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Anxiety and Stigma among Epileptic Patients in Gaza Strip

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بسم الله الرحمن الرحيم

﴿يرفَعِ اللهُ الذينَ آمَنُوا مِنكُم والذِينَ أُوتُوا العِلْمَ دَرجَاتٍ

واللهُ بِما تَعملونَ خَبِير﴾

صدق الله العظيم

سورة المجادلة **الآية " 11 "**

Dedication

This work is dedicated to:

My Parents,

Husband,

Brothers,

Sisters

And my Children

Acknowledgment

I would like to Acknowledge my advisors **Dr. Sanaa Abou- Dagga** and **Dr. Jamil Al-Tahrawi,** for their supervision, guidance, patience, support, and encouragement. they generously offered me the opportunity to continue in my study. I am deeply grateful to them for realizing my life time wish.

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Many thanks to my colleagues for encouraging and supporting me.

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Abstract:

Objectives: This study aimed to determine the level of anxiety and the level of stigma among epileptic patients, and to explore the differences in anxiety and stigma according to the demographic variables (sex, age, marital status, working status, education, and monthly income) and according to the epilepsy related variables (age of onset of the disease and taking treatment regularly) among epileptic patients., and aimed to realize the correlation between anxiety and stigma among epileptic patients

Study design: Descriptive, cross sectional study.

The study was carried out in governmental community mental health centers in Gaza strip.

Method: One hundred fifty of epileptic patients from governmental community mental health centers in Gaza strip were included in the study sample using systematic random sampling, The respondents were 142 with response rate of (95%), 67 of them were male (47.2%), and 75 were female (52.8%). Patients with mental or physical disorder were excluded from the study. Patients anonymously filled out a questionnaire, included data about sociodemographic characteristics and epilepsy related variables. Standardized translated version of Taylor Manifestation Anxiety Scale (TMAS) was used to evaluate Anxiety, and Stigma Scale prepared by the researcher her self was used to evaluate Stigma among the participants. Statistical methods was used by SPSS computer software program.

Results: The level of anxiety was (68.1%), and all of the study sample had different levels of anxiety. There was positive significant correlation (P= 0.001) between anxiety and stigma among the study sample. There were a significant differences in anxiety according to the age, marital status, educational level, and monthly income of the study sample. The level of stigma was at ratio scale (66.0%). There were significant differences in stigma according to sex, age, marital status, educational level, monthly income and age of onset the disease.

Recommendation: Provide an overview of current understanding of this group of patients, their needs, and the provision of services to meet these needs. And more interest to poor, married and low educated of epileptic patients.

Key words: Epilepsy, Anxiety, Stigma, Community mental health centers, Gaza strip.

ملخص الدراسة: Arabic abstract

الأهداف: هدفت هذه الدراسة إلى تحديد مستوى القلق ومستوى الوصمة لدى مرضى الصرع، واستكشاف الفروق في القلق والوصمة وفقاً للمتغيرات الديموغرافية (الجنس، العمر، الحالة الاجتماعية، حالة العمل، والتعليم، والدخل الشهري). ووفقاً للمتغيرات ذات الصلة بالصرع (العمر عند بدء المرض وأخذ العلاج بانتظام) بين مرضى الصرع، وتهدف إلى التحقق من العلاقة بين القلق والوصمة بين مرضى الصرع.

منهج الدراسة: دراسة وصفية مقطعية. وقد أجريت الدراسة في مراكز الصحة النفسية المجتمعية الحكومية في قطاع غزة.

إجراءات الدراسة: تم اختيار عينة عشوائية منتظمة مكونة من 150 من مرضى الصرع من مراكز الصحة النفسية المجتمعية الحكومية في قطاع غزة، وبلغ عدد الذين شاركوا في الدراسة 142 مريض بمعدل استجابة 95%، 67 منهم من الذكور (47.2٪)، و 75 من الإناث (52.8٪). وتم استبعاد المرضى الذين يعانون من الأمراض النفسية أو الجسدية من الدراسة.

وطبقت الباحثة على العينة استمارة بيانات الخصائص الاجتماعية والديموغرافية والمتغيرات ذات الصلة بالصرع. تم استخدام نسخة معربة من مقياس تايلور للقلق، ومقياس الوصمة إعداد الباحثة. وتم جمع البيانات وتحليلها باستخدام برنامج الرزم الإحصائية للعلوم الاجتماعية SPSS.

النتائج: كشفت النتائج أن القلق يقع عند مستوى (68.1%). وأن جميع أفراد العينة يعانون من مستويات مختلفة من القلق. وتبين أنه توجد علاقة طردية دالة إحصائياً عند مستوى (0.001) بين القلق والوصمة لدى أفراد العينة من مرضى الصرع.

وتبين وجود فروق ذات دلالة إحصائية في القلق وفقاً للعمر، والحالة الاجتماعية، والمستوى التعليمي، والدخل الشهري لعينة الدراسة من مرضى الصرع. وتبين أن مستوى الوصمة لدى أفراد العينة (66.0%)، وكشفت النتائج وجود فروق ذات دلالة إحصائية في الوصمة حسب الجنس والعمر والحالة الاجتماعية، والمستوى التعليمي، والدخل الشهري والعمر عند ظهور المرض.

وأوصت الدراسة بتفهم هذه الفئة من المرضى واحتياجاتهم، وتوفير الخدمات لتلبية هذه الاحتياجات. والاهتمام بالفقراء، والمتزوجين ومتدني التعليم من مرضى الصرع.

الكلمات الدالة: مرض الصرع، القلق، الوصمة، مراكز الصحة النفسية المجتمعية، قطاع غزة

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List of Abbreviations

AEDs	Anti-Epileptic Drugs
AIDS	Acquired Immune Deficiency Syndrome
ANOVA	Analysis of Variance
APA	American Psychiatric Association
BAI	Beck Anxiety Inventory
BDI	Beck Depression Inventory
CBT	Cognitive Behavioral Therapy
DSM-IV	Diagnostic and Statistical Manual of Mental Disorder Forth Edition
EEG	Electroencephalography
GABA	Gamma-Amino Butyric Acid
GAD	Generalized Anxiety Disorder
HADS	Hospital Anxiety and Depression Scale
HIV	Human Immunodeficiency Virus
HRQOL	Health-Related Quality of Life
IBE	International Bureau for Epilepsy
ICES	International Classification of Epileptic Seizures
ILAE	International League Against Epilepsy
LRE	Localization Related Epilepsy
MOH	Ministry Of Health
MRI	Magnetic Resonance Imaging
OCD	Obsessive Compulsive Disorder
PTSD	Post Traumatic Stress Disorder
PWE	Patient with Epilepsy
QOLIE	Quality of Life in Epilepsy
SPSS	Statistical Package for Social Science
SSRIs	Selective Serotonin Reuptake Inhibitors
SUDEP	Sudden Unexpected Death in Epilepsy
TLE	Temporal Lobe Epilepsy
UNRWA	United Nations Relief and Works Agency
USA	United State of America

Chapter one

Background

1.1 Introduction

Epilepsy is one of the most common neurological disorders, with an age adjusted incidence of between 20 and 70 per 100, 000 and a prevalence of 4–10 per 1, 000 . It has been estimated that around 50 million people worldwide have epilepsy (Mason et al, 2001: 126).

Epilepsy is a chronic disabling neurological disease characterized by recurrent seizures and uncertainty in seizure frequency, severity and prognosis. Onset of the disease occurs primarily during childhood and adolescents (Mohammed et al, 2010: 83).

Patients with epilepsy commonly have coexisting psychiatric conditions including mood disorders, anxiety disorders, psychotic disorders and attention deficit hyperactivity disorder. Historically, psychiatric disorders in epilepsy have been considered a consequence of psychosocial disturbance due to poor adaptation to a chronic disease with stigma . However, recent studies indicates that there is a bidirectional relationship between epilepsy and psychiatric disorders. This relationship may be conceptualized as an epiphenomena rather than cause–consequence factors (Ekinci, 2011: 218).

Seizures begin before the age of 18 years. Though in the majority of cases there is no identifiable cause for epilepsy, it can be the result of virtually any major category of serious disease or disorder of humans, including congenital malformations, infections, tumors, vascular diseases, degenerative diseases or injury. The overall prognosis for remission as demonstrated by epidemiological studies is very good, and it is likely that the early course of epilepsy is a good predictor of eventual outcome (Mason et al, 2001: 126).

Roughly 50% of people with epilepsy report feelings of stigma, with about 15% reporting feeling highly stigmatized due to their epilepsy. Socio cultural attitudes continue to have a negative impact on management of epilepsy in many developing countries (Baker et al., 2000). The disorder is enrobed in superstition, discrimination and stigma in many of these countries (DiIorioa et al., 2003).

Because epilepsy is seen as a highly contagious and shameful disease in the eyes of the public, persons with epilepsy are shunned and discriminated against in education, employment and marriage.

In Gaza strip the studies that concern with the epilepsy disorder is rare in general and particularly that concern with psychological status of epilepsy.

So this study come to assess level of anxiety and stigma among patients with chronic disease namely epileptic patients and to increase the awareness about anxiety and stigma that are associated with epilepsy .

1.2 Study Justification

Epilepsy is a worldwide public health problem and a serious concern for mental health professionals. A number of systematic studies of persons suffering from epilepsy have observed that there is often a significant co-occurrence of anxiety in epileptic people . The occurrence of anxiety in epileptic people has often been associated with worse outcome, impaired functioning, personal suffering higher rates of repeated seizures and even suicide.

Relevance of the Proposed study to the Practice of Psychiatry to study anxiety and stigma among epileptic patients in our environment.

This will assist in the formulation of treatment plans that are aimed at minimizing the impact of the disorder and reduce the stigma associated with epilepsy and improving the clinical outcome.

The high prevalence of stigma provides ample justification for investigations into its phenomenon. It is suggested that the identification of factors that contribute to stigma among people with epilepsy may yield a better understanding of the conditions that foster its development and perpetuate its existence .

So, this study aim to shed the light upon an important category of patients with chronic disease, namely epileptic patients which are more liable to mental disorders(anxiety and stigma) than other people and give evidence data base about this problem and helping in planning and setting solutions for management this problem.

1.3 Study questions:

The study questions were:

1. What is the prevalence of anxiety among epileptic patients?
2. Are there statistically significant differences in anxiety according to the demographic variables (sex, age, marital status, working status, education, and monthly income) among epileptic patients?
3. Are there statistically significant differences in anxiety according to the epilepsy related variables (age of onset the disease and taking treatment regularly) among epileptic patients?

4. What is the level of stigma among epileptic patients?
5. Are there statistically significant differences in stigma according to the demographic variables (sex, age, marital status, working status, education, and monthly income) among epileptic patients?
6. Are there statistically significant differences in stigma according to the epilepsy related variables (age of onset the disease and taking treatment regularly) among epileptic patients?
7. Is there a significant correlation between anxiety and stigma among epileptic patients?

1.4 Objectives of the study

1.4.1 General Objective:

This study aim to assess level of anxiety and level of stigma among epileptic patients and there relation to some variables.

1.4.2 Specific Objectives:

This study aimed to:

- Determine the prevalence of anxiety and the level of stigma among epileptic patients.
- Explore the differences in anxiety and stigma according to the demographic variables (sex, age, marital status, working status, education, and monthly income) among epileptic patients.
- Identify the differences in anxiety and stigma according to the epilepsy related variables (age of onset the disease and taking treatment regularly) among epileptic patients.
- To realize the correlation between anxiety and stigma among epileptic patients.

1.5 Definitions

1.5.1 Theoretical definitions

Epilepsy is a disorder of the brain characterized by an enduring predisposition to generate epileptic seizures and by neurological, cognitive, psychological and social consequences . (Fisher and Emade Boas, 2005)

Epileptic seizure: is characterized by transient abnormal excessive or synchronous Neuronal activity in the brain associated with specific signs of behavioral changes. (Fisher and Emade Boas, 2005)

Anxiety is a condition of persistent and uncontrollable nervousness, stress, and worry that is triggered by anticipation of future events, memories of past events, or ruminations over day-to-day events, both trivial and major, with disproportionate fears of catastrophic consequences.**(** Chansky, Tamar E, 2004).

Stigma "Stigma refers to a cluster of negative attitudes and beliefs that motivate the general public to fear, reject, avoid, and discriminate against people with mental illnesses.

Stigma leads others to avoid living, socializing, or working with, renting to, or employing people with mental disorders" (Burke & Parker, 2007:16).

1.5.2 Operational definition

Epilepsy:

The researcher defined epilepsy" patient who has epilepsy, aged between 18 and 65, male and female, his / her diagnosis confirmed by neurologist, has afile in governmental mental health centers, and has not mental or physical disorders and the patient still being treated with antiepileptic drugs".

Anxiety:

The researcher defined anxiety that the degree or the level that the client has in Taylor scale, which used to measure level of anxiety, which consist of 50 items, which diagnosed if patient has mild, moderate or severe anxiety.

Stigma:

Bad negative feeling that label with epileptic individual and stand an obstacle in community life way that measure the degree of stigma by stigma scale which consist of two dimensions, self and social stigma.

1.6. Context of the study

1.6.1. Demographic and Geographic of Gaza Strip

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 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 (UNRWA, 2006).

The refugees constitute 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 Gaza strip. Gaza strip is one of the most crowded area of the world, the population density is 3808 inhabitants/km, the number of people living in absolute poverty increase, poverty is manifest with unemployment, siege, imparkation, where the work chances are minimal. Beside poverty the people suffer from poor housing, poor sanitation and absence of security (UNRWA, 2006).

1.6.2 Governmental community mental health centers

The Ministry of Health (MOH) is the main statutory health provider in Gaza Strip responsible for supervision, regulation, licensure and control of the whole health services. The community mental health centers are the major component of mental health care system which provides mental health services to all populations in different area.

In 1995 ministry of health run six community mental health centers distributed through Gaza governorates; one of them based on Rafah Governorate, one in Khanyounis, one in mid zone, two in Gaza city and the last one in north Gaza. These centers was established according to WHO planning program to cover mental health services and community mental health needs as psycho pharmacotherapy, counseling and psycho education therapeutic session.

In addition, community mental health centers include neurological clinics that provide treatment and care for neurological patients particularly epilepsy and Parkinson.

Chapter Two

Conceptual Framework

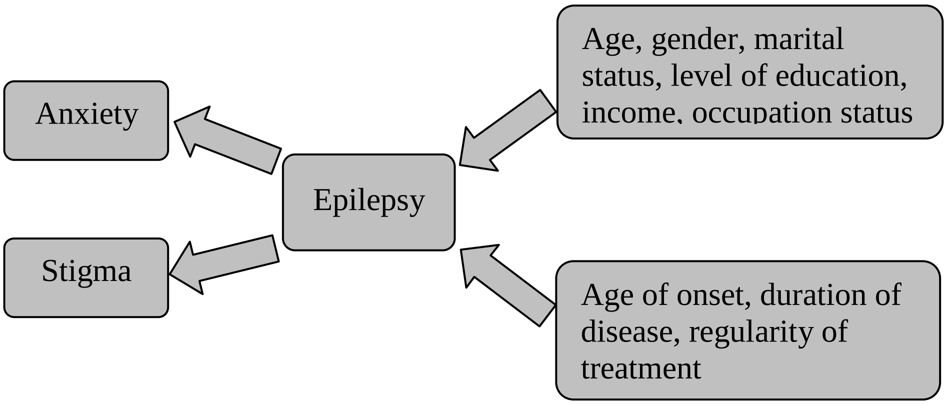
Chapter Two

Conceptual Framework

The researcher will view the conceptual framework in three sections, the first is anxiety were around the concept, definition, prevalence, types, diagnoses, theories, levels of anxiety, factors associated with anxiety, treatment and prevention. The second section is stigma were about background and concept, targeting stigma, types, strategies that challenge stigma, stigma and education, production of stigma, epilepsy as a stigmatizing disorder, stigma, psychiatric symptoms, and the disabilities of mental illness, dimensions of stigma. Where the third section about the epilepsy, were include history and definition, prevalence and epidemiology, seizure types syndrome, causes and etiologies, diagnostic and prognosis, management, types of epilepsy stigma. Finally the researcher comment about anxiety and stigma in epileptic patients.

Conceptual framework of the study is self developed. This framework consists mainly from independent variable (epilepsy), dependent variable (anxiety, stigma) and the variables which affect on the independent variable and may lead to anxiety and stigma which include sociodemographic characteristics variables and disease related variables.

This simple framework is used by the researcher to support, guide and direct the research process.



2.1 Anxiety:

The concept of anxiety is one of the most often-used and loosely defined concepts in psychology. It can be used to describe a temporary state (He seems anxious today) or an enduring personality trait (He is an anxious person). It is used to assign cause (He stumbled over the words in his speech because he was anxious) and to describe an effect (Having to give a speech makes him anxious). It is seen as the result of discrete objects or situations, such as snakes or heights, or as evolving from basic existential problems such as the trauma of birth or the fear of death. All major theories in psychology in some way confront anxiety (Piotrowski, 2005: 92). Individuals have experienced anxiety throughout the ages. Yet anxiety, like fear, was not clearly defined or isolated as a separate entity by psychiatrists or psychologists until the 19th and 20th centuries. In fact, what we now know as anxiety was once identified solely by its physiological symptoms, focusing largely on the cardiovascular system. Clinicians used a myriad of diagnostic terms in attempting to identify these symptoms (Townsend, 2009: 562).

Shahrokh & Hales defining Anxiety is an emotional response (e.g., apprehension, tension, uneasiness) to anticipation of danger, the source of which is largely unknown or unrecognized. Anxiety may be regarded as pathologic when it interferes with effectiveness in living, achievement of desired goals or satisfaction, or reasonable emotional comfort (Shahrokh & Hales, 2003).

2.1.1 Definition of anxiety disorder:

Anxiety is a vague feeling of dread or apprehension; it is a response to external or internal stimuli that can have behavioral, emotional, cognitive, and physical symptoms. Anxiety is distinguished from fear, which is feeling afraid or threatened by a clearly identifiable, external stimulus that represents danger to the person. Anxiety is unavoidable in life and can serve many positive functions such as motivating the person to take action to solve a problem or to resolve a crisis. It is considered normal when it is appropriate to the situation and dissipates when the situation has been resolved (Videbeck, 2010: 269).

Individuals face anxiety on a daily basis. Anxiety, which provides the motivation for achievement, is a necessary force for survival. The term anxiety is often used interchangeably with the word stress; however, they are not the same. Stress, or more properly, a stressor, is an external pressure that is brought to bear on the individual. Anxiety is the subjective emotional response to that stressor (Townsend, 2009: 562).

Anxiety disorders represent a class of disorders that include a wide range of symptoms associated with fearfulness and apprehension. Specific symptoms may range from fearfulness of single objects or situations (as seen in specific phobia) to unexpected, intense feelings of panic accompanied by symptoms such as heart palpitations, fear of losing control, or dying (e.g., panic disorder) to a fear of being in places from where it may be difficult to escape which often makes it difficult to leave one’s home (agoraphobia). In contrast, some people feel anxious much of the time and in most situations (generalized anxiety disorder). Posttraumatic stress disorder (PTSD), in contrast, involves symptoms which follow a specific, terrifying trauma. Combined, these anxiety disorders make up one of the most frequently diagnosed class of disorders, second only to substance use disorders(Biaggio & Hersen, 2002: 258).

Anxiety disorder defined as unpleasant emotion triggered by anticipation of future events, memories of past events, or ruminations about the self (Strickland, 2001). Anxiety is an unpleasant emotional state, the sources of which are less readily identified. It is frequently accompanied by physiological symptoms that may lead to fatigue or even exhaustion (Goldman, 2000:284).

2.1.2 Prevalence of anxiety:

Anxiety disorders are the most common of all psychiatric illnesses and result in considerable functional impairment and distress. Statistics vary widely, but most are in agreement that anxiety disorders are more common in women than in men by at least 2 to 1. Prevalence rates for anxiety disorders within the general population have been given at 4 to 6 percent for generalized anxiety disorder and panic disorder, 2 to 3 percent for OCD, 8 percent for PTSD, 13 percent for social anxiety disorder, and 22 percent for phobias. A review of the literature revealed a wide range of reports regarding the prevalence of anxiety disorders in children (2 percent to 43 percent). Epidemiological studies suggest that the symptoms are more prevalent among girls than boys (American Psychiatric Association [APA], 2000) and that minority children and children from low socioeconomic environments may be at greater risk for all emotional illness (National Mental Health

Association [NMHA], 2005). Studies of familial patterns suggest that a familial predisposition to anxiety disorders probably exists (Townsend, 2009: 562).

Between 8 and 12 percent of the population experience a pervasive level of anxiety that impedes their daily lives; 5.3 percent of the population experience an anxiety disorder. (AIHW, 2007:72). Anxiety is the most prevalent single psychiatric disorder of the modern eara.(Harnois&Gabriel, 2002:168) Loss of productivity from the paid and unpaid workforce has profound implications for the fiscal and social capital of nations. The World Health Organization suggests that the three most productive things to invest in to reduce lost work productivity are migraine, anxiety and depression.9 Women were more likely than men to have experienced anxiety disorders (12 percent compared with 7 percent). Of the 12 percent of women experiencing anxiety, 2.2 percentage most commonly referred to psychiatrists for generalized anxiety disorders (GADs), 1.9 percent are referred for phobia/compulsive disorders anxiety and 1.3 per cent for post-traumatic stress anxiety disorders. For the 7 percent of men experiencing anxiety related issues, 3.5 percent are referred for generalized anxiety and 1.2 percent for post-traumatic stress anxiety disorders (AIHW, 2003:65).

2.1.3 Types of anxiety:

Anxiety disorders are diagnosed when anxiety no longer functions as a signal of danger or a motivation for needed change but becomes chronic and permeates major portions of the person’s life, resulting in maladaptive behaviors and emotional disability. Anxiety disorders have many manifestations, but anxiety is the key feature of each (American Psychiatric Association [APA], 2000). Types include the following:

2.1.3.1 Agoraphobia with or without panic disorder:

Agoraphobia is anxiety about or avoidance of places or situations from which escape might be difficult or help might be unavailable. Agoraphobia without accompanying panic disorder is less common than the type that precipitates panic attacks. In this disorder, there is a fear of being in places or situations from which escape might be difficult, or in which help might not be available if a limited-symptom attack or panic-like symptoms (rather than full panic attacks) should occur (Videbeck, 2010: 257).

It is possible that the individual may have experienced the symptom(s) in the past and is preoccupied with fears of their recurrence. The DSM-IV- TR diagnostic criteria for agoraphobia without history of panic disorder. Onset of symptoms most commonly occurs in the 20s and 30s and persists for many years. It is diagnosed more commonly in women than in men. Impairment can be very severe. In extreme cases the individual is unable to leave his or her home without being accompanied by a friend or relative. If this is not possible the person may become totally confined to his or her home (Townsend, 2009: 566)

2.1.3.2 Panic disorder:

Panic disorder is composed of discrete episodes of panic attacks, that is, 15 to 30 minutes of rapid, intense, escalating anxiety in which the person experiences great emotional fear as well as physiologic discomfort. During a panic attack, the person has overwhelmingly intense anxiety and displays four or more of the following symptoms: palpitations, sweating, tremors, shortness of breath, sense of suffocation, chest pain, nausea, abdominal distress, dizziness, paresthesias, chills, or hot flashes (Gullotta & Adams: 2005:132).

Panic disorder is diagnosed when the person has recurrent, unexpected panic attacks followed by at least 1 month of persistent concern or worry about future attacks or their meaning or a significant behavioral change related to them. Slightly more than 75% of people with panic disorder have spontaneous initial attacks with no environmental trigger. Half of those with panic disorder have accompanying agoraphobia. Panic disorder is more common in people who have not graduated from college and are not married (Videbeck, 2010: 270).

2.1.3.3 Specific phobia:

Specific phobia was formerly called simple phobia. The essential feature of this disorder is a marked, persistent, and excessive or unreasonable fear when in the presence of, or when anticipating an encounter with, a specific object or situation. Specific phobias frequently occur concurrently with other anxiety disorders, but are rarely the focus of clinical attention in these situations. Treatment is generally aimed at the primary diagnosis because is usually produces the greatest distress and interferes with functioning more so than does a specific phobia (APA, 2000).

The phobic person may be no more (or less) anxious than anyone else until exposed to the phobic object or situation. Exposure to the phobic stimulus produces overwhelming symptoms of panic, including palpitations, sweating, dizziness, and difficulty breathing. In fact, these symptoms may occur in response to the individual's merely thinking about the phobic stimulus. Invariably the person recognizes that his or her fear is excessive or unreasonable, but is powerless to change, even though the individual may occasionally endure the phobic stimulus when experiencing intense anxiety (Townsend, 2009: 566).

