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Drug compliance and family support contribution in preventing relapse among schizophrenia clients in Gaza strip

A Thesis Submitted in Partial Fulfillment of Requirements for The degree of Master in Community Mental Health Nursing

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Dedication

To those people who have never stopped believing in me …..
Those who are always supporting me …..
I dedicated this work to my parents
My wife
My daughter and sons
My sisters
My brothers
For their support and encouragement…….

Hassan Mohammad Abu Rahma

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Researcher

Hassan M Abu Rahma

Drug compliance and family support contribute in preventing relapse among schizophrenia clients in Gaza strip

By Hassan M Abu Rahma
Supervised by Dr. Yehia Abed & Dr. Atef Alaga

Abstract

Background: The drug compliance and family support are both continue to be a significant enhancement to the treatment of people with schizophrenia. However some people with the illness do compliance with drug which then results in stability and recovery from their condition and decrease relapse rate. The family support encourages client to continue in treatment and follow up.

Objectives: The aim of study is identify the levels of clients attitude towards treatment, drug compliance, family support and relapse among schizophrenia clients in Gaza strip**.** Other objectives aims to identify the relationship between of drug compliance and family support in preventing relapse and assess the effect of the economic stat, gender, age and marital status on relapse among schizophrenia in Gaza strip.

Methods: The research is designed on a descriptive cross-sectional method that focused on distributed questionnaire. This questionnaire was used to collect the required data in order to achieve the research objectives. The purposive study sample consists of eighty four clients from community mental health in Gaza strip were participated in structured interviews to explore clients attitude towered medication, drug compliance and family support. The rate of response was 77.38%. The interview with family to explore relapses. Three questioners were built by researcher, first one about drug compliance, second one about family support there are filled by clients and third one bout relapse filled by families. All questionnaires filled through interview with clients and family separately, statistical Package for the Social Sciences, (SPSS) was used to perform the required analysis.

Results: The clients attitude towards treatment was positive 65.93 %, the level of drug compliance was 74.79%, the level of family support was 84.312% and the level of relapse was 27.8%. The significant and extrusive relationship between the client attitude towards medication and the drug compliance to antipsychotic drug at significant level α =0.05, the p-value equal 0.000. The relationship between drug compliance and relapses are inverted correlation at significant level α =0.05, the p-value equal 0.000. The relationship between family support and relapses with behavior, social, sensory, intellectual and are inverted correlation at significant level α =0.05, the p-value equal 0.000., except family support with emotional relapse is no at significant level α =0.05, the p-value equal 0.000. No a significant differences between Drug compliance and family support contribute prevent relapse among schizophrenia clients in Gaza strip due to sex, age, social status and monthly income at significant level α =0.05

Conclusion: The study showed strong correlation between drug compliance and family support in preventing relapse among schizophrenia. To engage client in treatment need to support from family and community. The client's attitude towards medication and treatment are important to drug compliance and help in continuity of treatment.

ملخص الدراسة

إسهام الالتزام الدوائي والدعم الأسري يسهم في منع الانتكاسة لمرضى الفصام في قطاع غزة

الطالب: حسن محمد أبو رحمة

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خلفية الدراسة: الالتزام الدوائي والدعم الأسري من الأشياء الهامة التي تساعد في علاج مرضى الفصام. بعض الأشخاص الدين يعانون من الفصام ملتزمون بأخذ العلاج الدوائي فدلك يؤدي إلي الاستقرار والمعافاة من علامات الفصام ويقلل من معدل الانتكاسة لديهم. دور الأسرة يأتي في المتابعة والاستمرارية في أخد العلاج .

أهداف الدراسة: تحديد اتجاه المرضى نحو العلاج،وكذلك مستوي كل من الالتزام الدوائي و دعم الأسرة والانتكاس لمرضى الفصام في قطاع غزة. وهناك أهداف أخرى تهدف إلى تحديد العلاقة بين الالتزام الدوائي والدعم الأسرة في الوقاية من الانتكاس وتقييم أثر كل من الوضع الاقتصادي والجنس والعمر والحالة الاجتماعية على الانتكاس بين مرضى الفصام في قطاع غزة.

منهج الدراسة: تم استخدام المنهج الوصفي التحليلي عن طريق توزيع الاستبيانات علي المرضى في عيادات الصحة النفسية المجتمعية في محافظات قطاع غزة، قد استخدم الباحث البرنامج الإحصائي SPSS لتحليل النتائج. تم اختيار العينة بطريقة قصديه، وهم المرضى الذين شخصوا في العيادات في سنة ٢٠١٠. وتكونت عينة الدراسة من 84 حالة موزعة علي عيادات الصحة النفسية المجتمعية في محافظات قطاع غزة. عدد الحالات التي تم استجابتها بالفعل65 حالة، أي أن نسبة استجابة المرض للدراسة تساوي٧٧,٣٨%. وقد تم جمع المعلومات بواسطة ثلاثة أدوات تم تصميمها بواسطة الباحث عن طريق المعلومات الواردة من الدراسات السابقة، وقد تم فحص صدقها وثباتها من قبل المحكمين والعينة الاستطلاعية، الاستبيانات هي استبانه الالتزام الدوائي و استبانه الدعم الأسري تعبأ بواسطة المريض و استبانه الانتكاس تعبأ بواسطة الأهل ودلك بمساعدة الباحث، حيث كانت هناك مقابلة مع المريض والأهل كل علي حدا.

النتائج: كان اتجاه المرضى نحو العلاج موجبا ٦٥,٩٣%، وكان نسبة الالتزام الدوائي ٧٤,٧٩%، نسبة الدعم الأسري ٨٤,٣١٢% ونسبة الانتكاسة ٢٧,٨%. وكانت هناك علاقة إحصائية دالة موجبة بين اتجاه مرضى الفصام نحو العلاج و التزام المرضى بالعلاج الدوائي عند مستوي الدلالة 0.05= α. وكانت هناك علاقة إحصائية دالة عكسية بين الالتزام الدوائي لمرضى الفصام و الانتكاس عند مستوي الدلالة 0.05= α .كانت هناك علاقة عكسية دالة إحصائيا بين الدعم الأسري لمرضى الفصام و الانتكاس، عدا الانتكاسة العاطفية لا يوجد علاقة عند مستوي الدلالة 0.05= α. كما أظهرت الدراسة انه لا توجد فروق ذات دلالة إحصائية في الدعم الأسري والالتزام الدوائي تعزو إلي العمر والجنس والحالة الاجتماعية والدخل الشهري عند مستوي الدلالة0.05= α.

الاستنتاج: أظهرت الدراسة قوة العلاقة بين الالتزام الدوائي والدعم الأسري في منع الانتكاسة لمرضى الفصام. كما بينت أهمية الدعم الأسري في إدماج المريض في العملية العلاجية، اتجاه المريض نحو العلاج مهم لدلك له دور كبير في الالتزام الدوائي وفي استمرارية المتابعة والعلاج.

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Abbreviations

APA: The American Psychiatric Association

CBT: Cognitive Behavioral Therapy

CPA: Canadian Psychiatric Association

CT: Computed Tomography

DAI: Drug Attitude Inventory

DSM-IV: Diagnostic and Statistical Manual OF Mental Disorders

EE: Emotion Express

EM: Electronic Monitoring

FPE: Family Psycho-Education

GAF: Global Assessment of Function

HB: Health Behavior

HF: Hardships of Family

FS: Family Support

ICD -10: International Classification of Diseases

GCMHP: Gaza Community Mental Health Program

MFG: Multiple Family Groups

MOH: Ministry Of Health

NGOs: Non Governmental Organizations

OR: Odds Ratio

QOL: The Quality Of Life

PCBS: Palestinian Central Bureau Statistics

PBRS: The Brief Psychiatric Rating Scales

SPSS: Statistical Package for the Social Sciences

TCL: Training in Community Living

WHO: World Health Organization

Chapter one
Background

Chapter one

1.1. Background

Gaza Strip is characterized by good social and family cohesions, leading to the Optimism and the confidence among the population, the Palestinian people have social cooperation as one family, because there are a lot of habits, values and good manners that lead to improve mental status and social context, The Palestinians are educated people have experiences in work and life events and able to adapt and deal with changing events.

World Health Organization "WHO" defined the mental health a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and able to make contribution to his or her community (WHO, 2004).

The researcher see that challenges and constraints of the life in Gaza Strip are full of factors that affect mental health and develop the triggers to occurrence of mental illness such as Israel occupation, the siege, unemployment, political conflict, poverty and abuse.

The psychological effects of the siege through the experience of the program of the Gaza Community Mental Health pointed that majority of the Palestinian people are suffering from symptoms of mental illness but that does not mean that the Palestinians are mentally ill. And talking about the visitors to the community centers of adults suffering from mental health problems are increased, including fear, insecurity, aggression, anger, rapid arousal, frustrations of public, low morale, weakness in concentration and attention, a sense of alienation, lack of belonging, loss of trust in others, dull emotional and disorder as well as an increase in relapse (Diab, 2008).

The American Psychiatric Association "APA" defines a mental disorder as “a clinically significant behavioral or psychological syndrome or pattern that occurs in an individual and that is associated with present distress (e.g., a painful symptom) or disability (i.e., impairment in one or more important areas of functioning) or with a significantly increased risk of suffering death, pain, disability, or an important loss of freedom” (Videbeck, 2003)

Schizophrenia is a chronic disorder usually characterized by relapses alternating with periods of full or partial remission. Although antipsychotic medication is effective in reducing relapse rates, 1-3 Combining maintenance though antipsychotic medication therapy with psychosocial approaches has been found to be more effective than pharmacotherapy alone in delaying or preventing relapse and/or reducing hospital days (Marvin et al, 2000).

Schizophrenia is a confusing disease because we have only causal factors for these conditions, the causes of schizophrenia still unknown but have many factors such as hereditary, biological changed in brain, psychosocial problem, viruses and stress. Schizophrenia is probably best viewed as an umbrella term for number of disorders which case significant level of distress and many cases lifelong handicap for sufferer, also produces a considerable burden on both family and health care system (Stuart, 2009).

Schizophrenia is considered as a long life disorder. After the resolution of an acute episode of psychotic symptoms, treatment must be continued to prevent such episodes in the future. Furthermore, negative symptoms and cognitive deficits often remain after the resolution of a psychotic episode, and become the focus of efforts at rehabilitation. Relapse prevention, the mitigation of negatives symptoms, and at least the recognition of cognitive deficits are all essential to improve the quality of life for patients with schizophrenia (Casernansky, 2001).

Community mental health approach began taking interest in the family and the effects of the home environment on mentally sufferers after discharge from the psychiatric institutions. Family support reflects a shift from viewing families as the cause of illness to a source of support for the ill relative. Patients who are still living with their families should be offered a family psychosocial intervention and provided a combination of education about the illness, family support, crisis intervention, and problem solving skills training. Such interventions should also be offered to family caregivers (Stuart, 2009).

Taking antipsychotic medication as prescribed is one of the best means patients have of managing psychotic symptoms and preventing relapse. Yet, for various reasons, patients may discontinue taking their medication or skip doses, either occasionally or frequently. Among patients treated with conventional narcoleptics, approximately 40% stop taking their antipsychotic medication within one year, and about 75% stop taking the medication within 2 years. Although adverse effects play a large role in a patient's decision to discontinue antipsychotic therapy, other factors also have an effect. Using the health belief model, clinicians can assess the relative impact of various factors on medication adherence (Perkins, 1999).

To detect and observe these signs we must focus on the role of family to make follow up and treat the relapse in early time before deterioration and become control case. Lefley she noted that the emphasis on the family in terms of experience of mental illness has shifted from causing the disorders to being viewed as “potential precipitants of relapse” (Lefley, 1989).

Some effective actions to improve compliance are described. Information and communication with the patient, simplification of therapeutic plan, consultation planning and account of side effect are simple and effective actions. Social support is very important for improvement of compliance. The communication attitude of the clinician, therapeutic relation and prescription use are main points of compliance. Compared to a conventional care, psycho educational programmers of compliance show their superiority. More research on compliance evaluation is needed. Information and tools must be proposed to practitioners (Misdrahi et al, 2002).

The uses of health behavior "HB" theories to explain the phenomenon of noncompliance and pose corresponding interventions that might ameliorate the problem. Two factors from HB theories value expectancies (perceptions of the cost and benefits of a disorder and its treatment) and social support (interactions with health care providers and family support), were juxtaposed with the cognitive and social disabilities that result from psychosis and its treatment in the public mental health system. The combination of HB factors and disabilities was a useful heuristic for explaining noncompliance, as well as the positive impact of putative interventions that might improve adherence. Implications of this model for a HB paradigm that explains adherence to treatments in general are proffered (Corrigan, 2002).

By working in the mental health hospital and outpatient clinics the researcher found there are many cases are committed to community mental health services they are did not enter the mental health hospital because make follow up in outpatient clinic, other cases they are not committed in community services, these cases are frequent admission in mental health hospital so the researcher got the ideas for the work of this research.

The background about studies that concern drug compliance and family support and the relationship with prevent relapse is few studies but separately we can get a lot of studies that clarify the relationship between drug compliance and relapse (Morken, et al, 2008) and also other studies deal with relationship between family support ,and contribute prevent relapse (Heru, 2006). The researcher uses each of the family support and drug compliance to contribute in preventing relapse among schizophrenia.

1.2. The problem statement:

The new view of treatment depends on involving family and client in treatment plan with mental health provider. Many clients drop drug treatment after feeling some kind of improvement from psychotic episodes and do not have the support to drug adherence from his family that is lead to relapse. The researcher wants to identify the effect of drug compliance and family support on relapse prevention among schizophrenia client in Gaza strip, through some of the variables.

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1.3. The main question:

Do drug compliance and family support contribute in preventing relapse among schizophrenia in Gaza strip?

1.4. The research questions:

1. What is the client's attitude towards treatment among schizophrenia clients in Gaza strip?
2. Is there a relationship between clients attitude towards treatment and drug compliance among schizophrenia client in Gaza?
3. What is the level of drug compliance among schizophrenia clients in Gaza strip**?**
4. What is the level of family support among schizophrenia clients in Gaza strip**?**
5. What is the level of relapses among schizophrenia clients in Gaza strip**?**
6. Is there a relationship between drug compliance and prevent relapse among schizophrenia client in Gaza?
7. Is there a relationship between family supports and prevent relapse among schizophrenia client in Gaza?

8. Is there a relationship between drug compliance and family support contribute prevent relapse among schizophrenia clients in Gaza strip due to sex?

9. Is there a relationship between drug compliance and family support contribute prevent relapse among schizophrenia clients in Gaza strip due to age?

