: results from the WHO Collaborative Study on Psychological Problems in General Health Care. JAMA, 272:1741–1748.
153. Owens, MJ., Nemeroff, CB., ((1991), Physiology and pharmacology of corticotrophin releasing factor. Pharmacological Rev, 43:425–473.
154. Persoons, P., et al, (2005), The impact of major depressive disorder on the short- and long- term outcome of Crohn's disease treatment with infliximab. Aliment Pharmacological Therapy 22:101–110.
155. Pertini,S. Alperovitch,A .Ducimetiere,P. Dealberto,Mj Lepine,JP.and Bisserbe,JC (1999),Anxiety but not Depression is Associated with Elevated Blood pressure in a Community group of French Elderly: Psychosomatic Medicine,61,77-83.
156. Pertini,S. Alperovitch,A .Ducimetiere,P. Dealberto,Mj Lepine,JP.and Bisserbe,JC (1999),Anxiety but not Depression is Associated with Elevated Blood pressure in a Community group of French Elderly: Psychosomatic Medicine,61,77-83.
157. Pertini,S. Alperovitch,A .Ducimetiere,P. Dealberto,Mj Lepine,JP.and Bisserbi,Jc (1999),Anxiety but not Depression is Associated with Elevated Blood pressure in a Community group of French Elderly: Psychosomatic Medicine,61,77-83.
158. Phillips, AC., et al, 2009), Generalized Anxiety Disorder, Major Depressive Disorder, and Their Comorbidity as Predictors of All-Cause and Cardiovascular Mortality: TheVietnam Experience Study. Psychosomatic Medicine 71:395-403. American Psychosomatic Society.
159. Pirraglia,PA., Taveira, T., Cohen, L., Wu, W., (2008), Effectiveness of a Multifactorial Cardiovascular Risk Reduction Clinic for Diabetes Patients with Depression. Chronic Disease Prevention, Volume 5: No. 4, October.
160. Polonsky, W.H., and Jackson, R.A., (2004) Addressing the Problem of Psychological Insulin Resistance in Type II Diabetes. Clinical Diabetes. Volume 22, Number 3.
161. Pradhan, AD., Manson, JE., Rifai, N., Buring, JE., Ridker, PM., (2001), C-reactive protein, interleukin 6, and risk of developing type 2 diabetes mellitus. JAMA, 286:327– 334.
162. Preda, A., 2008, http://Emedecine.medscape.com/article/288016-overview.
163. Raison, CL., Demetrashvili, M., Capuron, L., Miller, AH.,(2005), Neuropsychiatric side effects of interferon-_: recognition and management. CNS Drugs 19:1–19.
164. Ridvan, S. (2006), Depression In Family Practice In Turkey. WPA Bulletin Vol.11- N.31.
165. Roland, K., DuPont, R., Berglund, P., and Wittchen, HU., 1999, Impairment in

Pure and Comorbid Generalized anxiety Disorder and Major Depression at 12 Months in two National Surveys. Am J Psychiatry 156:1915-1923.
166. Rosenham, D., and Seligman, M., (1995), Abnormal Psychology . New York , W.W. Norton& Company Inc.
167. Rosenham, D., and Seligman, M.,(1995), Abnormal Psychology. W.W. Norton &Company. Inc. New York.
168. Roy and Byrne, (1998), Mortality Risk from Mental Disorders: A Meta-Analysis. Journal Watch Psychiatry, September 1, 1998.
169. Roy, S.M. and Affouf,M, M. (2007), Depression is a Risk factor for Poor Glycaemic Control and Retinopathy in African –Americans with Type I Diabetes; a prospective analytic study. Psychosomatic Medicine, 69,537-542.
170. Sacco, W.P., and Yanover, T., (2006), Diabetes and Depression: The Role of Social Support and Medical Support. Journal of Behavioral Medicine, Vol. 29, No. 6.
171. Sachar, EJ, Hellman, L., Fukushima, DK., Gallagher, TF., (1970), Cortisol production in depressive illness: a clinical and biochemical clarification. Arch Gen Psychiatry 1970; 23:289–298.
172. Santarelli, L., et al, (2003), Requirement of hippocampal neurogenesis for the behavioral effects of antidepressants. Science, 301:805–809.
173. Sapolsky, R., et al, (1987), Interleukin-1 stimulates the secretion of hypothalamic corticotrophin-releasing factor. Science, 238:522–524.
174. Sartorius N. & Harding TW; (1983), The WHO collaborative study on strategies for extending mental health care.
175. Schatzberg, A. (2005), Recent Studies of the Biology and Treatment of Depression. Focus, Vol. III, No. 1.
176. Schatzberg, AF.(2002), Brain imaging in affective disorders: more questions about causes versus effects. American J Psychiatry, 159:1807–1808.
177. Schatzberg, AF., (2005), Recent Studies of the Biology and Treatment of Depression:Epidemiology and Course. Focus Vol. 3 No. 1.
178. Schulberg HC. & Burns BJ. (1988). Mental disorders in primary care: Epidemiologic, diagnostic and treatment research directions. Gen Hosp Psychiat, 10, 79-87.
179. Sederer, L.I., Silver, L., McVeigh, K., and Levy, J., (2006), Integrating care for Medical and Mental Illnesses. Preventing Chronic Diseases.
180. Sharma, S., (2008), http;//emedecine.medscapee.com/article/241381.
181. Sherbourne, CD., Wells, KB., Meredith, LS., Jackson, CA., Camp, P., (1996), Comorbid anxiety disorder and the functioning and well-being of chronically ill patients of general medical providers. Journal watch psychiatry, 53(10):889-95.
182. Sherbourne, CD., Wells, KB., Meredith, LS., Jackson, CA., Camp, P., 1996, Co morbid anxiety disorder and the functioning and well-being of chronically ill patients of general medical providers. Arch Gen Psychiatry,53(10):889-95 .
183. Silver, L ., McVeigh, K ., H., and Joslyn Levy, Joslyn,L,.(2006), Integrating care for Medical and Mental Illnesses. Preventing Chronic Diseases.
184. Singh, PK., et al, (2004), Depression, Diabetes, and Glycemic Control in Pima Indians. Diabetes Care 27:618-619, by the American Diabetes Association, Inc.