2.1.3.4 Social phobia:

Social phobia is an excessive fear of situations in which a person might do something embarrassing or be evaluated negatively by others. The individual has extreme concerns about being exposed to possible scrutiny by others and fears social or performance situations in which embarrassment may occur(Videbeck, 2010: 258).

2.1.3.5 Obsessive-compulsive disorder (OCD):

Obsessions are repetitive, intrusive ideas, images, or impulses. Obsessions commonly focus on harming others, acquiring or spreading contamination, losing things, doubt about having performed routine tasks properly, and transgressing social norms (eg, making unacceptable sexual overtures).

Compulsive rituals are repetitive thoughts or acts usually performed to decrease anxiety or other discomfort associated with obsessions. The acts may be sensible in the abstract, but the frequency and duration of their repetition make them repugnant and inconvenient, even incapacitating. Attempts are usually made to resist rituals, although children and those who have been performing rituals for years may not resist. If prevented from carrying out a ritual, obsessive-compulsive individuals frequently become anxious. Rituals are usually preceded by obsessions, but obsessions do not always lead to rituals. Rituals of cleaning, repeating, checking, tidying, hoarding, and avoiding may consume almost every waking hour (Goldman, 2000: 293).

The DSM-IV-TR describes obsessive–compulsive disorder (OCD) as recurrent obsessions or compulsions that are severe enough to be time consuming or to cause marked distress or significant impairment (APA, 2000). The individual recognizes that the behavior is excessive or unreasonable but, because of the feeling of relief from discomfort that it promotes, is compelled to continue the act.

2.1.3.6 Generalized anxiety disorder

A person with generalized anxiety disorder (GAD) worries excessively and feels highly anxious at least 50% of the time for 6 months or more. Unable to control this focus on worry, the person has three or more of the following symptoms: uneasiness, irritability, muscle tension, fatigue, difficulty thinking, and sleep alterations. More people with this chronic disorder are seen by family physicians than psychiatrists report that quality of life is diminished greatly in older adults with GAD. Buspirone (BuSpar) and SSRI antidepressants are the most effective treatment (Bourland et al., 2000: 318).

Anxiety disorders are among the most prevalent mental disorders in the general population. Nearly 30 million persons are affected in the United States, with women affected nearly twice as frequently as men. Anxiety disorders are associated with significant morbidity and often are chronic and resistant to treatment. Anxiety disorders can be viewed as a family of related but distinct mental disorders, which include the following as classified in the text revision of the fourth edition of Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR) (Sadock & Sadock, 2007:621), panic disorder, specific and social phobia, obsessive-compulsive disorder, acute stress disorder, posttraumatic stress disorder, and generalized anxiety disorder.

Generalized anxiety disorder, according to DSM-IV-TR, is characterized by a pattern of frequent, persistent worry and anxiety that is out of proportion to the impact of the event or circumstance that is the focus of the worry. The distinction between generalized anxiety disorder and normal anxiety is emphasized by the use of the words "excessive" and "difficult to control" in the criteria and by the specification that the symptoms cause significant impairment or distress (APA, 2000).

2.1.3.7 Acute stress disorder:

Acute stress disorder is similar to posttraumatic stress disorder in that the person has experienced a traumatic situation, but the response is more dissociative. The person has a sense that the event was unreal, thinks he or she is unreal, and forgets some aspects of the event through amnesia, emotional detachment, and muddled obliviousness to the environment (APA, 2000).

2.1.3.8 Posttraumatic stress disorder

Posttraumatic stress disorder (PTSD) is described by the DSM-IV-TR as the development of characteristic symptoms following exposure to an extreme traumatic stressor involving a personal threat to physical integrity or to the physical integrity of others. The symptoms may occur after learning about unexpected or violent death, serious harm, or threat of death or injury of a family member or other close associate (Townsend, 2009: 223). These symptoms are not related to common experiences such as uncomplicated bereavement, marital conflict, or chronic illness, but are associated with events that would be markedly distressing to almost anyone. The individual may experience the trauma alone or in the presence of others. Examples of some experiences that may produce this type of response include participation in military combat, experiencing violent personal assault, being kidnapped or taken hostage, being tortured, being incarcerated as a prisoner of war, experiencing natural or manmade disasters, surviving severe automobile accidents, or being diagnosed with a life-threatening illness (Videbeck, 2010: 276).

2.1.4 Symptoms of anxiety:

Anxiety commonly occurs as a manifestation of appropriate concern about medical and psychiatric disorders. Medical problems involving any body system can produce anxiety as a symptom. Drugs and dietary factors particularly caffeine and alcohol may also provoke anxiety (Goldman, 2000:284).

Anxiety disorders are diagnosed when anxiety no longer functions as a signal of danger or a motivation for needed change but becomes chronic and permeates major portions of the person’s life, resulting in maladaptive behaviors and emotional disability. Anxiety disorders have many manifestations, but anxiety is the key feature of each (Videbeck, 2010: 272).

Symptoms of Anxiety disorders include physiological responses: a change in heart rate, trembling, dizziness, and tension, which may range widely in severity and origin. People who experience generalized anxiety disorder and panic disorders usually do not recognize a specific reason for their anxiety (Strickland, 2001:42).

2.1.5 Levels of Anxiety:

Anxiety has both healthy and harmful aspects depending on its degree and duration as well as on how well the person copes with it. Anxiety has four levels:

2.1.5.1 Mild anxiety

Is a sensation that something is different and warrants special attention. Sensory stimulation increases and helps the person focus attention to learn, solve problems, think, act, feel, and protect himself or herself. Mild anxiety often motivates people to make changes or to engage in goal directed activity. For example, it helps students to focus on studying for an examination (Videbeck, 2010: 269).

This level of anxiety is seldom a problem for the individual. It is associated with the tension experienced in response to the events of day-to-day living. Mild anxiety prepares people for action. It sharpens the senses, increases motivation for productivity, increases the perceptual field, and results in a heightened awareness of the environment. Learning is enhanced and the individual is able to function at his or her optimal level (Townsend, 2009: 16).

2.1.5.2 Moderate Anxiety.

As the level of anxiety increases, the extent of the perceptual field diminishes. The moderately anxious individual is less alert to events occurring in the environment. The individual’s attention span and ability to concentrate decrease, although he or she may still attend to needs with direction. Assistance with problem solving may be required. Increased muscular tension and restlessness are evident(Townsend, 2009: 16).

Furthermore, moderate anxiety is the disturbing feeling that something is definitely wrong; the person becomes nervous or agitated. In moderate anxiety, the person can still process information, solve problems, and learn new things with assistance from others. He or she has difficulty concentrating independently but can be redirected to the topic. (Videbeck, 2010: 269).

2.1.5.3 Severe Anxiety:

The perceptual field of the severely anxious individual is so greatly diminished that concentration centers on one particular detail only or on many extraneous details. Attention span is extremely limited, and the individual has much difficulty completing even the simplest task. Physical symptoms (e.g., headaches, palpitations, insomnia) and emotional symptoms (e.g., confusion, dread, horror) may be evident. Discomfort is experienced to the degree that virtually all overt behavior is aimed at relieving the anxiety. (Townsend, 2009: 16).

2.1.5.4 Panic Anxiety:

In this most intense state of anxiety, the individual is unable to focus on even one detail in the environment. Misperceptions are common, and a loss of contact with reality may occur. The individual may experience hallucinations or delusions. Behavior may be characterized by wild and desperate actions or extreme withdrawal. Human functioning and communication with others is ineffective. Panic anxiety is associated with a feeling of terror, and individuals may be convinced that they have a life-threatening illness or fear that they are "going crazy" or losing control (APA, 2000). Prolonged panic anxiety can lead to physical and emotional exhaustion and can be a life-threatening situation (Videbeck, 2010: 57).

At this extreme level of anxiety, an individual is not capable of processing what is happening in the environment, and may lose contact with reality. Psychosis is defined as a loss of ego boundaries or a gross impairment in reality testing (APA, 2000).

Psychoses are serious psychiatric disturbances characterized by the presence of delusions or hallucinations and the impairment of interpersonal functioning and relationship to the external world. The following are common characteristics of people with psychoses:

- They experience minimal distress (emotional tone is flat, bland, or inappropriate).
- They are unaware that their behavior is maladaptive.
- They are unaware of any psychological problems.
- They are exhibiting a flight from reality into a less stressful world or into one in which they are attempting to adapt (Townsend, 2009: 20).

2.1.6 Theories of anxiety

Anxiety is a central concept in many different schools of psychology, and there are many widely varying theories concerning it; theories of anxiety often have spawned approaches to treating anxiety disorders (Piotrowski, 2005:92).

In this side of anxiety literatures there were some of theories, psychoanalytic, behavioral, cognitive and Physiological theories. The researcher will expose these theories in the following review:

2.1.6.1 Psychoanalytic theory:

Sigmund Freud, who said that understanding anxiety “would be bound to throw a flood of light on our whole mental existence, ” had two theories of anxiety, an early one, in 1917, and a later one, in 1926. In the early theory, libido (mental energy, often equated with sexual drive) builds up until it is discharged by some pleasurable activity. In Freud’s first theory, repression causes anxiety. In psychoanalytic theory, repression is a defense mechanism that keeps unacceptable thoughts and impulses from becoming conscious. In the later theory, the relationship between them has changed: Anxiety causes repression. In this theory, anxiety acts as a signal to the ego (in Freud’s theory, the rational, conscious part of the mind). This object can arouse all the emotions associated with the forbidden impulse, including the signal anxiety (Piotrowski, 2005:92).

At the core of Freud’s psychological structure is the repression of unfulfilled instinctual demands. An unconscious process, repression is accomplished through a series of defense mechanisms. Those most commonly named by Freud include denial (failure to perceive the source of anxiety) (Strickland, 2001:261).

Sigmund Freud hypothesized that the major function of anxiety is to signal the ego that a forbidden unconscious drive is pushing for conscious expression and to alert the ego to strengthen and marshall its defenses against the threatening instinctual force (Sadock & Sadock, 2007:598).

Although Freud at first proposed a physiological basis for anxiety, he later concluded that anxiety serves as a signal to the ego of the emergence of an unconscious conflict or impulse. His theory led to the development of psychoanalysis, used to study and treat emotional disorders. According to psychoanalytic theory, anxiety is seen as an emotion of the ego (the part of our mental apparatus that balances the impulses and demands of our childlike id, the stern and punitive controls of our parent like superego, and external reality). Anxiety is also seen as the key indication of hidden psychological conflict (Goldman, 2000:285).

Although psychiatrists followed Freud's thought that phobias resulted from castration anxiety, recent psychoanalytic theorists have suggested that other types of anxiety may be involved. In agoraphobia, for example, separation anxiety clearly plays a leading role, and in erythrophobia (a fear of red that can be manifested as a fear of blushing), the element of shame implies the involvement of superego anxiety. Clinical observations have led to the view that anxiety associated with phobias has a variety of sources and colorings (Sadock & Sadock, 2007:598)

In psychoanalytic theory, repression is a defense mechanism that keeps unacceptable thoughts and impulses from becoming conscious. In the later theory, the relationship between them has changed: Anxiety causes repression. In this theory, anxiety acts as a signal to the ego (in Freud’s theory, the rational, conscious part of the mind) that a forbidden impulse (such as Little Hans’s desire for his mother) is trying to force its way into consciousness. This signal alerts the ego to try to repress the unwanted impulse. If the ego cannot successfully repress the forbidden impulse, it may try to transfer the forbidden impulse to an irrelevant object (horses, in Little Hans’s case). This object can arouse all the emotions associated with the forbidden impulse, including the signal anxiety. In this way, it becomes a phobic object (Piotrowski, 2005:93).

2.1.6.2 Behavioral theory:

In 1920, John B. Watson wrote an article called Conditioned Emotional Reactions, in which he recounted his experiences with Little Albert, an infant with a fear of rats and rabbits. Unlike Sigmund Freud's case of Little Hans, who had phobic symptoms (of horses) in the natural course of his maturation, Little Albert's difficulties were the direct result of the scientific experiments of two psychologists who used techniques that had successfully induced conditioned responses in laboratory animals. Watson's hypothesis invoked the traditional pavlovian stimulus-response model of the conditioned reflex to account for the creation of the phobia: Anxiety is aroused by a naturally frightening stimulus that occurs in contiguity with a second inherently neutral stimulus (Sadock & Sadock, 2007:598).

Behavioral theorists view anxiety as being learned through experiences. Conversely, people can change or “unlearn” behaviors through new experiences. Behaviorists believe that people can modify maladaptive behaviors without gaining insight into the causes for them. They contend that disturbing behaviors that develop and interfere with a person's life can be extinguished or unlearned by repeated experiences guided by a trained therapist (Videbeck, 2010: 277).

Behavioral therapists hold that anxiety is a learned response to some noxious situation or stimulus. When a situation or stimulus provokes anxiety in a person, the person learns to reduce the anxiety by avoiding the situations that provoke it. Generalized anxiety disorder may result from the unpredictability of positive and negative reinforcement the person is uncertain when and if avoidance behaviors will be effective in reducing anxiety. It is also possible to develop anxiety in response to generally positive or neutral stimuli if these are associated with a noxious or aversive stimulus. This conditioning process is held to be responsible for the avoidance of neutral or benign situations in which distressing anxiety (such as panic) has occurred. Pairing of a recurrent anxiety-inducing thought (such as "contamination") with a compulsive behavior (such as hand washing) that reduces anxiety is thought to explain the development of obsessive-compulsive disorder (Goldman, 2000: 285).

Other influential behavioral approach to anxiety is O. Hobart Mowrer's two factor theory. It uses the principles of Pavlovian learning, in which two stimuli are presented, one after the other, and the response to the first changes because of the response automatically elicited by the second stimulus, and operant conditioning learning in which a behavior increases or decreases depending on whether the behavior is followed by reward or punishment to explain fear and phobic avoidance, respectively. Fear is acquired through Pavlovian conditioning when a neutral object or situation is paired with something painful or punishing (Piotrowski, 2005:93).

Two-factor theory states that in order for something to cause fear, it must be paired with a painful or punishing experience. People, however, sometimes become phobic of objects or situations with which they have never had a bad experience. Indeed, many people who have never seen a live snake are afraid of snakes. Thus, there must be other ways in which fear is acquired. One of these is vicarious transmission: Seeing someone act afraid of something can lead to acquiring that fear. For example, whether an infant becomes afraid of being in a high place depends on whether its mother is smiling or has an expression of fear on her face. In an ingenious set of experiments, Susan Mineka and her colleagues showed that vicarious transmission of fear is influenced by preparedness. She showed that rhesus monkeys that watched a videotape of other monkeys acting afraid of a snake became afraid of snakes themselves. Monkeys that watched other monkeys act afraid of rabbits, however, did not become afraid of rabbits because they were not evolutionarily prepared to fear rabbits. Human beings also can acquire fear by being told that something is dangerous. A child can learn to avoid running in front of oncoming cars by being told not to do this by his or her parents; he or she does not have to be hit by a car or watch someone get hit in order to acquire this information (Piotrowski, 2005:94).

Behavioral theories posit that anxiety is a response learned either from parental behavior or through the process of classic conditioning. In a classic conditioning approach to panic disorder and agoraphobia, a noxious stimulus (e.g., a panic attack) that occurs with a neutral stimulus (e.g., a bus ride) can result in the avoidance of the neutral stimulus. Other behavioral theories posit a linkage between the sensation of minor somatic symptoms (e.g., palpitations) and generation of a panic attack. Although cognitive-behavioral theories can help explain the development of agoraphobia or an increase in the number or severity of panic attacks, they do not explain the occurrence of the first unprovoked and unexpected panic attack that an affected patient experiences (Sadock & Sadock, 2007:589).

2.1.6.3 Cognitive theories of anxiety:

Cognitive theories of anxiety illustrate how theory is applied to develop a treatment. There are many different cognitive models of anxiety, but all are similar in that they assume that there is a cognitive cause of the fear state. This cognitive step is sometimes called an irrational belief (Piotrowski, 2005:96). Cognitive therapy is designed to change unproductive thought patterns by learning to examine feelings and distinguish between rational and irrational thoughts.

Cognitive Therapy include a number of components, such as psychoeducation (e.g., information about the cognitive model of anxiety), cognitive restructuring, interceptive exposure and situational exposure. Cognitive restructuring focuses on challenging patient’s beliefs about the dangerousness of bodily sensations (e.g., challenging the belief that palpitations lead to heart attacks) (Kay & Tasman, 2006: 230).

2.1.6.4 Physiological theories of anxiety:

There are many physiological theories about anxiety, which they differ with respect to the brain areas, pathways, or chemicals implicated in anxiety. Anxiety is a complex state, involving multiple interacting parts of the nervous system, and it will take much additional research to develop a complete model of the brain's role in anxiety (Piotrowski, 2005:96)

When compared with normal controls, patients with anxiety disorders have significantly different physiological functioning (e.g., higher heart rate, higher blood lactate levels, and greater oxygen debt during moderate exercise) (Goldman, 2000:285).

Studies of twins indicate some genetic control of normal human fear from infancy onwards, of anxiety as a symptom and as a syndrome, and of phobic and obsessive-compulsive phenomena. Anxiety disorders are more common among the relatives of affected probands than of controls, especially among female and first-degree relatives; alcoholism and secondary depression may also be overrepresented. Familial influences have been found for panic disorder, agoraphobia, and obsessive-compulsive problems. Panic disorder in depressed probands increases the risk to their relatives of phobia as well as of panic disorder, major depression, and alcoholism. The strongest family history of all anxiety disorders is seen in blood-injury phobia; even though it can be successfully treated by exposure, its roots may lie in a genetically determined specific autonomic susceptibility. Some genetic effects can be modified by environmental means (Goldman, 2000:286).

2.1.7 Treatment of anxiety:

The treatment methods used with late-life anxiety disorders fall into the two general classes of pharmacological and non pharmacological interventions. As in the treatment of younger age groups, the selection of interventions depends largely on the specific anxiety diagnosis, individualized symptom presentation, and concomitant medical conditions and medications being taken by the patient. No matter what type of intervention is used, the relationship between the older person and the therapist or health provider is often critically important in treatment effectiveness (Renaud et al., 1999: 75).

The value of the therapeutic alliance is a particularly salient issue in treatment of late-life anxiety disorders. The nature of anxiety, which includes apprehensive expectations, worry, fearfulness, and often the feeling that one is either dying or going crazy, creates a special need for reassurance and psychological comfort measures (e.g., encouragement, support, reality testing), particularly among older people who often have seemingly valid competing explanations for their experiences (Gullotta & Adams, 2005:140).

Additional time is often needed to discuss problems and experiences, explore possible alternative explanations for symptoms, and provide support for "staying the course" in treatment when relief is slow to develop.

The nurse can teach the client relaxation techniques to use when he or she is experiencing stress or anxiety. Deep breathing is simple; anyone can do it. Guided imagery and progressive relaxation are methods to relax taut muscles. Guided imagery involves imagining a safe, enjoyable place to relax. In progressive relaxation, the person progressively tightens, holds, then relaxes muscle groups while letting tension flow from the body through rhythmic breathing. Cognitive restructuring techniques (discussed earlier) also may help the client to manage his or her anxiety response. For any of these techniques, it is important for the client to learn and to practice them when he or she is relatively calm. When adept at these techniques, the client is more likely to use them successfully during panic attacks or periods of increased anxiety. Clients are likely to feel that self-control is returning when using these techniques helps them to manage anxiety. When clients believe they can manage the panic attack, they spend less time worrying and anticipating the next one, which reduces their overall anxiety level (Videbeck, 2010: 278).

2.1.8 The Prevention of Anxiety Disorders:

Primary prevention and health promotion encompass those planned activities that help participants prevent predictable problems, protect existing states of health and healthy functioning, and promote desired goals for a specified population. Prevention programs can be classified according to the population targeted for the preventive intervention. Universal prevention activities are intended for all embers of a general population. Selective prevention activities target subgroups of a population who may be at above-average risk for developing a disorder (Barrett et al., 1999:502).

A primary strategy for many prevention efforts is to target malleable risk and protective factors, i.e., to eliminate or decrease identified risk factors for the targeted disorder and/or introduce or augment protective factors. Although some risk factors may influence a child's development at any point in time (e.g., traumatic life events, parental anxiety), still others may only be influential at particular points in time (e.g., start of formal schooling). During adolescence, (Spence, 2001:925) proposed that parental anxiety, the transition to high school, and elevated levels of anxious symptoms serve as risk factors. As will be seen in subsequent sections, most prevention efforts targeting anxiety disorders have taken a developmental perspective and target malleable risk and protective factors (Berman, Kurtines, Silverman & Serafini, 1996:335).

2.2 Stigma

Stigma has its roots in ‘differences’. The pain and emotional hurt experienced by the stigmatized person is linked to others’ pity, fear, disgust and disapproval of this difference, whether that difference is one of personality, physical appearance, illness and disability, age, gender or sexuality (Mason et al, 2001: 2).

That stigma is not in question. It is known that stigma negatively affect the treatment and recovery of people with mental illness. There are moves to combat these but such interventions themselves require evaluation so that we can learn what has an effect and what does not. What need to be more clearly elucidated are ways to measure stigma and discrimination and then ways to determine which treatment strategies are most effective. Scales to measure stigma have to be devised and tailored to measure this social construct among the stigmatizers, which might be the whole of the society, including even the mentally ill themselves (for self-stigma is a major block to recovery). Four intervention methods are commonly recognized – literacy campaigns, protest actions, contact enhancements and political activism to protect the civil and political rights of patients. The impact and effectiveness of these methods need to be evaluated (Burke & Parker, 2007:15).

In addition Stigma considered a socially constructed deviance label; in the majority of studies from sociologists and social psychologists that followed, illness and disability are interpreted as social deviance and the focus is upon social interactions between the ‘normal’ and ‘the other’. Interactions are examined in detail between those perceived as possessing discrediting attributes and those who do not and the strategies deployed by the former to retain or reclaim their status. Sociologists, rooted in the symbolic interactions tradition, mainly focus on the social construction of stigma. Social psychologists are more interested in measuring and understanding prejudice, particularly how and why people construct categories and link them to stereotyped attitudes. There are currently attempts to integrate these diverse disciplinary approaches and a scholarly analysis of the commonalities and differences of the conceptual models of stigma and prejudice concludes that they are ‘part of the same animal’ (Phelan, Link and Dovidio, 2008: 365).

Disability theorists have criticized the focus on individuals’ functional limitations and micro-level social interaction as it diverts attention away from the social environment and social oppression. From a ‘social oppression’ perspective, the focus shifts away from stigma and the individual towards processes of social exclusion and the political realities of power differentials. This shift is also being replicated in the more recent sociological literature. In response to these movements, the stigma concept has shifted dramatically and is now much broader in scope (Green, 2009: 14).

2.2.1 Concept of Stigma:

The concept of stigma was introduced by Hoffmann in 1963 who defined stigma as " loss of status and power resulting from separation of those stigmatized from the general population because of a characteristic that has been culturally defined as different and undesired". It includes disapproval and rejection from others and it is an attribute that is deeply discrediting and hence leads to spoiling of the individual's identity that ultimately disqualifies him/her from social acceptance. Another widely accepted definition defines Stigma as a social process or related personal experience characterized by exclusions, rejection, blame and devaluation (Weiss and Ramakrishna, 2006:536).

Stigma has been thought of as an attribute that is ‘deeply discrediting’ so that stigmatized persons are regarded as being of less value and ‘spoiled’ by three different kinds of stigmatizing conditions: ‘abominations’ of the body, such as physical deformities, ‘tribal identities’ such as race, sex or religion, and ‘blemishes of individual character’, such as mental disorders or unemployment. Stigma, however, is not a static concept, but a social construction that is linked to values placed on social identities, a process consisting of two fundamental components: the recognition of the differentiating ‘mark’, and the subsequent devaluation of the bearer (Dovidio et al, 2000:145).

Thus, stigma could be conceived of as a relational construct that is based on attributes, which may change with time and from one culture to another. Stigma develops within a social matrix of relationships and interactions so that new conditions could become stigmatizing and conditions that may be stigmatizing at one time or within a given culture could come to be accepted later so that their bearers stop being stigmatized (Arboleda & Sartorius, 2008:3).

Stigma, a tattoo or brand in Greek (from the verb stizein), was a distinguishing mark burned or cut into the flesh of slaves or criminals by the Ancient Greeks so that others would know who they were and that they were less valued members of society. Although the Greeks did not use the term ‘stigma’ in relation to mental illness, stigmatizing attitudes about the illnesses were already apparent in the sense that mental illness was associated with concepts of shame, loss of face, and humiliation (Arboleda & Sartorius, 2008:2).

The New Freedom Commission on Mental Health concerns the impact of mental disorder defined stigma thus: "Stigma refers to a cluster of negative attitudes and beliefs that motivate the general public to fear, reject, avoid, and discriminate against people with mental illnesses. Stigma is widespread in the United States and other Western nations. Stigma leads others to avoid living, socializing, or working with, renting to, or employing people with mental disorders" (Burke & Parker, 2007:16).