10. Is there a relationship between drug compliance and family support contribute prevent relapse among schizophrenia clients in Gaza strip due to social status?

11. Is there a relationship between drug compliance and family support contribute prevent relapse among schizophrenia clients in Gaza strip due to Monthly income?

1.5. The significance of the problem:

During training in community mental health clinic most of cases have a few readmission to hospital that diagnosed schizophrenia and in the hospital most of the cases were entered more than time during a year so the researcher need to detect the extent of the relationship between drug compliance and family support to contribute prevent relapse.

The role of family changes from cause of the illness and is to contribute in therapy called family intervention, this study enhances of the recovery and deinstitutionalizations that refer to transfer the client have long time in the hospital to the community.

In Palestine, there is severe lack of studies covering the drug compliance and family support among schizophrenia and this study is considered as the first one.

The rapid increase in relapse rate is necessary to have a close look at their problems, needs and barriers.

The study may provide guidelines for other researchers to conduct future studies.

1.6. The general goal:

The purpose of the study is to identify the association between drug compliance and family support to preventing relapses among schizophrenia in Gaza strip.

1.7. The objectives:

1. To identify the clients attitude towards treatment among schizophrenia clients in Gaza strip**.**
2. To identify the relationship between clients attitude towards medication and drug compliance among schizophrenia client in Gaza strip.
3. To identify the level of drug compliance among schizophrenia clients in Gaza strip**.**
4. To identify the level of family support among schizophrenia clients in Gaza strip**.**
5. To identify the relationship between drug compliance and prevent relapse among schizophrenia client in Gaza strip.
6. To identify the relationship between family support and prevent relapse among schizophrenia client in Gaza.
7. To assess the effect of the economic status, gender, age and marital status at relapse among schizophrenia in Gaza strip.

1.8. Operational definition:

Schizophrenia: Schizophrenia is defined as a psychotic disorder that causes severe mental disturbances that disrupt thoughts, speech, and behavior (Levitt, 2007:1).

Drug compliance: The drug compliance divides to two domains

- **Drug compliance: :** the researcher adopt the definition by Sackett & Hayness (1978) who defined the adherence as the extent to which a person's behavior coincides with the medical advice given (Razali, 2010:68). The researcher use drug compliance and clients attitude towards treatment to evaluate drug compliance among schizophrenia.

- **Clients Attitude towards treatment:** the researcher define clients attitude toward treatment is a complex mental state involving beliefs and feelings and values and dispositions towards treatment.

Family support: Family support is defined by Stuart, (2008) the family is usually the strongest, most reliable support system the mentally ill person has. Building on family strengths while decreasing dysfunctional, energy draining interactions assists both the ill person and the other family members (Algedy, 2010:3). The researcher uses emotional, social and threapeutical domains to evaluate family support.

The relapse: The relapse is defined as a significant worsening in the person's condition or increase in symptoms, Relapse can result from fatigue and weariness at

coping with symptoms, as well as from changing circumstances or discontinuation of medication (Kingdon & Turkington, 2008:158**).** The researcher uses behavioral, social, sensory and intellectually and emotional domains to evaluate relapse rate.

Insight: Later David (1990) came up with the concept of insight which had at least three dimensions: awareness of illness, the capacity to re-label psychotic experiences as abnormal, and treatment compliance (Chakraborty & Basu, 2010:18).

Gaza Governmental Community mental health out clinic: In Gaza strip six Community mental health out clinic distributed in all governorates, they provide services for mental ill clients such as drug therapy, psychotherapy, sessions, home visit, recreational activity and follow up for cases after discharge from hospital. The distributions of out clinic are:

1.Abu Shbak in north Gaza strip.
2.Alsorany in Gaza.
3.West Gaza.
4.Alnusirat in middle Gaza strip.
5.Khan Younis in south Gaza strip.
6.Talelsoltan in south Gaza strip.

Recovery: The same theoretical definition the definition by Resnick et al (2005) the concept of "recovery" conveys an alternative philosophy of hope and optimism that many persons who diagnosed with schizophrenia are capable of establishing productive, fulfilling lives as members of society. and that views recovery as a process representing the belief that all individuals can develop hope for the future, participate in meaningful activities, exercise self-determination, and live in society without discrimination (Shean, 2010:133).

1.9. Context of the study

1.9.1. Geographical distribution:

Based on the report of the ministry of health (MOH) and world health organization WHO, Gaza strip is a narrow piece of land with total area 360 sq. Km lying on the coast of the Mediterranean Sea. The area has a dense population mainly concentrated in the cities and small villages (MOH&WHO, 2003).

1.9.2. The population density:

MOH, (2006) In Gaza Strip, the population density is 3,808 inhabitants/km2 that comprises the following main five governorates: (MOH, 2006:2)

North of Gaza constituted 17% of the total area of Gaza strip and 1.0% of total area of Palestinian territory area with area 61 sq. Km. The total number of population living in North Gaza is to be 265,932 individuals in 2005 with capita per sq Km 4,360.

Gaza City constituted 20.3% of the total areas of Gaza strip and 1.2% of total area of Palestinian territory area with area 74 sq. Km. The total number of population living in Gaza City is 487,904 individuals in 2005 with capita per sq Km 6,593.

Mid-Zone constituted about 15% of the total area of Gaza Strip and 1.0% of total area of Palestinian territory area with area 58 sq. Km The total number of population living in Mid-Zone is 201,112 individuals in 2005 with capita per sq Km 3,467.

Khan younis constituted about 30.5% of the total area of Gaza strip and 1.8% of total area of Palestinian territory area with area 108 sq. Km. The total number of population in Khan younis is 269,601 individuals in 2005 with capita per sq Km 2,496.

Rafah constituted about 16.2% of the total area of Gaza strip and 1.1% of total area of Palestinian territory area with area 64 sq. Km. The total number of population in Rafah is 165,240 individuals in 2005 with capita per sq Km 2,582.

1.9.3. Population Size and Structure:

The Palestinian central bureau of statistics "PCBS" informed about the total number of Palestinian people according to the estimation in end 2010 was (4,108,631). In Northern governorate (West Bank) 2,546,725 and in Southern governorate (Gaza Strip) 1,561,906**.** Age distribution of the Population has important implications for the health status of the population, due to the different health needs, the differential patterns of health care utilization and the different health status among the various age groups. The age and sex distribution of population (44.4 %) is under 15 years old. The age group (0-4) years is (14.7%), while for the ages over 65 years constitutes only (2.4%). Number of male in Gaza strip is 792,850 and female 769,056 (PCBS, 2011:10).

1.9.4. The state of mental health care in Gaza strip:

Mental health care is provided by the government, and by the non-governmental sector. Gaza Hospital, established in 1979 and rehabilitated in 1994, has 40 beds. Both hospitals use a traditional biological approach, with conventional pharmacological therapies and, at Bethlehem, electroshock therapy. Non-governmental and non-profit organizations working in this field is the Gaza Community Mental Health Programme (GCMHP). The GCMHP adopts a community-based approach to tackle mental health problems. It has centres across the whole Gaza Strip. The GCMHP offers community and clinical mental health services through its multidisciplinary teams, produces research studies, publishes articles in international journals, and gives training courses in community mental health. It has established a postgraduate diploma in community mental health and human rights that is unique in the Middle East (Afana et al, 2004)

Chapter two

Theoretical Framework

Chapter two

2.1. Introduction

Schizophrenia has been problematic in terms of causation and classification since it was first described over a century ago, initially as dementia praecox. It has also become very stigmatized and misunderstood condition. Schizophrenia can now be diagnosed reliably using criteria developed over the past few decades and is recognized as a diagnostic entity by international classification systems (Kingdon& Turkington, 2008:1).

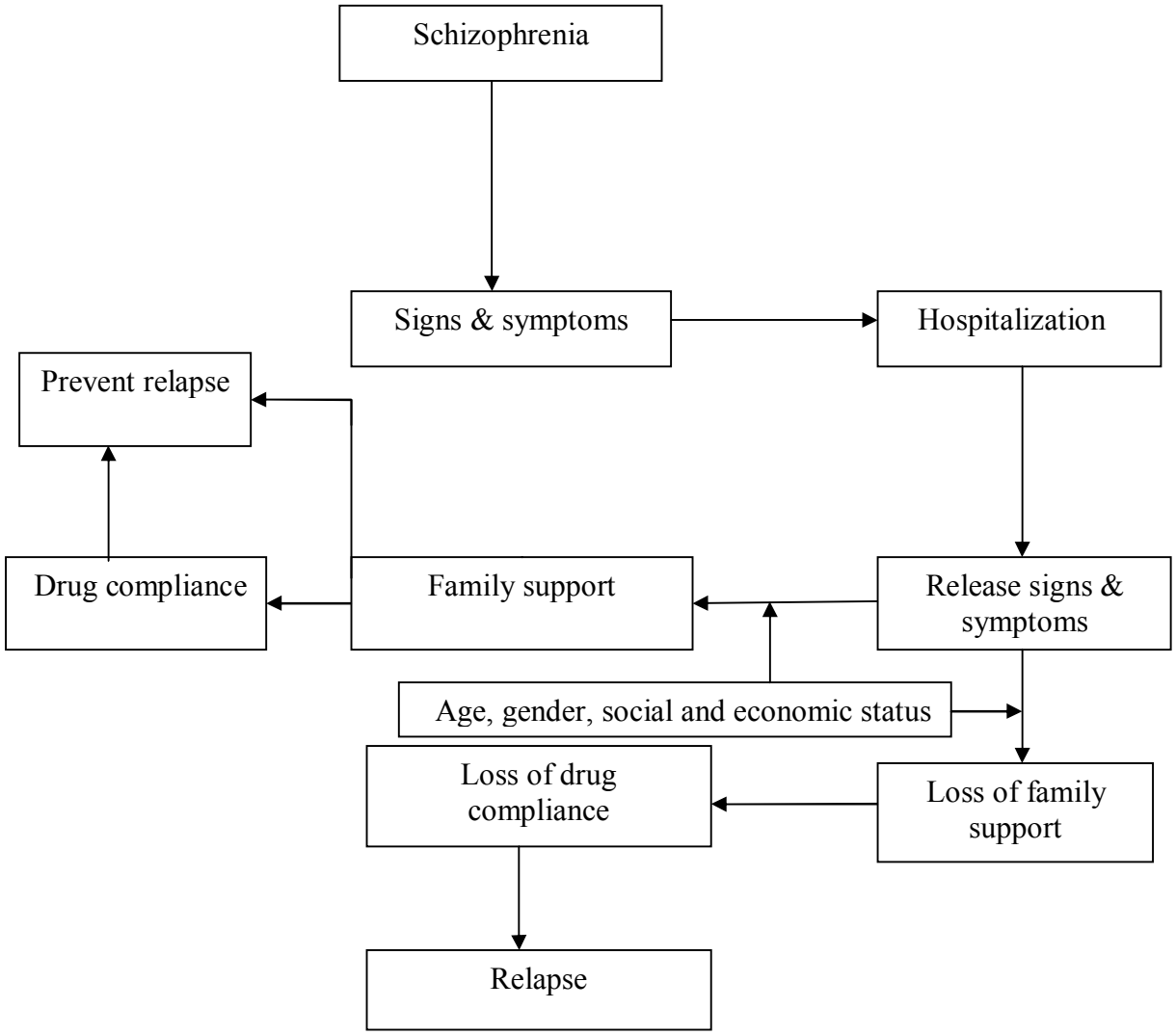
Schizophrenia is a clinical syndrome of variable, but profoundly disruptive, psychopathology that involves cognition, emotion, perception, and other aspects of behavior. The expression of these manifestations varies across patients and over time, but the effect of the illness is always severe and is usually long lasting. The disorder usually begins before age 25, persists throughout life, and affects persons of all social classes. Both patients and their families often suffer from poor care and social ostracism because of widespread ignorance about the disorder. Although schizophrenia is discussed as if it is a single disease, it probably comprises a group of disorders with heterogeneous etiologies, and it includes patients whose clinical presentations, treatment response, and courses of illness vary. Clinicians should appreciate that the diagnosis of schizophrenia is based entirely on the psychiatric history and mental status examination. There is no laboratory test for schizophrenia (Sadock, 2009: 468).

Aandrea et al, (2008) found the most people who experience schizophrenia have the disorder diagnosed in late adolescence and early adulthood. When schizophrenia begins earlier than age 25 years, symptoms seem to develop more gradually, and negative symptoms predominate throughout the course of the disease. People with early-onset schizophrenia experienced a greater number of neuropsychological problems (Boyd, 2008:271).

The schizophrenia have a Disability results particularly from negative symptoms and cognitive deficits, features that can have a greater impact on long-term functioning than the more dramatic delusions and hallucinations which often characterize relapses. The social and economic impact of the illness is enormous, and its impact on sufferers and their families can be devastating (Stevan et al, 2002:1).

2.2. Model of the decrease of relapse*:

This self model points to the clients with schizophrenia who have psychotic episodes, when the clients committed to treatment and have family support the relapse rate will decrease. Moreover the role of age, gender, social status and economic status are in increasing and decreasing relapse rate.



* The researcher developed Conceptual framework, this model clarifies the important of drug compliance and family support in decrease relapse

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2.3. Definition of schizophrenia:

The researcher go to there aren't any limited definitions for schizophrenia but rather it is defined according signs and symptoms, since pathophysiology and causes are still unclear, we have many theories and factors that interpret the schizophrenia. Both signs and symptoms are indicating to disorder.

Generally speaking, schizophrenia is defined as a psychotic disorder that causes severe mental disturbances that disrupt thoughts, speech, and behavior (Levitt, 2007:1).

Another one define it as a mental illness characterized by disordered thinking, delusions, hallucinations, emotional disturbance, and withdrawal from reality (Strickland, 2001:558).

2.4. Prevalence of Schizophrenia in Populations:

The prevalence rate of schizophrenia in general population is 1% , Non-twin sibling of a schizophrenia patient 8% , Child with one parent with schizophrenia 12%, Dizygotic twin of a schizophrenia patient 12%, Child of two parents with schizophrenia 40% and Monozygotic twin of a schizophrenia patient (Sadock & Sadock, 2007:470).

The effect of gender that has been consistently reported in schizophrenia littérateur. Lewine, (1988), found Despite a similar total cumulative risk of developing schizophrenia for male and female, the mean age onset for woman in industrialized societies appear to be higher than for males by five years (Shean, 2004:42).

2.5. Etiology:

Whether or not schizophrenia is an organic disease with underlying physical brain pathology has been an important question for researchers and clinicians for as long as they have studied the illness. In the first half of the 20th century, studies focused on trying to find a particular pathologic structure associated with the disease.