185. Stein, D., 2004, Clinical Manual of Anxiety Disorders. American Psychiatric publishing, Inc. Washington, DC.
186. Stein, DJ., 2004, Clinical Manual of Anxiety Disorders. American Psychiatric publishing, Inc. Washington, DC .
187. Steptoe, A., Hamer, M., Chida, Y., (2007), The effect of acute psychological stress on circulating inflammatory factors in humans: a review and meta analysis. Brain Behavioral Immunology, 21:901–912.
188. Sullivan PF., Neale MC., Kendler, KS.,(2000), : Genetic epidemiology of major depression: review and meta-analysis. Am J Psychiatry, 157:1552–1562.
189. Surtees, et al (1986). Life events and the onset of affective disorder: A longitudinal general population study. J Affective Disor, 10, 37-50.
190. Sweeney, SE., Firestein, GS., (2007), Primer: signal transduction in rheumatic disease—a clinician's guide. Nat Clinical Practice Rheum 2007; 3:651–660.
191. Tafet, GE., et al, 2001, Correlation between cortisol level and serotonin uptake in patients with chronic stress and depression. Cognitive Affect Behavioral Neurosci, 1:388–393.
192. Talbt, F. Nouwen, A., (2000), A review of the Relationship Between depression and Diabetes in Adults : Is their Link?: Diabetes Care 23,1556-1562.
193. Taylor, S.E. (1995), Health Psychology. New York: W.W. Norton.
194. Taylor, S.E.(1995),Health Psychology. New York: W.W.Norton.
195. The Diagnostic and Statistical Manual of Mental Disorders4th Edition. Copyright 1994 American Psychiatric Association.
196. Thompson, M., (2007), Mental Illness. Greenwood press, Westport.
197. Thompson, M., L., (2007), Mental Illness. Westport, Greenwood Press
198. Üstün, T., B., Ayuso-Mateos, J., L., Chatterji, S., Mathers, C., and Murray, C.,J., L., (2004), Global burden of depressive disorders in the year 2000 The British Journal of Psychiatry184: 386-392.
199. Üstün, T., T., Ayuso-Mateos, J., Chatterji, S., Mathers, C., and Murray, C. (2000), Global burden of depressive disorders in the year 2000. The British Journal of Psychiatry (2004), 184: 386-392.
200. Ulkman, k., (2007), Diabetes and Depression Combo Poses Management challenge. American Diabetes association.
201. Ulkman, k.,(2007), Diabetes and Depression Combo Poses Management challenge.
202. UNRWA Annual Report (2008), World Diabetes Day, Head Quarter Amman.
203. UNRWA health department (2007), world diabetes day. Palestine: health department.
204. UNRWA health department (2009), Technical instructions and Management protocols, on Prevention and Control of Non-Communicable Diseases.. Palestine: health department.
205. UNRWA health department (2008), World heart day. Palestine: health department.
206. UNRWA Health Department (2006), Annual report of the UNRWA services at all fields. Head Quarter Amman Jordan.
207. UNRWA Health Department, (2004), Technical Instructions and Management