Stigma can be defined as an attribute that serves to discredit a person or persons in the eyes of others (Franzoi, 1996). Attitudes towards these discreditable attributes vary through time, so for example the stigmatizing impact of being an ‘unmarried mother’ has gradually lessened over the past few decades. Stigma is also culturally defined, and variation is evident in the ways in which particular attributes are either accepted or otherwise between culturally diverse groups. The practice of tribal scarring in particular cultural groups highlights this point. Changes in vocabulary and the passage of time, however, cannot fully eradicate stigma and alter complex cognitive behavioural aspects of stigmatising attitudes. Indeed, when defining issues of ‘deviancy’, healthcare provision and medical diagnosis can shape and promote images of stigma bearers. So, for example, blindness may be defined in terms of the impact on people’s personality and psychological adjustment rather than as a technical handicap which can be compensated for by acquiring new techniques (Mason, 2001: 2).

Individual approaches to public stigma strategies are more effective when targeting specific groups such as police officers, employers, landlords, health care providers, teachers, and ministers. The logic of a target-specific approach is all the more compelling when compared to the alternative a generic effort to change the attitudes of the population as a whole. In terms of the latter, consider a video with the message that “mental illness affects 20% of the citizenry and hence is neither rare nor bizarre.” This kind of mass appeal suffers because it is not particularly meaningful to the populace as a whole. It is unclear who exactly is supposed to take note of this message. Moreover, the expected products of these efforts are fuzzy; it does not specify exactly how people should change, given the highlighted stereotypes and prejudice. People might think, “Okay, so 20% of the population may be mentally ill in their lifetime. Now, what should I do about it?”.

A targeted approach that focuses on changing specific discriminatory behaviors of specific groups lends itself to the practical approach . First, antistigma programs target powerful groups. e.g., employers, landlords, criminal justice professionals, policymakers, and the media-that make important decisions about the resources and opportunities available to persons with mental illness. Individuals acting out these power roles are significantly influenced by institutional and organizational factors and may be more likely to rely on stereotypes about a group than are persons in less powerful roles. Thus, for each group, antistigma programs identify the discriminatory behavior and corresponding attitudes they would like to change. For example, antistigma programs might address employers’ unwillingness to hire persons with mental illness. Corresponding problematic attitudes might relate to beliefs in the incompetence and dangerousness to other employees posed by people with mental illness. (Link & Phelan, 2001:370)

Once target group behaviors and attitudes are identified, the most appropriate strategy for stigma change can be selected. Although the effect of protest on attitudes is unclear, it seems to be useful for eliminating undesirable behaviors such as negative images in the media and discriminatory housing and labor practices. Education appears to improve attitudes on a short-term basis and can be implemented relatively inexpensively. Contact appears to be the most promising strategy, especially when it is structured to include “optimal” interactions. Ultimately, antistigma campaigns may employ a combination of strategies to address the problematic attitudes and behaviors of a particular group.

2.2.2 Types of stigma:

Stigma is a multileveled term alternately representing the cues or marks that signal stereotypes and prejudice, and the rubric representing the overall stereotypical and prejudicial process. The word stigma is used herein to represent the overall process.

Current models of mental illness stigma are described as cognitive-behavioral constructs. Being labeled with a mental illness is the first step in the stigma process. Stereotypes are the cognitive products that emerge from the cue or mark; they provide social knowledge structures that efficiently categorize information about social groups (Hilton & von Hippel, 1996, 240). They are considered social because they represent collectively agreed-upon notions of specific groups; these ideas are efficient because they allow people to quickly generate impressions and expectations of individuals belonging to the stereotyped group (Hamilton & Sherman, 1994:5).

Prejudice comprises the endorsement of a stereotype and an emotional response (Hilton & von Hippel, 1996, 253). Just because individuals are aware of stereotypes does not necessarily mean they endorse them. Through this evaluative process, prejudicial attitudes typically lead to negative viewpoints about the target group. In following three types of mental illness stigma:

2.2.2.1 Public Stigma:

Many people who have been labeled "Mentally ill" face the prejudice and discrimination associated with "spoiled identity". The general population demonstrates public stigma through negative reactions to people with severe mental illness. Public stigma consists of stereotypes, prejudice, and discrimination. Obvious marks lead to stereotypes; such marks may include psychotic behavior, inappropriate appearance, or asocial interactions (Penn & Martin, 1998: 237). Labels embody an alternative mark, and some people labeled mentally ill may be tagged with stereotypes. Labels are conferred directly when a person’s mental illness status is publicly discussed or indirectly through association; for example, a person is seen exiting a psychiatrist’s office. Although subtler than obvious marks, labels may be just as potent in impact. Three kinds of stereotypes are common for mental illness: dangerousness people with mental illness are unpredictable, which leads to concerns about violence; blame people with mental illness lack personal integrity and hence are responsible for their mental illness; and incompetence people with mental illness are unlikely to be successful in work or independent housing goals (Brockington et al, 1993: 93).

Stigma includes marks and stereotypes that lead to prejudice and discrimination. Prejudice yields anger, fear, blame, and other emotional responses toward individuals with mental illness. Discrimination diminishes the quality of life of individuals with mental illness. Stigma may rob individuals of important life opportunities, including gainful employment, safe and comfortable housing, relationships, community functions, and educational opportunities (Corriganet al, 2006: 880). Examples of these effects may occur in two ways. First, individuals labeled with mental illness find it difficult to achieve their important life goals because of discriminating practices endorsed by employers, landlords, and other groups. Second, health care systems withhold appropriate medical services from individuals due to stigma. Specifically, individuals with mental illness receive fewer insurance benefits and medical services than the general public, and insurance plans provide fewer mental health benefits than physical health services (Druss, Allen, & Bruce, 1998:878).

2.2.2.2 Self-Stigma:

Some people internalize public stigma, harming themselves in ways that culminate in negative cognitive and behavioral outcomes. A study by Link, Cullen, Frank, and Wozniak (1987) showed that the negative effects of self-stigma on psychological well-being can endure even when psychiatric symptoms have remitted because of treatment. Self-stigma may also interfere with the pursuit of such rehabilitation goals as living independently and obtaining competitive work. ; (Corrigan & Watson, 2002:41)

Link (1982) defined a primary form of self-stigma in terms of perceived stereotypes. Link and others (1987) argued that people with mental illnesses who internalize stereotypes about mental illness experience a loss of self-esteem and self-efficacy (Ritsher & Phelan, 2004:257). Some people labeled with mental illnesses and living in a culture with prevailing stereotypes about these illnesses may automatically anticipate and internalize attitudes that reflect devaluation.

Four factors comprise the perception of the mark and subsequent stereotype that comprise self-stigma (Corrigan et al., 2006: 880). These are called the three A's plus the personal impact of self-stigma. The first two A's overlap with the awareness and agreement factors in Link's model of perceived stigma. First, is the person aware of the link between the marks of mental illness and corresponding stereotypes?. Research suggests that many individuals with mental illness report being aware of these stereotypes (Wright, Gronfein, & Owens, 2000:69). Second, if they are aware of stereotypes, do they agree with them? Up to this point, stereotypes have not been internalized and hence yield no self-stigma effects. Third, are the recognized and agreed-upon stereotypes applied to oneself? After agreeing with the stereotype, individuals apply the stereotype to themselves, leading to reduced self-efficacy and self-esteem. This stereotype leads to self-discrimination, in which individuals engage in behaviors related to the stereotype application. Some individuals engage in self-discrimination, leading to behaviors that negatively impact the pursuit of goals, whereas others either ignore or positively address the self stigma process through personal coping skills (Corrigan et al., 2006, 882).

Self-discrimination and the accompanying reduction in self-efficacy and self-esteem lead to the "why try" effect, which undermines confidence in achieving life goals such as getting a job, living independently, and developing meaningful relationships .

2.2.2.3 Label Avoidance:

Stigma can also harm a third group; those who do not yet have a mental illness history and who avoid mental health care in order to remain unmarked. Personal decisions like these occur despite ample research showing that psychiatric symptoms, psychological distress, and life disabilities caused by many mental illnesses may be significantly remedied by a variety of psychopharmacological and psychosocial treatments (Bond et al., 2001:314).

In summary label avoidance is different from the kinds of experiences found in public or self-stigma. Public stigma is what the population does to the group by endorsing and implementing the stereotypes, prejudice, and discrimination that comprise mental illness stigma. Self-stigma is what people within the group do to themselves. Label avoidance is dodging the group altogether in order to escape the negative effects of public and self-stigma. People avoiding the label are aware of the stereotype and may even agree with it. However, they are strongly inclined to not apply the label to themselves and seek to avoid any group that will lead to this mark.

2.2.3 Strategies That Challenge Stigma

Descriptive and explanatory research on mental illness stigma is only the first step in understanding and addressing stereotypes, prejudice, and discrimination. Advocates already know that stigma is prominent and pernicious; they want to learn effective ways to challenge and erase its effects. Research and development models have evolved somewhat separately when examining strategies that reduce the stigma of public versus self-stigma. Hence, change models are explained in the remainder terms of these two overarching constructs. Research on effectively addressing stigma related to label avoidance is comparatively limited and thus only briefly reviewed here.

2.2.3.1 Challenging Public Stigma

A review of the social psychological literature research identified three approaches as diminishing the impact of public stigma experienced by people with mental illness: protest, education, and contact. Groups protest inaccurate and hostile representations of mental illness as a way to challenge the stigmas they represent. These efforts send two messages. To the media: STOP reporting inaccurate representations of mental illness. To the public: STOP believing negative views about mental illness. This kind of message is frequently given in a lecture with the speaker presenting disrespectful images of mental illness (e.g., the movie Psycho perpetuates the notion that people with mental illness are dangerous). With this kind of presentation in tow, people are encouraged to suppress "bad" thoughts about mental illness (Corrigan & Penn, 1999: 765).

Unfortunately, protest seems to have a limited effect on public prejudice. Instead, research suggests that protest might actually lead to a rebound, such that people are more likely to endorse stigmatizing attitudes about mental illness (Ottati, Bodenhausen, & Newman, 2005:100). For example, Macrae, Bodenhausen, Milne, and Jetten (1994) showed that attitudes about a publically disrespected group such as skinheads actually increased when research subjects were instructed to suppress negative viewpoints about this group. Research participants who were instructed to stifle negative thoughts about an indexed group actually worsened subsequently in their attitudes toward this group.

Suppression effects were less flagrant in a study on mental illness stigma. A negative effect per se was not found. Instead, in one study in which protest was compared against other forms of stigma change (education and contact, described below), the other approaches were shown to yield positive gains, whereas no such effects were found for protest. In fact, challenging stigma due to protest led to slightly lower stigmatizing scores in this condition compared to those in the no-intervention control group (Corrigan et al., 2001:187).

2.2.3.2 Stigma and Education

Education involves challenging the myths of mental illness (e.g., people with mental illness are incapable of being productive members of the work world) with facts (many people who receive vocational rehabilitation for psychiatric disability achieve employment goals). Evidence generally shows that people with a better understanding of mental illness are less likely to endorse stigma and less likely to discriminate. Education programs do produce short-term improvements in attitudes. However, research suggests that the impact of education programs might be limited. Research on the immediate effects of educational programs found that these kinds of programs produce small reductions in the stigma of mental illness. These positive effects, however, returned to baseline when 2-week follow-up measures were examined (Corrigan et al., 2001:190).

A benefit of pursuing antistigma goals via education is exportability. Developing educational materials, including curricula and videotaped testimonials, and dispersing them to the public at large can be a relatively easy task. The Center for Mental Health Services (CMHS) in the Substance Abuse and Mental Health Services Administration, for example, provides a website with information about education programs that attempt to address mental illness stigma. Through their "Elimination of Barriers Initiative (EBI), " CMHS and its contractors put together a package of antistigma educational services: a kick-off town meeting in participating states and a portfolio of radio, television, and print public services announcements. Evaluations have shown that EBI has been widely disseminated. Of particular note is the distribution of a public service announcement (PSA)—called "Mental Health: It’s Part of Our Lives" to more than 7, 200 broadcast and cable outlets that represent a viewership of more than 150 million people. Numbers like these clearly show the breadth of dissemination possible with education programs, especially PSAs. However, research on the impact of PSAs proffer different demands than those reviewed thus far vis-à-vis social psychological models. Assessments of PSAs need to examine penetration and outcome variables. Penetration is sometimes framed as the number of people in a viewership who recall seeing the PSA as part of its normal distribution. In other words, out of the 150 million conceivable people, how many recall actually viewing this PSA during normal television viewing. Exposure of a PSA is not sufficient; it needs to stand out among typical TV fare for its impact to be realized (Maddux & Tangney:2010:58).

2.2.3.3 Challenging Stigma through Contact

Contact is the third public approach to addressing stigma. Members of the public who interact with people who have mental illness are less likely to endorse stigmatizing beliefs and more likely to endorse positive statements about the group (Couture & Penn, 2003:291). Typical of research in this area is comparison of contact with antistigma programs such as education; these studies are done using randomized conditions. One study showed that those who were randomly assigned to a contact condition experienced significantly greater reduction in stigmatizing attitudes than did people who were assigned to an education-only condition (Corrigan et al., 2001:192). A second study showed that the effects of contact on stigmatizing beliefs were significantly better than education and control conditions. This effect was evident regardless of the content of the conditions; in the latter study, research participants were randomized to contact and education effects that varied in content (on whether people with mental illness are responsible for their disabilities or that people with mental illness are dangerous). Contact was shown to yield better effects, whether blame or dangerousness was the discussed topic. The impact of contact has been validated in two additional randomized controlled trials .

Researchers have tested several variables that enhance contact effects. Contact yields better outcomes when the person with mental illness interacts with a targeted group as peers (Pettigrew, 2000). In addition, contacts with individuals in respected positions (physician or a minister) with mental illness reduces public stigma. Contact is more effective when the person with mental illness actually interacts with a targeted group on a shared task (Desforges et al., 1991:531). One example of this kind of joint effort is collaboration between people with and without mental illness working on an antistigma program for people with mental illness.

In summary, this complex phenomena and negative impact of stigma on the lives of individuals with severe mental illness. Several important points emerged. Public stigma, self-stigma, and label avoidance rob individuals of important life opportunities. Society commonly reacts to the label of mental illness with fear and disgust, which lead to reduced contact and minimized occasions for life growth for the labeled person. Public stigma and self-stigma consist of stereotypes (negative beliefs), prejudice (agreement with beliefs), and discrimination (behavior in response to beliefs). Three approaches were identified as diminishing aspects of the public stigma experienced by people with mental illness:

protest, education, and contact. Three specific strategies were also identified as useful for self-stigma: empowering programs, choosing to disclose, and cognitive reframing. These models provide frameworks for the ongoing development of antistigma programs championed by advocates. These approaches also provide direction for ongoing research on stigma and stigma change.

2.2.4 The production of stigma

Having identified the principal features of stigma, l What are the key ingredients that lead to one individual or group of people stigmatizing others? Link and Phelan (2001: 363) define stigma as 'the co-occurrence of its components – labeling, stereotyping, separation, status loss, and discrimination – and further indicate that for stigmatization to occur, power must be exercised'. To elaborate further, the stigma trajectory consists of the following:

- Labeling: human differences are noted and labeled.
- Stereotyping: the labels are imbued with negative stereotypes.
- Othering: labelled persons are clearly categorized as 'other' or 'them' in order to clearly separate 'them' from 'us'.
- Status loss: labelled persons are perceived by others and by themselves as devalued and inferior.
- Discrimination: labelled persons experience discrimination leading to rejection and exclusion.
- Power: stigma will only emerge if there is a clear power differential between 'us' and 'them'.

2.2.4.1 Labelling and stereotyping difference:

People with a long-term condition may feel, and be regarded by others as, 'different' particularly if they are unable to, or choose not to, conceal their condition. Few children, for example, fail to stare at someone who has a prominent disfigurement. An unusually large or 'obese' woman may feel that she should not wear a bikini on the beach as it may attract unwanted attention. At its most extreme, the sense of different ness engendered by a long term condition may lead to people avoiding social contact or being seen in public.

Labelling theory is the explanatory framework that has been developed to account for the stigmatization associated with the devalued status of people with a long-term condition (Markowitz, 2005: 129). The process of labelling difference plays a key role in linking difference to deviance. Diseases are often linked to delinquent and deviant behaviour, particularly those like Tourette's syndrome which have symptoms that do not conform to the order and rules of public space (Davis et al., 2004:103).

This model of labelling theory suggests that the disabilities associated with a disease may relate more to the label than the disease itself. Whether behaviour (particularly of those labelled mentally ill) is the product of the disease or of the label has been hotly contested (Markowitz, 2005:132). From a medical or 'psychiatric' perspective, it is the behaviour of mental health service users, which can at times be bizarre and even frightening, rather than the label, that leads to negative responses from the public. Gove also contests the notion that a label leads to a career of mental illness, claiming that most people perceive mental illness as a 'nervous breakdown' which 'is seen by the lay public as a transitory disorder that almost anyone might experience if they were subjected to an inordinate level of stress' (Gove, 2004: 358). By this he means that most mental health problems are not pathological but are, in the main, normal responses to stressful situations. The distress tends to be transitory, after which most people will return to their normal societal roles and function normally.

They are thus able to have a negative stereotype of mental illness but not label themselves with this stereotype as they do not perceive themselves to be mentally ill. This enables them to retain a positive self-concept and lessens the stigma associated with mental health problems.

2.2.4.2 Loss of status and discrimination

Other key components of Link and Phelan's (2001) stigma trajectory are loss of status and discrimination. Loss of status for the individual with a discrediting label is a key part of the stigmatization process and has been documented and deconstructed across a range of long-term conditions. Less attention has been given to the structural aspects that underpin discriminatory behaviour following loss of status because research about stereotypes and prejudice tends to focus upon individual attitudes and cognitions (Fiske, 1998). Indeed, discrimination, related to the disadvantaged life opportunities that confront stigmatized people, is often not included in definitions of stigma in the literature (Link and Phelan, 2001:366).

Discrimination may operate overtly (ostracizing groups or individuals with particular labels) or covertly and indirectly. The former may involve open discrimination as in the case of a job advertisement that has as a prerequisite a requirement that the applicant be young and healthy. In the UK, most offers of employment require the applicant to complete a medical form and it is widely believed that this is used by employers to discriminate against the less healthy although technically, from a legal standpoint, it cannot be used in this manner. An example of covert discrimination is institutional racism whereby a disabling environment is created by ‘processes, attitudes and behaviour which amount to discrimination through unwitting prejudice, ignorance, thoughtlessness and racist stereotyping which disadvantage minority ethnic people’ (Macpherson, 1999: 28).

2.2.5 Epilepsy as a stigmatizing disorder

Despite being rendered seizure-free with optimal anti-convulsant therapy, a significant proportion of patients will face uncertainty about their condition and its prognosis. This is of particular importance in respect of whether or not they continue to see themselves as a person with epilepsy, and the implications that has for their day-to-day lives. The label of ‘epilepsy’ is still considered by many, both with and without the condition, as stigmatising, and carries with it both statutory and informal restrictions.

Given the reaction to epilepsy throughout history, it is not surprising that people with epilepsy may adopt negative views about themselves and their condition. West (1986), however, has argued that the meaning of epilepsy is defined not only by those with the condition but by the ideas of those without the condition.

Schneider and Conrad (1983) have suggested that there are a number of participants involved in the process of giving a meaning to epilepsy and these include the person with epilepsy, their family members, friends, work associates and the health professionals treating them. Scambler and Hopkins (1986) have argued that, through the experience of seizures, people with epilepsy develop a special view of the world underpinned by the stigma associated with it. Though they may lead relatively normal lives, they retreat into their own special view of the world in the presence of witnessed seizures. Scambler and Hopkins's work was important because it made the distinction between the concept of enacted stigma – an episode of discrimination – and perceived or felt stigma – an oppressive fear of enacted stigma (Mason et al., 2001:127).

People with epilepsy were much more likely to experience felt than enacted stigma, a finding reinforced in a subsequent large-scale quantitative study of people with well-controlled epilepsy. Jacoby (1994) reported that only 2 per cent of subjects could recall any actual occurrence of discrimination in the workplace, but a third of them believed that having epilepsy made it more difficult for them than for those without the condition to find employment (Jacoby, 1994: 96).

2.3 Epilepsy

2.3.1 Historical background

The word epilepsy originates from the Greek word Epilepsia meaning to be taken, seized or attacked. This condition has been recognized in Man since antiquity. The first person who moved away from the mythology associated with epilepsy was the Greek physician Hippocrates. He defined epilepsy as a neurological condition caused by a disturbance in the brain (Kinnier Wilson &Reynolds, 1990)

epilepsy was regarded as a sacred disease that originated from demons or evil. Most people believed that when a person had a seizure, he/she was trying to get rid of demons. They believed it was contagious and often regarded people with epilepsy as insane (Engel& Pedley, 1997).

The two major Middle Eastern practitioners who dealt with epilepsy in medieval times were Ibn Sina (980–1037) and Al-Razi (circa 865–925), and they considered epilepsy a medical illness. Their writings had a profound influence in Europe, and as late as the 1700s this material was still fundamental for medical students in universities around the world. Ibn Sina, the "Prince of Doctors", was scientific and rational in his treatment of epilepsy and left an abundance of pertinent details. He was the first person to coin the term "epilepsy", using a passive Latin verb. In his Canon of Medicine, Ibn Sina speaks of epilepsy in exhaustive detail, describes its various forms and symptoms and its apparent causes, and offers a long list of pharmacological products for its treatment. His prescriptions are a repertory of herbal and pharmacological recipes and of dietary rules based on the principle that it is necessary to create personalized treatments, adapted to each individual, consisting of medicinal and dietetic therapy and incorporating hygienic norms (Vanzan & Paladin, 1992).

The view that has dominated thinking about epilepsy in many parts of the world is that epilepsy is caused by supernatural forces. This view remains, even now, deeply rooted in society with negative social consequences. It was not until the 17th and 18th centuries that the Hippocratic concept of epilepsy as a brain disorder began to take root. During these two centuries epilepsy was one of several key areas of debate in the gradual identification and separation of “nervous disorders” from “mental disorders”, which led to the beginnings of modern neurology in the 19th century (Temkin, 1994).

The Greek physician and philosopher Hippokrates (460 - 377 B.C.) believed that the cause of epileptic seizures should be found in the brain. The Greek physician Galén (130 - 210 A.D.) viewed epileptic seizures as a symptom of intracranial dysfunction or systemic disease, caused by an accumulation of mucous in the arterial system. During the Middle Ages epilepsy was thought to be associated with supernatural forces, because of the vigorous symptomatology, especially of convulsions. Humans suffering from epilepsy have been thought to be insane, or possessed by demons in the 16th and 17th centuries. As a consequence, treatment of epilepsy included exorcism and bloodletting, and a variety of substances e.g, . brew of mistletoe, blood from a decapitated man and a pulverized cranium were given to aid the sick person (Morita et al, 2002: 35).

In the 19th century the gap between ignorance and understanding of epilepsy began to close. The physician Calmeil in 1824 made the first attempt to classify epileptic seizures according to their symptomatology. The neurologist John Hughlings Jackson proposed that a classification of epilepsy should be based upon anatomical localization, physiological imbalance and the pathological process. He made a distinction between partial and generalized seizures based upon clinical observations. Electroencephalography (EEG), introduced in 1929 by the German psychiatrist Hans Berger, added immensely to the understanding of epileptogenesis (Holliday & Williams, 1998: 132).

Epilepsy is a common medical and social disorder or group of disorders with unique characteristics. Epilepsy is usually defined as a tendency to recurrent seizures. The word “epilepsy” is derived from Latin and Greek words for “seizure” or “to seize upon”.

This implies that epilepsy is an ancient disorder; indeed, in all civilizations it can be traced as far back as medical records exist. In fact, epilepsy is a disorder that can occur in all mammalian species, probably more frequently as brains have become more complex. Epilepsy is also remarkably uniformly distributed around the world. There are no racial, geographical or social class boundaries. It occurs in both sexes, at all ages, especially in childhood, adolescence and increasingly in ageing populations (Reynolds, 2002: 1).