In the 1950s and 1960s, the emphasis shifted to examination of psychological and social causes. Interpersonal theorists suggested that schizophrenia resulted from dysfunctional relationships in early life and adolescence Newer scientific studies began to demonstrate that schizophrenia results from a type of brain dysfunction. In the 1970s, studies began to focus on possible neurochemical causes these neurochemical/neurologic theories are supported by the effects of antipsychotic medications, which help to control psychotic symptoms, and neuroimaging tools such as computed tomography (CT), which have shown that the brains of people with schizophrenia differ in structure and function from the brains of control subjects (Videbeck,2003:299).

The cause of schizophrenia is still unclear. Some theories about the cause of this disease include genetics (heredity) factors and environmental factors, biology factor (the imbalance in the brain's chemistry); and Neuropathology factors, Stress factors and social factors.

2.5.1. Genetic and environmental Factors:

There is a genetic contribution to some, perhaps all, forms of schizophrenia, and a high proportion of the variance in liability to schizophrenia is due to additive genetic effects. For example, schizophrenia and schizophrenia-related disorders (e.g., schizotypal, schizoid, and paranoid personality disorders) occur at an increased rate among the biological relatives of patients with schizophrenia, In the case of monozygotic twins who have identical genetic endowment, there is an approximately 50 percent concordance rate for schizophrenia the monozygotic twin data clearly demonstrate the fact that individuals who are genetically vulnerable to schizophrenia do not inevitably develop schizophrenia (Sadock & Sadock, 2007:470).

Cardno AG and Gottesman (2000) Scientists have long known that schizophrenia runs in families. The illness occurs in 1 percent of the general population, but it occurs in 10 percent of people who have a first-degree relative with the disorder, such as a parent, brother, or sister... The risk is higher for an identical twin of a person with schizophrenia. He or she has a 40 to 65 percent chance of developing the disorder. Scientists think interactions between genes and the environment are necessary for schizophrenia to develop. Many environmental factors may be involved, such as exposure to viruses or malnutrition before birth, problems during birth, and others not yet known psychosocial factors (National Institutes of Health, 2009:6).

Most genetic studies have focused on immediate families (i.e., parents, siblings, offspring) to examine whether schizophrenia is genetically transmitted or inherited. Few have focused on more distant relatives. The most important studies Cancro & Lehman (2000) have centered on twins; these findings have demonstrated that identical twins have a 50% risk for schizophrenia, whereas fraternal twins have only a 15% risk. This finding indicates that schizophrenia is at least partially inherited. Other important studies have shown that children with one biologic parent with schizophrenia have a 15% risk; the risk rises to 35% if both biologic parents have schizophrenia. Identical twins have only a 50% risk even though their genes are 100% identical (Videbeck, 2003:300).

Brady & Miller (1985) reported a correlation between rate of flu during times mother were in their second trimester of pregnancy and rate of subsequent births of schizophrenia patients (Shean, 2004:42).

Study by Villeg (2008) a bout environmental factor found that the incidence rate ratio of psychotic disorders increased among immigrants, which included Moroccans, Surinamese and Turks, compared with the native Dutch population. Immigrants living in low ethnic density neighborhoods had an increased risk of psychosis compared with immigrants living in high ethnic density neighborhoods (Thaker & Carpenter, 2009:22).

2.5.2. Stress hypothesis:

The stress-diathesis model seeks to bring much of what is known about the cause of schizophrenia together into one model of understanding. The basic assumption behind the stress-diathesis model is that individuals are exposed to stressful events in the course of their lives and that these events may precipitate symptoms in some people who have a predisposition to mental illnesses. Essential to this theory is the notion that some people are more vulnerable to mental illness than others. Van

Heeringen (2000), in the case of schizophrenia this vulnerability may be related to genetics, environmental factors aberrations in brain anatomy or biochemistry or, increasingly likely, a combination of all these things (Elder et al, 2005:221).

There is no specific study that shows a correlation with stress and schizophrenia. Studies do show that stress does affect relapse and exacerbation of schizophrenia. According to the literature, there is evidence of a correlation among several factors such as genetic predisposition to schizophrenia with the presence of stressful events may contribute to the development of schizophrenia (Kathleen et al, 2005:8).

2.5.3. Dopamine Hypothesis:

Dopamine hypothesis consist of two separate parts, the first one is dopamine hypothesis of schizophrenia and second one is dopamine hypothesis of antipsychotic drugs. The first state that the symptom of schizophrenia are owing to an increased dopamine transmission, the second states is that therapeutic effect of antipsychotic drugs result from their inhibiting action on dopamine transmission (Schmidt & Reith, 2005: 154).

Antipsychotic drug were found to blocking dopamine it is receptor sites this leads to the hypothesis that the brain was producing dopamine in excess of normal level Over production of dopamine has been evidence of a neurological dysfunction so there should be dysfunction of the dopaminergic system and cause schizophrenia (Noll, 2007:137).

2.5.4. Neuropathology Hypothesis:

CT scans of patients with schizophrenia have consistently shown lateral and third ventricular enlargement and some reduction in cortical volume. Some studies have concluded that the lesions observed on CT scan are present at the onset of the illness and do not progress. A reduced symmetry in several brain areas in schizophrenia, including the temporal, frontal, and occipital lobes, this reduced symmetry is believed by some investigators to originate during fetal life and to be indicative of a disruption in brain lateralization during neurodevelopment (Sadock & Sadock, 2007:470).

A review of 65 studies of individuals with schizophrenia who had never been treated with antipsychotic medications indicates significant abnormalities in brain structure and function. Neurological and neuropsychological measures show the most consistent and largest group differences between those affected and normal controls. The brain abnormalities implicate a variety of interrelated brain regions, primarily the medial temporal, prefrontal, thalamic, and basal ganglia areas. It is concluded that schizophrenia is a brain disease in the same sense that Parkinson's disease and that the brain abnormalities in schizophrenia are inherent in the disease process and not medication-related (Torrey, 2002).

2.5.5. Social factor:

An important implication of any social theory is that the affects of social factors may operate by impacting not only on brain development but also on psychological process that contribute to the symptom of schizophrenia (Keshavan et al, 2004:238).

Several investigations indicate that social factors, e.g., low socioeconomic status, single status, ethnic group, are significantly associated with the prevalence of schizophrenia to explain this relationship most investigators favor the hypothesis of social selection rather than a social causation (Weyerer, 1994:795).

2.6. Mental Status Examination (CLINICAL FEATURES):

The purpose of mental state examination is to obtain information to reach an attentive diagnosis; it is the diagnosis of general cerebral function. It is designed to detect abnormal function, they remain primarily subjective measures that begin the moment the patient enters the office. The first observation is made to the level of consciousness. The mental status examinations have many domains to assess clients and collect information to create an accurate diagnosis, this domains conduct by (Sadock, 2007:482) & (Bostrom & Boyd, 2008:270):

2.6. 1. General appearance, Mood and Affect:

General appearance, such as May screaming, agitated or violent, obsessive, groomed, or:

- Catatonic completely silent, talkative and immobile person, may exhibit bizarre postures (patient is immobile, demonstrating waxy flexibility, position elevated without support, catatonic stupor.
- Bizarre behavior (odd clumsiness or stiffness in body movements, (signs indicating a disease in the basal ganglia), tics, stereotypes, mannerisms, perseveration, automatic obedience, echopraxia.
- Impulsiveness: impulsive behavior, including suicide and homicide attempts, may be in response to hallucinations.
- Violence: (excluding homicide) Delusions of a persecutory, previous episodes of violence, and neurological deficits are risk factors for violent or impulsive behavior
- Reduced emotional responsive (anhedonia)
- Active inappropriate: as extremes of rage, happiness, feelings of omnipotence, religious ecstasy, terror, anxiety
- Flat or blunted: affect can be a symptom of the illness itself, of the parkinsonian side effect, of antipsychotic medications, of depression.

- Ambition may be absent or unrealistic wishes as to be active or famous person.
- Interest in the environment is difficult to generate and maintain, ambivalence, resulting from conflicting wishes or desires, or to an inability to generate interest internally (Sadock & Sadock, 2007:482).

2.6. 2.Perceptual Disturbances:

Sadock & Sadock, (2007) defined the Perceptual defect is the inability to habituate or suppress external stimuli or internal thought processes such as

- Hallucinations: (sensory experiences occur without related environmental stimuli).
- Auditory hallucinations sounds holding conversations, hearing voices speaking about the patient in the third person, or comments about the patient, and hearing a single voice telling the patient to commit some action. Patients may hear their own voice spoken aloud.
- Visual hallucinations more common in organic mental disorders.
- Other hallucinations (somatic, gustatory, olfactory) (e.g. unpleasant odor etc.).
- Illusions (distortions of real images or sensations). Illusions can occur in schizophrenic patients during active phases, the prodromal phases and during periods of remission (Sadock & Sadock, 2007:482).

2.6. 3. Thought Disorders:

Bostrom & Boyd, (2008), point to type thought disorders and signs and symptoms that reflect thought problem such as

- The core symptoms of schizophrenia. Disorders of thought content reflect the patient's ideas, beliefs, and interpretations of stimuli.
- The disturbances of thought in content form of thought, and process. **A-Thought content:**
- Delusions (firm fixed unchangeable ideas, may be simple in their organization or may be highly complex and systematized)
- Types of delusions: The believe may be bizarre (for example, by causing the sun to rise and set or by preventing earthquakes,).
- Delusions of persecution: (ideas that others are trying to harm, spy on, influence, humiliate or interfere with the patient's affairs.)
- Grandiose delusions (more common in patients with mania than schizophrenia who may feel as if they are central figures in the complex delusional systems in the environment) (Bostrom & Boyd, 2008:270)**.**

B-Form of thought:

Observable in patient's spoken and written language:

- The disorders include looseness of associations, derailment, incoherence, tangentially, circumstantialities, neologisms, and echolalia. Verbigeration, word salad, and mutism.
- Examples of loosening of associations follow:
- Neologism: (Word use may be highly idiosyncratic and individualized, or created).
- Abnormal concept formation; patients are unable to exclude irrelevant or competing ideas from their consciousness; thinking becomes over inclusive.
- Concreteness (abstraction); the ability to form abstract ideas may be severely impaired, and concrete interpretations of abstract ideas.

C- Language structural problems include:

- Neologisms, Verbigeration, (the persistent repetition of words or phrases), Echolalia (a repetition of the words or phrases of the examiner), Mutism (a functional inhibition of speech and vocalization), Word salad (a complete lack of language).
- Poverty of content it may be complex, concrete, or limited in overall productivity, Thought blocking (is an internal interruption in a patient's speech and flow of thought).

D- Thought process:

- Disorders of thought process: flight of ideas, thought blocking, impaired attention, poverty of thought content, poor abstraction abilities, perseveration, idiosyncratic associations (as clang associations), over inclusion and circumstantialities (Bostrom & Boyd, 2008:270).

2.6. 4. Cognition:

Conducted by Sadock &Sadock, (2007)**,** to assess the cognitive such as:

- Orientation: Patients with schizophrenia are usually oriented to person, time, and place. The lack of such orientation clinicians most investigate of a medical or neurological brain disorder.
- Memory: Memory, as tested in mental status examination, is usually intact.
- Judgment and Insight: schizophrenics have poor insight to the nature and the severity of their disorder. The so-called lack of insight is associated with poor compliance with treatment.

- Reliability: A patient with schizophrenia is no less reliable than is any other psychiatric patient (Sadock & Sadock, 2007:485).

2.6.4. Insight:

Patients with schizophrenia are described as having poor insight into the nature and the severity of their disorder. Lack of insight is associated with poor compliance with treatment (Sadock, 2007:486).

2.7. The positive symptom:

Positive symptoms are not positive in sense of being affirmative. They are positive in sense of existing or being present as opposed to being absent or deficient. Positive symptoms are seen as additions to normal functions these additional, unwanted contributions exaggerate or distort hearing, speaking, and thinking. Positive symptom includes:

- Delusion such as the patients belief that other are plotting against him or that he is a great historical personality.
- Hallucination, which are usually auditory and involve hearing voice.
- Strange, distorted, or larger-than- life ideas, behavior, or perceptions (Haycock & Shaya, 2009:53)

2.8. Negative symptoms:

Are not as dramatic as positive symptoms, but they can interfere greatly with the patient's ability to function day to day. Because expressing emotion is difficult for them, people with schizophrenia laugh, cry, and get angry less often. Their affect is flat, and they show little or no emotion when personal loss occurs. They also suffer from ambivalence, which is the concurrent experience of equally strong opposing feelings so that it is impossible to make a decision. Volition may be so profound that simple activities of daily living, such as dressing or combing hair, may not get done. Anhedonia prevents the person with schizophrenia from enjoying activities. These negative symptoms cause the person with schizophrenia to withdraw and suffer feelings of severe isolation (Bostrom and Boyd, 2008:268).

The negative symptoms are associated with disruptions to normal emotions and behaviors. These symptoms are harder to recognize as part of the disorder and can be mistaken for depression or other conditions. These symptoms include "Flat affect" (a person's face does not move or he or she talks in a dull or monotonous voice) Lack of pleasure in everyday life Lack of ability to begin and sustain planned activities Speaking little, even when forced to interact. People with negative symptoms need help with everyday tasks. They often neglect basic personal hygiene. This may make them seem lazy or unwilling to help themselves, but the problems are symptoms caused by the schizophrenia (National Institution of Mental Health, 2009:3).

2.9. Schizophrenia subtypes:

Subtypes of schizophrenia are characterized by particular constellations of symptoms and include the paranoid, catatonic, hebephrenic (or "disorganized"). Patients whose illness does not fall into any of these subtypes are said to have an "undifferentiated" subtype. Different subtypes may have different prognoses. Furthermore, knowing the subtype allows one to predict with better confidence how any given patient might react in any specific situation.

2.9.1. Paranoid type:

This subtype is associated with a slightly later onset (Twenties to thirties). Paranoid delusions and unfounded suspiciousness are dominant features along with hallucinations and ideas of reference. This subtype is one of the more common presentations of schizophrenia. The individual suffering from this disorder often performs quite well socially and occupationally. Often there is consistency between the hallucinatory material and the delusional thinking. For example, an individual may be suspicious of his or her neighbor. The individual may be experiencing hallucinatory voices that serve as a warning that he or she is in danger. Consistent with this hallucinatory material, the individual may believe that the neighbor is a spy. In addition to delusions of persecution, the individual may begin to feel that he or she has some special social or religious significance. These feelings then result in secondary delusions of a grandiose or religious nature (Elder et al, 2005:221)

The symptoms of this type include delusions and hallucination. These patients do not experience negative symptoms, meaning that they rarely lose the ability to talk clearly, paranoid schizophrenia usually responds quite well to medication (Vague & Levitt, 2007:24).