Protocol on Prevention and Control of Non-Communicable Diseases. Palestine: Health Department.
208. UNRWA health department, (2009), Technical Instructions. Head Quarter Amman.
209. Vythilingam, M., et al,(2002), Childhood trauma associated with smaller hippocampal volume in women with major depression. American J Psychiatry, 159:2072–2080.
210. Wagner KD: Generalized anxiety disorder in children and adolescents. Psychiatric Clin North AM, 24:139–153.
211. Waheed,A. Hameed,K. Khan,AM. Syed,JM. And Mirza,AI.(2006),The burden of anxiety and depression among patients with chronic rheumatological disorders at a tertiary care hospital clinic in Karachi. Journal of medical association:56(5),243-247.
212. Wayne Katon, et al,(2004), Behavioral and Clinical Factors Associated With Depression Among Individuals With Diabetes . Diabetes Care vol. 27 no. 4 914-920.
213. Weissman, MM., et al 2000, Potential panic disorder syndrome: clinical and genetic linkage evidence. American J Med Genet, 96:24–35.
214. Wetherell, JL/, Unützer. J., (2003), Adherence to treatment for geriatric depression and anxiety. CNS Spectrum, 48-59.
215. WHO, (1980), International Classification of Impairments, Disabilities and Handicap: A Manual of Classification Relating to the Consequences of Disease. Geneva, Switzerland: WHO; 1980.
216. WHO, (2001), Disease Control Priorities, Related to Mental, Neurological, Developmental, and Substance Abuse Disorders.
217. WHO, (2006), Disease control priorities Related to Mental Neurological and Substance Abuse Disorders. Geneva.
218. WHO, (2008). The Global Burden of Disease, (GBD).
219. William, A. And et al (2008), Depression in patients with Diabetes: Does It impact Clinical Goals? The Journal of the American Board of Family Medicine: 21,392-397.
220. William, A. And et al (2008), Depression in patients with Diabetes: Does It impact Clinical Goals? The Journal of the American Board of Family Medicine: 21,392-397.
221. Williams, J., et al, (2004), Depression Care Management for Older Adults with both Depression and Diabetes. Annals of internal medicine, Vol. 140 Issue 12 .
222. Wittchen, HU., Kessler, RC., Bees, K., Krause, P., Hofler, M., Hoyer, J.,(2002), Generalized anxiety and depression in primary care: prevalence, recognition, and management. J Clinical Psychiatry, 63 :24–34.
223. Wittchen, HU., Zhao, S., Kessler, RC., and Eaton, WW.,(1994), DSM-III-R generalized anxiety disorder in the National Comorbidity Survey. Arch Gen Psychiatry 51:355– 364.
224. Y. Lecrubier (1993), Depression is common in primary care.WPA Bulletin Vol.1, N1,1993.
225. Yates, W., 2008, Anxiety Disorders. Http:/

/Emedecine.medscape.com/article/286227- overview.
226. Yonkers, KA., Warshaw, MG., Massion, AO., Keller, MB., Phenomenology and course of generalized anxiety disorder. Br J Psychiatry, 168:308–313.
227. Zhang, X., Beaulien, J.M., Sotnikova, TD. Gainetdinov, RR. Caron, MG. (2004), Tryptophan hydroxylase-2 controls brain serotonin synthesis. Science2004; 305: 217.
228. Zhang, X., et al, (2004), Loss-of-function mutation in tryptophan hydroxyylase-2 identified in unipolar major depression. Neuron, published online Dec 9, 2004.
229. Zhang, Z., et al, (2005), Depressive symptoms and mortality among persons with and without diabetes. American Journal of Epidemiology: 161(7), 642-660.
230. Zorilla, E., et al, (2001), The relationship of depression and stressors to immunological assays: a meta-analytic review. Brain Behavioral Immunology 2001; 15:199–226.

ANNEXES

دعــوة

أخي ا لمشارك / أ ختي **ا لمشاركة :**

ا نا ا لطا لب/تيسير عوض الله ا لعمصي ا درس بكلية ا لصحة ا لعا مة جا معة ا لقدس– أ بو ديس ا قوم بإعدا د بحث بعنوا ن: "**مدي ا نتشا ر ا لا كتئا ب و ا لقلق بين مرضي ا لسكر و /ا و ا لضغط ا لمسجلين لدي عيا د ا ت ا لوكا لة في قطا ع غز ة** ".

باعتباره متطلب للتخرج و ا لحصول على درجة ا لماجستير وتم اختيارك لما للبحث من اهمية في تسد يد ا لخطي وتحسين الخدمات.

تهدف هذه الدراسة: ا لي ا لتعرف علي مدي ا نتشا ر امراض الاكتئاب و ا لقلق لدي ا لمرضي ا لمصابين بارتفاع ضغط ا لدم و ا لسكر , وذلك لمعرفة مدي معاناتهم وبالتا لي ا لعمل للتخفيف من هذه ا لمعاناة.

وشكرا لك علي مشاركتك في هذه ا لدراسة بالإجا بة علي هذه الأسئلة

مشا ركتك طوعية يمكنك رفض الإجابة عن أي سؤا ل وأ رغب أن أ ؤكد لك أن ا لمعلومات التي تذكرها/يها ستكون مصدر سرية وستستخدم فقط لغرض ا لبحث ا لعلمي وبدون ذكر الأسماء ولذا أ رجو أن تكون الإجا با ت دقيقة.

ملا حظة:

مدة تعبئة هذا الإستبيا ن لا تتجا وز عشرة د قا ئق من وقتك ا لثمين.