The periodic clinical features of seizures are often dramatic and alarming, and frequently elicit fear and misunderstanding. This in turn has led to profound social consequences for sufferers, which has greatly added to the burden of this disease. In ancient times, epileptic attacks were thought to be the result of invasion and possession of the body by supernatural forces, usually malign or evil influences, requiring exorcism, incantations or other religious or social approaches. Today, seizures are viewed as electromagnetic discharges in the brain in predisposed individuals, attributable in part to putative genetic factors, underlying neurological disorders, and largely unknown neurochemical mechanisms. A wide range of different seizure types and epilepsy syndromes have been identified. Patients are now treated with pharmacotherapy, occasionally with neurosurgical techniques, as well as with psychological and social support (Reynolds, 2005: 16)

2.3.2 Definition of epilepsy:

Epilepsy is defined as a condition characterized by recurrent seizures (two or more) a clinical manifestation presumed to result from an abnormal and excessive discharge of a set of neurons in the brain. The clinical manifestation consists of a sudden and transitory abnormal phenomenon which may include alterations of consciousness, motor, sensory, autonomic or psychic events, perceived by the patient or an observer. Thus, epileptic seizures are a sign of cerebral dysfunction. Three main characteristics of epileptic seizures are: the loss of control (in various degrees), the episodic (paroxystic) nature of the attacks (they start suddenly and they terminate suddenly), and the repetitive clinical pattern (attacks are identical from episode to episode) (Berendt, 2004: 1).

Also Kapp (1991) defined epilepsy as an altered chemical state of the brain causing bursts of excessive electrical activity. The sudden bursts of this electrochemical activity scramble the brain's messages upsetting the brain's normal control. These may be characterized by distorted consciousness, motor activity, sensory phenomena, or inappropriate behavior.

Epilepsy is a chronic disabling neurological disease characterized by recurrent seizures and uncertainty in seizure frequency, severity and prognosis. Onset of the disease occurs primarily during childhood and adolescents1. In the 1990 WHO analysis of worldwide burden of disease, epilepsy ranks among the top three causes of neurological disabilities particularly among the young. Epilepsy in adolescents magnifies the problem of adolescence as it is a disease with chronic disability and the penalties for seizures at this time are far more severe than in childhood (Mohammed et al, 2010: 83).

Epilepsy is a heterogeneous entity with enormous variation in etiology and clinical features and is defined as two unprovoked seizures of any type . Epilepsy is one of the most common neurological disorders in pediatric and adult population .Research in the past 20 years showed that the patients with epilepsy commonly have coexisting psychiatric conditions including mood disorders, anxiety disorders, psychotic disorders and attention deficit hyperactivity disorder . Historically, psychiatric disorders in epilepsy have been considered a consequence of psychosocial disturbance due to poor adaptation to a chronic disease with stigma. However, recent studies indicates that there is a bidirectional relationship between epilepsy and psychiatric disorders. This relationship may be conceptualized as an epiphenomena rather than cause–consequence factors(Ekinci, 2011: 218).

Epilepsy is one of the most common neurological disorders, with an age adjusted incidence of between 20 and 70 per 100, 000 and a prevalence of 4–10 per 1, 000 . It has been estimated that around 50 million people worldwide have epilepsy. In more than three-quarters of people with epilepsy, seizures begin before the age of 18 years. Though in the majority of cases there is no identifiable cause for epilepsy, it can be the result of virtually any major category of serious disease or disorder of humans, including congenital malformations, infections, tumors, vascular diseases, degenerative diseases or injury. The overall prognosis for remission as demonstrated by epidemiological studies is very good, and it is likely that the early course of epilepsy is a good predictor of eventual outcome (Mason et al, 2001: 126).

Epilepsy directly affects around 50 million people, the majority of whom (80-85%) live in resource-poor countries. Although, in recent decades scientific advances in different fields of epileptiology have witnessed modern developments such as neuropathology, recent antiepileptic drugs and genetics, not much has been achieved in dispelling the stigma of epilepsy. Epilepsy and its treatment have a direct bearing on major aspects of life style such as education and employment prospects, relationships, self-consciousness and many other aspects. During the 1990s, the interest in systematic assessment of the health status of patients with epilepsy, by using standardized questionnaires, has increased. Several new disease-specific instruments have been developed to assess the impact of epilepsy in people lives (Ahmad, 2011: 1).

Accuracy of medical diagnosis is fundamental. Diagnosis is clinical and should be confirmed by a professional with expertise in epilepsy. EEG may help diagnosis, but is certainly needed to classify seizure type and give a meaningful prognosis. Most epidemiological studies to date have lacked investigatory facilities in the field, especially in developing countries (Bharucha, 1997: 113).

2.3.3 Pathophysiology of epilepsy

A variety of different electrical or chemical stimuli can easily give rise to a seizure in any normal brain. The epileptic seizure always reflects abnormal hyper synchronous electrical activity of neurons caused by an imbalance between excitation and inhibition in the brain. Neurons are interconnected in a complex network in which each individual neuron is linked through synapses with hundreds of others. A small electrical current is discharged by neurons to release neurotransmitters of synaptic levels to permit communication with each other. More than hundred neurotransmitters or neuromodulators have been shown to play a role in neuronal excitation. However, the major excitatory neurotransmitter in the brain is L-glutamate and the major inhibitory neurotransmitter in the brain is gamma-amino butyric acid (GABA). An abnormal function of either of these could result in a seizure. An excited neuron will activate the next neuron whereas an inhibitory neuron will not. A normal neuron discharges repetitively at a low baseline frequency, and it is the integrated electrical activity generated by the neurons of the superficial layers of the cortex that is recorded in a normal electroencephalogram. If neurons are damaged, injured or suffer electrical or metabolic insult, a change in the discharge pattern may develop. In the case of epilepsy, regular low-frequency discharges are replaced by bursts of high-frequency discharges usually followed by periods of inactivity. An epileptic seizure is triggered when a whole population of neurons discharges synchronously in an abnormal way. This abnormal discharge may remain localized or it may spread to adjacent areas, recruiting more neurons as it spreads (Porth, 2002**)**.

2.3.4 Seizure types on epilepsy syndrome:

It is important to correctly classify seizures to determine appropriate treatment. The most commonly and widely accepted classification system of seizure types and epileptic syndromes that is currently used is the International Classification of Epileptic Seizures (ICES). This classification system, proposed by the Commission on Classification and Terminology of the International League Against Epilepsy (ILEA) in 1981.Seizures in this classification system is divided into three categories namely partial seizures, generalized seizures and unclassified seizures.

2.3.4.1 Partial

Unlike generalized seizures, partial seizures begin in a specific area of one cerebral hemisphere and do not spread bilaterally (Holmes, 1997). Partial seizures, which are associated with lesions of the temporal lobe are subdivided into simple partial seizures (in which consciousness retained), complex partial seizures (in which consciousness is impaired or lost) (Kotagal et al., 1987) and partial seizure with secondary generalization. Both simple and complex partial seizures are often accompanied by somatosensory auras, including complex visual or auditory hallucinations (Janszky et al., 2004).

2.3.4.1.1 Simple partial

These seizures are caused by a group of hyperactive neurons exhibiting abnormal activity, which are confined to a single locus in the brain. The electrical discharge does not spread, and the patient does not lose consciousness. The patient often exhibits abnormal activity of a single limb or muscle group that is controlled by the region of the brain experiencing the disturbance. The patient may also show sensory distortion. Simple partial seizures may occur at any age (Holmes, 1997).

2.3.4.1.2 Complex partial

These seizures exhibit complex sensory hallucination, mental distortion, and loss of consciousness. Motor dysfunction may involve chewing movement, diarrhea, and /or urination. Consciousness is altered. Simple partial seizure activity may spread and become complex and then spread to a secondarily generalized convulsion. These seizures can last approximately 30 seconds to 3 minutes (Holmes, 1997).

2.3.4.1.3 Partial seizure with secondary generalization

This seizure is when the electrical activity in the brain continues to spread as a result of the partial seizure. This type of seizure involves the whole body (Holmes, 1997).

2.3.4.2 Generalized Seizures

According to allwood & Gagiano (2000) generalized seizures are subdivided into the following clinical types of complex seizures.

2.3.4.2.1 Absence seizures

Absence seizures are also referred to as a petit mal attack. Absence seizures are characterized by short brief interruptions in consciousness. An absence seizure may be seen as a stare, small movement of the eye, or fluttering the eyelids and the attack start and end abruptly, lasting approximately 2-20 seconds. The patient is not aware of the seizure activity during this time and there is no recall of the events.

2.3.4.2.2 Myoclonic seizures

Myoclonic seizures are characterized by quick, sudden muscular movements. These fast jerks can range from mild to sever and have different forms. These types of seizures are like being jerked by an electrical shock and occur at any age but usually begin around puberty or early adulthood. Myoclonic seizures are very brief, shock like muscular contractions that may occur alone or in cluster.

2.3.4.2.3 Atonic seizures

Atonic seizure is also called drop attacks. They are characterized by a quick loss of muscle tone. The muscles or body go limb. The patient suddenly drops and falls on the ground. This type of seizures can cause physical injury.

2.3.4.2.4 Generalized tonic- clonic seizures (Grand Mal)

These are the most universally recognized seizures. They often begin with sudden cry; if standing, the person will fall to the ground, losing consciousness, the body becomes quite stiff (clonic) shortly followed by jerking of the muscles (clonic). Breathing is shadow or temporarily suspended causing the lips and complexion to look gray /bluish. Saliva (sometimes also blood if they have bitten their tongue) may come out of the mouth, and there may be loss of bladder control. The seizures usually last approximately 2 minutes. It is followed by a period of confusion, agitation or sleep. Headache and soreness are common afterwards.

2.3.4.2.5 Tonic seizures

When a person experiences this phase, his/her trunk stiffens, the wrists contract, breathing stops, air is exhaled from the lungs, and eyes are half open, while the eyelids and jaws are stiff. Groaning or grunting sounds may be made or an 'epileptic scream' may occur while air is exhaled from the lungs.

2.3.4.2.6 Clonic seizures

A person experiencing this phase begins with violent, rapid spasms which end in irregular jerks. These can be accompanied by loss of sphincter control. Respiration is resumed slowly and foam may appear at the mouth. The patient sometimes tends to bite his/her tongue or the inside of his/her mouth during a seizure and consequently the foam may be bloody.

2.3.4.3 Unclassified seizures

An unclassified seizure is the seizure, which cannot be classified because there is lack of enough information to indicate what type of seizure it is (O Donohoe, 1994).

2.3.5 Causes of epilepsy

Epilepsy can affect anyone at any age without apparent cause, and can cease just as suddenly. In adult's trauma, brain tumors and vascular diseases of the brain are the most common causes of epilepsy, while in children metabolic defects, congenital malformations, infections, genetic diseases and perinatal injuries are among the common etiologies (Okumura et al., 2000). However, the etiology of epilepsy remains unresolved in a large number of patients (Beghi, 2004). Genetic factors can also predispose to epilepsy. In a majority of the cases epilepsy is caused by interactions of many genes and environment, and in a minority of cases of epilepsy can be attributed to a single gene disorder (Gutierrez-Delicado & Serratosa, 2004).

The etiology of epilepsy is commonly divided into three main categories, idiopathic, cryptogenic and symptomatic (Commission on Epidemiology and Prognosis and International League Against Epilepsy, 1993). When the cause of epilepsy can be identified, we refer to this type of epilepsy as symptomatic epilepsy (Commission on Epidemiology and Prognosis and International League Against Epilepsy, 1993), in symptomatic epilepsy; the seizures can be the result of intrinsic factors associated with physical illness such as:

- High fever
- Fatigue
- Head injuries
- Encephalitis
- Meningitis
- Metabolic disturbances
- Blood vessel abnormalities
- Cerebral bleeding
- Biochemical imbalances tumors of all kinds
- Lack of oxygen during birth
- A brain tumor
- Associated conditions such as cerebral palsy and autism
- Stroke
- Lead poisoning
- Infection of the brain.

Extrinsic factors play a role and some possible triggers are:

- Drugs
- Alcohol
- Illnesses such as HIV and AIDS
- Nutrition shortage/malnutrition
- Flashing lights, TV patterns and loud sounds.
- Tiredness, stress and excitement

In Idiopathic epilepsy, the seizure occurs without any reasons, but genetics is assumed to be the cause. It may be hereditary as sometimes more than one member of a family has epilepsy. Patients are treated chronically with antiseizure drugs or vagal nerve stimulation. Most cases of epilepsy are idiopathic (Commission on Epidemiology and Prognosis and International League Against Epilepsy, 1993).

Cryptogenic epilepsy is used to describe seizures that are “probably symptomatic” but their etiologies cannot be identified through available medical investigation (Commission on Epidemiology and Prognosis and International League Against Epilepsy, 1993).

2.3.6 Risk factors of epilepsy

Epilepsy is a symptom complex, and many different conditions are known to be risk factors. These vary with age and geographic location. Congenital, developmental, and genetic conditions are associated with developing epilepsy when young.

Epilepsy associated with head trauma, central nervous system infections, and tumors may occur at any age, although tumors are more likely in the elderly (Duncan et al., 2006). Cerebrovascular disease is, however, the most common risk factor in the elderly (Granger et al., 2002).

Parasitic conditions such as falciparum malaria and neurocysticercosis are associated with epilepsy in endemic areas and are probably the most common preventable cause of epilepsy worldwide (Medina et al., 2005). Recently, two other parasites, Toxocaracanis and Onchocerca volvulus, have been suggested as important risk factors; this needs confirmation (Nicoletti et al., 2002).

A family history of epilepsy seems to increase the influence of other risk factors. The susceptibility to epilepsy may be partly genetically determined, and this may interact with brain maturation and environmental factors. These interactions may be responsible for the shortcomings of our understanding of the dynamics of epilepsy in the population ((Duncan et al., 2006).For instance, the relative risk of developing epilepsy with different conditions in different populations is not known.

2.3.7 Prognosis of epilepsy

The etiology and the type of the epileptic syndrome are the main factors contributing to the prognosis (Sillanpää et al., 1999). More than 70% of patients on optimum treatment achieve long-term remission, usually within5years of diagnosis; the prospect of remission decreases as time elapses (Sander, 2003). Predictors of a good outcome include age at onset, number of early seizures (Brodie & Kwan, 2002). The terminal remission rate is suggested to be higher in patients with idiopathic or cryptogenic epilepsy (Oka et al., 1989). In patients with newly diagnosed LRE, 62% achieved a seizure-free period lasting at least 12 months. The follow-up period varied from two to 20 years (Mohanraj & Brodie, 2005). The risk for seizure recurrence after initiation of AED treatment increases if more than three seizures have occurred before the initiation of the treatment. An underlying neurological disorder or EEG with epileptiform abnormality also increases the risk for seizure recurrence (Kim et al., 2006). About 20-30% of PWE will suffer from seizures despite AED treatment (Sander, 2003).

2.3.8 Management of epilepsy:

There were 75 % of people with epilepsy experience their first seizure before the age of 20 years. So, if your child has developed epilepsy, you are not alone and, these days, there's a good chance that her/his condition can be kept well under control. The aim of medical treatment is to control your seizures, so she/he can get on with life with as little disruption from epilepsy as possible. In Allopathic System of Medicine taking anti-epileptic drug and controlling of seizures are the main ways to achieve the treatment. However, anti-epileptic drugs have side effects . Homoeopathic Medicines on the other hand do not have side effects and are safer than the anti-epileptic drugs.

People with epilepsy want to live seizure-free lives and be free from the fear of future attacks. It is usually the fear of attacks which interferes with the day-to-day activities of affected people. The first effective antiepileptic drug, phenobarbital, was discovered in 1912. This drug continues to be the mainstay of medical management of epilepsy in SEAR Member Countries. Several other drugs have entered the market in the last ten years and are advocated to be far superior to phenobarbital, but evidence-based reviews do not verify this. The comprehensive management of epilepsy includes many aspects (Satishchandra et al, 2004: 14).

About 75-80% of people with epilepsy can be managed easily with one drug. This is called monotherapy, and it prevents interaction between drugs, ensures good compliance and is also costeffective. However, the remaining 20–25% of patients may require multiple drugs. Each type of epilepsy has a drug that usually proves to be most effective. The best drug for the specific type of epilepsy should be started in a low dose, once or twice daily, depending upon the nature of the drug. Dose escalation should always be under medical guidance and needs to be undertaken slowly during follow-up, until either the seizures are controlled or undesirable side-effects appear (Lhatoo & Sander, 2003: 212).

Epilepsy is a chronic illness, as is hypertension or diabetes mellitus, and requires long-term treatment. In view of the stigma attached to this disorder and the requirement for long-term administration of medications, it is essential to confirm the diagnosis before treatment commences. Not all seizures require antiepileptic drugs. For example, a young housewife, whose general health, neurological examination and all tests are normal and who has suffered only one seizure, may not require antiepileptic drugs in the first instance. A child experiencing convulsions with only high fever is not started on long-term antiepileptic drug treatment.

Once commenced, antiepileptic drug treatment should be continued till the patient has been totally seizure-free for a minimum of three years. Before considering discontinuation, it is necessary to note the following:

- The patient has had no major or minor episodes in the last three years.
- The patient has normal mental development.
- The seizures are not due to a progressive brain disorder.
- Periodic EEGs have been normal, and EEG prior to tapering medicines is normal.

If the above-mentioned factors are not met, it is advisable to continue antiepileptic drug treatment for a longer period. However, the situation in some SEAR Member Countries is such that EEGs may not be available. In this, case the physician will have to decide (Satishchandra, et al, 2004: 21).

The risk of recurrence remains, even after a seizure-free two-year period on treatment and a gradual reduction and cessation of drug therapy. Patients should be informed about this. Long-term studies have indicated that the relapse rate over a period of time is about 1% per year for persons who have remained seizure-free for more than two years with adequate treatment. It is believed that patients with symptomatic seizures, associated mental handicaps and initial difficulty in achieving control have a higher susceptibility to recurrence. Risk of recurrence is highest soon after stopping the drug and gradually declines with time. It is essential that patients remain in contact with their doctors during this period(Bharucha, 1997: 123).

2.3.9 Social and psychological impact of epilepsy

Epilepsy has many non-medical impacts on the people with epilepsy. The impacts of epilepsy rest not only on the individual patient, but also on the family and indirectly on the community. The burden of epilepsy may be due to the physical hazards of epilepsy resulting from the unpredictability of seizures; the social exclusion as a result of negative attitudes of others toward people with epilepsy; and the stigma, as children with epilepsy may be banned from school, adults may be barred from marriage, and employment is often denied, even when seizures would not render the work unsuitable or unsafe. Furthermore, epilepsy is a disorder associated with significant psychological consequences, with increased levels of anxiety, depression, and poor self-esteem compared with people without this condition (Baker, 2002). Here we discuss some of the aspects of the psychosocial impacts of epilepsy.

2.3.9.1 Impact on the family

Diagnosis of epilepsy in their child leads to stress in parents, resulting in a higher divorce rate. Focus by parents on the child with epilepsy can result in poor relationships between the child with epilepsy and siblings and psychological difficulties among siblings. Such focus can also affect family cohesion and relations between the family and their community. It can result in the people with epilepsy growing up to make a poor parent themselves (Devinsky, 2001).

2.3.9.2 Impact on education

A higher prevalence is found in people with epilepsy of learning disabilities and memory problems, often caused by co-morbidities such as brain damage. Attention deficits occur during seizures, especially during absence seizures in school-children. Antiepileptic drug side-effects of drowsiness and short attention span can affect educational achievement, and are commonly exacerbated by polytherapy (Devinsky, 2001).

2.3.9.3 Impact on social relationship

Social isolation and poor social adaptation can result from perceived stigma or over-dependency caused by parental overprotection. The people with epilepsy also often fears embarrassment by a seizure, causing reluctance to engage in social interaction, with concomitantly low self- esteem and academic under-achievement. These can result in a shrunken support network, fewer friends, a lower likelihood of marriage and greater likelihood of anti-social behavior (Buchanan, 2002).

2.3.9.4 Impact on employment

Unemployment is higher among people with epilepsy, by up to 50% in developed countries if seizures are not fully controlled and up to 100% in developing countries. This can be caused by employer prejudice resulting from stigma and a lack of information, a belief that machinery should be avoided by the people with epilepsy, inability to drive, or poorer academic achievement. Disclosure to an employer is therefore a difficult decision. Unemployment commonly results in lower self-esteem, lessened well-being and a lower quality of life (Bisho & Hermann, 2000).

2.3.9.5 Impact on sexual relationship

Satisfactory relations with the other sex require self-esteem. Low self-esteem in a people with epilepsy can result in failure to establish good sexual relationships. Brain damage and/or antiepileptic drugs may also result in anhedonia. Head injury may result in reduced libido and erectile dysfunction. Inadequate sexual functioning may result in depression, marital distress or self-aversion (Cole & Cole, 1999).

2.3.9.6 Impact on quality of life

Quality of life is “the degree to which a person’s cognitive, emotional, social and spiritual experience of life is positive”. Quality of life for a people with epilepsy can be reduced by higher physical morbidity rates, seizure-related accidents, antiepileptic drug side effects, more social withdrawal, increased social isolation, poorer sexual relationships, and lower marriage rates. Quality of life for the people with epilepsy may also be reduced by higher psychological morbidity rates, anxiety and depression, lower self-esteem, increased helplessness, defensive aggressiveness, poorer educational achievement and higher unemployment or under-employment (Jacoby& Baker, 2000).

2.3.9.7 Impact on women

Epilepsy causes unique problems for women. Seizure frequency and severity can be exacerbated by menstrual hormonal changes. Women with epilepsy often experience anxieties concerning children. Doubts about seizures being triggered by labour, their ability to care for their child, the possibility of inheritance of epilepsy and birth defects are compounded by fears about antiepileptic drug side effects and the mother’s ability to be a good role model during child- rearing (Gumnit, 1997).

2.3.9.8 Impact on the self

A person’s body is an integral part of their self- percept, or identity. Finding that, the brain does not function as others’ brains do forces a change in body percept and therefore self-percept. The adolescent’s question “Who am I?” recurs, which can be traumatic for an adult. Lower self-esteem can result from perception of the self as less competent than others and self-categorisation as an “epileptic” and consequent perception of stigma (Wright, 1993). Diagnosis can result in many psychological difficulties. Grief at the realization of being disabled goes through stages of shock, anxiety, bargaining and denial, mourning and depression, internalized anger, externalized anger, acknowledgement and finally acceptance and adjustment (Buchanan, 2002). Other emotional states which may recur include anxiety arising from the unpredictability of seizures and feelings of lack of control and helplessness. Guilt can result in affective disorder. Anxiety combined with guilt can grow to become depression. Lowered energy and vitality may result from disrupted sleep patterns, while defensiveness can lead to a need to conceal, anger and bitterness (Mendez, 1996).

Epilepsy is a “hidden” or “invisible” disability, as no symptoms are apparent except during a seizure. It often has no apparent cause, which results in a fear of the unknown. Consequently it is easier to deny, resulting in poor compliance with treatment and a refusal to alter life-style. Being “hidden” makes it more difficult for others wishing to interact, and concealment makes it difficult to find other people with epilepsy for support. Being “hidden” may lead to accusations of hypochondria and misbehavior as well as erroneous self-perception (Falvo, 2005).

2.3.10 Types of epilepsy stigma (ES):

Epilepsy associated stigma has long been recognized as a significant cause of psychosocial morbidity for People with epilepsy. The most amazing aspect of ES is its wide range of definitions. The origin of the word Stigma comes from Latin word Stigmat which means mark or brand and from a Greek word stizein, that means to tattoo (Morrell, 2002:21). Based on these definitions, ES has been divided into three kinds of ES:

2.3.9.1 Perceived ES:

It refers to the feeling of shame of being epileptic with its associated oppressive fear of encountering enacted stigma (Rafael et al., 2010). It is commonly associated with illness and medical conditions that have visible signs or arouse feeling of dread and fear. The People With Epilepsy assume that from their prevailing illness they will be devaluated and discriminated. Thus, such misleading notion compels them to adopt strategies like social withdrawal and secrecy that inflicts negative impact on their Quality of Life and hence reinforces in them the feeling of perceived ES.

2.3.9.2 Enacted ES:

Refers to actual episodes of discrimination against People With Epilepsy only on the pretext that they suffer from epilepsy (Morrell, 2002:23). The legacy of the idea that epilepsy is a product of sin and evil possessions means that the cause of epilepsy is ambiguous and the seizures present far greater danger to those with epilepsy than the non-epileptics. People believe in the idea of epilepsy being a contagious and this idea is still prevailing in poor and developing countries (Ahmed, 2010:4)

2.3.9.3 Courtesy ES:

It is a kind of stigma that affects the whole family members and even those who have an association with the patient. West reported that parents with children with epilepsy often experienced a sense of shame and their child was seen as conferring shame on the whole family by virtue of being odd. Kleinman described that in the Chinese culture, the moral weight attached to epilepsy, threatened familial aspiration and life chances and because of family disgrace, People With Epilepsy are kept at home and their diagnosis is kept secret (Kleinman et al., 1995: 525).