2.9.2. Catatonic type:

Catatonic schizophrenia marked by stupor, rigidity, unresponsiveness, posturing, and mutism and sometimes agitated purposeless behavior. Catatonic schizophrenia brings about stuporous condition in which odd positions may be held for hours or even days (Coon & Mitterer, 2008:471).

2.9.3. The disorganized type:

Characterized by disinhibited, disorganized and regressive behavior. The onset of the disorder is usually in the early twenties. The person's activities are described as purposeless and non-constructive. Their affect is described as garrulous and inappropriate, marked by bouts of un stimulated laughter and grimacing. In lay terms, people experiencing this disorder are often described as 'silly' in their behavior and appearance. The extreme levels of disorganized thought and behavior make meaningful occupational activity, such as work or study, difficult or impossible. In the disorganized type of schizophrenia the following criteria are disorganized speech, disorganized behavior and flat or inappropriate affect (Elder et al 2005:221).

2.9.4. Undifferentiated type:

In this type there is a category used for patients who do not meet the criteria for any other subtype, these patients may meet general minimum criteria for schizophrenia but do not exhibit a pattern of symptoms that is consistent with any subtype (Veague & Levitt, 2007:25).

2.9.5. Residual schizophrenia:

According statistical manual of mental disorders "DSM-IV-TR", (2000) criteria of Residual schizophrenia is generally used when there has been at least one episode of schizophrenia but no current positive psychotic symptoms (eccentric behavior, disorganized speech, or odd beliefs) are present. Assessment of the disturbance is evidenced by the chronicity of negative symptom for example poverty of speech, flat affect or volition. The course of residual schizophrenia can be limited and represent a transition between full-blown episode and remission. However it could last for years with or without acute exacerbations (Telles, 2008:10).

2.10. Prognosis:

The paranoid schizophrenia is more hopeful than other type and more responsive to proper treatment and most likely to qualify for the course of a single episode in full remission .disorganized schizophrenia is poor prognoses, stemming from an early pre-morbid history of impaired adjustment that continues after the active phase of disorder. The catatonic schizophrenia depend on age of onset which is often early 20s-30s, if client has developed support system before illness he will probably recover form acute phase. The undifferentiated schizophrenia generally poor prognoses (Elhgar, 2000:94).

2.11. Diagnosis of the schizophrenia:

In the absence of biological marker, diagnosis of schizophrenia relies on examination of mental state, usually through a clinical interview, and observation of the patient's behavior. The two major current classification systems to diagnosis of schizophrenia, diagnostic and statistical manual of mental disorders "DSM-IV" and International Classification of Diseases "ICD -10". No wide differences between two systems, there are put some criteria for diagnosis.

Both ICD-10 and DSM-IV agree on the symptom clusters that confirm a diagnosis of schizophrenia. There are three main domains, including: psychotic symptoms, such as certain types of auditory hallucinations (hearing voices), delusions ('paranoia' and 'telepathy') and thought disorder (incomprehensible speech); negative symptoms, such as poor self-care, reduced motivation, reduced ability to experience pleasure, alogia (reduced production of thought), affective blunting (lack of emotional expression) and reduced social functioning and the rarer symptom of catatonia. ICD-10 requires that at least one such diagnostic symptom from one of the three domains should be clearly present for 1 month. ICD-10 also confirms the diagnosis if two of these symptoms have been present in a less clear manner over the same time frame.

The diagnosis is not made in the presence of prominent mood symptoms, such as depression or mania. In DSM-IV there is agreement with ICD-10 that diagnostic symptoms need to be present for at least 1 month. It also stipulates that there should be evidence of ongoing symptoms persisting for at least six months. Schizophrenia (National Collaborating Centre for Mental Health, 2010:19).

2.11.1. Current Definition and Diagnostic Criteria for Schizophrenia by "DSM-IV-TR":

Schizophrenia and other psychiatric disorders are marked by similar symptoms. The following criteria are utilized in the diagnosis of schizophrenia according to Diagnostic and Statistical Manual of Mental Disorders by American psychiatric associations "APA".

A. Characteristic symptoms:

Two (or more) of the following, each present for a significant portion of time during a 1-month period (or less if successfully treated):

1. Delusions
2. Hallucinations
3. Disorganized speech (e.g., frequent derailment or incoherence)
4. Grossly disorganized or catatonic behavior
5. Negative symptoms, i.e., affective flattening, logia, or a volition.

B. Social/occupational dysfunction: For a significant portion of the time since the onset of disturbance, one or more major areas of functioning such as work, interpersonal relations, or self care are markedly below the level achieved prior to the onset (or when the onset is in childhood or adolescence, failure to achieve expected level of interpersonal, academic, or occupational achievement).

C. Duration: Continuous signs of the disturbance persist for at least 6 months. This period must include at least 1-month of symptoms (or less if successfully treated) that meet Criterion A (i.e., active phase symptoms) and may include periods of prodromal or residual symptoms. During these prodromal or residual periods, the signs of the disturbance may be manifested by only negative symptoms or two or more symptoms listed in Criterion a present in an attenuated form (e.g. odd beliefs, unusual perceptual experiences).

D. **Schizoaffective and Mood Disorder exclusion**: Schizoaffective Disorder and Mood Disorder with Psychotic Features have been ruled out because either

(1) No Major Depressive, Manic, or Mixed Episodes have occurred during active-phase symptoms.

(2) If mood episodes have occurred during active-phase symptoms, their total duration has been brief relative to the duration of the active and residual periods.

E. Substance/general medical condition exclusion: The disturbance is not due to the

Direct physiological effects of a substance (e.g., drug of abuse, a medication) or a general medical condition.

F. Relationship to a Pervasive Developmental Disorder: If there is a history of Autistic Disorder or another Pervasive Developmental Disorder, the additional diagnosis of Schizophrenia is made only if prominent delusions or hallucinations are also present for at least a month or less if successfully treated (A P A,2000:312).

2.11.2. The Axes of Diagnosis:

Psychiatrists and psychologists use criteria in the DSM-IV, or Diagnostic and Statistical Manual, to diagnose a patient. If you are not familiar with this manual:

Axis I Clinical syndromes that are the focus of the diagnosis

Clinical syndromes that are the focus of the diagnosis, on this line, the diagnostician writes the DSM code for the particular disorder, followed by the name of the disorder. This line includes any extra notes as well, such as whether the disorder is "early onset". This line might include common clinical syndromes such as obsessive compulsive disorder, dysthymic disorder, or panic disorder. Axis I includes less common disorders such as schizophrenia and autism. Axis I also includes any appropriate V Codes. V Codes are defined in the DSM-IV as "other conditions or problems that may be a focus of clinical attention" such as "Noncompliance with Treatment" or "Parent-Child Relational Problem."

Axis II: Long standing chronic conditions that may affect the clinical syndromes listed in Axis I

Long standing chronic conditions that may affect the clinical syndromes listed in these conditions include mental retardation and personality disorders. Typified as any permanent, usually genetic condition of the patient, personality disorders affect the way an Axis I syndrome manifests itself in a patient. For example, a patient with obsessive compulsive tendencies ought to be treated differently if they also suffer from a schizoid personality disorder. Note: The newest version of DSM-IV no longer includes passive-aggressive personality disorder as a personality disorder, which is listed in the respective node.

Axis III: Medical conditions:

Medical conditions this broad category includes any of the patient's relevant medical conditions, such as diabetes or physical injury. It should be noted that Downs Syndrome is considered an Axis III medical condition, because the syndrome is a holistic disorder affecting the entire body, and not just a mental disorder. The focus of the diagnosis (conditions listed in Axis I or II), of course, might be direct results of a more basic problem here in Axis III, such as a mood disorder that results from the debilitating circumstances of a spinal injury.

Axis IV: IV: **Psychosocial and environmental stressors that may affect the clinical syndromes listed in Axis I:**

Psychosocial and environmental these non-clinical, albeit medically significant, stressors on the individual include economic, social, or criminal barriers. Examples include whether the patient is homeless, currently under foster care, or living in jail. Just as with Axis II, these stressors affect the patient's clinical syndromes.

Axis V: Axis V: GAF Score (1 - 100)

Score the Global Assessment of Functioning "GAF" Scale is a relatively subjective score given on a scale between 0 and 100, used to quickly communicate the general mental health of the patient. Every tenth value on the scale corresponds to specific criteria, with the numbers in-between representing a more specific assessment of functioning. The higher the score, the healthier the patient (A P A: 2000).

2.12. Stages of Schizophrenia:

By Canadian Psychiatric Association "CPA", (2007) the medical and research communities have agreed that there are three distinct phases' people go through when they have schizophrenia:

Phase 1: Acute this is when major symptoms make it clear that the individual needs medical help. It may come on very gradually or quite suddenly.

Phase 2: Stabilization this is the time when the illness is out of the acute stage and symptoms are reduced.

Phase 3: Stable or chronic the acute symptoms are being managed but there may be difficulty with ability to function and periodic relapses into Phase 1 and 2 (C P A, 2007:4)

2.13. Treatment of schizophrenia:

Schizophrenia has historically been very difficult to treat, usually requiring hospitalization during its acute stage. In recent decades, antipsychotic drugs have become the most important component of treatment. They can control delusions and hallucinations, improve thought coherence and if taken on a long-term maintenance basis are prevent relapses. However, antipsychotic drugs do not work for all schizophrenics and their use has been complicated by side effects, such as akathisia (motor restlessness), dystonia (rigidity of the neck muscles), and tardive dyskinesia (uncontrollable repeated movements of the tongue and the muscles of the face and neck). In addition, many schizophrenics resist taking medication because of the side effects, others because they may feel better and mistakenly decide they don't need the drugs anymore, or because being dependent on medication to function makes them feel bad about themselves. The tendency of schizophrenics to discontinue medication is very harmful. Each time a schizophrenic goes off medication, the symptoms of the disease return with greater severity, and the effectiveness of the drugs is reduced (Strickland, 2001:559)

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There is no cure for schizophrenia at this time. It is a chronic disorder, so an affected individual has to deal with a lifetime treatment. Treatment of the disease focuses on managing the symptoms and can include hospitalization, medication and psychosocial treatment. Individuals who are suffering from severe hallucinations, delusions, inability to care for themselves, abusing alcohol or drugs, and/or suffering from suicidal thoughts may require hospitalization. Civil rights protections require that evidence must exist that one is a danger to oneself or others in order for hospitalization to occur (O'brien, 2005:5).

2.13.1. Treatment planning and medication management:

Good practice involves in planning and medication management:

- A collaborative positive approach to working with users where arguing is avoided.
- A careful assessment of :
    - The positive and negative effect of medication.
    - The user's views of medication.
    - The users understand of medication.
    - The user's and careers experiences of illness and treatment.
- Exchanging information with service users about their problems, treatment options and goal.
- Multidisciplinary medication review, tailoring medication regimen to suit the service user, for example, the time of medication, dose and formulation.
- Using motivational interviewing to explore users past experience of treatment and their ambivalence about taking medication.
- The use of cognitive behavior technique to discuss user's beliefs and views about medication (Newell & Gournay, 2009:124).

2.13.2. Early intervention:

Services are defined as a service approach with focus on the care and treatment of people in the early phase (usually up to 5 years) and including the prodromal phase of the disorder. The service may be provided by a team or a specialized element of a team, which has designated responsibility for at least two of functions, early identification and therapeutic engagement of people in the prodromal phase, provision of specialized pharmacological and psychosocial interventions during or immediately following a first episode of psychosis and education of the wider community to reduce obstacles to early engagement in (National Collaborating Centre for Mental Health, 2010:28).

The study of Sanbrook et al found the early intervention patients had significantly higher levels of interaction with staff and were more likely to receive atypical antipsychotic medication, though at equivalent peak dosages, and improved clinically with reduced symptoms and improved psychosocial functioning at the end of the six month follow-up period (Sanbrook et al, 2003:2).

2.13.3. Hospitalization:

The researcher see the Mental health hospital in Gaza Strip, clients with schizophrenia are received with acute signs and symptoms such as agitation, violence on self or other, hallucination and delusion that disturb daily life of client, the most of cases were non compliance for medication and lack of family support. The Hospitalization can be voluntary (requested by the patient themselves) or involuntary (by family or police).After getting treatment and signs and symptoms subside, the client's link with community mental health to follow up.
Hospitalization is usually indicated for patients who are considered to pose a serious threat of harm to themselves or others or who are so severely disorganized or under the influence of delusions or hallucinations that they are unable to care for themselves and need constant supervision or support. Other possible indications for hospitalization include general medical or psychiatric problems that make outpatient treatment unsafe or ineffective (e.g., if a patient's psychiatric status continues to deteriorate despite optimal care in the community). Patients who cannot be adequately cared for in non-hospital settings should be hospitalized voluntarily if possible. If patients decline voluntary status, they can be hospitalized involuntarily if their condition meets the criteria for involuntary admission of the local jurisdiction (Lehman et al, 2010:54).

Hospitalization is indicated for diagnostic purposes, for stabilization of medications, for patients' safety because of suicidal or homicidal ideation and for grossly disorganized or inappropriate behavior, including the inability to take care of basic needs such as food, clothing, and shelter. Establishing an effective association between patients and community support systems is also a primary goal of hospitalization (Sadock & Sadock 2007:488).

2.13.4. Antipsychotic drug:

First antipsychotic drug were discovered accidently in 1950s when a putative antihistamine (chlorpromazine) was serendipitously observed to have antipsychotic effect when tested in schizophrenia patients. Chlorpromazine not mediated by this property. Once chlorpromazine was observed to be an effective antipsychotic agent, it was tested experimentally to uncover it is mechanism of antipsychotic action (Stahl, 2000:402).
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Antipsychotic drugs are considered to act by interfering with dopaminergic transmission in the brain by blocking dopamine D receptors, which may give rise to the extra pyramidal effects, and also to hyperprolactinaemia. Antipsychotic drugsmayalso affect cholinergic, alpha-adrenergic, histaminergic, and serotonergic receptors (British Medical Association and the Royal Pharmaceutical Society of Great Britain, 2009:192).

Narcoleptic drugs (pharmaceutical compounds which affect the chemicals in the brain) are the main form of treatment. They work on several levels. They can have an immediate calming effect, reducing anxiety, agitation and restlessness in the affected member with symptoms of schizophrenia. It generally takes up to four weeks for the medications to help reduce what are called the positive symptoms of schizophrenia that is the hallucinations, delusions and thought disorders (Varghese et al, 2002:6).