وشكراً لك/ى على حسن تعاونك

ANNEX I:

The questionnaire for the research, it is formed of the following parts:

1- Sociodemographic Questionnaire.

2- Organic disorder questionnaire.

3- Beck inventory depression Scale.

4- Manifest anxiety scale.

استبيان حول التعرف علي مدي انتشار الاكتئاب والقلق بين مرضي الضغط والسكر للمرضي المسجلين لدي عيادات الوكالة في قطاع غزة

*** تاريخ تعبئة الاستبيان: _____**

*** رقم الإستبيان_____**

- **اسم المركز الصحي:_____**

[الرجاء ضع/ى علامة ((X في المربع المناسب)

1المعلومات العامة:

1.1 المعلومات الشخصية:

- **العمر _____**

- الجنس ☐ ذكر ☐ أنثى
- مكان السكن ☐ مدينة ☐ قرية ☐ مخيم ☐ اخري
- المستوي التعليمي ☐ امي ☐ ابتدائي ☐ اعدادي

☐ ثانوي ☐ جامعي

2.1 المعلومات الاجتماعية :

- الحالة الاجتماعية ☐ متزوج/ة ☐ أعزب/اء ☐ أرمل/ة ☐ مطلق/ة
- نوع الأسرة ☐ نووية ☐ ممتدة
- ما عدد افراد الأسرة ؟
- هل تعيش في اسرة ذات علاقات طبيعية؟ ☐ نعم ☐ لا
- هل تعمل ؟ ☐ نعم ☐ لا
- نوعية العمل: ☐ موظف ☐ عامل فني ☐ عامل عادي
- كم عدد الافراد الذين تعولهم ؟----------

- الدخل الشهري للعائلة: ☐ اقل من 1000شيكل ☐ من 1000-2000 شيكل

☐ من 2000 الي 4000 شيكل ☐ اكثرمن 4000 شيكل

1.2المعلومات الخاصة بالمرض العضوي:

- ما هي الامراض ا لتي تتا بع ا لعلاج لها ؟

☐ ضغط ☐ سكر ☐ ضغط وسكر

هل تتنا ول علاجك حسب ا لجرعة ا لمحددة ؟ ☐ نعم ☐ لا

- هل تتنا ول علاجك حسب ا لو قت ا لمحدد ؟ ☐ نعم ☐ لا
- هل تتابع زياراتك للعلاج بانتظام ؟ ☐ نعم ☐ لا
- هل تتابع تحاليلك بانتظام ؟ ☐ نعم ☐ لا
- هل تراجع اخصائي العيون علي الاقل مرة واحدة سنويا؟ ☐ نعم ☐ لا
- هل تراجع اخصائي القلب بانتظام ان كان لديك مشاكل في القلب ؟ ☐ نعم ☐ لا
- هل لد يك مضاعفات ؟ ان كان لد يك من فضلك اجب بنعم او لا

1- ضعف ا و فقد للابصا ر ☐ نعم ☐ لا

2- هبوط او فشل في عمل الكلي ☐ نعم ☐ لا

3- بتر في احد الاطراف ☐ نعم ☐ لا

4- هبوط في القلب ☐ نعم ☐ لا

5- جلطة في القلب ☐ نعم ☐ لا

6- جلطة دماغية ☐ نعم ☐ لا

- هل الضغط تحت السيطرة؟ ☐ نعم ☐ لا
- هل السكر تحت السيطرة؟ ☐ نعم ☐ لا

2.2ا لمعلومات ا لخاصة با لوضع ا لنفسي

ا ولا: ا لمقياس ا لخا ص بالا كتئاب

تعليمات :

يتضمن هذا الاختبا ر 21 مجموعة من ا لعبا را ت ا لرجاء ا ن تقرأ كل مجموعة من ا لعبا را ت بعنا ية ، ثم تختا رعبا رة وا حدة وا لتى تصف بطريقة ا فضل ا لطريقة ا لتى تشعر بها خلا ل الأسبوعين الأخيرين بما في ذلك ا ليوم.

ضع (دائرة) او علامة (x) حول ا لرقم جوا ر ا لعبا رة ا لتى ا خترتها .

ولو بدا لك أ كثر من عبا رة في مجموعة ا لعبا را ت تنطبق عليك بطريقة متسا وية ، ضع دائرة حول أعلي رقم في هذه ا لمجموعة وتأ كد أ نك لا تختا ر أ كثر من عبا رة في اى مجموعة بما في ذلك ا لمجموعة 16.