2.3.11 Mortality of epilepsy

The overall mortality in PWE is two to three times higher than in the general population (O'Donoghue & Sander, 1997). Comorbidity, especially brain diseases, accidents during seizures, status epilepticus, and suicides increase the overall mortality (Hauser et al., 1993). Age and gender as well as the etiology of epilepsy have an influence on the mortality rate. Age is considered to be a factor that affects the mortality rate in PWE, but the findings have not been congruent. However, it has been suggested that mortality rates are higher in younger PWE (Harvey et al., 1993). The epilepsy type is also a factor that affects the mortality risk. In children with idiopathic epilepsy the all-cause mortality rate is lower than in children with LRE (Berg et al., 2004).

Sudden unexpected death in epilepsy (SUDEP) is relatively common in PWE, and overall sudden unexpected death (SUD) is more common in epilepsy patients than in the general population. The incidence varies from 1/100 in severe refractory epilepsy to 1/1000 in well controlled epilepsy (O'Donoghue & Sander 1997). The incidence of SUD is over 20 times higher in PWE than in the general population (Ficker et al., 1998). SUDEP is defined as sudden, unexpected, witnessed or non-witnessed, non-traumatic and non-drowning death with or without evidence of seizure and excluding status epilepticus, and autopsy not revealing the cause of death (Sperling et al., 1999). The risk factors for SUDEP include young age (20-40 years), alcohol abuse, psychiatric comorbidity, related medication, non-compliance and male gender, but healthy compliant patients may also die suddenly to SUDEP (Walczak et al., 2001).

2.3.12 Summary:

An overview about Anxiety and stigma in epileptic patients:

The psychiatric comorbidites in epilepsy, anxiety disorders are highly frequent and have a profound influence on the quality of life of epilepsy patients. Several studies have reported elevated rates of panic attacks, panic disorder, obsessive compulsive disorder (OCD), social anxiety disorder and generalized anxiety disorder (GAD) in adult patients with epilepsy as compared with the general population.

People With Epilepsy and their families often face a very common aspect of this neurological disease epilepsy, known as Epilepsy Stigma. Epilepsy Stigma is considered to be one of the most important factors that have a negative influence on People With

Epilepsy. It is a commonly encountered global issue among People With Epilepsy in all cultures. Epilepsy Stigma may have deleterious effect on the patient’s life more than the disease of epilepsy itself. It is the prime duty of all health professionals to try and manage Epilepsy Stigma in order to improve the quality of life of People With Epilepsy not only by controlling the seizures, but also by fighting the myths and disbelief of stigma and managing the disease with a better approach. Stigma in People With Epilepsy can be encountered and dealt with by diverse specialties in health profession including physicians, surgeons, social workers, psychologists, psychiatrists and nurses.

In the view of the researcher that many people in the Palestinian society to wrong patient, "epilepsy" and treat him as a crazy, aggressive, and avoid them in the belief that the illness is contagious, do not stop the suffering here, it starts from the people of the patient and relatives anxiety than just open a file l at the Ministry of Health, and trying to hide his illness from everyone as if pursued by a stigma, even the doctor does not dare to pronounce the term "patient with epilepsy." It is estimated that the proportion of people with epilepsy in Palestine increased during the past five years because of attacks and occupation of road accidents, in addition to factor heirlooms because of the large number of consanguineous marriages in the Palestinian society

Unfortunately this important issue of Epilepsy Stigma is addressed primarily in specialized journals like Epilepsy Research, Epilepsia, Epilepsy and Behavior, Seizure and Social Science Medicine which are read by professionals interested mainly in epileptiology or social sciences, whereas the actual problem of Epilepsy Stigma and its management remains neglected and does not reach the common readers and the non-scientific communities which form a major part of the society in any culture or country. Thus, there is an obvious need that this issue should be addressed in simple language in journals targeting readers of different specialties and interests through publishing articles on ES in popular magazines and dailies of the local areas globally.

In the view of the researcher that epilepsy occurs frequently and spread in Palestinian society, with serious consequences if neglected did not address this reason must be taken care of any clinical condition summons suspicion for the development of early diagnosis and start treatment appropriate - with the development of therapeutics made possible the treatment of many difficult situations which has enabled many patients start a new life more completely and freedom and that requires more understanding and cooperation by the patient himself, parents and the community behind it to remove the aura bad and cursed, which was surrounded with patients with epilepsy and re-consideration to them as patients have the right to treatment and recovery and live a life of dignity and independent.

In the view of the researcher that epilepsy is usually an accompanying anxiety, especially in the lost conditions experienced by the Palestinian people, and culture of the Palestinian people look at the patient's epilepsy with compassion where it make him feel weak, and then made up to have a sense of internal as a burden on society, have a sense of internal stigma and a shame.

Chapter Three

Previous Studies

Chapter Three

Previous Studies

In this chapter the researcher show the literature reviews in three main domain the first about anxiety, the second about stigma, where the third is about anxiety and stigma among epileptic patients, in the end this is show of discussion and comments around the studies:

3.1 Studies of anxiety and epilepsy:

The study of Nenadović et. al (2011) Main aim of this research was to explore the intensity and frequency of anxiety in patients with generalized, temporal and extratemporal epilepsy Anxiety may occur as ictal, postictal or interictal symptom in patients with epilepsy. This is a cross-sectional study of three groups of patients with epilepsy (30 patients per group) – recently diagnosed with generalized epilepsy, temporal epilepsy and extra temporal epilepsy, and a healthy control group (N=30). The Beck Anxiety Inventory (BAI) was used for quantitative assessment of anxiety. Patients with temporal and extratemporal epilepsies had a significantly higher mean total scores on the BAI than the patients with generalized forms of epilepsies. There were no statistically significant differences between the temporal and extratemporal epilepsy groups according to the levels of anxiety. For the first three symptoms - numbness, wobbling in the legs and the fear of the worst happening - the group of patients with extratemporal epilepsies had significantly higher average levels of intensity and frequency of symptoms. Patients with partial epilepsy have more frequent and prominent anxiety symptoms than patients with generalized epilepsy, and also more than the control group. All these findings clearly indicate the necessity to modify treatment strategies accordingly in order to include both the antiepileptic therapy and treatment for anxiety disorders.

The study of Pooya & Sperling (2010) Evaluates the prevalence of depression and anxiety among patients with epilepsy and determines whether having other chronic somatic illnesses increases the prevalence. Most people with epilepsy lead a normal emotional and cognitive life, however neurobehavioral problems can be found in a large number of patients.. Adults with epilepsy were recruited in either the inpatient epilepsy monitoring unit or the Outpatient Epilepsy Clinic at Thomas Jefferson University in 2006. Patients anonymously filled out a questionnaire, included data about age, sex, education, having other chronic illnesses, and degree of seizure control. The Hospital Anxiety and Depression scale was used to define the presence or absence of anxiety and depression. Two hundreds patients participated, with a mean age of 40.3±16 years. Nineteen (9.5%) patients had depression and 49 (24.5%) had anxiety. Age, seizure control, and having other chronic illnesses did not have a significant relationship with either depression or anxiety. Gender was significantly related to anxiety, with females displaying greater frequency of anxiety than males. Depression was inversely related to education. It is probable that people with higher education use more effective ways to psychologically and physically adapt to their illness.

The study of Kimiskidis1, et al. (2007) aimed to designed investigate the association of interictal mood disorders with various demographic and seizure-related variables in patients with newly-diagnosed and chronic epilepsy. Depression and anxiety are common psychiatric symptoms in patients with epilepsy, exerting a profound negative effect on health-related quality of life. Several issues, however, pertaining to their association with psychosocial, seizure-related and medication factors, remain controversial. they investigated 201 patients with epilepsy (51.2% males, mean age 33.2 ± 10.0 years, range 16–60) with a mean disease duration of 13.9 ± 9.5 years. Depression and anxiety were assessed in the interictal state with the Beck Depression Inventory, 21-item version (BDI-21) and the state and trait subscales of the State-Trait Anxiety Inventory (STAI-S and STAI-T), respectively. The association of mood disorders with various variables was investigated with simple and multiple linear regression analyses. High seizure frequency and symptomatic focal epilepsy (SFE) were independent determinants of depression, together accounting for 12.4% of the variation of the BDI-21. The STAI-S index was significantly associated with the type of epilepsy syndrome (SFE). Finally, high seizure frequency, SFE and female gender were independent determinants of trait anxiety accounting for 14.7% of the variation of the STAI-T. the results confirm the prevailing view that depression and anxiety are common psychological disorders in epileptics. It is additionally concluded that female gender, high seizure frequency and a symptomatic epilepsy syndrome are independent risk factors for the development of anxiety and/or depression.

The study of Mensah et. al (2007) aim to determine the prevalence of anxiety in a community-identified sample of people with epilepsy and to identify which demographic and clinical factors are most closely associated with anxiety and which factors predict the presence of anxiety among people with epilepsy. Anxiety represents a major problem for people with epilepsy, and it is important to understand why it arises and how to reduce its potential debilitating and adverse effects. Adults with epilepsy in the community (n = 515) were identified through primary care records and sent validated questionnaires, which included the Hospital Anxiety and Depression Scale (HADS). The mailout also included items on demographic and clinical variables. The prevalence of anxiety (HADS score >11) in this sample was 20.5% (95% CI: 16.9–24.1%) and was associated with a current history of depression, perceived side effects of antiepileptic medication, lower educational attainment, chronic ill health, female gender, and unemployment. It was not associated with the duration of epilepsy. The findings from this study suggest that anxiety disorders in a community population with epilepsy are most strongly predicted by factors independent of epilepsy-related variables, with the exception of patient-reported side effects.

The study of De Souza (2005) aim to study anxiety and depression in patients with epilepsy and evaluate their relationships with neuroepilepsy and psychological variables. neuroepilepsy and psychological variables. Sixty patients and 60 healthy subjects were interviewed at the outpatient clinic for epilepsy, using the Beck Depression Inventory and State–Trait–Anxiety Inventory. The objective of the semistructured interview was to identify the patients_ perception of the disease, self-concept, personal strategies, and perception of seizure control. There was a significant difference in anxiety and depression between the groups, as well as a strong relationship between perception of seizure control and depression and anxiety, independently assessed. Epilepsy was associated with disease (63.4%), mental problems (11.6%), feelings of shame, fear, worry, and low self-esteem (56.6%), and perception of stigma (26.6%). The strategies were: looking for social support, seeking medical treatment, withdrawal, denial, and spiritual support. There was a significant association between psychological symptoms and perception of seizure control, which reinforces the importance of subjective aspects involved in epilepsy.

Study of Cramer et. al, (2005) examines whether they exist independently in this population of patients with partial epilepsy and if they affect all quality-of-life domains. Adult epilepsy patients taking two or more antiepileptic drugs completed a health status survey including demographic items, the Hospital Anxiety and Depression Scale, and the Quality of Life in Epilepsy—10 (QOLIE-10). The questionnaire was completed by 201 epilepsy patients. Symptom prevalence's of anxiety (52% none, 25% mild, 16% moderate, 7% severe) and depression (62% none, 20% mild, 14% moderate, 4% severe) were high. All health-related quality-of-life (HRQOL) domains worsened significantly with increasing levels of anxiety and depression: Total QOLIE-10 scores decreased from 72 ± 18 in patients with no anxiety to 54 ± 13 in those with mild, 48 ± 18 in those with moderate, and 40 ± 23 in those with severe anxiety (P < 0.0001). Total QOLIE-10 scores decreased from 70 ± 16 in patients with no depression to 50 ± 16 in those with mild, 45 ± 16 in those with moderate, and 24 ± 21 in those with severe depression (P < 0.0001). No significant difference in anxiety scores was observed controlling for seizure frequency or epilepsy duration. Regression analyses showed that anxiety and depression account for different proportions of variance as predictors of HRQOL (R2 = 0.337 (anxiety) and 0.511 (depression)). The data suggest that patients may benefit from increased attention to the role of anxiety separately from depression.

The study of Gabb & Barry (2005) about the discussion will focus on mood disorders in PWE and treatment options for those adult PWE with a unipolar mood disorder. Depression commonly is comorbid with epilepsy and, of the depressive disorders, major depression is most common. Depression is often comorbid with an anxiety disorder (eg, generalized anxiety, social phobia, post-traumatic stress disorder, panic disorder, or obsessive-compulsive disorder), in the general public and in persons with epilepsy (PWE). The presentation of mood disorders forms a spectrum across patients. Mood disorders remain undiagnosed and undertreated in PWE, in part, because many healthcare providers think these disorders are a normal reaction to a chronic illness. However, recent epidemiologic studies suggest that the relationship may be bidirectional (ie, causal instead of merely comorbid), but the nature of this relationship is unclear. Undertreating depression in PWE not only jeopardizes patients' psychiatric health but also undermines the patients' ability to habituate to their medical illness or follow and comply with treatment regimens. Depression in epilepsy also has been shown to decrease the patient's quality of life and increase the patient's risk for suicide. Therefore, it is important to continue research into the mechanisms of mood/anxiety disorders and epilepsy and to make their diagnoses a higher priority in the management of PWE. There are limited evidence-based data for treating depression specifically in PWE. However, the psychiatric literature provides a framework for treatment strategies. As with treatment of depression in the general public, total remission is the treatment goal because residual symptoms are strong predictors of relapse.

The study of Beyenburg et. al (2005) about the a practical approach based on the temporal relationship between anxiety and epileptic seizures allows clinicians to consider appropriate treatment strategies to reduce the psychiatric comorbidity in patients with epilepsy. Up to 50 or 60% of patients with chronic epilepsy have various mood disorders including depression and anxiety. Whereas the relationship between epilepsy and depression has received much attention, less is known about anxiety disorders. It is now recognized that anxiety can have a profound influence on the quality of life of patients with epilepsy. The relationship between anxiety disorders and epilepsy is complex. It is necessary to distinguish between different manifestations of anxiety disorder: ictal, postictal, and interictal anxiety. Preexisting vulnerability factors, neurobiological factors, iatrogenic influences (antiepileptic drugs, epilepsy surgery), and psychosocial factors are all likely to play a role, but with considerable individual differences. Despite the high prevalence of anxiety disorders in patients with epilepsy, there are no systematic treatment studies or evidence-based guidelines for best treatment practice.

The study of Caplan et. al (2004) examined affective disorders, anxiety disorders, and suicidality in children with epilepsy and their association with seizure-related, cognitive, linguistic, family history, social competence, and demographic variables. A structured psychiatric interview, mood self-report scales, as well as cognitive and language testing were administered to 100 children with complex partial seizures (CPSs), 71 children with childhood absence epilepsy (CAE), and 93 normal children, aged 5 to 16 years. Parents provided behavioral information on each child through a structured psychiatric interview and behavior checklist. Significantly more patients had affective and anxiety disorder diagnoses (33%) as well as suicidal ideation (20%) than did the normal group, but none had made a suicide attempt. Anxiety disorder was the most frequent diagnosis among the patients with a diagnosis of affective or anxiety disorders, and combined affective/anxiety and disruptive disorder diagnoses, in those with suicidal ideation. Only 33% received some form of mental health service. Age, verbal IQ, school problems, and seizure type were related to the presence of a diagnosis of affective or anxiety disorder, and duration of illness, to suicidal ideation. These findings together with the high rate of unmet mental health underscore the importance of early detection and treatment of anxiety disorders and suicidal ideation children with CPSs and CAE.

The study of Astejada et al. (2004) aimed to screen for anxiety and depression among Filipino epileptics using HADS, and to correlate different variables (age, sex, duration of illness, frequency of seizures) with anxiety and depression. Patients who are afflicted with epilepsy are at an increase risk of developing anxiety and depression due to the uncertainties that they experience coupled with the low esteem and stigma attached to having epilepsy. Taylor reported that seizure was significantly associated with anxiety, depression and stigma (P<0.0001 for all variables). The Hospital Anxiety and Depression Scale (HADS) was originally developed and designed as a self-completed questionnaire to assess patients' anxiety and depression in in-patient care according to two sub-scales, the anxiety and depression scales .Since its inception, these questionnaires were used in different cases of both hospital and non-hospital settings to assess the impact of certain disease entities on the daily living of the afflicted patients. This is a case-control study. 102 Filipinos with epilepsy aged > 18 with a mini-mental state exam score of > 27 were age-, sex- and social class-matched to 102 non-epileptics. Both the subjects and the controls were interviewed using the HADS. Chi square were used as statistical tools with the level of significance at $p < 0.05$. Forty percent of the subjects were males, with a mean age of 35 years. The mean duration of illness was 8 years with a mean seizure frequency of 1.5 per month. Sixty four percent of person with epilepsy have anxiety while 51% have depression. Seizure, age <45 and < 3 years of illness were predictive of a higher anxiety score (p=0.007, p=0.01, p=0.029 respectively). The presence of seizure was predictive of a higher depression score (p=0.01). The mean anxiety score for the epilepsy group was 8.4. Sixty-six percent of patient with anxiety subscale score of 8 and above were classified under mild degree of anxiety. The mean depression score for the epileptic group was 7.5. Fifty-two percent of those who have depression were classified under mild degree of depression. A significant difference in the anxiety and depression score (t observed = 5.85 and 5.17, respectively vs. t expected = 2.660) between groups was seen using matched pair test and confirmed by Sandler's test (observed critical A =0.039 and 0.046 vs. expected critical A of 0.155). Sixty four percent of epileptics have anxiety while 51% were depressed. Seizure, age <45 and duration of epilepsy <3 years were predictive of a higher anxiety score. The presence of seizure is predictive of a higher depression score. A significant difference in the anxiety and depression score between groups was seen using the matched pair and Sandler's tests.

The study of Bortz (2003) provides an overview of major psychiatric features of epilepsy and of issues regarding the nature of memory deficits in this neurologic population. The importance of identifying and treating potentially reversible causes of memory impairment and related forms of cognitive impairment is emphasized. Epilepsy is an extremely complex disorder characterized by marked variability in clinical presentation, etiology, diagnostic certainty, and therapeutic options. Neuropsychiatry and cognitive concomitant disorders are equally diverse and complex. Depression and anxiety, for example, may be preexisting conditions, occur only in peri-ictal or ictal states, or persist as constant interictal phenomena; both place additional burden on memory functions, which are further taxed by the effects of recurrent seizures, temporal lobe insult, and antiseizure medications. Such factors present considerable clinical challenges, particularly in outpatient settings.

The study of Piazzini et. al (2001) aimed to investigated was to study the interaction between depression/anxiety and epilepsy. One hundred fifty individuals with partial epilepsy, 70 with idiopathic generalized epilepsy, and 100 controls were administered two self-rating mood questionnaires (Zung and Stai) for the evaluation of depression and anxiety, respectively. The group with epilepsy was much more severely impaired than the controls according to both mood questionnaires; the patients with partial epilepsy, especially those with temporal lobe epilepsy (TLE), were more depressed and anxious than the patients with generalized epilepsy. The group with left TLE appeared to have the highest levels of depression and anxiety. The final results of our study confirmed that some mood disorders are common throughout the epilepsy population, especially in patients with left TLE. No correlation was noted between the frequency of seizures and onset of epilepsy and the results of the mood questionnaires. Moreover, no differences were found in depression and anxiety between males and females among both left focus and right focus epilepsy patients.

In addition, the study of Yong LI et. al, (2001) Investigated the prevalence of parental anxiety associated with epileptic children, and to explore whether and how this specific condition affects children's quality of life (QOL), and what are the significant determinants for parental anxiety. Three hundred and forty parents whose children were affected with known epilepsy were enrolled in the study. Questionnaires for quality of life in childhood epilepsy (QOLCE), and hospital anxiety and depression (HAD) of parents were used to collect demographic data of both children and their parents, as well as clinical manifestations of epilepsy and family status. Parental anxiety (of any severity) was observed in 191 subjects at interview, giving a prevalence rate of 56.2%. Of the 191 subjects, 18.5% reported mild anxiety, 24.4% moderate anxiety, and 13.2% severe anxiety. Factors associated with parental anxiety included frequency of seizure in children, average monthly income per person and parents' knowledge about epilepsy (P<0.05). Parental anxiety significantly (P=0.000) correlated with quality of life of children with epilepsy. Parents of children with epilepsy are at high risk of having anxiety. Factors associated with parental anxiety originate both from children and from parents. Parental anxiety is significantly related with children's QOL. It is important for experts concerned to recognize such a relationship to improve the QOL of children and their parents.

3.1.1 Discussion of anxiety and epilepsy studies:

The researcher will discuss previous studies of anxiety and another independent changing with epilepsy; the first one is tools were used in these studies, the second is samples of the studies, and the third about the results of the previous studies, as the following:

Tools of the previous studies:

The Beck Anxiety Inventory (BAI) was used for quantitative assessment of anxiety in Nenadović et. al (2011), but another study used state and trait subscales of the State-Trait Anxiety Inventory (STAI-S and STAI-T) as De Souza (2005).

However some of the studies, Mensah et. al (2007), Cramer et. al, (2005), Astejada, et al. (2004) and Yong LI et. al, (2001) were identified through primary care records and sent validated questionnaires, which included the Hospital Anxiety and Depression Scale (HADS).

While some of study use tow tools as Pooya & Sperling (2010), used Patients anonymously filled out a questionnaire, included data about age, sex, education, having other chronic illnesses, and degree of seizure control. The Hospital Anxiety and Depression scale was used to define the presence or absence of anxiety and depression.

Samples of the previous studies:

In the field of samples of the previous studies, the study samples were ranged between small samples as the study of Nenadović et. al (2011) used three groups of patients with epilepsy (30 patients per group), De Souza (2005), Sixty patients and 60 healthy subjects and Caplan et. al (2004) 100 children with complex partial seizures (CPSs), 71 children with childhood absence epilepsy (CAE), and 93 normal children, aged 5 to 16 years.

However the medium samples in the studies of Pooya & Sperling (2010), Kimiskidis, et al. (2007), Cramer et. al, (2005), Yong LI et. al, (2001) about 200 patients participated, with a mean age of 40.3±16 years.

While; some studies have large samples as studies of Mensah et. al (2007) used about 500 patient Adults with epilepsy in the community.

Results of the previous studies:

In the previous studies of Pooya & Sperling (2010), Kimiskidis1, et al. (2007) and Piazzini et. al (2001) found that depression and anxiety are common psychological disorders in epileptics. It is additionally concluded that female gender, high seizure frequency and a symptomatic epilepsy syndrome are independent risk factors for the development of anxiety and/or depression.

In addition; Caplan et. al (2004) and Yong LI et. al, (2001), Parents of children with epilepsy are at high risk of having anxiety. Factors associated with parental anxiety originate both from children and from parents.

Nenadović et. al (2011) and Mensah et. al (2007) funded Patients with partial epilepsy have more frequent and prominent anxiety symptoms than patients with generalized epilepsy.

3.2 Studies of Stigma and epilepsy:

The study of Ahmad (2011) this study will help the health professionals to participate in designing comprehensive epilepsy care models for achieving reduction in heavy burden that ES casts on the lives of PWE. People With Epilepsy (PWE) and their families often face a very common aspect of this neurological disease epilepsy, known as Epilepsy Stigma (ES). ES is considered to be one of the most important factors that have a negative influence on PWE. It is a commonly encountered global issue among PWE in all cultures. ES may have deleterious effect on the patient’s life more than the disease of epilepsy itself. It is the prime duty of all health professionals to try and manage ES in order to improve the quality of life of PWE not only by controlling the seizures, but also by fighting the myths and disbelief of stigma and managing the disease with a better approach. Stigma in PWE can be encountered and dealt with by diverse specialties in health profession including physicians, surgeons, social workers, psychologists, psychiatrists and nurses. Unfortunately this important issue of ES is addressed primarily in specialized journals like Epilepsy Research, Epilepsia, Epilepsy and Behavior, Seizure and Social Science Medicine which are read by professionals interested mainly in epileptiology or social sciences, whereas the actual problem of ES and its management remains neglected and does not reach the common readers and the non-scientific communities which form a major part of the society in any culture or country. Thus, there is an obvious need that this issue should be addressed in simple language in journals targeting readers of different specialties and interests through publishing articles on ES in popular magazines and dailies of the local areas globally.

In addition, the study of Fernandes et. al (2008) Assess the perception of epilepsy stigma in different regions of Brazil. The Stigma Scale of Epilepsy (SSE) questionnaire was applied to people in different Brazilian urban settings. The survey was performed on individual basis; an interviewer read the questions to the subjects and wrote down the answers. The same procedure was applied to all the subjects and took around 10 minutes. 266 questionnaires were completed in four different towns of Brazil (Curitiba=83; São Paulo=47; Vila Velha=79; Ipatinga=57). The overall stigma score was 49.7 (median). Different scores were obtained in each locality. Vila Velha=42; Curitiba=49; São Paulo=52; Ipatinga=54 (ANOVA [2.262]=3.82; p=0.01).This study showed differences in the perception of stigma, which may depend on cultural and regional aspects. The concept of stigma has cultural perspectives, depending on the region and the context where each person lives. The understanding of this aspect of epilepsy is important to promote better de-stigmatization campaigns, considering the cultural and social differences.