2.13.5. Type of antipsychotic:

Two type of antipsychotic fist generation called atypical anti psychotic and second generation called atypical (Brichford, 2011):

1- Typical antipsychotic

Those drugs were developed in the 1950s and were the first drugs to have an effect on the psychotic symptoms of schizophrenia. They include:

- Chlorpromazine (Thorazine)
- Fluphenazine (Prolixin)
- Haloperidol (Haldol)
- Thiothixene (Navane)
- Trifluoperazine (Stelazine)
- Perphenazine (Trilafon)
- Thioridazine (Mellaril)

2- Atypical antipsychotic:

New types of medication were developed in the 1990s and have a number of advantages over typical antipsychotic medication. They tend to be more effective at controlling "positive" symptoms, such as hallucinations, with fewer side effects. In some people, atypical antipsychotic medication also improves cognitive symptoms of schizophrenia. They include:

- Risperidone (Risperdal)
- Olanzapine (Zyprexa)
- Quetiapine (Seroquel)
- Ziprasidone (Geodon)
- Clozapine (Clozaril)

2.13.6. Effects of Antipsychotic Agents on Symptoms of Schizophrenia:

The effect of anti psychotic drug on positive and negative symptom:

1-Positive Symptoms:

Antipsychotic agents have a specific effect on positive symptoms of schizophrenia including hallucinations, delusions and thought disorder. Approximately 30% of patients with acutely exacerbated psychotic symptoms have little or no response to conventional antipsychotic, and up to 50% of patients have only a partial response to medication. Although the proportion of patients who improve and the magnitude of therapeutic effects vary greatly, second generation antipsychotic appear to be at least as effective for psychotic symptoms as conventional drugs.

2-Negative Symptoms:

Studies of the early course of illness have shown that about 70% of schizophrenics develop primary negative symptoms. Negative symptoms may represent core features of the illness and may be associated with poor outcome and prolonged hospitalization for patients. Conventional antipsychotic are generally less effective against negative than positive symptoms of schizophrenia; thus, the efficacy of second-generation antipsychotic on negative symptoms compared with that of first-generation drugs has received much attention Second-generation agents such as clozapine, olanzapine and risperidone demonstrate significantly greater efficacy than conventional agents in reducing negative symptoms (Liberman & Tasman, 2006:15).

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2.13.7. The important of anti psychotic:

The main aims of therapy with antipsychotic medication include the effective relief of symptoms without the introduction of adverse effects or serious adverse events, improved quality of life, cost effectiveness and a positive long term outcome (Lindstrom, 2000:105)

Antipsychotic drugs relieve florid psychotic symptoms such as thought disorder, hallucinations, and delusions, and prevent relapse. Although they are usually less effective in apathetic withdrawn patients, they sometimes appear to have an activating influence. Patients with acute schizophrenia generally respond better than those with chronic symptoms. Long-term treatment of a patient with a definite diagnosis of schizophrenia may be necessary even after the first episode of illness in order to prevent the illness from becoming chronic. Withdrawal of drug treatment requires careful surveillance because the patient who appears well on medication may suffer a disastrous relapse if treatment is withdrawn inappropriately (British Medical Association and the Royal Pharmaceutical Society of Great Britain, 2009:192).

Effective pharmacological treatments are now available for schizophrenia. Often, however, neither acute nor long term treatments can be properly applied because of insufficient compliance associated with all oral antipsychotic agents. Long-acting risperidone combines the advantages of an atypical antipsychotic and secure medication delivery in an aqueous based formulation. These advantages are expected to translate into significant improvements in meaningful clinical outcomes for patients with schizophrenia (Naber et al, 2005).

2.13.8. Failure of antipsychotic to treat schizophrenia clients:

Failure of schizophrenia to improve successfully with an antipsychotic commonly arises because (Cookson et al, 2002:143):

- The patient is not getting the drug.
- The doctor has been overcautious and had not prescribed big enough dose.
- The doctor has not waited long time enough at least two weeks for improvement to start.
- The clinician is making a global assessment only of behavioral improvement, instead of watching decline of target symptom (hallucination becoming infrequent and less forceful, concentration improving, logicality returning and restlessness declining).
- The illness treatment resistance.

2.13.9. Adverse effect to anti psychotic:

Neuroleptic drugs can produce a variety of adverse effects in several organ systems. Extra-pyramidal reactions and sedation are common; less common are seizures، unwanted behavioral effects, and tardive dyskinesia. Most neuroleptic drugs have anticholinergic effects and commonly produce dry mouth, blurred vision, and constipation. Postural hypotension is common. These effects usually disappear when the drug is stopped or the dosage is reduced. Atypical neuroleptic drugs (such as clozapine, olanzapine, and risperidone), they have less affinity for dopamine receptors in the basal ganglia than the typical neuroleptic drugs and therefore cause fewer extrapyramidal adverse effects (Aronson, 2009:187).

Extra pyramidal symptoms are the most troublesome. They are easy to recognize but cannot be predicted accurately because they depend on the dose, the type of drug, and on individual susceptibility, Extra-pyramidal symptoms consist of (British Medical Association and the Royal Pharmaceutical Society of Great Britain, 2009:192):

- Parkinsonian symptoms (including tremor), which may occur more commonly in adults or the elderly and may appear gradually.

- Dystopia (abnormal face and body movements) and dyskinesia, which occur more commonly in children or young adults and appear after only a few doses.
- Akathisia (restlessness), which characteristically occurs after large initial doses and may resemble an exacerbation of the condition being treated.

- Tardive dyskinesia (rhythmic, involuntary movements of tongue, face, and jaw), which usually develops on long-term therapy or with high dosage.

2.13.10. Cognitive behavior therapy:

Definition Cognitive behavior therapy" CBT" was defined as National Collaborating Centre for Mental Health:

- Establish links between their thoughts, feelings or actions with respect to the current or past symptoms, and/or functioning.
- Re-evaluate their perceptions, beliefs or reasoning in relation to the target symptoms.
- Service users monitoring their own thoughts, feelings or behaviors with respect to the symptom or recurrence of symptoms, and/or
- Promotion of alternative ways of coping with the target symptom, and/or
- Reduction of distress, and/or
- Improvement of functioning. (National Collaborating Centre for Mental Health, 2010:258):

In the study of Zygmunt et al., (2002) was mention the cognitive behavior therapy for schizophrenia about Rathod et al. (2005) found that short insight focused CBT demonstrated significantly greater improvement in insight into compliance with treatment and ability to relabel their psychotic symptoms as pathological. Moreover, the efficacy of cognitive behavior therapy for improving medication adherence seems to be more promising than that of traditional individual psycho education approaches, which have been consistently disappointing in their failure to show adherence benefits (Chakraborty & Basu, 2002:24).

2.13.11. Medication issues in CBT:

All the studies into CBT in schizophrenia have stressed the importance of medication. It is sometimes necessary to wait for medication to reduce acute psychotic symptoms before using CBT, especially with thought disorder, although the use of a CBT approach often allows negotiation on the use of medication or hospitalization to occur. 'Compliance therapy', a brief form of CBT, has been specifically aimed at this. Where patients begin to understand that their voices are internal phenomena and that their beliefs just might be self-induced, they are more likely to take medication to alleviate these problems. Conversely, if medication has a positive effect, this reinforces work on helping them to accept voices as their own thoughts (Kingdon & Turkington, 2002).

The result of study by Schooler showed that CBT was more effective in ameliorating psychosis symptom than supportive therapy and routine therapy. The study of turkington et al (2002), found the client who received CBT demonstrated improvement insight (which indicates that clients receiving CBT may be more inclined to adhere to pharmacotherapy, used coping strategies more effectively, and had shorter hospital stay than clients who received pharmacotherapy alone (Schooler, 2006: 23).
Kingdom and Turkington (2005), and Sesky et al (2000) founds CBT is consider both a comprehensive and symptom-focused treatment. That it can be used t address biopsychosocial diathesis of schizophrenia and provided intervention method for positive symptom and negative symptoms, disorganize and thought disorder (Rubin et al, 2010: 146).

2.13.12. Psychological and psychosocial support:

Psychosocial treatments can help people with schizophrenia who are already stabilized on antipsychotic medication. Psychosocial treatments help these patients deal with everyday challenges of the illness, such as difficulty with communication, self-care, work and forming and keeping relationships. Learning and using coping mechanisms to address these problems allow people with schizophrenia to socialize and attend school and work.

Fromm-Reichman (1950) the use of specific psychological and psychosocial methods to help people with schizophrenia is relatively recent. Some of the earliest attempts included psychoanalysis. Shepherd (1978) a number of other psychological approaches have been introduced. Social skills training, developed in the 1970s, was derived from the recognition of the social difficulties that many people with schizophrenia face, especially those in institutions, and used methods popular at the time based on learning theory and behaviorism (National Collaborating Centre for Mental Health, 2010:28).

An equally powerful psychosocial treatment is social skills training. It too, can reduce relapse rates from 50% with good medication practices alone, to about 25% over two years when added to drug therapy. Social skills can range from basic skills such as making eye contact and giving compliments, to more complex issues such as making requests, giving feedback, and generally being more assertive (Schizophrenia Society of Canada, 2003:109).

Patients who receive regular psychosocial treatment also are more likely to keep taking their medication, and they are less likely to have relapses or be hospitalized. A therapist can help patients better understand and adjust to living with schizophrenia. The therapist can provide education about the disorder, common symptoms or problems patients may experience and the importance of staying on medications (National Institute of Mental Health, 2009:12).

2.14. Drug compliance (Adherence):

The opinion of the researcher about Schizophrenia is a debilitating disease that affects occupational, social and cognitive functions. Some individuals with schizophrenia do not have an insight to draw a relationship between the medications and maintenance of a well status and often will cease taking their medications and cannot understand the reasons for taking medication or the frequency with which they need to take it. The antipsychotic largely is used to treat the illness cause many side-effects, which add another layer of disability to be faced by the individual.

Two prominent theories of compliance are primarily descriptive, process-oriented approaches, the first one the transtheoretical model of behavior change and other one the relapse prevention model. The former has encouraged the view that long-term strategies are needed to maintain healthy habits and examines the paths individuals may take in the behavior change process. The latter model recognizes that a range of coping skills are needed to maintain healthy habits and that these skills include unspecified cognitive, motional, and instrumental behaviors (O'donohue & Fisher, 2008: 110).

2.14.1. Definitions:

Drug compliance may be defined as the degree of conformity between the standard set for treatment and the treatment accepted by patient. Non compliance may be partial or complete. Over compliance suggests that tolerance, dependence or abuses are occurring (Cookson et al, 2002:23).

Drug adherence "compliance" The extent to which a person's behavior – taking medication, following a diet, and/or executing lifestyle changes, corresponds with agreed recommendations from a health care provider (WHO, 2003:18).

An other definition by Sackett & Hayness (1978) are defined the adherence as the extent to which a person's behavior coincides with the medical advice given (Razali, 2010:68).

2.14.2. Non-adherence rates:

Nose et al, (2003) it has been estimated that non-adherence rates for prescribed antipsychotic medications are about 50%. Robinson et al, (1999) the Relapse rates have been shown to be five times higher in people with schizophrenia who are non-adherent to medication com- compared with adherent people, resulting in Gray et al 2006a significant social and economic burden (Gray et al, 2006).

Noncompliance with long-term antipsychotic treatment is very high. An estimated 40 to 50 percent of patients become noncompliant within 1 or 2 years. Compliance increases when long-acting medication is used instead of oral medication (Sadock, 2007:489).

Medication compliance is one of the foremost problems affecting neuroleptic efficacy in psychiatric patients. Since chlorpromazine introduction in 1952, antipsychotic are the principal element of schizophrenia treatment. Actually progress links to the use of new antipsychotic are conditioned by quality of compliance. The problem of nonadherence to medication could concern 50 % of prescription. The reported incidence of non-compliance with antipsychotic medication ranges from 11 to 80 %. In two thirds of case rehospitalization is the result of complete or partial noncompliance. After one year of first hospitalization, 40 % of relapse results from non adherence to medication (Misdrahi et al, 2002:266).

2.14.3. Impact of schizophrenia on the clients

The study by Robinson D et al (1999), detected the Nonadherence to antipsychotic medications is major risk factor of psychotic relapse. A study of 104 patients with first-episode schizophrenia showed a cumulative relapse rate of 81.9% by the end of a 5 year follow up. The 63 patients who recovered from the first relapse had a 78.0% cumulative rate of a second relapse after 5 years. The risk for first and second relapses was shown to be 5 times greater when medication was discontinued as measured by a survival analysis of relapse using medication status (use to discontinuation of use) as a time-dependent covariate. Further examination suggested that discontinuing use of the antipsychotic was not just an early manifestation of a relapse, but had a causative effect. the studies by Olfson et al (2000) , Leucht et al (2006) and Hunt et al, (2002), detected to the Nonadherence is also associated with the risk of hospitalization.. Nonadherence is specifically associated with other harmful

outcomes. These include exacerbation of symptoms, increased housing instability, lengthening of episodic hospital stays and increased risk of suicide (Kane, 2007:5).

2.14.4. Impact of schizophrenia on the community

Schizophrenia exacts significant economic and social effects on society and emotional tolls on families, friends, and caretakers. The total cost of schizophrenia in 1990 was estimated at $32.5 billion. Direct costs of medical expenditures accounted for 53.2% of the total, while indirect costs including morbidity, mortality, costs relating to crime, social welfare and family care giving, accounted for the remainder 15 nonadherence adds significantly to the cost burden of schizophrenia, as well. Studies by Gilmer, (2004) the prescription refill data of California Medicaid beneficiaries showed that expenditures for hospitalization of nonadherent patients were 3 fold higher than costs of individuals who were adherent. Relapses put an increased burden on family and caregivers, ultimately affecting the long term success of a treatment plan. No adherence and relapse can put enormous strain on family relationships and support (Kane, 2007:8).

2.14.5. Modified Health Belief Model for Drug Adherence:

The health belief model is shown in figure 1, originated by Becker et al (1975) originally proposed to explain adherence to vaccinations and other types of preventive health care, Fenton et al (1997), apply this model to help in examining treatment adherence in patients with psychotic illness and can be used by clinicians to enhance treatment adherence in specific patients adherence to treatment is determined by the patient's assessment of the perceived benefits of treatment and risks of illness versus the costs of treatment including adverse effects such as weight gain (Perkins, 1999:26)

For drugs Adherence (compliance) is the degree to which a patient follows a treatment regimen. Patients should be told to alert their physician if they stop or alter the way they take a drug, but they rarely do so. Only about half of patients who leave a physician's office with a prescription take the drug as directed. The most common reasons for non-adherence are Frequent dosing, Denial of illness, Poor comprehension of the benefits of taking the drug Cost, Reduction, fluctuation, or disappearance of symptoms, Complex regimen e.g. frequent dosing, many drugs, Unpleasant taste or smell, Financial concerns, Forgetfulness, Misunderstanding of prescribing instructions, Apathy and Side effect (Daniel and Hussar, 2010).