ا لبند		
1- ا لحزن	0	لا أ شعر با لحزن.
	1	أ شعر با لحزن أغلب ا لوقت.
	2	أ نا حزين طول ا لوقت.
	3	أنا حزين أو غير سعيد لدرجة لا أ ستطيع تحملها.
2- ا لتشاؤم	0	لست متشائما و لم تفتر همتى فيما يتعلق بمستقبلي.
	1	أشعر بهبوط ا لهمة فيما يتعلق بمستقبلي بطريقة أ كبر مما اعتد ت.
	2	لاأ توقع أن تسير الأمور بشكل جيد با لنسبة لي.
	3	أ شعر بأ ن مستقبلي يا ئس, وا نه سوف يزدا د سوء ا.
3- ا لفشل ا لسا بق	0	لا أشعر بأ ننى شخص فا شل.
	1	لقد فشلت أ كثر مما ينبغى.
	2	كلما نظرت ا لي ا لوراء ا رى ا لكثير من ا لفشل.
	3	أ شعر باني شخص فا شل تما ما.
4- فقدا ن الاستمتاع	0	أستمتع بالأشياء قد ر ا ستمتاعى بها من قبل.
	1	لا أستمتع بأ شياء بنفس ا لقدر ا لذى اعتد ت عليه.
	2	أحصل علي قدر قليل جدا من الاستمتاع من الأشياء ا لتى اعتد ت أن
	3	لا أستطيع ا لحصول علي أى استمتاع من الأشياء ا لتى اعتد ت
5- مشاعر الإثم (تا نيب ا لضمير)	0	لا أ شعر بالإثم (تأ نيب الضمير).
	1	أ شعر بالأثم (تأ نيب الضمير) عن ا لعديد من الأشياء التى قمت بها
	2	أشعر بالأثم (تأ نيب ا لضمير) أغلب ا لوقت.
	3	أشعر بالأثم (تأ نيب ا لضمير) طول ا لوقت .

ا لبند		
6- مشاعر ا لعقا ب	0	لا أ شعر بأ نه يقع علي عقا ب.
	1	أشعر با نه يقع علي عقا ب, او انه سيحدث لي مكروه.
	2	ا شعر ا نني اعا قب الان او انني سا عا قب حتما.
	3	أ شعر ا نني ا ستحق ا ي عقا ب ينزل بي, وا ريد ان اعا قب علي كل
7- عد م حب ا لذا ت	0	شعورى نحو نفسي كما هو(لا يوجد اي خيبة ا مل في نفسي) .
	1	ا نا غير را ضي عن نفسي.
	2	خا ب رجا ئي في نفسي.
	3	لا أحب نفسي و ا كره نفسي.
8- نقد ا لذات	0	لا أ نقد أو أ لوم نفسي أ كثر من ا لمعتا د.
	1	أ نقد نفسي علي ما بها من ضعف ا و ما تقع فيه من ا خطاء.
	2	ا لوم نفسي علي كل خطا يحدث .
	3	ا شعر ا نني ا لمسؤو لعن كل ما يحدث حولي من سو ء,ا و ما يقع من
9- الأفكا ر أ و ا لرغبا ت	0	ليس لدى أى أ فكار ا نتحارية.
	1	لدى أفكار للانتحار ولكن لا يمكنني تنفيذها.
	2	أريد ان ا نتحر.
الا نتحا رية	3	قد ا نتحر لو سنحت لي ا لفرصة.
10- ا لبكاء	0	لا أ بكي أ كثر مما اعتد ت.
	1	أ بكى أ كثر مما اعتد ت.
	2	أ بكى بكثرة من أى شئ بسيط.
	3	أشعر با لرغبة في ا لبكاء ولكنى لا أستطيع.
11- ا لتهيج أو الاستثا رة	0	لست أ كثر تهيجاً أو استثا رة عن ا لمعتا د.
	1	أشعر با لتهيج أو الاستثارة أ كثر من ا لمعتا د.
	2	أ هتاج أو استثا ر لد رجة أ نه من الصعب علي ا لبقاء بدون حركة.
	3	اهتاج أو ا ستثا ر لدرجة تد فعنى للحركة أ و فعل شيئ ما.

ا لبند		
12- فقدان الاهتمام	0	لم أ فقد الاهتما م بالآخرين أ و بالأنشطة .
	1	أهتم بالآخرين أو بالأمور أ قل من قبل.
	2	فقد ت أغلب اهتما مى بالآخرين والأمور الأخرى.
	3	من ا لصعب ا ن أهتم بأى شيئ.
13- ا لتردد	0	ا تخذ ا لقرا رات بنفس كفاءتي ا لمعتا دة.
	1	أ جد صعوبة أ كثر من ا لمعتا د في ا تخاذ ا لقرارا ت.
	2	لدى صعوبة أ كثر بكثير مما اعتد ت في ا تخا ذ ا لقرارات.
	3	لدى مشكلة في ا تخا ذ أى قرا رات,(لا يمكنني اتخاذ اي قرار علي
14- ا نعدا م ا لقيمة	0	لا أشعر بأ ننى عديم ا لقيمة.
	1	لا أعتبر نفسي ذو قيمة وذو نفع كما اعتد ت أ ن أ كون.
	2	أشعر بأ ننى عديم ا لقيمة با لمقارنة بالآخرين.
	3	أشعر بأ ننى عديم ا لقيمة تما ماً.
15- فقدا ن ا لطا قة	0	لدى نفس ا لقد ر من ا لطا قة كا لمعتا د .
	1	لدى قد ر من ا لطاقة أ قل مما اعتد ت.
	2	ليس لدى طاقة كافية لعمل ا لكثير من الأشياء.
	3	ليس لدى طاقة كا فية لعمل أى شيئ.
16- تغيرا ت في نمط ا لنوم	0	لم يحدث لي اى تغير في نمط (نظام) نومى.
	1	أ- أ نا م أ كثر من ا لمعتا د ا لي حد ما.
	2	أ- أ نا م أ كثر من ا لمعتا د بشكل كبير.
	3	أ- أ نا م أغلب ا ليوم.
17- ا لقا بلية للغضب أو الا نزعاج	0	قا بليتى للغضب أ و الانزعاج لم تتغير عن ا لمعتا د.
	1	قا بليتى للغضب ا و الانزعاج أ كبر من ا لمعتا د.
	2	قا بليتى للغضب او الا نزعاج أكبر بكثير من ا لمعتا د.
	3	قا بليتى للغضب أو الا نزعاج طول ا لوقت.