The study of McLaughlin et al. (2007) Examined the relationships among health-related quality of life, psychosocial adjustment, perceptions of stigma and seizure frequency among a population of older adults. Aims of the study were to measure HRQOL and psychosocial adjustment among older, community dwelling epilepsy sufferers and compare this with a healthy, age-matched control group. An additional objective of this study was to establish the applicability of the WPSI and the QOLIE-31 for use with older adults with epilepsy. In line with current literature, compared to healthy controls, older people with epilepsy should demonstrate impaired HRQOL and psychosocial function. Epilepsy is one of the most common neurological disorders of late adulthood, yet little research has examined the impact of epilepsy on the quality of life of older people. Current measures of health-related quality of life (HRQOL) have been developed and used almost exclusively in adults under the age of 65. The issues, which affect HRQOL in younger adults, may differ from those which affect older adults who may have age-related physical limitations and multiple co-morbidities. This study sought to explore the HRQOL and psychosocial function of a community dwelling sample of 64 older adults with epilepsy compared with a similar, age-matched control group. An additional objective of the study was to examine the impact of perceived stigma and seizure frequency on HRQOL and psychosocial well-being. indicated that HRQOL and psychosocial functioning in the epilepsy group was significantly impaired relative to normal controls. A greater perception of stigma and more frequent seizures was also strongly related to poor quality of life and reduced psychosocial function. Although more than two thirds of the sample had seizure frequency of less than one per year, it was apparent that even infrequent seizures had the facility to impair HRQOL, suggesting that in older adults, the apprehension induced by even the possibility of a seizure may be sufficient to reduce HRQOL. The results have implications for the clinical management of epilepsy and suggest the need for further research in older populations.

The study of Shibre et. al (2006) Conducted to assess the magnitude of stigma experienced by patients and relatives of people with epilepsy in a rural Ethiopian community, and to identify socio-demographic and other factors that may be associated with stigma in this setting. occurrence of psychosocial problems related to epilepsy is well recognized and in certain situations could even be more troublesome than the effect of the seizure disorders themselves. Hospital based cross-sectional survey. The prevalence estimate of perceived stigma was found to be 81%. Students with epilepsy reported experiencing significantly greater levels of stigma at school (X2=39.065, p=0.000) compared with people living and working in other settings. Those who had seizure at least once a month reported being stigmatized more often compared to those who had less frequent seizure attacks (X2=12.76, p=0.002). Stigma was found to be a common problem among patients suffering from epilepsy, and their relatives. The results reinforce the need for creating awareness among patients, relatives and the community at large about epilepsy and addressing misconceptions attached to it.

Abu Garbu (2005) Applying a counseling programme to diminish the feeling of stigma of mental ill sons or daughters will be able to live an accepted social life and Attempting to set up some suggestions and recommendations which help to overcome the stigma. The feeling of stigma among those who have mentally ill patients plays an important role in creating a hard life, full of anxiety, depression, shame and stresses. This feeling may lead to isolation, fear and tension which prohibit the parents to seek for the treatment for their sons and they do not complain to avoid embarrassment. The interest in studying the roots of stigma and its causes will help in understanding it well and will enlighten the way for creating the most suitable solutions and counselling programme for it. The study sample consisted of (10) fathers and (10) mothers who have mental ill sons or daughters.
The age of these parents' is between 35 – 45. Stigma of mental illness measurement (constructed by researcher). The results indicated that there is no significant difference in stigma feeling of mental illness (P>0.05) before and after the counselling programme among the experimental group. There was no significant difference in stigma feeling of mental illness (P>0.05) after the counselling programme and after serial study for a month among the experimental group. The study showed significant difference in stigma feeling of mental illness (P>p.05) related to sex. The feeling of stigma was higher among females than males.

The study of Baskind and Birbeck (2005) Extrapolate data from existing studies of epilepsy in SSA coupled with our own experience providing epilepsy care in the region to give an overview of the social landscape of this common, devastating condition. Many studies in developed regions of the world have confirmed that stigma contributes substantially to the psychological and social burden of epilepsy. Relatively few studies of epilepsy-associated stigma have been conducted in Africa, where much of the world burden of epilepsy exists. In sub-Saharan Africa (SSA), particularly in rural regions, close family ties, communal living situations, and traditional belief systems undoubtedly influence the expression of stigmatization. A review of the epidemiologic, anthropologic, and sociologic studies of epilepsy in SSA provides significant insights into how people with epilepsy (PWE) are perceived by their communities and families and how these perceptions translate into limited social and economic opportunities and possibly worsen the physical vulnerability of PWE in this region. The medical community is not exempt from the social process of stigmatization, and poor public health infrastructure and medical services undoubtedly contribute to the cycle of epilepsy-associated stigma through wide treatment gaps, poor seizure control, and high rates of seizure-related injury.

In addition, the study of Ahm Lee et al. (2005) Evaluated the factors, including personality and coping styles, likely to be influential in enhancing the social stigma of epilepsy. Data were collected from 400 adults with epilepsy recruited from 10 epilepsy centers in Korea. Clinical information about seizures was obtained by neurologists, and other information was collected from self-completed questionnaires, including those measuring stigma scales. Thirty-one percent of people with epilepsy felt stigmatized by their condition and in 9% of these the stigma was severe. Multivariate analysis identified experiences of actual discrimination from society, introverted personality, problem solving controllability, and emotional subscale of QOLIE-31 as being independently associated with the social stigma of epilepsy. Episodes of discrimination, coping strategies, and personality may be important in feeling the stigma of epilepsy. These findings may provide a basis for further studies to clarify the causative factors generating the stigma of epilepsy.

The study of Panter (2004) aimed to identify if there was a relationship between stigma and QOL in people who have epilepsy. Epilepsy is a common neurological disorder that has often been misunderstood and subsequently feared. These misconceptions can, and have led to stigmatization for those individuals who have epilepsy. Stigma is often a daily companion and can negatively affect an individuals' quality of life (QOL). Further aims were to identify other factors, which may contribute to QOL outcome, and attempt to gain a better understanding of epilepsy through a content analysis of an open-ended questionnaire. The results showed a significant relationship between stigma perception and QOL. A large proportion of respondents in the open-ended questionnaire also reported stigma. The results show a negative impact of stigma and suggest avenues for further research in this domain.

While, the study of DiIorio et, al (2003) Examine the perception of stigma among adults with epilepsy including its association with epilepsy self-management and perceptions of health care. Participants for the study were recruited from two epilepsy centers and a neurology clinic. Individuals agreeing to participate in the study were asked to complete three assessments each 3 months apart. DiIorio et, al (2003) Data were collected from 320 adult men and women with epilepsy; 314 provided responses on stigma and were included in this analysis. Participants ranged in age from 19 to 75 years (mean=43). Fifty percent of the sample was female, and 80% was white. The mean age of seizure onset was 22 years, and 76% of participants reported having had a seizure within the past year. Analysis suggests levels of perceived stigma are similar for men and women and across ethnic and age groups. However, participants who were not married or living with a partner, were not working for pay, and had limited income reported higher levels of stigma than did married participants, those working for pay, and those in higher income brackets. Participants reporting higher levels of stigma included those who had their first seizure before the age of 50 and a seizure in the last year. Participants whose seizures interfered more with activities, who rated their seizures as under less control, and who were not legally able to drive also reported higher levels of stigma. Tests of association between stigma and health-related variables revealed that participants reporting higher levels of perceived stigma also reported lower levels of self-efficacy to manage epilepsy; more negative outcome expectancies related to treatment and seizures; and lower levels of medication management, medication adherence, and patient satisfaction. However, they also reported greater management of information related to seizures. In regression analysis, income, age at first seizure, seizures during the past year, lower self-efficacy, negative outcome expectancies for seizures, and less patient satisfaction explained 54% of the variance in perceived stigma. The results of the study suggest that perceived stigma is significant for people with epilepsy and is associated with factors that are known to be important in the management of epilepsy. Understanding who is at greatest risk for feeling stigmatized could lead to the development of preventive measures.

The study of Rätsepp et al. (2002) Examines the impact of epilepsy and its treatment on employment status and the extent of stigma among patients with epilepsy. Clinical and demographic data concerning patients examined during a recent epidemiological survey were obtained from medical notes and postal self-completed questionnaires. Information was collected from 90 patients aged 16–70 years. A third of the respondents had been seizure-free during the last year. Thirty-nine percent were working full-time, 24% were working part-time and 11% were unemployed. Sixty-three percent from those working part-time or unemployed considered their epilepsy to be a significant reason for this. Overall, 55.4% believed they had been treated unfairly at work or when trying to get a job. Fifty-one percent of respondents felt stigmatized by epilepsy, 14% of them highly so. The level of employment among epileptic people was not lower than in the general population. The percentage of stigmatization in general and the percentage of the severely stigmatized was as high or even higher than in other studies. Occurrence of stigma and its severity depended first and foremost on the type of seizures. The frequency of seizures was not clearly related to this.

While, Study by Zaggout (2001) Detection of the difference in the level of the trend towards mental illness among both Visitors to the therapists, psychologists, therapists attending the Koran in the Gaza Strip and the knowledge Whether the trend towards mental illness is affected by the level of education, chronological age and sex worker And income. The researcher Zaqout building tool to measure attitudes towards mental illness, has been verified of validity and reliability of the tool by the arbitrators and retail mid-term. Has been applied to measure (200) people. (One hundred of visitors to the clinics program Gaza Community Mental Health and a hundred people of visitors to the four traditional healers. The study showed the following results: Clients of therapists with contemporary trends of the largest clients of the Traditional healers. Visitors to the traditional healers have traditional attitudes and a sense of stigma is greater than Attending psychiatrists. Males showed a sense of stigma than females. Show that people with good income and excellent with contemporary trends of the largest middle-income And low, and at the same time to have a sense of stigma is greater than middle-income and low.

Study of Qouta (2000) This study aimed to answer: What are the attitudes of individuals in the Palestinian community about mental illness, Have the directions after the establishment of a Gaza Community Mental Health?, What do the public in the program of the Gaza Community Mental Health?, The researcher used a stratified random sample from across the sector numbered (1684) individuals. Results: The study reflected the response of individuals to four types of attitudes towards the disease Psychological, namely: Contemporary trends. Emotional trends. Traditional attitudes. The stigma. The study showed that: Contemporary trends among young people than among older people as more traditional direction In the elderly. Rising trends that reflect the emotional tendencies in females more than males. The study reflected a response to a university degree educated and middle Contemporary Trends And emotional greater than the minimum levels of education. It was found that the staff of Stigma found statistically significant differences for the stigma factor Government and private institutions, students, less adherent stigma associated with mental illness as well as have less traditional attitudes than

Another research, Baker (1999) Study the stigma of epilepsy in a European sample. Clinical and demographic details and information about patient-perceived stigma was collected by using selfcompleted questionnaires mailed to members of epilepsy support groups. Stigma data were collected from >5, 000 patients living in 15 countries in Europe. Fifty-one percent reported feeling stigmatised, with 18% reporting feeling highly stigmatised. High scores were correlated with worry, negative feelings about life, long-term health problems, injuries, and reported side effects of antiepileptic drugs (AEDs). Cross-cultural comparisons revealed significant differences between countries. A multivariate analysis identified impact of epilepsy, age of onset, country of origin, feelings about life, and injuries associated with epilepsy as significant contributors on scores on the stigma scale. This study confirms the findings of previous studies that have identified the importance of both clinical and non clinical factors in understanding the stigma of epilepsy. The results of cross-cultural differences require further explanation, and much more research should be conducted to reduce the
stigma associated with epilepsy.

3.2.1 Discussion of Stigma and epilepsy studies:

The researcher will discuss previous studies of Stigma and another independent changing with epilepsy; the first one is tools were used in these studies, the second is samples of the studies, and the third about the results of the previous studies, as the following:

Tools of the previous studies:

Fernandes et. al (2008) used the Stigma Scale of Epilepsy (SSE) questionnaire was applied to people in different Brazilian urban settings**.** But another study used questionnaires prepared by researcher such as Ahm Lee et al. (2005) information was collected from self-completed, including those measuring stigma scales and questionnaires. Panter (2004) understanding of epilepsy through a content analysis of an open-ended questionnaire and Rätsepp et al. (2002), Zakut (2001) Clinical and demographic data concerning patients examined during a recent epidemiological survey were obtained from medical notes and postal self-completed questionnaires.

Samples of the previous studies:

Different sample between study some of study used about 200 questionnaires were completed in four different towns of Brazil as Fernandes et. al (2008). While McLaughlin et al. (2007) used 64 older adults with epilepsy compared with a similar, age-matched control group.

Ahm Lee et al. (2005) Data were collected from 400 adults with epilepsy recruited from 10 epilepsy centers in Korea. But Baker (1999) Stigma data were collected from >5, 000 patients living in 15 countries in Europe. And DiIorio et, al (2003) Data were collected from 320 adult men and women with epilepsy; 314 provided responses on stigma and were included in this analysis. Abu Garbu (2005) selected sample from parent patients.

Results of the previous studies:

Shibre et. al (2006), DiIorio et, al (2003) and Rätsepp et al. (2002) results Stigma was found to be a common problem among patients suffering from epilepsy.

In additional, the results showed a significant relationship between stigma perception and QOL. A large proportion of respondents in the open-ended questionnaire also reported stigma. The results show a negative impact of stigma. This result found in Ahm Lee et al. (2005) and Panter (2004).

Some of study showed differences in the perception of stigma, which may depend on cultural and regional aspects. The concept of stigma has cultural perspectives, depending on the region and the context where each person lives. The understanding of this aspect of epilepsy is important to promote better de-stigmatization campaigns, considering the cultural and social differences.from this studies Ahmad (2011), Fernandes et. al (2008) and Baskind and Birbeck (2005), Qouta (2000).

3.3 Studies of anxiety and stigma with epilepsy:

The study of Alonso et al. (2011) they assessed the prevalence of perceived stigma among persons with mental disorders and chronic physical conditions in an international study. Perceived stigma (reporting health-related embarrassment and discrimination) was assessed to adults reporting significant disability. Mental disorders were assessed with CIDI 3.0. Chronic conditions were ascertained by self-report. 80, 737 household-residing adults participated in 17 population surveys in 16 countries. Perceived stigma was present in 13.5% (22.1% in developing and 11.7% in developed countries). Suffering from a depressive or an anxiety disorder (vs. no mental disorder) was associated with about a two-fold increase in the likelihood of stigma, while comorbid depression and anxiety was even more strongly associated (OR= 4.0, 95%CI= 3.1, 5.4). Chronic physical conditions showed a lower association. Perceived stigma is frequent and strongly associated with mental disorders worldwide. Efforts to alleviate stigma among individuals with comorbid depression and anxiety are needed.

The study of Lysaker et al. (2010) the current study explores the association of six different sets of variables, each potentially uniquely related to social anxiety, as assessed at two time points: concurrently and five months later. Often overlooked clinically, social anxiety is common in schizophrenia and may represent a barrier to quality of life and social function. Little is known, however, about the possible roots of social anxiety in schizophrenia or their relationship to social anxiety over time. to explore this issue, they examined the relationship between self-esteem, self-stigma, positive and negative symptoms, emotional discomfort and affect recognition with concurrent and prospective assessments of social anxiety using the Multidimensional Anxiety Questionnaire in a sample of seventy-eight persons meeting criteria for schizophrenia or schizoaffective disorder. Univariate correlations revealed that self-esteem, self-stigma, negative symptoms and emotional discomfort were significantly related to social anxiety assessed concurrently and five months later. Multiple regressions revealed negative symptoms and discrimination experiences in particular were found to predict social anxiety prospectively even when initial levels of social anxiety were controlled for statistically. Negative symptoms and self-stigma may be consistently related to social anxiety across time.

Rafael et al. (2009) Assessed perceived stigma and identified sociocultural and psychological factors explaining greater stigma among people with epilepsy (PWE) in Benin Stigma is a major burden of epilepsy. In sub-Saharan Africa the few studies that addressed epilepsy stigma emphasize enacted, rather than perceived, stigma. This inattention may compromise clinical management and delay help seeking, thereby contributing to the treatment gap. We. PWE included in this study were ascertained using a door-to-door survey in the general population in a Beninese rural area. We applied both qualitative and quantitative research methods to assess stigma and patient’s experience and beliefs. An Explanatory Model Interview Catalogue (EMIC) and verbally administered questionnaires provided data for demographic, clinical, and sociocultural features. Sociocultural features were evaluated in terms of illness-related experience and sociocultural representations of epilepsy. Depression and anxiety were also screened. Eighty PWE were included. About 68.7% reported feeling stigmatized. Multivariate regression revealed that factors independently associated with perceived stigma were experience of social isolation ($p < 0.001$), experience of marital problems ($p < 0.01$), and presence of anxiety disorder ($p < 0.01$). Perceived stigma is an important issue in epilepsy in Benin. Social factors seem to be more influential than sociocultural representation of epilepsy. Insofar as research is needed in other African countries to determine the nature and relevant features of stigma to improve treatment and control.

The study of Akinsulore & Adewuya (2009) This study was undertaken to provide information data on the prevalence, seizure types, treatment issues and psychosocial impact of epilepsy in Nigeria. Epilepsy is a chronic disorder marked by intermittent, often unpredictable seizures which may be embarrassing and disruptive to the normal activity of daily living. This review was undertaken to provide information / data on the prevalence, seizure types, treatment issues and psychosocial impact of epilepsy in Nigeria. We searched the PUBMED database with emphasis on studies conducted in Nigeria using a combination of the following words: epilepsy, seizure, convulsion, prevalence, epidemiology, psychiatric morbidity, social issues, quality of life, cognition, school performance, treatment issues and Nigeria. 48 relevant studies that met the criteria were reviewed. The point prevalence of epilepsy varies from 5.3 to 37 per 1000 in Nigeria. Most studies showed a predominance of generalized tonic-clonic seizures. Nigerian patients with epilepsy suffer social deprivation and discrimination in education, employment, housing, marital life as well as associated psychiatric morbidity. Epilepsy, a stigmatizing disorder in Nigeria, has a significant impact on the day to day functioning of those with the condition.

The study of Alonso et al. (2009) Aims this study to identify the correlates and the impact of stigma among individuals with common mental disorders. Severe mental disorders are associated with social distance from the general population, but there is lack of data on the stigma reported by individuals with common mental disorders. Cross-sectional, household interview survey of 8796 representing the non-institutionalized adults of Belgium, France, Germany, Italy, the Netherlands and Spain. Two perceived stigma questions (embarrassment and discrimination) were asked to respondents with significant disability. Health-related quality of life measured by the SF-12, work and activity limitation and social limitation were also assessed. a 12-month mental disorder and significant disability, 14.8% had perceived stigma. Stigma was significantly associated with low education, being married/living with someone and being unemployed. Perceived stigma was associated with decreased quality of life (SF-12 PCS score -4.65; $p<0.05$), higher work and role limitation and higher social limitation. Individuals with mental disorders are more likely to report stigma if they have lower education, are married, or are unemployed. Perceived stigma is associated with considerably decrease in quality of life and role functioning. Health professionals and society at large must be aware of these findings, which suggest that fighting stigma should be a public health priority.

The study of Waller et al. (2007) This study examined differences in women's expected responses to testing positive for HPV. Information about the cause and prevalence of the virus was manipulated to test To test the hypotheses that (1) women who know that human papillomavirus (HPV) is sexually transmitted will expect to experience higher levels of stigma, shame and anxiety if they test positive for the virus than women who are not aware of the mode of transmission and (2) women who are aware of the high prevalence of HPV infection will expect to experience lower levels of stigma, shame and anxiety than women who underestimate its prevalence. A web? based survey in which information about HPV was manipulated to generate a 2×2 design (awareness that HPV is sexually transmitted v no awareness; awareness of the high prevalence of HPV v no awareness). Participants (n=811) were female students. They were asked to imagine that they had tested positive for HPV. Outcome measures were expected stigma, shame and anxiety. Great differences were observed in emotional reactions to imagining testing HPV positive between the four groups based on knowledge of HPV. Knowledge of the prevalence was associated with lower levels of stigma, shame and anxiety. Knowledge that HPV is sexually transmitted was associated with higher levels of stigma and shame, but not anxiety. Women who knew that HPV is sexually transmitted but not that it is highly prevalent had the highest scores for stigma and shame. Raising public awareness of the sexually transmitted nature of HPV has the potential to increase women's feelings of stigma and shame if they test positive for the virus. However, our findings suggest that ensuring women's awareness of HPV being common may reduce these feelings and also reduce anxiety, perhaps by “normalising” the infection.

3.3.1 Discussion the studies of anxiety and stigma with epilepsy:

The researcher will discuss previous studies of Stigma and anxiety with epilepsy; and another dependent. Because loss of study about research title. and this cause researcher choice this relationship.

The first one is tools were used in these studies, the second is samples of the studies, and the third about the results of the previous studies, as the following:

Tools of the previous studies:

Alonso et al. (2011) used population surveys for collect data, but another study used Multidimensional Anxiety Questionnaire as Lysaker et al. (2010). While, Rafael et al. (2009) were ascertained using a door-to-door survey in the general population in a

Beninese rural area. We applied both qualitative and quantitative research methods to assess stigma and patient's experience and beliefs. Alonso et al. (2009) used interview for collected data.

Samples of the previous studies:

Alonso et al. (2011) used self-report. From 80, 737 household-residing adults participated in 17 population surveys in 16 countries and Alonso et al. (2009) household interview survey of 8796 representing the non-institutionalized adults of Belgium, France, Germany, Italy, the Netherlands and Spain.

While, Akinsulore & Adewuya (2009) used 48 relevant studies that met the criteria were reviewed. The point prevalence of epilepsy varies from 5.3 to 37 per 1000 in Nigeria. But Waller et al. (2007) used Participants 811 were female students.

Results of the previous studies:

Alonso et al. (2011) and Alonso et al. (2009) founded Perceived stigma is frequent and strongly associated with mental disorders worldwide and Perceived stigma is associated with considerably decrease in quality of life and role functioning.

Lysaker et al. (2010) founded Univariate correlations revealed that self-esteem, self-stigma, negative symptoms and emotional discomfort were significantly related to social anxiety assessed concurrently in schizophrenia.

Akinsulore & Adewuya (2009) result of Epilepsy, a stigmatizing disorder in Nigeria, has a significant impact on the day to day functioning of those with the condition.

Chapter Four

Methodology

Chapter Four

Methodology

This chapter presents an overview of the research methodology used for this study. Which include: study design, study population, sample, sampling process, study place, ethical consideration, study instruments, and data collection and data analysis.

4.1 Study design

This study is a descriptive, cross sectional study.

4.2 Study population

The population of this study is all epilepsy patients who are registered at Governmental community mental health clinics, which estimated (850) patients.

4.3 Sample size and sampling

According to ministry of health office, the number of the epileptic patients in Governmental community mental health clinic is around 850 patients, distributed in five clinics in Gaza Strip governorates and the number of patients according to inclusion criteria is 450 patients. The sample size was 150 participants and was drawn by using probability systematic random sample by selecting each third participant on the list, the number of respondents was 142 with response rate (94.6%), where 67 males (47.2%), and 75 females (52.8%).

4.4 Place of the study

It was carried out at Governmental community health centers in Gaza strip that include (Abu shback clinic, West Gaza clinic, Nusirat clinic, Khan-younis clinic and Rafah clinic).

4.5 Period of the study

The study carried out duration the period between September 2011 until January 2013.

4.6 Eligibility criteria

4.6.1 Inclusion criteria

All clients who are diagnosed with epilepsy, male and female, aged from 19 to 65 years and have file in governmental community mental health centers with no history of mental or physical disorders included in the study.

4.6.2 Exclusion criteria

All clients less than 19 years and above 65years, don’t have file in Governmental community mental health centers and have mental or physical disorder excluded from the study.

4.7 Instruments of the study

4.7.1 Basic data questionnaire (Annex 2)

The basic data questionnaire include demographic information included gender, age, marital status, occupation, education, and monthly income and. The epilepsy-related variables included, age of onset and regular medications.

4.7.2 Taylor Manifestation Anxiety Scale (TMAS) (Annex 3)

Taylor (1953) developed one of the first measures of chronic, manifest anxiety, Taylor’s Manifest Anxiety Scale (MAS). Taylor’s scale consisted of items selected from the Minnesota Multiphase Personality Inventory Taylor’s MAS was reported to be useful in identifying adults with chronic anxiety (Reynolds & Richmond, 1997). The resercher used the Arabic version with 50 items and answer is "Yes= 1" or "No= 0", And there were reversal items (13- 14- 17- 19- 31- 35- 44- 50).

The score ranged from (0- 13 no anxiety), (14- 26 Mild anxiety), (27- 36 moderate anxiety), and (37 - 50 sever anxiety).