2.14.6. Factors and reasons Influencing Compliance:

Drug compliance is positively related to the patient's attitudes toward drug treatment; however, if a patient believed that an environment-shift was effective in treating psychiatric disease, drug compliance was poor. Furthermore, knowledge of a drug's side effects had a negative influence on drug compliance (Chu-Mei et al 2003:369).

Drug compliance is a problem for patients with chronic illnesses. About 40% or outpatients do not take their medications regularly. Poor compliance is associated with lack of insight, negative attitude to medication, younger patients, substance abuse, short duration of illness, cognitive dysfunction, poor motivation and lack of a trusting relationship with family members and the doctor. Trouble some side effects

from the drugs administered, including extra pyramidal and anticholinergic side effects are also important factors for monitoring drug compliance, the doctor will need to use measures like counting of drugs not taken, checking regularity of follow up visits, report from relatives or serum drug level assessment (Lam, 2008:16).

Three types of factors influencing compliance are identified factors due to medications, factors linked to patients and factors depending on the therapeutic relation with the clinician. Neurologic, endocrine and anti-cholinergic side-effects are the first fact of treatment stop. Medication prescription complexity is although important to take under consideration. Some psychotic's symptoms, co-morbid addictive behavior, poor insight are mentioned in the case of noncompliance. Information and communication with the patient, simplification of therapeutic plan, consultation planning and account of side effect are simple and effective actions. Social support is very important for improvement of compliance. The communication attitude of the clinician, therapeutic relation and prescription use are main points of compliance. Compared to a conventional care, psycho-educational programmers of compliance show their superiority (Misdrahi et al, 2002:266)

Masand and Narasimhan (2006) collected some of relatives factors these factors influencing compliance are overlapping factors we can not make separation in these factor but we can determine link this factors example factors:

1-Patient or Disease Related: Such as Co-morbid substance abuse, family members uninvolved in treatment or employed history of nonadherence, psychopathology negative attitude toward treatment, poor insight into illness shorter duration of illness or episodic course of illness, young or earlier age of onset of schizophrenia, forgetfulness and stigma of taking medications.

2-Physician Related: Such as inadequate attention to medication adverse events, inadequate discharge, planning, or lack of follow-up care, poor clinician-patient relationship and poor therapeutic alliance during hospitalization.

3-Treatment Related: Such as dose frequency, complexity, and route of administration Higher or lower antipsychotic doses, poor efficacy or slow onset of efficacy possible use of conventional antipsychotic Tolerability and adverse events, particularly extra pyramidal symptoms and weight gain. (Masand & Narasimhan, 2006:48)

Patient-Related Factors such as psychopathology, cognitive impairment, age, co-morbidity and gender. Treatment-Related Factors such as side effects, route of administration, pattern of dosing, length of treatment, costs of treatment and polypharmacy. Physician-Related Factors such as following accepted treatment guidelines, belief in treatment, doctor-patient relationship and after care management provision of information. Environment-Related Factors such as social support, financial support, attitude towards treatment, supervision of treatment, social rank of illness and location of treatment provision (Fleischhacker et al, 2003:10).

The reasons for poor treatment adherence are complex and heterogeneous. A study onducted by Cooper et al, (2007) in the UK revealed that the major reasons for non-adherence to psychotropic medication include:

- Forgetting and losing or running out of the medication (37%).
- Thinking that it was not needed (25%).
- Not wanting to take the drug (19%).
- Fear of side effects (14%) (Razali, 2010:69)

2.14.7. Guidelines for compliance enhancement:

Noncompliance to a medical regimen can be identified based on the following information:

- Self-report (e.g., from rating scales, or self-monitoring logs).

- Health care provider clinical assessments, such as from interviews, objective medical tests (e.g., weight, blood glucose level, and blood pressure), and previous history of adherence to scheduled appointments and prescription refill data.

- Reports from significant others, because each of these sources of information is subject to unique measurement error, reliability of identifying noncompliance may be enhanced by use of multimodal assessment. Similarly, because compliance may vary across situations, a time-series approach to assessment may help identify a dynamic (O'donohue & Fisher, 2008: 111).

2.14.8. Intervention Strategies to nonadherance:

Intervention strategies can help patients with schizophrenia overcome problems with nonadherence conduct by Based on an interview with Jonathan Lacro:

Education: Patients with schizophrenia should be educated on treatment adherence before they receive their first dose of medication. Providers should counsel patients on the importance of taking their medications and the problems that can occur if they stop taking them. This information can be shared one-on-one between the provider and patient or in a group education setting.

Behavior modification: Healthcare providers and educators can tailor behavior modification programs to fit the specific needs of patients with schizophrenia. For example, they might instruct patients on how to use pillboxes or how to get timely refills. Using behavior modification techniques, healthcare providers and educators can teach patients specific tactics that will make adherence more likely. For example, they may advise patients to place pillboxes on their sinks before they go to bed so that the medication will be incorporated into their daily morning routines.

Affective interventions: Affective interventions appeal to patients' emotions. Affective interventions also appeal to caregivers and families. When caregivers and family members understand the serious consequences that can occur because of medication nonadherence, they may be more proactive in helping loved ones adhere to their prescribed medication regimens.

Other interventions: Providers can use a variety of other pharmacologic, psychological, social/family, and service tactics to increase adherence to prescribed medication regimens, including:

• Simplifying the dosing regimen, including optimizing the dose before adding on multiple medications.
• Changing the medication to reduce adverse events (or adding another agent to manage unwanted effects if switching is undesirable).

• Encouraging social support networks.

• Ensuring continuity of care when transferring from one
Healthcare system to another. (For example, providing an adequate supply of medications to last until the initial post discharge outpatient appointment (Lacro, 2006:40)

2.14.9. The insight helps clients to adherence:

Carpenter et al. (1973), described insight as a symptom of schizophrenia which was evaluated as merely present or absent. Later David (1990) came up with the concept of insight which had at least three dimensions: awareness of illness, the capacity to re-label psychotic experiences as abnormal, and treatment compliance. Markova and Berrios (1992) broadened the definition of insight to view "insight as a process allowing the longitudinal and dynamic aspects of insight to be examined However, most of the authors and researchers follow the multidimensional concept of insight given by Amador and David (1998) that includes: Awareness of mental disorder, understanding of the social consequences of disorder, awareness of the need of treatment awareness of specific signs and symptoms of the disorder, the attribution of symptoms to disorder (Chakraborty & Basu, 2010:18).

There are several ways of defining and conceptualizing insight. Clinical concept of insight refers to awareness of a mental disorder and its consequences, awareness of need for treatment, awareness of symptoms and attribution of the symptoms to the disorder. Numerous conceptual models have attempted to explain insight: as a symptom, as defense, psychological (misattribution) or neuropsychological phenomenon, or from a sociocultural perspective. Neurobiologically, insight has been associated with frontal and other cortical structures implicated in higher mental functions. Clinical correlates of insight are many but always consistent: severity of illness, psychotic symptoms, depressive symptoms, treatment adherence, quality of life, functioning, violence, and competence to consent (Chakraborty & Basu. 2010).

DSM-IV-TR, (2004) show the Lack of insight “predisposes the individual to non-adherence with treatment and has been found to be predictive of higher relapse rates, increased number of involuntary hospital admissions, poorer psychosocial functioning, and a poorer course of illness” and the study of Lacro et al., 2002 found Numerous research studies confirm a positive correlation between insight and compliance with treatment, which can lead to successful treatment outcomes (Nordick, 2008:69).

The study found the insight and the compliance with treatment were positively correlated (Bajaj et al, 2009:12).

Psycho education is an important tool in improving insight into illness among patients with schizophrenia. It needs to be given as early as possible during the course of the illness (Ruzanna et al, 2010).

2.15. Family and schizophrenia:

The researcher think the Families are not responsible for causing serious mental disorders and that they need to participate constructively in the management and treatment of their mentally ill. Stress and burden experienced by families who are ill equipped to manage their mentally ill at home. Recognition that the stress-induced dysfunctions in communication and problem solving within families are a consequence, not a cause of mental disorders. Patients experience high rates of relapse when living or interacting with relatives who lack the skills and resources to constructively collaborate in the treatment.

2.15.1. Family burden:

The concept of family burden in schizophrenia refers to a wide range of social, financial, work- and family-related stresses and psychological reactions that result from the impact of the illness. The Results of study that conduct by shibre et al (2003) founds Family burden is a common problem of relatives of cases with schizophrenia. Financial difficulty is the most frequently endorsed problem among the family burden domains (74.4 %). Work and financial burdens affected female relatives more often than males. Relatives of female cases suffered significantly higher social burden (Shibre et al, 2003:27).

Factors contributing to family burden:

Family burden has two classification factors that impact on family that have clients with schizophrenia objective burden and subjective burden:

1- Objective burden:

1. Financial cost: Financial burden entailed by money management, transport, and care for the patient.
2. Disruption of family structure and function:

a. Neglecting other family members: Caregivers may neglect other children in The family due to the demands posed by the patient's dependent condition.

b. Disruption of sleep pattern: The daily pattern of sleep may be disrupted and Family members may take turns to sleep and care for the patient.

2- Subjective burden:

Subjective burden is a family member's personal discomfort or emotional strain that is experienced as a direct consequence of the illness. The sources of subjective burden are:

1. Symptomatic behavior

a. Positive symptoms: Hostile, abusive actions and mood swings

b. Embarrassing behavior

c. Negative symptoms: negative symptoms were more problematic than positive (Elmasri, 2010:1).

2.15.2. Family support:

The researcher think the family is the basic unit of society, transmits cultural norms and values, and is the most influential socializing agent for learning how to relate to people, groups, and community. Subsystems within a family may be the married couple, the sibling group, and the extended family. The family with a mentally ill member struggles to maintain a normal household and healthy relationship with friends and community groups.

Families are unique social systems insofar as membership is based on combinations of biological, legal, affectional, geographic and historical ties (Carr, 2005:5).

Family support is defined by Stuart, (2008) the family is usually the strongest, most reliable support system the mentally ill person has. Building on family strengths while decreasing dysfunctional, energy draining interactions assists both the ill person and the other family members (Stuart, 2008).

In a mentally healthy family, members live in harmony among themselves and within society. These families support and nurture their members throughout their lives. However, dysfunction and mental illness can affect a family's overall mental health. A dysfunctional family is one who's of the family and its individual members. Sometimes a mentally healthy family becomes dysfunctional after a crisis or stressful situation that the family lacks the coping skills to handle. A family can be mentally healthy and at the same time have a member who has a mental illness. Conversely, a family can be dysfunctional and have no member with a diagnosable mental illness (Boyd, 2008:247).

2.15.3 Family interventions:

The family interventions can delay or even prevent relapse in people with schizophrenia who have significant family contact. Family therapy should be involved as many family members as possible and aims at reducing some of the stress and extreme emotions of family life that can make schizophrenia symptoms worse. The treatment consists of educating family members about schizophrenia, offering behavioral and problem-solving advice, providing family support and teaching crisis management techniques. The therapy can be offered to single families or conducted in larger groups. It may or may not include the person with schizophrenia, depending on which phase of the illness he or she is in at the time (Elgie et al, 2004:56).

The study of Dixon et al (2000) have shown the positive influence of the family on treatment and rehabilitation, suggesting that family interventions can reduce relapse rates among persons with mental problems and help their rehabilitation in the community (O'doherty et al, 2006).

A broad array of family interventions has been developed for use in schizophrenia, all of which aim to alter the pattern of interaction within the family or caregiver group of the person with schizophrenia in order to reduce the chance of relapse (Turkington et al, 2004).

2.15.4. Why do we involve the family?

People with schizophrenia from families that express high levels of criticism, hostility, or over involvement, have more frequent relapses than people with similar problems from families that tend to be less expressive of emotions. Forms of psychosocial intervention, designed to reduce these levels of expressed emotions within families, are now widely used (Pharoah et al, 2010:1).

Varghese et al, (2002) put the number of reason to involve family there are a number of reasons:

1. Family members and relatives are the main caretakers of a mentally ill member. They supervise the medication intake, and provide emotional, social and financial support for the affected member.

2. When a family member is first affected by Schizophrenia, the relatives usually do not know what is wrong. They notice the odd behaviors and may consider it as a passing phase. They may attribute it to addiction or other explanations and do not consider the possibility of an illness. Watching a family member develop these behaviors can be upsetting. They will have fears and anxieties about the causes of these behaviors and the affected member's future.

3. The family may help in the treatment of the individual but may not know how to do so and may feel helpless. The family may not have knowledge about schizophrenia or know the importance of complying with medication.

4. They may feel that they are responsible in some way for the causation of these behaviors and thus feel guilty.
5. They may feel they are being blamed for the affected member's problems. They can become defensive about their role in the affected member's treatment.

6. The presence of an affected member changes the routine family life. The family members will have extra household chores, as the affected member is unable to contribute. Trying to keep the family life as normal as possible while simultaneously trying to help the affected member is frustrating.

7. The family may find the affected member's behavior embarrassing and painful. They may avoid their normal socialization with others due to the stigma of having a mentally ill member.

8. The affected member, while symptomatic, may become violent and be perceived as dangerous by the family.

9. They may feel angry with the affected member especially when they feel that the affected member is 'lazy' or not trying to control their behaviors.

10. Families may experience severe stress, or marital discord or depression associated with living with this illness unless they receive help and support.

11. The probability of the affected member relapsing is greater when the family's behavior with them tends to be over-involved, hostile, and critical and dissatisfied (the components of expressed emotions).

12. Although the family does not "cause" schizophrenia, the way they interact with the affected member and cope with the illness can determine the 'course' of the illness.

14. Due to the illness, the family experiences burden. This can be of two types:
a) Objective burden: such as economic drain (medication and hospitalizations), sleep disruption, interference's with daily routine, disruption of relatives' leisure time and career, tension from fear of unpredictable behavior, difficulties in communicating with the affected member, strained family relationships and reduced social supports.

b) What the illness means to the family constitutes subjective burden. This includes a sense of defeat, feelings of guilt, inadequacy, helplessness, confusion, anger, disappointment and depression following the realization that the affected member is no longer what they had hoped. This influences the way the family interacts with the affected member (Varghese et al, (2002).