ا لبند		
18- تغيرات في ا لشهية	0	لم يحدث أى تغير في شهيتى.
	1	أ- شهيتى أ قل من ا لمعتاد ا لي حد ما.
	2	أ- شهيتى أ قل كثيرا من ا لمعتا د.
	3	أ- ليست لي شهية علي الاطلاق.
19- صعوبة ا لتركيز	0	أ ستطيع ا لتركيز بكفاء تى ا لمعتا د ة.
	1	لا أ ستطيع ا لتركيز بنفس ا لكفاءة ا لمعتا د ة.
	2	من ا لصعب علي ا ن أ ركز عقلي علي أى شيئ لمدة طويلة.
	3	أجد نفسي غير قا د ر علي ا لتركيز علي أي شئ.
20- الإرهاق أو الإجهاد	0	لست أكثر إ رها قا أو إ جها دا من ا لمعتا د.
	1	أ صا ب بالإرها ق او الإجها د بسهولة أ كثر من ا لمعتا د.
	2	يعوقني الإرهاق أو مجهد جداً لعمل أغلب الأشياء ا لتي اعتد ت عليها.
	3	أ نا مرهق أ و مجهد جداً لعمل أغلب الأشياء ا لتى اعتدت عليها .
21- فقدا ن الاهتمام با لجنس	0	لم ألاحظ أى تغير في اهتمامي با لجنس حديثاً.
	1	أ نا أ قل اهتما ما با لجنس مما اعتد ت.
	2	أ نا أ قل اهتماما بالجنس الآن بدرجة كبيرة.
	3	فقد ت الاهتما م با لجنس تما ما.

ثا نيا: ا لمقياس ا لخاص با لقلق

ضـــــع دا ئـــــرة حـــــول الاجابـــــة ا لتـــــى تنطبـــــق عليـــــك و لـــــو بـــــا لتقريـــــب ، و من فضلك أجب عن جميع الأسئلة ، و لا تترك سؤا ل بدون ا جا بة .

الرقم	ا لبند	نعم	لا
1	نومي مضطرب و متقطع .		
2	مرت بى أ وقات ا فتقدت فيها ا لنوم بسبب ا لقلق .		
3	لدى قليل جداً من ا لمخاوف ا ذا قورنت بأ صدقا ئى .		
	أعتقد أ ننى لست أ كثر عصبية من معظم ا لنا س .		
	تنتا بنى أ حلام مزعجة (أ و كو ا بيس) من حين لآخر .		

6	عندى قدر كبير من ا لمتاعب فى معد تى .		
7	غا لبا ًما ألاحظ أن يداى ترتجفا ن عند ما أ حا ول ا لقيام بعمل من		
8	أعا نى من نوبا ت الاسها ل .		
9	ا لما ل و ا لعمل يثيرا ن ا لقلق عندي .		
10	أ صا ب أ حيا ناً بنوبا ت من ا لغثيا ن (غميا ن ا لنفس) .		
11	كثيراً ما أ خشى أ ن يحمر وجهى خجلاً .		
12	أ شعر بجوع فى كل الأوقا ت تقريباً .		
13	أ ننى أ ثق بنفسى تما ماً .		
14	لاأ تعب بسرعة .		
15	ا ن الا نتظا ر يجعلنى عصبياً .		
16	أ شعر أ حياناً بالاثا رة لد رجة أ ن ا لنوم يتعذ ر علىّ .		
17	أ شعر دا ئماً با لهدوء .		
18	تمر بى فترا ت من عدم الاستقرا ر لدرجة أ ننى لا أستطيع أن أ مكث		
19	أ ننى سعيد فى معظم ا لوقت .		
20	أجد من ا لصعب علىّ تركيز ذهنى فى عمل ما .		
21	أ شعر با لقلق على شيء ما و شخص ما طول ا لوقت تقريباً .		
22	أ خاف من مواجهة أ زمة أ و شد ة .		
23	أ ود أ ن أ صبح سعيداً كما يبدو الآخرين .		
24	كثيراً ما أ جد نفسي قلقاً على شيء ما .		
25	من ا لمؤكد أ ننى أشعر أحيا ناً بأ ن لا فا ئدة لى .		
26	أ شعر أ حيا ناً بأ ننى أ كا د أ تمزق ا رباً .		
27	أعرق بسهولة حتى فى الأيا م ا لبا ردة .		
28	ا لحياة عسيرة بالنسبة لى فى أغلب الأوقا ت .		
29	يقلقنى ما يحتمل أ ن أ وا جهه من حظ سيئ .		
30	أ ننى حسا س بنفسى لدرجة غير عا د ية .		
31	لا أ ظن أ ننى لاحظت أ بداً أ ن قلبى يخفق بشدة و يند ر أن تتهج أ		
32	أ بكى بسهولة .		
33	لقد خشيت أشياء أ و أ شخاص أعرف أ نهم لا يستطيعون ا يذا ئى .		
34	عندى ا ستعدا د لأن تؤثر فىّ أحداث الحياة تا ثيراً شديداً .		