Reynolds & Richmond (1997) estimate internal consistency of the scale, using Cronbach's alpha was (0.86) and split- half was (0.79) (Baroud, 2008).

4.7.3 Stigma Scale (Annex 4)

After reviewing the previous studies and theoretical frameworks, the researcher prepared stigma scale, consists of (25) items distributed on two dimensions:

- Personal stigma: 14 item.
- Social stigma: 11 item.

And are responding to the items, include five choices on the way of Likert (very much - much - to some extent - a little - very little) with (5 - 4 - 3 - 2 - 1) degrees respectively, and no reversal items.

The total scores of the scale ranged between (25 - 125) degrees, And the low scores expresses feeling low stigma while the high scores expresses feeling high stigma.

4.8 Pilot study

The researcher applied the stigma scale on a 22 pilot sample from the original population of the study sample, where this technique used to estimate and discuss the validity and reliability of the scale.

4.8.1 Validity of stigma scale

Internal consistency validity

To compute the internal consistency of the stigma scale; the researcher calculate the correlation coefficients of every item of the scale with the scores of its dimension, as shown in table 1:

Table 1
Internal consistency of stigma scale items with its dimensions

Sub-Scales	Item No	Corr. Coeff	p. value	Sub-Scales	Item No	Corr. coeff.	p. value
1. Personal stigma	1	0.570	0.006	**2. Social stigma**	15	0.767	0.001
	2	0.722	0.001		16	0.770	0.001
	3	0.521	0.013		17	0.637	0.001
	4	0.576	0.005		18	0.643	0.001
	5	0.730	0.001		19	0.729	0.001
	6	0.738	0.001		20	0.647	0.001
	7	0.671	0.001		21	0.655	0.001
	8	0.690	0.001		22	0.699	0.001
	9	0.547	0.008		23	0.541	0.009
	10	0.822	0.001		24	0.519	0.013
	11	0.644	0.001		25	0.626	0.002
	12	0.501	0.018				
	13	0.739	0.000				
	14	0.653	0.001				

As shown in table 1; there are all of the items of the stigma scale were realize significant correlation coefficients with its dimensions at p. value ≤ 0.05.

Table 2

Internal consistency of the dimensions with total scores of stigma scale

Dimensions	Correlation coefficients	p. value
Personal stigma	0.934	0.001
Social stigma	0.909	0.001

As shown in table 2; there are two dimensions had significant correlation coefficients with total scores of the stigma scale at p. value ≤ 0.01.

4.8.2 Reliability of the Stigma Scale

To investigate the reliability of the stigma scale; the researcher uses the following two methods:

4.8.2.1 Split half method

Researcher calculated the reliability of the stigma scale by using split half method (part 1 = 13 items & part 2 = 12 items); where the person's correlation coefficient was ($R_1 = 0.731$) and by using the spearman-brawn equation to correct the length of the scale, that the reliability coefficient ($R_2 = 0.845$).

4.8.2.2 Cronbach's alpha equation

Researcher estimated the reliability of the stigma scale by using the equation of Cronbach's alpha (No. of items = 25); where the value of alpha was (0.923). So the stigma scale is valid and reliable for data collection from the epilepsy patients in Gaza Strip.

4.9 Ethical consideration

- Approval from ministry of health (Annex 5).
- Approval consent from each participant was obtained (Annex 1).

4.10 Data collection, entry, and analysis

The data was collected directly from the patients by using standardized questionnaires in Governmental community mental health centers. Detailed information about the study was given to each participant using their own Arabic language and consent to participate was obtained.

Over viewing of the questionnaire was the first step, prior to data entry; this followed by designing an entry model using the computer Statistical Package for Social Science "SPSS". The coded questionnaires were entered into the computer by the researcher. Data cleaning was done through checking out a random number of the questionnaires and through exploring descriptive statistics frequencies for all variables.

The researcher used Statistical Package for Social Science "SPSS" to analyze the research questions by using person correlation coefficient, Chi square, t-test, and ANOVA. In addition; the researcher used descriptive statistics to explore frequencies of all variables. Statistically significant values are considered at P values is equal or less than 0.05.

Chapter Five

Results & Discussion

Introduction

This chapter will include the main results of the study after data collection, entry and analysis by using statistical package for social sciences (SPSS) of a sample of epileptic patients attending Community mental health centers in Gaza Strip. The researcher used many statistical tests like descriptive statistics, frequencies, percentage, means and standard deviation. In addition, differences between study variables using chi square test for categorical data, t test, and ANOVA test.

5.2 Sociodemographic characteristic results of the study sample

The sample consist of 142 subjects, 67 of them were male (47.2%), and 75 were female (52.8%). The age range from 20 to 58 years old (mean of age was 33.8, SD 9.23). According to marital status 32.4% were single, 49.3% were married, and 18.3% were divorced. According to the working status 35.2% work and 64.8% not work and depend on aids. According to educational level 5.6% were not educated, 2.8% finished the elementary schools, 50.0% finished the preparatory schools, also 17.6% finished secondary schools, and 23.9% have a university degree. according to monthly income 55.6% with monthly income 1000 NIS and less than, 28.9% with monthly income between 1001- 2000 NIS, 15.5% with monthly income between 2001- 3000 NIS.

Table 3: Sociodemographic characteristics results of the study sample

Variables	Class	Frequency	Percentage
Gender	Male	67	47.2
	Female	75	52.8
Age	19-30 years.	55	38.7
	31-40 years.	52	36.6
	41 years and more.	35	24.6
Marital status	Single	46	32.4
	Married	70	49.3
	Divorced	26	18.3.
Working status	Employee	50	35.2
	Not employee	92	64.8 .
Education level	Elementary and below	12	8.3
	Preparatory	71	50.0
	Secondary	25	17.6
	University	34	23.9
Monthly income	1000 NIS and below	79	55.6
	1001-2000	41	28.9
	2001-3000	22	15.5

5.3 Characteristics of epilepsy related variables

5.3.1 Distribution of subjects with age of onset of the disease:

Table 4: distribution of subjects with age of onset the disease

Title	Frequency	Percent
10 years old and below	27	19.0
11- 20 years old	65	45.8
21 and more	50	35.2
Total	142	100%

As showed in previous table that 27 of the study sample have the disease since their ages with 10 years and below 19.0%, 65 of the study sample have the disease since their ages 11- 20 years 45.8%, and 50 of them were since age 21 years and more 35.2%.

5.3.2 Distribution of subjects according to taking treatment regularly:

Table 5: distribution of subjects according to taking treatment regularly:

Title	Frequency	Percent
Yes	122	85.9
No	20	14.1
Total	142	100%

As showed in previous table: most of the subjects 122 were taking treatment regularly 85.9%, while 20 of them were not taking treatment regularly 14.1%.

5.3.3 Distribution of subjects according to episodes occur despite taking medication:

Table 6: distribution of subjects according to episodes occur despite taking medication:

Title	Frequency	Percent
Yes	91	74.5
No	31	25.5
Total	122	100%

As showed in previous table: most of the subjects 91 of who taking treatment regularly with episodes occur 74.5%, while 31 of them were without episodes 25.5%.

That means most of medication types have limited effect to treat epilepsy or to inhibit episodes.

5.4.1 Level of Anxiety among epileptic patients

Table 7: level of anxiety using means and ratio scale

Variable	**Mean**	**SD**	**Ratio scale**
Anxiety	34.05	6.431	68.1

As shown in the previous table; the level of anxiety was (68.1%) among the study sample. The researcher believes that the symptoms of epilepsy may affected on the patients to be sensitive, worry, fitful and disturbed sleep, and nervous, which lead to anxious at the variance situations.

In addition the following table show Level of anxiety among epileptic patients:

Table 8: Level of anxiety among epileptic patients

Title	Frequency	Percent %
Normal 0- 13	0	0.0
Mild anxiety 14- 26	24	16.9
moderate anxiety 27- 36	68	47.9
Severe anxiety 37- 50	50	35.2
Total	142	100%

The following table shows that 16.9% had mild anxiety, 47.9% had moderate anxiety, 35.2% had severe anxiety, that means all of subjects 100% had different levels of anxiety.

This result differ with the results of the study by Pooya & Sperling (2010) which find that (24.5%) of epileptic patients had anxiety, Mensah et. al (2007) find that (20.5%) of epileptic patients had anxiety. In addition De Souza (2005) find that Epilepsy was associated with disease among (63.4%) of the sample. Cramer et. al, (2005) find 25% mild, 16% moderate, 7% severe anxiety of patients with partial epilepsy.

Pooya & Sperling (2010), Kimiskidis1, et al. (2007) and Piazzini et. al (2001) found that anxiety is common psychological disorder in epileptics.

In the opinion of the researcher that the high level of anxiety in patients with epilepsy may be occur as a result of political circumstances experienced by the Palestinian people in general as repeated Israeli aggression and Siege, which will reflect negatively on the psychological conditions of the individual, and under these circumstances the disease epilepsy lead to an increase these stressors that generate stress and anxiety in an individual.

In addition; the incidence of epilepsy lead to individual feels a permanent state of tension in fear of falling prey to seizures in social and life different situations.

5.5 Questions referring to differences in anxiety according to socio-demographic and epilepsy variables.

5.5.1 differences in Anxiety according to the sex of epileptic patients:

Table 9: Independent t-test comparing means of anxiety according to sex

Variable	Male N = 67		Female N = 75		T- value Df= 140	P. Value
	Mean	**SD**	**Mean**	**SD**		
Anxiety	34.32	5.821	33.81	6.960	0.47	0.635

*p≤ 0.05 **p≤ 0.01 ***p≤ 0.001

As shown in the previous table; there were no significant difference in anxiety according to sex (p= 0.635) among the epileptic patients.

In addition the following table show the level of anxiety according to the sex of epileptic patients:

Table 10: Level of anxiety according to the sex of epileptic patients

Trauma	**Males**		**Females**	
	N	*%*	*N*	*%*
Mild anxiety	*12*	*17.9*	*12*	*16.0*
moderate anxiety	*28*	*41.8*	*40*	*53.3*
Severe anxiety	*27*	*40.3*	*23*	*30.7*
Total	*67*	*100.0*	*75*	*100.0*

*p≤ 0.05 **p≤ 0.01 ***p≤ 0.001

As shown in previous table; 12 of males reported mild anxiety (17.9%), 28 of males reported moderate anxiety (41.8%), 27 of males reported severe anxiety (30.7%). Near to these results 12 of females reported mild anxiety (16.0%), 40 of females reported moderate anxiety (53.3%), 23 of females reported severe anxiety (30.7%). There were no significant differences between anxiety and sex among epileptic patients (χ^2= 1.99, df= 2; p = 0.369 not sig).

In agree; Piazzini et. al (2001) found that there was no significant differences in anxiety between males and females among epilepsy patients.

However; Kimiskidis1 et. al. (2007) concluded that female gender, high seizure frequency and a symptomatic epilepsy syndrome are independent risk factors for the development of anxiety and/or depression.

The researcher believes that this result indicates that epilepsy patients of both sexes feel comparable levels of stress and discomfort as a result of their lives with the physiological symptoms of epilepsy, which is reflected on the psychological and social aspects of life.

5.5.2 Differences in anxiety according to age:

In order to investigate the difference in anxiety according to the age of the study sample, the researcher demonstrate one-way ANOVA analysis.

Table 11: One-way ANOVA comparing anxiety according to age

Variable	Age/ year	Means	Source of Variance	Sum of Squares	Df	Mean Square	F-value	P. Value
Anxiety	19- 30 years	32.87	Between Groups	614.947	2	307.474	*** 8.193	0.001
	31- 40 years	36.75	Within Groups	5216.602	139	37.530		
	41 years and more	31.91	Total	5831.549	141			

*$p \le 0.05$ **$p \le 0.01$ ***$p \le 0.001$

The previous table shows that: there was a significant difference in anxiety according to the age ($p \le 0.001$) of the study sample.

Post –hoc analysis using Scheffee statistical test was done and indicated; the differences of means of anxiety according to age was between the group of (31 – 40 years) age a side and the two groups of (19 – 30 years and 41 years and more), in favor to the group of (31 – 40 years).

That means anxiety among the group of (31 – 40 years) were significantly higher than other groups of the study sample.

In agree the study by Astejada et al. (2004) find that the epileptic patients who in age less than 45 years were predictive of a higher anxiety score.

The researcher believes that the age of thirties is that the age of productivity and professional self realization. Then individual exposure to epilepsy leads to frustration as a result no doubt of the individual in his abilities to achieve the goals in this age.

5.5.3 Differences in anxiety according to marital status:

To investigate the difference in anxiety according to the marital status, the researcher demonstrate one-way ANOVA analysis.

Table 12: One-way ANOVA comparing anxiety according to marital status

Variable	Marital status	Means	Source of Variance	Sum of Squares	Df	Mean Square	F-Value	P. Value
Anxiety	single	33.32	Between Groups	449.998	2	224.999	** 5.811	0.004
	married	35.67	Within Groups	5381.552	139	38.716		
	divorced	31.00	Total	5831.549	141			

*p≤ 0.05 **p≤ 0.01 ***p≤ 0.001

The previous table shows that: there was a significant difference in anxiety according to the marital status (p≤ 0.01) of the study sample.

Post –hoc analysis using Scheffee statistical test was done and indicated; the differences of means of anxiety according to marital status was between the group of married and divorced, in favor to the group of married epileptic patients.

That means anxiety among the group of married epileptic patients were significantly higher than other groups of the study sample.

The researcher believes that the result of this question was logical, that a married patient feared the occurrence of seizures in front of his or her partner, which increases the tension among the patient.

5.5.4 Differences in anxiety according to the working status:

The researcher adopts t-independent test to investigate the differences between working versus not working epileptic patients in anxiety.

Table 13: Independent t-test comparing means anxiety according to working status

Variable	Working N = 50		Not working N = 92		T- value Df= 140	P. Value
	Mean	SD	Mean	SD		
Anxiety	33.54	6.292	34.33	6.521	0.70	0.483

*p≤ 0.05 **p≤ 0.01 ***p≤ 0.001

As shown in the previous table; there is no significant differences in anxiety according to working status (p> 0.05) of the study sample.

That means working or not working epileptic patients feel comparable levels of stress and discomfort as a result of their lives with the physiological symptoms of epilepsy, which lead to anxiety feelings.

In addition; people with epilepsy often fears embarrassment by a seizure, causing reluctance to engage in social interaction, with concomitantly low self- esteem and academic under-achievement. these can result in a shrunken support network, fewer friends, a lower likelihood of marriage and greater likelihood of antisocial behavior.

5.5.5 Differences in anxiety according to educational level:

To investigate the difference in anxiety according to the educational level, the researcher demonstrate one-way ANOVA analysis.

Table 14: One-way ANOVA comparing anxiety according to educational level

Variable	Educational level	Means	Source of Variance	Sum of Squares	Df	Mean Square	F-value	P. Value
Anxiety	Elementary	38.66	Between Groups	1017.117	3	339.039	*** 9.718	0.001
	Preparatory	33.02	Within Groups	4814.433	138	34.887		
	Secondary	38.32						
	University	31.44	Between Groups	5831.549	141			

*$p \le 0.05$ **$p \le 0.01$ ***$p \le 0.001$

The previous table shows that: there was a significant difference in anxiety according to the educational level ($p \le 0.001$) of the study sample.

Scheffee statistical test was done and indicated; the differences of means of anxiety according to educational level was between the groups of elementary and secondary a side and preparatory and university, in favor to the group of elementary and secondary education of epileptic patients.

The researcher says that the individuals with higher levels of education may generally have greater cognitive resources, which in turn facilitate better adjustment to life with epilepsy. It is probable that people with higher education use more effective ways to psychologically and physically adapt to their illness and engage in more active coping strategies. While a low level of education may lead to impaired cognition that contributes to relatively poorer psychological adjustment.

5.5.6 Differences in anxiety according to monthly income:

To investigate the difference in anxiety according to the monthly income, the researcher demonstrate one-way ANOVA analysis.

Table 15: One-way ANOVA comparing anxiety according to monthly income

Variable	Monthly income	Means	Source of Variance	Sum of Squares	Df	Mean Square	F-Value	P. Value
Anxiety	1000 NIS and below	34.63	Between Groups	313.438	2	156.719	* 3.948	0.022
	1001-2000	34.80	Within Groups	5518.112	139	39.699		
	2001-3000	30.59	Total	5831.549	141			

*$p\leq 0.05$ **$p\leq 0.01$ ***$p\leq 0.001$

As showed in the previous table; there was a significant difference ($p\leq 0.05$) in anxiety according to the monthly income of the study sample.

Scheffee statistical test was done and indicated; the differences of means of anxiety according to monthly income was between the two groups of monthly income 2000 NIS and below and the group of monthly income 2001- 3000 NIS, in favor to the groups of monthly income 2000 NIS and below of epileptic patients.

This result mean that anxiety rate scientifically increased with lower income and this result is approved by study of Yong LI et. al (2001) Factors associated with parental anxiety included frequency of seizure in children, average monthly income per person and parents' knowledge about epilepsy.

The researcher believe that, poverty is considered as a risk factor for anxiety for general population, high income for people with epilepsy may play important role in their life by helping them in controlling their seizures by purchase new generation of antiepileptic which consider from the drug with highly abilities to control seizures and improve mood with less side effects, and these drugs most of the time not available in ministry of health and their price is high. Also high income helps epileptic patient follow up in specialized clinics and do investigation for them that may help in controlling their seizures.

5.5.7 Differences in anxiety according to age of onset the disease:

To investigate the difference in anxiety according to the age of onset the disease, the researcher demonstrate one-way ANOVA analysis.

Table 16: One-way ANOVA comparing anxiety according to age of onset the disease

Variable	**Age of onset the disease**	**Means**	**Source of Variance**	**Sum of Squares**	**Df**	**Mean Square**	**F-Value**	**P. Value**
Anxiety	10 years and below	36.48	Between Groups	218.813	2	109.407	2.709	0.070
	11- 20	33.87	Within Groups	5612.736	139	40.379		
	21- 60	32.98	Total	5831.549	141			

*p≤ 0.05 **p≤ 0.01 ***p≤ 0.001

As showed in the previous table; there was no significant difference in anxiety according to the age of onset the disease (p> 0.05) among the epileptic patients.

In agree; Piazzini et. al (2001) found that no correlation was noted between the frequency of seizures and onset of epilepsy and the results of the mood questionnaires

The researcher believes that epileptic patients become more hopeless and frustrated about their condition and their prospects for the future. So the epilepsy consider major obstacle in each of age of onset of the disease.

5.5.8 Differences in anxiety according to taking treatment regularly:

The researcher adopts t-independent test to investigate the differences between who taking versus not taking treatment regularly among the epileptic patients in anxiety.

Table 17: Independent t-test comparing means anxiety according to taking treatment regularly

Variable	**Yes N = 122**		**No N = 20**		**T- value Df= 140**	**P. Value**
	Mean	**SD**	**Mean**	**SD**		
Anxiety	34.15	6.645	33.45	5.020	0.45	0.651

*p≤ 0.05 **p≤ 0.01 ***p≤ 0.001

As shown in the previous table; there is no significant difference in anxiety according to taking treatment regularly (p> 0.05) among the epileptic patients.

De Souza (2005) find that the strategies of epileptic patients were: looking for social support, seeking medical treatment, withdrawal, denial, and spiritual support. In addition Study by Kimiskidis1, et al. (2007) concluded that high seizure frequency and a symptomatic epilepsy syndrome are independent risk factors for the development of anxiety.

The researcher believes that the disease and its symptoms in itself is a constant factor in the creation of the state of anxiety in patients whether patients with epilepsy take treatment regularly or not.

5.6 Questions referring to differences in stigma according to socio-demographic and epilepsy variables.

5.6.1 Level of stigma among the study sample:

Table 18: Level of stigma using means and ratio scale

Subscales	Mean	SD	Ratio scale
Personal stigma	48.79	10.193	69.7
Social stigma	33.76	9.537	61.4
Total scores of Stigma	82.56	18.901	66.0

As shown in the previous table; the level of the total scores of stigma was (66.0%) among the study sample. Personal stigma was (69.7%), and social stigma (61.4%) among the study sample.

This results were in agree with the results of Shibre et. al (2006), DiIorio et, al (2003) and Rätsepp et al. (2002) which found that stigma was found to be a common problem among patients suffering from epilepsy. In addition; the results show a negative impact of stigma as in the results Ahm Lee et al. (2005) and Panter (2004).

The researcher believes that epilepsy is the most major factor effected in the psychological and social aspects of the patients, this disease leads to feeling embarrassed and withdrawal from situations experienced by individuals, and fear that seizures occur in front of others.

5.6.2 Differences in stigma according to sex:

Table 19: Independent t-test comparing means of stigma according to sex

Variable	Male N = 67		Female N = 75		T- value Df= 140	P. Value
	Mean	SD	Mean	SD		
Personal stigma	51.74	4.847	46.16	12.732	3.37 ***	0.001
Social stigma	35.86	7.064	31.89	11.011	2.52 *	0.013
Total scores of Stigma	87.61	10.184	78.05	23.334	3.09 **	0.002

*$p \leq 0.05$ **$p \leq 0.01$ ***$p \leq 0.001$

As shown in the previous table; there were significant differences in personal, social, and total scores of stigma according to sex ($p \leq 0.05$), in favor to males of epileptic patients. That means were feel in personal and social stigma more than females which male patients more attack to the people in the Palestinian society than female, this case lead to anxiety, frustration, sadness, and social avoidance feelings.

De Souza (2005) find that there was a significant association between psychological symptoms and perception of seizure control, which reinforces the importance of subjective aspects involved in epilepsy. Psychosocial factors experienced as a direct result of having epilepsy such as perceived stigma, fear of seizures, discrimination, lack of social support.

The researcher explain that the women or females may less social attach in the Palestinian than the man or males. So the social interaction for males in society leads to know others from colleagues and friends to person's disease, which may lead them to withdraw from the relationship with him for fear of them because happen to him spells or injured happening to he is with them. This factor may increase personal and social stigma among epileptic patients.

5.6.3 Differences in stigma according to age:

Table 20: One-way ANOVA comparing stigma according to age

Variable	Age/ year	Means	Source of Variance	Sum of Squares	Df	Mean Square	F-Value	P. Value
Personal Stigma	19- 30 years	52.35	Between Groups	3030.048	2	1515.02	*** 18.12	0.001
	31- 40 years	50.38	Within Groups	11621.03	139	83.605		
	41 years and more	40.86	Total	14651.07	141			
Social Stigma	19- 30 years	37.80	Between Groups	2693.283	2	1346.64	*** 18.47	0.001
	31- 40 years	34.31	Within Groups	10132.04	139	72.892		
	41 years and more	26.63	Total	12825.33	141			
Total scores of Stigma	19- 30 years	90.15	Between Groups	11354.27	2	5677.13	*** 20.22	0.001
	31- 40 years	84.69	Within Groups	39018.65	139	280.710		
	41 years and more	67.49	Total	50372.93	141			

*p≤ 0.05 **p≤ 0.01 ***p≤ 0.001

The previous table shows that: there were a significant difference in personal, social, and total scores of stigma according to the age (p≤ 0.001) of the study sample.

Post –hoc analysis using Scheffee statistical test was done and indicated; the differences of means of personal, social, and total scores of stigma according to age was between the two groups of (19 – 40 years) age a side and the group of (41 years and more), in favor to the two groups of (19 – 40 years) of the study sample.

5.6.4 Differences in stigma according to marital status:

Table 21: One-way ANOVA comparing stigma according to marital status

Variable	Marital status	Means	Source of Variance	Sum of Squares	Df	Mean Square	F-Value	P. Value
Personal Stigma	single	51.57	Between Groups	3102.469	2	1551.23	*** 18.67	0.001
	married	50.63	Within Groups	11548.60	139	83.084		
	divorced	38.96	Total	14651.07	141			
Social Stigma	single	38.13	Between Groups	2352.798	2	1176.39	*** 15.61	0.001
	married	33.70	Within Groups	10472.53	139	75.342		
	divorced	26.23	Total	12825.33	141			
Total scores of Stigma	single	89.70	Between Groups	10403.70	2	5201.85	*** 18.09	0.001
	married	84.33	Within Groups	39969.22	139	287.548		
	divorced	65.19	Total	50372.93	141			

*p≤ 0.05 **p≤ 0.01 ***p≤ 0.001

The previous table shows that: there were a significant difference in personal, social, and total scores of stigma according to the marital status (p≤ 0.001) of the study sample.

Post –hoc analysis using Scheffee statistical test was indicated; that the differences of means of personal, social, and total scores of stigma according to marital status was between single and married two groups a side and divorced group, in favor to the single and married two groups of epileptic patients.

That means single and married two groups of epileptic patients feeling stigmatized significantly higher than divorced group of epileptic patients.