2.15.5. Psycho education:

Family psycho-education (FPE) is one of six evidence-based practices endorsed by the Center for Mental Health Services for individuals suffering from chronic mental illness an effective component of FPE in reducing symptom relapses and rehospitalizations for individuals with schizophrenia. It is especially effective when family members participate on a consistent basis, which allows them to increase their understanding of the biology of the disorder, learn ways to be supportive, reduce stress in the environment and in their own lives and develop a broader social network. When used in conjunction with medication, that can help an individual with schizophrenia progress towards the rehabilitation phase of recovery (Jewell et al, 2009:868).

The study of Chien &Wong, (2007) on family psychoeducation. A study in Hong Kong found that family psychoeducation programs are effective in improving psychosocial health and function in patients with schizophrenia and their families (Razil, 2010:70).

Psycho education is a process by which you impart knowledge of the illness to the family, and with your continual assistance, modify their attitudes. You also formulate and implement better coping skills and other preferred interactions with the affected member (Varghese et al, 2002:27).

Psychosocial family intervention Include seven components:

- An alliance with relative who care for the person with schizophrenia ,
- Reduction of adverse family atmosphere ,
- Enhancement of the capacity of relative to anticipate and solve problem,
- Reduction of expression of anger and guilty by the family, maintenance of reasonable expectation for patient performance ,
- Encouragement of relative to set appropriate limits, Attainment to desirable change in relative behavior and believe system (Thornicroft& Susser 2001:3).

Goldstein (1995) this approach resulted in the development of family-interventions designed to enhance the resources of the family unit in its caring function, relieve family burden, and modify family interactions and affective attitudes predictive of relapse. Such interventions, variously called "psycho-educational", "supportive" or "behavioral", share some common elements namely: (WHO, 1998:21)

• Engagement of the family early in the treatment process in a "no fault" atmosphere;

• Education about schizophrenia (the vulnerability-stress model, risk factors, variation in prognosis, rationale for various treatments, suggestions for coping with the disorder);
• Communication training directed at enhancing the clarity of communication and improving the exchange of both positive and negative feedback within the family;

• problem-solving training aimed at improving ways of managing everyday problems, coping with stressful life events, and planning to deal with anticipated stressors, by generalizing problem-solving skills;

• Crisis intervention at times of extreme stress or when signs of relapse are evident.

Three prominent examples of these clinical interventions are:

1. Behavioral Family Management, by Falloon and colleagues (1984 is a sequential approach that starts with assessment, then moves to intervention strategies including communication and problem solving training, and ends with ongoing review. This intervention encompasses the teaching of illness management strategies, employing behavior modification techniques. A behavioral analysis of the strengths and needs of the family unit and each family member is conducted. The focus is to help each family member to function at his or her best within the given situation of coping with a relative with schizophrenia. This intervention was originally delivered in the families' homes, although it has been delivered in clinics as well.

2. Family Psychoeducation, by Anderson and her associates (1986): Anderson's intervention, based on a family system's framework, starts with establishing an alliance with a family at the point of the relative's admission to the hospital. Once a relationship is formed, the practitioner serves as a representative for the family with the hospital system. The second phase is a day-long survival skills workshop, which provides information about the disorder to a group of families. This format helps to reduce isolation and stigmatization of the family. Upon the relative's discharge from the hospital, individual family sessions begin and contacts are made with the family and the relative with a psychiatric disability during regularly scheduled sessions, phone consultations, and times of crisis.

3. Multifamily Groups by Mcfarlane's (2002): A second-generation treatment model, as it combines aspects of two family psychoeducational interventions, family behavioral management, and multiple-family approaches. The first stage is for the practitioner to meet individually with each family to build an alliance and join with that family. The next stage is a workshop, as in Anderson's model. Unlike Anderson's intervention, however, this model employs problem-solving groups attended by both families and their ill relatives. This is a long-term intervention with a closed membership. Thus, the families receive support and problem-solving suggestions from one another. Consequently, this intervention has the advantage of being social support group as well. For the first year the multifamily group focuses on social stabilization of the relatives with psychiatric disabilities, and in the second year the group moves to emphasize social and vocational rehabilitation for their ill relatives. (Elmasri, 2010:2)

2.15.6. Barriers to educating family:

Barriers to educating family for involvement in their loved and ones treatment including the following:

- Professional biases against families based on exposure to family systems theories that suggest families cause perpetuate the illness.
- Family attitude that equate all family intervention with past, unwelcome experience with family therapy.
- Professional fears that an alliance with family therapy will endanger confidentiality and threaten alliance with patient.
- Administrative restraints in managed-cost environment where services to families (as non patients) receive the lowest priority (Sturat, 2009:145).

2.16. The relapse:

The relapse is defined as a significant worsening in the person's condition or increase in symptoms. Relapse can result from fatigue and weariness at coping with symptoms, as well as from changing circumstances or discontinuation of medication (Kingdon & Turkington, 2008:158**)**

The issue of relapse is of central importance because of its reverberating impact on the patient, the family and the health care system. Non-adherence can increase the chances of relapse as evidenced by an exacerbation of psychosis, increased utilization

of psychiatric services (inpatient, outpatient, and emergency room use), and a decrease in daily functioning.

Robinson et al, (1999).found a five year study that followed patients with schizophrenia after their first episode in New York, found relapse rates as high as 81.9% in the first year and 86.2% by the fourth year. The study of Weiden and Olfson (1995) estimated the monthly relapse rate to be 3.5 percent per month for patients on neuroleptic medications and 11.0 percent for those who had discontinued their medications (Edelman, 2010:22).

Relapses can occur at any time during treatment and recovery. Relapse is not inevitable; however, it occurs with sufficient regularity to be a major concern in the treatment of schizophrenia. Relapses can occur and are very detrimental to the successful management of this disorder. With each relapse, there is a longer period of time to recover. Meijel et al, (2003) Combining medications and psychosocial treatment greatly diminishes the severity and frequency of recurrent relapses (Bostrom and Boyd, 2008:267).

2.16.1. Risk factors for relapse:

Ascher-Svanum et al, (2006) and Masand et al, (2009) found the main risk factors for relapse are poor adherence to medication. And the Csernansky and Schuchart, (2002) A poor therapeutic relationship between the prescriber and patient and poor interaction between patients, their families and carers are also risk factors. The environmental stress, particularly life events and high levels of expressed emotion within the family, are known to increase the risk of relapse. More severe residual psychopathology and poor insight into the illness and the need for treatment have also been identified as risk factors (Barnes et al, 2011:12).

Non adherence to antipsychotic therapy is a common reason for relapse and rehospitalization of patients with schizophrenia and thus contributes to the high cost of treating psychoses, adverse events, and lack of insight. Co-morbid substance abuse, little family involvement, and a poor clinician-patient relationship are among the risk factors for nonadherence. Patients with a negative attitude towards treatment, which can result from adverse events, are also more likely to be non adherent. Strategies to improve adherence include optimizing antipsychotic therapy, minimizing adverse events, encouraging patient participation in psycho educational programs, treating co-morbid substance abuse disorders, involving family members in the treatment process, and forging a close therapeutic relationship with the patient (Masand & Narasimhan 2006:47).

2.16.2. Early warning signs form of psychosis:

Usually there are some changes in an individual before the obvious symptoms of psychosis develop (prodrome). By identifying and acting on these early warning signs. Relapse may be prevented or the severity of relapse reduced. Early signs vary from person to personn there may be changes are the way which those people describe: feelings, thoughts and perceptions. No clear psychotic symptoms, such as hallucinations, delusions or confused thinking (Sammor, 2010:3).

Families and friends of those with schizophrenia should be aware of the signs that the illness is getting out of control again. The signs vary from person to person but those most commonly reported are:

- Increased energy level, resulting in disorganization.
- Sleeplessness for several nights in a row.
- The mind begins to play tricks on the person.
- Increased withdrawal from activities.
- Deterioration of basic personal care (Sammor, 2010:12).

The 'early warning signs' approach to relapse prevention seeks to identify the earliest signs of impending psychotic relapse and to offer timely and effective intervention to arrest their progression towards frank psychosis, the early warning signs of psychotic relapse are following:

Feelings: Such as feeling helpless or useless feeling, feeling sad or low feeling, anxious and restless feeling, increasingly religious, feeling isolated, feeling tired or lacking energy feeling confused or puzzled feeling, forgetful or far away feeling in another world feeling strong and powerful feeling, unable to cope with everyday tasks, feeling like you are being punished feeling like you cannot trust and other people feeling irritable feeling like you do not need.

Behaviors: Such as difficulty sleeping, filled with odd words talking or smiling to our self, acting suspiciously as if being watched behavior oddly for no reason, spending time alone, neglecting your appearance, not seeing people, not eating, not leaving the house, behaving like a child, refusing to do simple requests, drinking more smoking, more movements are slow unable to sit down for long and behaving aggressively.

Thinking/perception: Such as thoughts are racing senses seem sharper, thinking you have special powers, thinking that you can read other peoples minds, thinking that other people can read your mind, receiving personal messages from the TV or radio, having difficulty making decisions, experiencing strange sensations, preoccupied about 1 or 2 things, Thinking you might be somebody else Seeing visions or things others cannot see, thinking people are talking about you, thinking people are against You, having more nightmare, having difficulty concentrating, thinking bizarre things, thinking you thoughts are controlled, hearing voices and thinking that a part of you has changed shape (Birchwood et al, 2000:98).

2.17. Summery

In this chapter the researcher showed in details about schizophrenia, drug compliance, family support and relapses.

Schizophrenia as disorder is a chronic, relapsing mental illness and has a worldwide lifetime prevalence of about 1% conducted by Sadock, (2009). No single cause has been identified but a number of different factors are believed to contribute to the onset of schizophrenia, so therapy process has many domains such as drug therapy, cognitive behavioral therapy, psychotherapy, family therapy and psychosocial therapy.

Anti psychotic is very important to subside signs and symptom of schizophrenia. The actions of drugs work as tranquilizer and enhance dopamine theory in suppression of dopamine receptor. The researcher showed importance of anti psychotic, the factors can affect drug compliance and provide interventions to solve this problem.

The insight is very important in improving the drug compliance, awareness to disorder sustained clients attitude towards compliance of therapy, so psycho education and cognitive behavioral therapy help client to improving of insight. The diagnoses of schizophrenia according to criteria of signs and symptoms, such as Diagnostic and Statistical Manual of Mental Disorders DSM-Iv and American Psychiatric Association and International Classification of Diseases ICD -10.

Psychotherapy can also play an important role in helping schizophrenics manage anxiety and deal with interpersonal relationships and treatment for the disorder usually consists of a combination of medication, therapy, and various types of rehabilitation. Family therapy has worked well for many patients, educating both patients and their families about the nature of schizophrenia and helping them in their cooperative effort to cope with the disorder.

Psychosocial approaches such as cognitive behavioral therapy and psychological are used to decrease stress within the family as well as the rate of relapse, these interventions are proposed as adjuncts rather than alternatives to drug treatments so Schizophrenia should not be treated with neuroleptic drugs alone, but also in conjunction with family interventions.

Chapter three
Literature review

Chapter three

3. Introduction:

This chapter presents the research findings by various authors concerning medication compliance and family support to evaluate literature pertaining to issues of medication non-adherence in persons diagnosed with schizophrenia. The literature was reviewed for purposes of obtaining information that outlines the problems and suggests interventions to discuses these problems.

Many research studies have many objectives and issues which included decreased relapse, decreased hospitalizations, less psychopathology, improved social functioning, increased medication knowledge, and greater insight into the need for treatment. Interventions, as well as an association with therapists, also seemed to be necessary for successful outcomes.

Research studies concern family support show the correlation with drug compliance, these studies well help to develop strategies to promote mental health with clients with schizophrenia such as study by Edelman, (2010).

After identifying patients being at risk for non-adherence, treatment plans specific to identified risks, can be developed, thus improving patient care and enhancing psychiatric practice.

Despite the fact that compliance behavior is difficult to study from a methodological point of view, the scientific information available to date does provide many important leads for the engaged clinician to prevent and manage compliance problems (Fleischhacker, 2003:10).

The researcher chooses two domains to build literature reviews, first one is concerning drug compliance and the second one is about family support and relapse. We can find overlapping between drug compliance, family support and relapse. These help to achieve a lot of knowledge to serve my topic.

These studies conducted to confirms the relationship between a variable to determine the level of drug compliance, family support and relapses among clients with schizophrenia and compromise with this study, and the previous studies deal with drug compliance and family support separately and few studies deal with two variables together. All studies in literatures review are from world studies not local and regional, so this study is the first study in Palestine.

Literature review about Drug compliance and attitude towards treatment:

3.1.1. Interventions for enhancing medication.

(Razali, 2010:68) This study aimed at investigating the efficacy of interventions for improving treatment non-adherence in schizophrenia has generated contrasting findings. The present review examined psychosocial interventions for improving medication adherence and prevention of relapse among patients with schizophrenia in developing countries in the Asia-Pacific. The design in this study descriptive design by computerized searches, the relevant literature and systematic review were identified by computerized searches using keywords, and hand-searched for other selected articles. The result the greatest improvement in adherence was seen with interventions employing, a combination of educational, behavioral and cognitive strategies. Patients in developing countries generally had better family support, but strong stigma towards mental illness and interference by traditional healers led to poor treatment adherence. Lack of facilities and shortage of medical professionals aggravated the situation.

3.1.2. Psychopathology, insight and compliance in schizophrenia:

(Bajaj et al, 2009)A four-week longitudinal study was conducted to assess the relationship between insights, psychopathology and treatment compliance in schizophrenia. Method: The study was conducted using Insight and Treatment Attitude Questionnaire, Positive and Negative Syndrome Scale and Medication Adherence Rating Scale. The sample comprised 50 patients with schizophrenia diagnosed according to research criteria of the International Classification of Diseases (ICD-10), with a mean duration of illness of 5.32 years. Results showed the substantial psychopathology was observed at intake and it improved significantly at the end of four weeks. Similar changes were observed in the score of insight and of compliance over four weeks. The insight and the compliance were positively correlated to each other at the beginning and at the end of four weeks. Both of these were negatively correlated with scores on both occasions.

3.1.3. Psychosocial and socio-demographic correlates of medication compliance among people with schizophrenia.

(Tsang et al, 2009:3) The aimed of this study examined the medication compliance of people with schizophrenia in relation to their self-stigma, insight, attitude towards medication, and socio-demographic status via a cross-sectional observational design. Eighty-six Chinese adults with schizophrenia were recruited from the psychiatric hospitals and community settings for this study. The findings suggested that stereotype agreement of self-stigmatization and attitude towards medication were moderately correlated with medication compliance. Poor insight and living alone were found to be significant predictors of medication compliance based on regression analysis. Insight was identified to be the strongest predictor on compliance which accounted for 68.35% of the total variance. Although self-stigma is only moderately linked with medication compliance, its effects on medication-induced stigma cannot be ignored.