35	قلّما أ صا ب با لصداع .		
36	لا بد أ ن أعترف بأ ننى شعرت أحيا ناً با لقلق ا لشديد على أ شياء لا		
37	لا أ ستطيع أن أ ركز تفكيرى فى شيئ وا حد .		
38	أنا أ رتبك بسهولة .		
39	فى بعض الأحيا ن أعتقد أ ننى لا أ صلح لشيئ أ بداً .		
40	أ ننى شخص متوتر جداً .		
41	أ حيا ناً عند ما أ تضا يق يتسا قط منى ا لعرق بصورة تضا يقنى جداً .		
42	وجهى لا يحمر خجلاً بدرجة أ كثر مما يحدث للآخرين		
43	أ نا أ كثر حسا سية من غا لبية ا لناس .		
44	لا يكا د وجهى يحمر من ا لخجل أ بداً .		
45	مرت بى أ وقا ت كنت أ شعر خلا لها بأ ن ا لصعا ب تترا كم فوق		
46	عندما أ قوم بعملى أ كون فى حا لة توتر شديد .		
47	يدا ي و قد ماي دا فئتا ن فى ا لعا د ة .		
48	أحلم كثيراً بأ مور أ فضل الاحتفا ظ بها لنفسي .		
49	تنقصنى ا لثقة بالنفس .		
50	يند ر جداً أ ن أ صا ب بالإمسا ك .		

شكرا جزيلا لك علي مشا ركتك ا لايجا بية متمنيا للجميع السلامة

ا لطا لب: تيسير عوض ا لله العمصي

جامعة ا لقد س

Palestinian National Authority
Ministry of Health
Helsinki Committee

السلطة الوطنية الفلسطينية
وزارة الصحة
لجنة هلسنكي

التاريخ2009/6/3

Name:

الاسم: **تيسير عوض الله العمصي**

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

نفيدكم علماً بأن اللجنة قد ناقشت مقترح دراستكم حول:-

Prevalence of Depression and Anxiety disorders among Patients with Diabetes/or Hypertension at UNRWA Health Centers in Gaza Strip

In its meeting on June 2009
and decided the Following:-
To approve the above mention research study.

و ذلك في جلستها المنعقدة لشهر 6 2009
و قد قررت ما يلي:-
الموافقة على البحث المذكور عاليه.

Signature
توقيع

Member
عضو

Member
عضو

Chairperson

Ministry of Health
Helsinki Committee

Conditions:-

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

تيسير العمصي

unrwa
الاونروا
60
YEARS

united nations relief and
works agency for palestine
refugees in the near east

unrwa-gaza field office
jamal abed el naser street
p.o. box 61
gaza
or
p.o. box 781
ashqelon
israel

t +972 8 2887333

f +972 8 2887444,
+972 8 2887485

www.unrwa.org

Date: 20 December, 2009

Ref: HMG/M/204

السيد / منسق برنامج ماجستير الصحة النفسية المجتمعية ..... المحترم
كلية الصحة العامة
جامعة القدسة - غزة

الموضوع : **تزويد الطالب تيسير العمصي بمعلومات لغرض البحث العلمي**

بالإشارة إلى رسالتكم الموجه للسيد مدير دائرة الصحة بوكالة الغوث الدولية بتاريخ 2009/8/30، نحيط سيادتكم علما بأنه لا مانع لدينا من مساعدة الطالب تيسر العمصي في جمع البيانات من عياداتنا التابعة لدائرة الصحة بوكالة الغوث.