The study by Rafael et al. (2009) find that experience of marital problems, and presence of anxiety disorder, Perceived stigma is an important issue in epilepsy patients. In addition; Akinsulore & Adewuya (2009) Nigerian patients with epilepsy suffer social deprivation, housing, and marital life as well as associated psychiatric morbidity. Epilepsy, a stigmatizing disorder in Nigeria, has a significant impact on the day to day functioning of those with the condition. The study by DiIorio et, al (2003) found the epileptic patients who were not married or living with a partner were reported highest levels of stigma.

The researcher believe that these differences referred to single and married patients may based on him exposing to the social situation in the society more than divorced patients.

5.6.5 Differences in stigma according to the working status:

Table 22: Independent t-test comparing means stigma according to working status

Variable	Working N = 50		Not working N = 92		T- value Df= 140	P. Value
	Mean	**SD**	**Mean**	**SD**		
Personal stigma	50.0000	3.703	48.14	12.344	1.03	0.301
Social stigma	34.7000	4.879	33.26	11.286	0.85	0.392
Total scores of Stigma	84.7000	7.100	81.40	22.858	0.99	0.322

$*p \leq 0.05$ $**p \leq 0.01$ $***p \leq 0.001$

As shown in the previous table; there were no significant differences ($p > 0.05$) in personal, social, and total scores of stigma according to the working status of the study sample.

This results in was differ to the results of the study by DiIorio et, al (2003) which found the epileptic patients who were not working for pay, and had limited income reported highest levels of stigma.

That means working or not working epileptic patients feel comparable levels of discomfort as a result of their lives with the physiological symptoms of epilepsy, which feel stigmatized.

5.6.6 Differences in stigma according to educational level:

Table 23: One-way ANOVA comparing stigma according to educational level

Variable	Educational level	Means	Source of Variance	Sum of Squares	Df	Mean Square	F-Value	P. Value
Personal Stigma	Elementary	53.67	Between Groups	4519.609	3	1506.53	*** 20.52	0.001
	Preparatory	48.69	Within Groups	10131.46	138	73.416		
	Secondary	57.76						
	University	40.71	Total	14651.07	141			
Social Stigma	Elementary	39.67	Between Groups	4116.945	3	1372.31	*** 21.74	0.001
	Preparatory	34.13	Within Groups	8708.386	138	63.104		
	Secondary	41.16						
	University	25.50	Total	12825.33	141			
Total scores of Stigma	Elementary	93.33	Between Groups	17182.24	3	5727.41	*** 23.81	0.001
	Preparatory	82.82	Within Groups	33190.68	138	240.512		
	Secondary	98.92						
	University	66.21	Total	50372.93	141			

*p≤ 0.05 **p≤ 0.01 ***p≤ 0.001

The previous table shows that: there were a significant differences in personal, social, and total scores of stigma according to the educational level (p≤ 0.001) of the study sample. Scheffee statistical test was done and indicated; the differences of means of personal, social, and total scores of stigma according to educational level was between the groups of elementary, preparatory and secondary school a side and university level, in favor to the groups of elementary, preparatory and secondary education respectively of epileptic patients.

In agree the study by Akinsulore & Adewuya (2009) Nigerian patients with epilepsy suffer discrimination in education as well as associated psychiatric morbidity.

The researcher says that who high educated of epileptic patients may more cope with symptoms of epilepsy than an other patients of low education. Where the patients of low levels of education have a little knowledge about behaving with the disorders may co-morbid or occur with epilepsy.

5.6.7 Differences in stigma according to monthly income:

Table 24: One-way ANOVA comparing stigma according to monthly income

Variable	**Monthly income**	**Means**	**Source of Variance**	**Sum of Squares**	**Df**	**Mean Square**	**F-Value**	**P. Value**
Personal Stigma	1000 NIS and below	51.73	Between Groups	5055.890	2	2527.94	*** 36.62	0.001
	1001-2000	50.59	Within Groups	9595.187	139	69.030		
	2001-3000	34.91	Total	14651.07	141			
Social Stigma	1000 NIS and below	36.71	Between Groups	4299.292	2	2149.64	*** 35.04	0.001
	1001-2000	34.93	Within Groups	8526.039	139	61.338		
	2001-3000	21.05	Total	12825.33	141			
Total scores of Stigma	1000 NIS and below	88.44	Between Groups	18664.23	2	9332.11	*** 40.90	0.001
	1001-2000	85.51	Within Groups	31708.69	139	228.120		
	2001-3000	55.95	Total	50372.93	141			

*p≤ 0.05 **p≤ 0.01 ***p≤ 0.001

As showed in the previous table; there were a significant difference in personal, social, and total scores of stigma according to the monthly income (p≤ 0.001) of the study sample. Scheffee statistical test revealed that the differences of means of personal, social, and total scores of stigma according to the monthly income were between the two groups of monthly income 2000 NIS and below and the group of monthly income 2001- 3000 NIS, in favor to the groups of monthly income 2000 NIS and below of epileptic patients.

This results in agree with the results of the study by DiIorio et, al (2003) which found the epileptic patients who were not working for pay and had limited income reported highest levels of stigma.

5.6.8 Differences in stigma according to age of onset the disease:

Table 25: One-way ANOVA comparing stigma according to age of onset the disease

Variable	Age of onset the disease	Means	Source of Variance	Sum of Squares	Df	Mean Square	F-Value	P. Value
Personal Stigma	10 years and below	55.33	Between Groups	3781.039	2	1890.52	*** 24.17	0.001
	11- 20	51.23	Within Groups	10870.03	139	78.202		
	21- 60	42.10	Total	14651.07	141			
Social Stigma	10 years and below	43.11	Between Groups	4496.306	2	2248.15	*** 37.51	0.001
	11- 20	34.83	Within Groups	8329.025	139	59.921		
	21- 60	27.34	Total	12825.33	141			
Total scores of Stigma	10 years and below	98.44	Between Groups	16216.18	2	8108.09	*** 32.99	0.001
	11- 20	86.06	Within Groups	34156.74	139	245.732		
	21- 60	69.44	Total	50372.93	141			

*p≤ 0.05 **p≤ 0.01 ***p≤ 0.001

As showed in the previous table; there were a significant differences in personal, social, and total scores of stigma according to the age of onset the disease (p≤ 0.001) among the epileptic patients.

Scheffee statistical test revealed that the differences of means of personal, social, and total scores of stigma according to the age of onset the disease were between the 20 years and below two groups a side and 21- 60 years group, in favor to the 20 years and below two groups of epileptic patients.

The study by DiIorio et al. (2003) find that the epileptic patients reporting higher levels of stigma included those who had their first seizure before the age of 50 and a seizure in the last year.

The researcher was in agree with (Shibre et. al, 2006) which revealed that stigma was found to be a common problem among patients suffering from epilepsy, and their relatives. The researcher believes that patients who have been exposed to the beginning of the disease for a few time to have problems and weaknesses in their abilities to adapt to or dealing with seizures that occur to them during life situations different, as that young patients are more interactive with the community, allowing the possibility of a heart in front of others, and it affects the mental state to them and increases their sense of stigma

5.6.9 Differences in stigma according to taking treatment regularly:

Table 26: Independent t-test comparing means stigma according to taking treatment regularly

Variable	**Yes N = 122**		**No N = 20**		**T- value Df= 140**	**P. Value**
	Mean	**SD**	**Mean**	**SD**		
Personal stigma	48.62	10.527	49.85	7.995	0.49	0.620
Social stigma	33.95	10.022	32.65	5.815	0.56	0.574
Total scores of Stigma	82.57	19.790	82.50	12.529	0.01	0.987

*$p\leq 0.05$ **$p\leq 0.01$ ***$p\leq 0.001$

As shown in the previous table; there were no significant differences in personal, social, and total scores of stigma according to taking treatment regularly ($p> 0.05$) among the epileptic patients.

However; DiIorio et, al (2003) found that participants reporting higher levels of stigma included those who rated their seizures as under less control, and who were not legally able to drive also reported higher levels of stigma.

5.7 Correlation between anxiety and stigma.

Table 27: Correlation between anxiety and stigma among the study sample

Variable	Correlation coefficient	P. Value
Personal stigma	0.717 ***	0.001
Social stigma	0.502 ***	0.001
Total scores of Stigma	0.640 ***	0.001

*p≤ 0.05 **p≤ 0.01 ***p≤ 0.001

As showed in the previous table, there were positive significant correlation between anxiety and personal, social, and total scores of stigma among the study sample (P= 0.001). That means the high incidence of anxiety will combined with high incidence of stigma, and high incidence of stigma will combined with high incidence of anxiety among the study sample of epileptic patients, and reversible is right.

In agree; the study DiIorio et, al (2003) found that patients who reporting higher levels of perceived stigma were reported lower levels of self-efficacy to manage epilepsy; more negative outcome expectancies related to treatment and seizures. McLaughlin et al. (2007) find that a greater perception of stigma and more frequent seizures was also strongly related to poor quality of life and reduced psychosocial function

The researcher believes that those who are worried feel symptoms such as mood suspicion and doubt, expect the worst or frightening things and easy of arousal, or physical symptoms such as ringing in the ears, blurred vision, bouts of heat and cold, a sense of weakness. Also felt stigma seizures prevent him from achieving its objectives, and that he is unable to perform his personal duties, and feel a lack of confidence in himself, which refers to the overlap in symptoms between anxiety and stigma as a result of epilepsy.

5.8 Recommendations

Insight of the study results the researcher introduced the following recommendations:

1- Most of the study sample of epileptic patients suffering from anxiety is noticeable and couldn't be neglected.

2- Provide an overview of current understanding of this group of patients, their needs, and the provision of services to meet these needs.

3- The policy must provide a comprehensive and contemporary account of community services, approaches, interventions and teaching programs.

4- Provide psycho-medical counseling techniques, such as post seizures counseling for the epileptic patients.

5- Development of mental health professionals, especially for epileptic patients.

6- Coordination with officials in the Ministry of Social Affairs and work offices to improve the social and economical status of the patients and provide job opportunities for patients suitable for their health status.

7- More interest to poor, married and low educated of epileptic patients.

In the end the researcher suggested to operate more researches about epilepsy and epileptic patients in our society such as; mental health problems among epileptic patients. and medical problems among epileptic patients. In addition coping strategies and social adjustment among epileptic patients.

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Annexes

Annex 1

Consent form "Arabic version"

الأخ الفاضل/ الأخت الفاضلة

تحية طيبة وبعد:

تقوم الباحثة بإعداد رسالة ماجستير في الصحة النفسية بالجامعة الإسلامية بغزة، وهي بعنوان: **(القلق والوصمة لدى مرضى الصرع في قطاع غزة).**

لذا يرجى التكرم بالإجابة عن أسئلة هذا الاستبيان، وذلك بالإجابة عن جميع العبارات بكل دقة وموضوعية، علماً بأن البيانات التي سيتم الحصول عليها، ولن تستخدم إلا لأغراض البحث العلمي.

شاكرين لكم حسن تعاونكم معنا

وتقبلوا فائق الاحترام والتقدير

الباحثة/ منال عطا غيث

Consent form "English version"

Dear participant

The researcher prepares a Master theses of Mental Health at the Islamic University in Gaza, which is entitled:

Anxiety and Stigma among Epileptic Patients

in Gaza Strip.

I cordially invite you to participate in this study and complete this questionnaire. This study has a scientific goal, and all the data which will collect from you will consider confidential and the researcher will present to you any information you need regarding this study.

Thank you for your good participation with me

Your sincerely

Researcher, Manal Ata Ghaith

Annex 2

Basic data questionnaire "Arabic version"

أولاً: البيانات الأولية

1. **الجنس:** ( ) ذكر ( ) أنثى

2. **العمر بالسنة:** ....

3. **الحالة الاجتماعية:** ( ) أعزب ( ) متزوج ( ) مطلق ( ) أرمل

4. **المهنة:** ( ) أعمل ( ) لا أعمل

5. **الدخل الشهري للأسرة:**

( ) 1000 شيكل فما دون ( ) 1001 -2000 شيكل ( ) 2001 -3000 شيكل

( ) 3001 -4000 شيكل ( ) أكثر من 4000 شيكل

ثانياً: بيانات تتعلق بالمرض:

6. **العمر عند تشخيص المرض:** ....

7. **هل تتناول العلاج بانتظام:** ( ) نعم ( ) لا

8. **هل تحدث تشنجات رغم الانتظام بتناول العلاج:** ( ) نعم ( ) لا

Basic data questionnaire "English version"

Demographic variables:

Gender: ( ) Male ( ) Female

Age: ……………..

Marital status: ( ) Single ( ) Married ( ) Divorced ( ) Widowed

Occupation: ( ) Employee ( ) Not employee

Level of education: ( ) Not educated ( ) Elementary ( ) Preparatory
( ) Secondary ( ) University

Monthly income:
( ) 1000 NIS and below ( ) 1001- 2000 NIS
( ) 2001- 3000 NIS ( ) More than 4000 NIS

Epilepsy related variables

Age of onset: ……………..

Are you taking treatment regularly? ( ) Yes ( ) No

If yes;
Does seizures occur at regular taking treatment? ( ) Yes ( ) No

Annex 3

Taylor Manifestation Anxiety Scale (TMAS)
"Arabic version"
مقياس تايلور للقلق

الرقم	الفقرات	نعم	لا
1	نومي مضطرب و متقطع .		
2	مرت بي أوقات افتقدت فيها النوم بسبب القلق .		
3	لدى قليل جداً من المخاوف إذا قورنت بأصدقائي.		
4	أعتقد أنني لست أكثر عصبية من معظم الناس .		
5	تنتابني أحلام مزعجة (أو كوابيس) من حين لآخر .		
6	عندي قدر كبير من المتاعب في معدتي.		
7	غالباً ما ألاحظ أن يداي ترتجفان عندما أحاول القيام بعمل من الأعمال .		
8	أعانى من نوبات الإسهال .		
9	المال و العمل يثيران القلق عندي .		
10	أصاب أحياناً بنوبات من الغثيان (غميان النفس) .		
11	كثيراً ما أخشى أن يحمر وجهي خجلاً .		
12	أشعر بجوع في كل الأوقات تقريباً .		
13	إنني أثق بنفسي تماماً .		
14	لا أتعب بسرعة .		
15	إن الانتظار يجعلني عصبياً .		
16	أشعر أحياناً بالإثارة لدرجة أن النوم يتعذر علىّ .		
17	أشعر دائماً بالهدوء .		
18	تمر بي فترات من عدم الاستقرار لدرجة أنني لا أستطيع أن أمكث طويلاً في مقعدي.		
19	إنني سعيد في معظم الوقت.		
20	أجد من الصعب علىّ تركيز ذهني في عمل ما .		
21	أشعر بالقلق على شيء ما أو شخص ما طول الوقت تقريباً .		
22	أخاف من مواجهة أزمة أو شدة .		
23	أود أن أصبح سعيداً كما يبدو الآخرين .		
24	كثيراً ما أجد نفسي قلقاً على شيء ما .		
25	من المؤكد أنني أشعر أحياناً بأن لا فائدة لي .		
26	أشعر أحياناً بأنني أكاد أتمزق إرباً .		
27	أعرق بسهولة حتى في الأيام الباردة .		

الرقم	الفقرات	نعم	لا
28	الحياة عسيرة بالنسبة لي في أغلب الأوقات .		
29	يقلقني ما يحتمل أن أواجهه من حظ سيئ .		
30	أنني حساس بنفسي لدرجة غير عادية .		
31	لا أظن أنني لاحظت أبداً أن قلبي يخفق بشدة و يندر أن تنهج أنفاسي.		
32	أبكى بسهولة.		
33	لقد خشيت أشياء أو أشخاص أعرف أنهم لا يستطيعون ايذائى .		
34	عندي استعداد لأن تؤثر فيّ أحداث الحياة تأثيراً شديداً .		
35	قلّما أصاب بالصداع.		
36	لا بد أن أعترف بأنني شعرت أحياناً بالقلق الشديد على أشياء لا قيمة لها .		
37	لا أستطيع أن أركز تفكيري في شيء واحد .		
38	أنا أرتبك بسهولة .		
39	في بعض الأحيان أعتقد أنني لا أصلح لشيء أبداً .		
40	أنني شخص متوتر جداً.		
41	أحياناً عندما أتضايق يتساقط منى العرق بصورة تضايقني جداً.		
42	وجهي لا يحمر خجلاً بدرجة أكثر مما يحدث للآخرين.		
43	أنا أكثر حساسية من غالبية الناس.		
44	لا يكاد وجهي يحمر من الخجل أبداً.		
45	مرت بي أوقات كنت أشعر خلالها بأن الصعاب تتراكم فوق بعضها البعض بحيث لا أستطيع التغلب عليها.		
46	عندما أقوم بعملي أكون في حالة توتر شديد.		
47	يداي و قدماي دافئتان في العادة.		
48	أحلم كثيراً بأمور أفضل الاحتفاظ بها لنفسي.		
49	تنقصني الثقة بالنفس.		
50	يندر جداً أن أصاب بالإمساك.		

Taylor Manifestation Anxiety Scale (TMAS)
"English version"

no	Items	Yes	No
1	My sleep is fitful and disturbed.		
2	I have had periods in which I lost sleep over worry.		
3	I have very few fears compared to my friends.		
4	I believe I am no more nervous than most others.		
5	I have nightmares every few nights.		
6	I have a great deal of stomach trouble.		
7	I frequently notice my hand shakes when I try to do something.		
8	I have diarrhea once a month or more.		
9	I worry over money and business.		
10	I am troubled by attacks of nausea.		
11	I am often afraid that I am going to blush.		
12	I feel hungry almost all the time.		
13	I am entirely self-confident.		
14	I do not tire quickly.		
15	It makes me nervous to have to wait.		
16	Sometimes I become so excited that I find it hard to get to sleep.		
17	I am usually calm and not easily upset.		
18	I have periods of such great restlessness that I cannot sit long I a chair.		
19	I am happy most of the time.		
20	I find it hard to keep my mind on a task or job.		
21	I feel anxiety about something or someone almost all the time.		
22	I shrink from facing crisis of difficulty.		
23	I wish I could be as happy as others seem to be.		
24	I frequently find myself worrying about something.		
25	I certainly feel useless at times.		
26	I sometimes feel that I am about to go to pieces.		
27	I sweat very easily even on cool days.		
28	Life is a trial for me much of the time.		
29	I worry quite a bit over possible misfortunes.		
30	I am a high- strung person.		
31	I hardly ever notice my heart pounding and I am seldom short of breath.		
32	I cry easily.		
33	I have been afraid of things or people that I know could not hurt me.		
34	I am inclined to take things hard.		
35	I have very few headaches.		
36	I must admit that I have at times been worried beyond reason over something that really did not matter.		
37	I cannot keep my mind on one thing.		
38	I am easily embarrassed.		
39	At times I think I am no good at all.		
40	I am usually self-conscious.		
41	Sometimes when embarrassed, I break out in a sweat.		
42	I blush no more often than others.		
43	I am more sensitive than most other people.		
44	I practically never blush.		

no	Items	Yes	No
45	I have sometimes felt that difficulties were piling up so high that I could not overcome them.		
46	I work under a great deal of tension.		
47	My hands and feet are usually warm.		
48	I dream frequently about things that are best kept to myself.		
49	I am certainly lacking in self-confidence.		
50	I am very seldom troubled by constipation.		

Annex 4

Stigma Scale "Arabic version"

مقياس الوصمة

م.	الفقرات	موافق بشدة	موافق	إلى حد ما	معارض	معارض بشدة
1.	أشعر بالحزن والخجل العميق عندما يسألني أحد عن ظروف مرضي.					
2.	أشعر بالحرج من حدوث النوبة أمام الضيوف.					
3.	أشعر بانعدام الثقة بنفسي.					
4.	أحاول إثبات نفسي بسبب ظروف النوبة المرضية التشنجية.					
5.	أشعر أن أصدقائي الذين ليس لديهم المرض أكثر سعادة مني.					
6.	تسبب لي نوبة التشنج عقدة نفسية.					
7.	أشعر بالخجل من النوبات المرضية التشنجية.					
8.	أشعر بالحزن عندما أتذكر النوبة المرضية التشنجية.					
9.	أشعر بالضعف والإحباط بسبب نوبات التشنج المرضية.					
10.	أشعر بأنني مختلف عن الآخرين بسبب نوبات التشنج المرضية.					
11.	أشعر أن مرض النوبات التشنجية مرض لا شفاء منه ويؤثر على حالتي النفسية.					
12.	أشعر أن أفراد العائلة يتجنبون التعامل معي بسبب مرض الصرع الذي أعاني منه.					
13.	لا أحب أن يتحدث أحد معي عن مرضي بالتشنجات.					
14.	أشعر بالضيق من الالتزام بالخطط العلاجية.					
15.	النوبات المرضية والتشنج تؤدي إلى ضعف علاقاتي الاجتماعية.					
16.	انسحب من المواقف الاجتماعية وليس لي رغبة للاختلاط بالناس.					
17.	أتضايق من شفقة الآخرين على بسبب نوبات المرض والتشنجات.					
18.	يعاملني الناس بشكل مختلف بسبب نوبات المرض.					
19.	تمنعني نوبة المرض من إقامة علاقات قوية مع الآخرين.					
20.	أشعر أن النوبة المرضية تطبع علامة سلبية لصورتي عند الآخرين.					
21.	أشعر أن الأقارب والأصدقاء لا يرحبون بزيارتي لهم.					
22.	تؤدي النوبات المرضية إلى عدم ارتياح الآخرين في التعامل معي.					
23.	أشعر برغبة الآخرين في الابتعاد عني.					
24.	أشعر بالحرج من الذهاب لمراجعة المراكز الصحية.					
25.	أغضب من الطريقة التي يعاملني بها الأهل والأصدقاء.					

Stigma Scale "English version"

No	Items	Strongly agree	Agree	To some extent	Disagree	Strongly disagree
1.	I feel deep sadness and shame when someone asks me about my disease.					
2.	I feel embarrassed by a seizure in front of the guests.					
3.	I feel a lack of confidence in myself.					
4.	I'm trying to prove myself because of unsatisfactory conditions of seizures.					
5.	I feel that my friends who do not have the disease happier than me.					
6.	Seizures caused a psychological complex for me.					
7.	I am ashamed of spastic seizures.					
8.	I feel sad when I remember the seizures.					
9.	I feel weak and frustration due to seizures.					
10.	I feel different from others because of seizures.					
11.	I feel that the disease seizures incurable disease and affects my psychological state.					
12.	I feel that family members avoid dealing with me because of epilepsy who suffer from it.					
13.	I do not like that one talked to me about seizures.					
14.	I feel upset commitment therapeutic plans.					
15.	Seizures and convulsions leading to weakness of my social relationships.					
16.	I withdrew from social situations and have no desire to socialize with people.					
17.	I feel upset of others pity because of seizures.					
18.	People deal differently with me because of seizures of illness.					
19.	Seizures prevent me to establish strong relationships with others.					
20.	I feel that the seizures are printed negative sign for the Picture in the mind of others.					
21.	I feel that relatives and friends do not welcome my visit them.					
22.	Seizures lead to discomfort others in dealing with me.					
23.	I feel that others like to stay away from me.					
24.	I feel embarrassed when visit the health centers.					
25.	I feel angry at the way that friends and family deals with me.					

Annex 5

Governmental Approval Letter

Ministry of Health

Mental Health General Administration

وزارة الصحة

الإدارة العامة للصحة النفسية

Date: 8/7/2012

الرقم:

السادة / المدراء الطبيين للمراكز **حفظهم الله،،،**

السادة / المدراء الإداريين للمراكز **حفظهم الله،،،**

السلام عليكم ورحمة الله وبركاته،،

الموضوع / تسهيل مهمة باحثة

بخصوص الموضوع أعلاه يرجي تسهيل مهمة الباحثة الحكيمة/ **منال غيث** رقم وظيفي **42201** الملتحق ببرنامج ماجستير الصحة النفسية بالجامعة الإسلامية و عنوان البحث:

" القلق والوصمة لدي مرضي الصرع في قطاع غزة"

حيث ستقوم الباحثة بالاطلاع على ملفات المرضي والاستعانة بالطواقم الفنية في عيادات الصحة النفسية المجتمعية وأخذ نتائج التحاليل اللازمة لبحثها، كما ستقوم بتعبئة الاستبيانات لعينة من المرضي وذلك حيث لا يكون يتعارض مع مصلحة العمل في المراكز ويكون ضمن أخلاقيات البحث العلمي دون تحمل المراكز والمرضي بالمراكز أي أعباء من إجراء هذا البحث.

وتفضلوا بقبول فائق الاحترام والتقدير،،،

د. عايش سمور

مدير عام الصحة النفسية

الدكتور رياض الأقرع
أخصائي الأمراض النفسية
مدير مستشفى الطب النفسي

فلسطين – غزة – شارع العيون – مستشفى الطب النفسي تلفاكس: 08.2879845

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