وتفضلوا بقبول فائق الاحترام ، ، ،

د. محمد المقادمة
مدير برنامج الصحة بوكالة الغوث الدولية

مكتب غزة الأقليمي
شارع جمال عبدالناصر
ص.ب ٦١
غزة
أو
ص.ب ٧٨١
المجدل
اسرائيل

هـ +٩٧٢ ٨ ٢٨٨٧٣٣٣

ف +٩٧٢ ٨ ٢٨٨٧٤٤٤
+٩٧٢ ٨ ٢٨٨٧٤٨٥

وكالة الأمم المتحدة لإغاثة
وتشغيل اللاجئين الفلسطينيين
في الشرق الأدنى

العنوان : مدي انتشار الاكتئاب و /أو القلق بين مرضي الضغط و/أو السكر بين المرضي مراجعي عيادات الوكالة في قطاع غزة.

إعداد: تيسير عوض الله العمصي

الإشراف: د. عبد العزيز موسي ثابت

ملخص الدراسة

الهدف: تهدف هذه الدراسة لمعرفة مدي انتشار أ مراض القلق والاكتئاب بين مرضي السكر و/ أو الضغط, الذين يتابعون علاجهم في عيادات الوكالة بقطاع غزة.

الطريقة: عينة الدراسة تكونت من 400 مريض, تم اختيارهم من خمسة مراكز واختير 80 شخصا من كل مركز. واختيرت العينة عشوائيا, واختير كل عاشر مريض. وقد أجاب المرضي علي الاستبيانات التالية: استبانة المعلومات الديمغرافية, مقياس بك لقياس الاكتئاب ومقياس تايلور لقياس القلق.

النتائج: لقد أجاب علي الاستبيان 388وكان معدل الرد97.0% , %, 62.6%إناث, ذكور بنسبة37.4%.وقد بينت الدراسة ان44.3% لديهم داء السكري, 28.1% لديهم ارتفاعا في ضغط الدم, وان 27.6% لديهم المرضين معا. بينت الدراسة أن معدل انتشار القلق 51.3%, و معدل انتشار الاكتئاب 48.1% . 44.2% من مرضي السكر كان لديهم اكتئاب, و 45.4% من مرضي الضغط كان لديهم اكتئاب. وقد بينت الدراسة أن 49.3% من مرضي السكر لديهم قلق, بينما 45.1% من مرضي الضغط لديهم قلق. حيث أن الدراسة قد بينت أن المرضي الذين لديهم مشاكل بصرية كان معدل انتشار الاكتئاب لديهم 57.9% وان من لديهم اكتئاب شديد كان 11.6% , أما من تعرض لبتر الأطراف , فكان معدل الاكتئاب 50.0% و منهم 25.0% لديهم اكتئاب شديد. وقد بينت الدراسة أن من لديهم مشاكل بصرية كان معدل حدوث القلق لديهم, 64.0% وان 6.1% لديهم قلق شديد, بينما من تعرض لبتر طرف فكان لديهم 87.5% قلق منهم 25.0% لديهم قلق شديد, المعدلات الخاصة بمشاكل العيون وبتر الأطراف كانت ذات دلالة إحصائية.

وقد بينت الدراسة ارتفاع معدلات حدوث الاكتئاب والقلق وشدتهم, بين مرضي السكري والضغط الذين حالاتهم ليس تحت السيطرة, حيث كان معدل الحدوث للاكتئاب لمرضي الضغط لمن هم ليس تحت السيطرة, 57.1% , و 20.2% لديهم اكتئاب شديد, وكذلك 51.2% لديهم قلق و 5.0% لديهم قلق شديد.

إن الاكتئاب لدي النساء كان 52.1% ولدي الرجال 43.1%, بينما القلق لدي النساء كان 54.3%, ولدي الرجال كان 46.2%. وقد أبانت الدراسة أن29.0% من الفئة العمرية الخامسة , لديها اكتئاب شديد, و 62.8% لديهم قلق. كذلك

بينت الدراسة إن 26.0% ممن يسكنون في القرى لديهم اكتئاب شديد, وكذلك 59.8% لديهم قلق. وقد عكست الدراسة أن 53.9% من العاطلين عن العمل كان لديهم اكتئاب, و 59.8% كان لديهم قلق , أما من كان دخلهم اقل من 250$, 56.6%منهم لديهم اكتئاب , 59.0% كان لديهم قلق. وقد بينت الدراسة إن 91.6% من الأميين كان لديهم اكتئاب, و 85.7% كان لديهم قلق. أن الاكتئاب بين الأرامل كان 87.9% , وكذلك 36.0% يشكون من اكتئاب شديد, والقلق كان 72.8%, بينما القلق الشديد كان12.1% . بينما الذين عاشوا في اسر نووية كانوا أكثر عرضة للاكتئاب والقلق , فكان ا لاكتئاب 54.4%, والقلق 54.8% بينهم.

الاستنتاج: إن مرضي السكر والضغط, كانا عاملي خطورة لحدوث أمراض القلق والاكتئاب, وهذا الدور ازداد بعدم التحكم في أي منهما ,كذلك بحدوث المضاعفات , وكان من عوامل الخطورة كذلك, أن تكون المريضة أنثي, البطالة, الفقر, تدني المستوي التعليمي , السكن في قرية, والعيش في عائلة نووية, وكذلك الترمل