3.1.4. Patients on depot and atypical antipsychotics Insight and treatment attitude in schizophrenia: comparison of patients on depot and atypical antipsychotics.

(Mahadun & Marshall, 2008:53) The participants in this study had relatively high levels of insight into their illness. The aim of the study To establish if participants with schizophrenia receiving depot antipsychotics had less insight than similar participants receiving oral atypical antipsychotics. We assessed the difference between these two groups. Result of study Participants on oral antipsychotics had greater insight than those on depot antipsychotics (insight and treatment attitude questionnaire, P=0.01).

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3.1.5. Relationship between Attitude to Treatment in Patients with Schizophrenia on Discharge and Re-hospitalization.

(Ranjbar & Taghizadeh, 2008:121) This study clarify of the Non-compliance is one of the major problems in treatment of patients with schizophrenia. It is also the most significant risk factor for relapse and re-hospitalization. Previous studies showed that 25-70% of all patients with identify the relationship between drug attitude and discharge and the rate of re-hospitalization in patients with schizophrenia. Method: This cohort study was carried out on 200 hospitalized patients with schizophrenia. Drug Attitude Inventory (DAI) was completed for all the patients at the time of discharge. All patients were followed-up for one year for rehospitalization. Logistic regression was used to examine the association between drug attitude and specific risk factors. Results of The study were Mean age of patients was 37.34±10.74 years. Positive and negative drug attitudes were 68%.5 and 27% respectively. The rate of rehospitalization was 41.5% during the one year follow-up. The rate of negative attitude was not significantly different between the two groups with and without re-hospitalization. However, the mean DAI score was significantly lower in the re-hospitalized patients. Multivariate analysis showed that lower DAI score and being female were significant and independent risk factors for re-hospitalization.

3.1.6. Nonadherance to Antipsychotic.

(Morken et al, 2008) This study aimed to describe outcome with respect to persistent psychotic symptoms, relapse of positive symptoms, hospital admissions, and application of treatment by patients with recent onset schizophrenia being adherent and non-adherent to anti-psychotic medication. The sample size was 50 patients with recent onset schizophrenia, schizoaffective or schizophreniform disorders the study design is retrospective design "case control study design" The patients were clinically stable at study entry and had less than 2 years duration of psychotic symptoms Good adherence to antipsychotic medication was defined as less than one month without medication. Outcomes for poor and good adherence were compared over a 24-month follow-up period. The result of study showed that Odds Ratio (OR) of having a psychotic relapse was 10.27 and the OR of being admitted to hospital was 4.00 among non-adherent patients. Use of depot-antipsychotic were associated with relapses (OR = 6.44). .

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3.1.7. Medication non- Adherence in Schizophrenia.

(Tellis, 2008:5) Aimed this study to detect the importance of drug adherence and improving ability to adapt and function by using two questioners first one to client and other to family and friend. The result was related to medication non-adherence in that individuals who require medications yet do not take them as prescribed and are incapable of adequately adapting to their environments. The more adequately individuals can adapt to their environments, the more adequately they will function in life. Medication of adherence is important in the ability to adapt and the capacity to function.

3.1.8. Improving Adherence to Antipsychotic Pharmacotherapy:

(Masand & Narasimhan, 2006:47) Aimed of the study to review the consequences of non adherence to antipsychotic pharmacotherapy in patients with schizophrenia, as well as associated risk factors for non adherence and methods of improving adherence. The methods of study Review of the literature based on a midline search on the terms schizophrenia and adherence or compliance, limited to the English language, supplemented by the author's own knowledge of the topic. Results: Non adherence to antipsychotic therapy is a common reason for relapse and rehospitalization of patients with schizophrenia and thus contributes to the high cost of treating psychoses, adverse events, and lack of insight. Co morbid substance abuse, little family involvement, and a poor clinician-patient relationship are among the risk factors for non adherence. Patients with a negative attitude towards treatment, which can result from adverse events, are also more likely to be non adherent. Strategies to improve adherence include optimizing antipsychotic therapy, minimizing adverse events, encouraging patient participation in psycho-educational programs, treating co morbid substance abuse disorders, involving family members in the treatment process, and forging a close therapeutic relationship with the patient. Dysfunction and weight gain. Compliance can be improved by cognitive-behavioral therapies, such as compliance therapy and other psychosocial interventions associated with improved social functioning and lower risk of rehospitalization. Treatment adherence may also be improved by use of atypical antipsychotic with few perceived side effects.

3.1.9. Adherence therapy for people with schizophrenia.

(Gray et al, 2006) The aimed of the study was to evaluate the effectiveness of adherence therapy in improving quality of therapy in improving quality of life for people with schizophrenia. The study conducted through A 52-week, single-blind, Multi centre randomized controlled trial of the effectiveness of adherence therapy. Participants were individually randomized to receive eight sessions of adherence therapy or health education. Assessments were undertaken at baseline and at 52-week follow-up. Results of adherence therapy were no more effective than health education in improving quality of life.

3.1.10. Adherence to treatment with antipsychotic medication and health care costs among Medicaid beneficiaries with schizophrenia.

(Gilmer, 2004:692) The aimed of the study was to evaluate the relationship between adherence to treatment with antipsychotic medication and health expenditures. A secondary objective was to identify risk factors predictive of no adherence. the method of the study Data included Medicaid eligibility and claims data from 1998 to 2000 for San Diego County, Calif. Pharmacy records were used to assess adherence to treatment with antipsychotic medication according to the cumulative possession ratio (the number of days medications were available for consumption divided by the number of days subjects were eligible for Medi-Cal). Regression models were used to examine risk factors, hospitalizations, and costs associated with nonadherence, partial adherence, adherence, and excess fills of antipsychotic medication. The results of the study were Forty-one percent of Medicaid beneficiaries with schizophrenia were found to be adherent to treatment with their antipsychotic medications: 24% were nonadherent, 16% were partially adhhrent, and 19% were excess fillers. Rates of psychiatric hospitalization were lower for those who were adherent (14%) than for those who were nonadherent (35%), partially adherent (24%), or had excess fills (25%). Rates of medical hospitalization were lower for those who were adherent (7%) than for those who were nonadherent (13%) or had excess fills (12%). Those who were adherent had significantly lower hospital costs than the other groups.

3.1.11. Non-adherence to antipsychotic medication regimens: associations with resource use and costs

(Knapp et al, 2004:509) The aimed of the study was to assess the relative impact of non-adherence on clients and other factors associated with resource use and costs incurred by people with schizophrenia. The Method of the study Secondary analyses was made of data from at 1994 national survey of psychiatric morbidity among adults living in institutions in the UK. Factors potentially relating to resource use and costs were examined using two-part models. Results of the study the Patients who failed to adhere to their medication regimen were over one-and-a-half times as likely as patients who did adhere to it to report use of in-patient services. Non-adherence is one of the most significant factors in increasing external service costs, by a factor of almost 3. Non-adherence predicted an excess annual cost per patient of approximately £2500 for in-patient services and over £5000 for total service use.

3.1.12. Strategies for increasing treatment compliance the role of long-acting Antipsychotic:

(Love, 2002:59) Increased patient compliance with antipsychotic medications is associated with increased efficacy and reduced rates of rehospitalization. It can improve treatment outcomes for patients and reduce costs for society. An understanding of the reasons for noncompliance is essential in formulating strategies to provide better health and economic outcomes. Time-tested strategies such as addressing adverse effects, educating patients, and forming patient-provider alliances with those receiving medications can have a dramatic impact on compliance. Depot antipsychotic has been the mainstay of treatment for patients with schizophrenia who are known to be noncompliant. These agents are especially effective when combined with social support. Atypical antipsychotic, with their improved efficacy and tolerability, appear to increase compliance and reduce rehospitalization compared

with conventional oral and depot agents. A new long acting formulation of an atypical antipsychotic agent combines the advantages of depot drugs and atypical agents. However, such a drug also poses challenges in the changing setting of community mental health. These challenges present pharmacists with an opportunity to assume new roles in the management of patients requiring antipsychotic therapy.

3.1.13. Predictors of noncompliance in patients with schizophrenia:

(Perkins, 2002:63) This study aimed to explain factors that affect drug compliance. About 50% of patients with schizophrenia do not fully comply with treatment, and noncompliance is linked to relapse, rehospitalization, poor outcome, and high economic costs. The health belief model views noncompliance as a decision made by the patient, arrived at after weighing the perceived risks and benefits of treatment. Data collection by a midline search for the years 1980-2002 using combinations of the keywords schizophrenia, compliance, adherence, antipsychotic, tolerability, and side effects was used to identify articles investigating the factors influencing compliance in schizophrenia. Results of the study Many factors influence compliance, including those that affect patients' beliefs about their illness and the benefits of treatment (e.g., insight into illness, belief that medication can ameliorate symptoms), perceived costs of treatment (e.g., medication side effects), and barriers to treatment (e.g., ease of access to treatment, degree of family or social support). Medication side effects that are distressing to patients and linked to noncompliance include extra pyramidal side effects, neuroleptic dysphoria, akathisia and sexual problems

3.1.14. Using drug claims data to assess the relationship of medication adherence with hospitalization and costs:

(Svarstad et al, 2001) This naturalistic study used claims data to examine the relationship of medication nonadherence to hospital use and costs among severely mentally ill clients in Wisconsin. Methods of study by Data collection from 619 clients were obtained from medicaid drug and hospital claims, county records, and case managers as part of a larger study in eight county-based mental health systems. Study participants were eligible for Medicaid, had a severe and persistent mental illness, were 18 years or older, and were receiving neuroleptics, lithium, or antidepressants. Drug claims were analyzed for a 12-month period to determine how regularly clients obtained their medications. Regression analyses were used to assess the effects of irregular medication use on any hospitalization for psychiatric problems, the number of days hospitalized, and hospital costs. The analyses controlled for several risk factors. Results of study were clients or schizoaffective disorder 31 percent used medications irregularly. The rates were 33 percent among those with bipolar disorder and 41 percent among those with other severe mental illnesses. In the total sample, irregular users had significantly higher rates of hospitalization than regular users (42percent versus 20 percent), more hospital days (16 days versus four days), and higher hospital costs ($3,992 versus $1,048). Irregular medication use was one of the strongest predictors of hospital use and costs even after the analyses controlled for diagnosis, demographic characteristics, and baseline functioning and previous hospitalizations.

3.1.15. A systematic review of the associations between dose regimens and medication compliance.

(Claxon et al, 2001:1296) The aimed of study to review studies in which compliance was measured with an electronic monitoring (EM) device to determine the associations between dose frequency and medication compliance. The method of this study by review the Articles were identified through literature searches of Midline, PsychInfo, health Star, health & Psychosocial Instruments, and the Cochrane Library using the search terms patient compliance, patient adherence, electronic monitoring, and medication event monitoring systems. The review was limited to studies reporting compliance measured by EM devices, the most accurate compliance assessment method to date. Because EM was introduced only in 1986, the literature search was restricted to the years 1986 to 2000. In the identified studies, data were pooled to calculate mean compliance with once-daily, twice-daily, 3-times-daily, and 4-times-daily dosing regimens. Because of heterogeneity in definitions of compliance, 2 major categories of compliance rates were defined: dose-taking (taking the prescribed number of pills each day) and dose-timing (taking pills within the prescribed time frame). Results of the study Compliance was significantly higher for once-daily versus 3-times-daily, once-daily versus 4-times-daily, and twice-daily versus 4-times-daily regimens however, there were no significant differences in compliance between once-daily and twice-daily regimens or between twice-daily and 3-times-daily regimens. More frequent dosing was associated with lower compliance rates.

3.1.16. The effects of dose reduction and family treatment.

(Schooler et al, 1997) This study aimed to examine the interaction between dose reduction and family treatment in schizophrenia assessed the impact of dose reduction of antipsychotic medication and family treatment on relapse and rehospitalization during maintenance treatment. The sample size was 313 male and female from outpatients at five centers with a DSM-III-R diagnosis of schizophrenia or schizoaffective disorder. The sampling process subjects were randomized to 1 of 3 medication strategies using fluphenazine decanoate under double-blind conditions: continuous moderate dose (standard) (12.5-50 mg every 2 weeks); continuous low dose (2.5-10 mg every 2 weeks); or targeted, early intervention (fluphenazine only when symptomatic). Subjects also were randomized to 1 of 2 family treatment strategies (supportive or applied). The experimental deign was applied by make intervention through decrease of drug doses and family treatment. The result both continuous low-dose and targeted treatment increased use of rescue medication and relapse.

3.2. Literature review about Drug compliance and family support:

3.2.1. Patient's perception of family involvement and its relationship to medication adherence for persons with schizophrenia and schizoaffective disorder.

(Edelman, 2010:69) The aimed of the study is to examine the connection between perception of family relationships and medication adherence among patients with schizophrenia. Utilizing the Rutgers Hospital and Community Survey, this study looked at the follow up surveys of 182 patients who were on oral anti-psychotic medications and who reported at least one family relationship. Data were analyzed using the patients' responses to questions about how they perceive their family relationships as well as their responses about their medication adherence in the previous two weeks and the previous three months. Chi-square and logistic regression were performed, while controlling for age, race, education, gender, Brief Psychiatric Rating Scale scores, Global Assessment Scale scores, side effects, substance abuse, therapeutic alliance, housing status, and objective family involvement scores (which measured the family's involvement behaviors while the patient had been hospitalized). In the two weeks prior to the survey, over one third of patients (37%) reported less than complete adherence to their medication regimen. Almost two thirds (64%) reported full adherence. In the three months since their discharge from the hospital, over a quarter (27%) reported less than complete adherence to their medication regimen. Almost three quarters (73%) reported full adherence. Approximately a third (33%) of patients were assessed to have a "low" quality therapeutic alliance, while approximately two thirds (67%) had a "medium" or "high" quality therapeutic relationship. No correlation between family involvement and adherence to medication.

3.2.2. Family intervention for schizophrenia (Review)

(Pharoah et al, 2010:1) The aim of study is to estimate the effects of family psychosocial interventions in community settings for people with schizophrenia or schizophrenia-like conditions compared with standard care. Selection criteria we selected randomized or quasi-randomized studies focusing primarily on families of people with schizophrenia or schizoaffective disorder that compared community-orientated family-based psychosocial intervention with standard care. Data collection and analysis we independently extracted data and calculated fixed-effect relative risk (RR), the 95% confidence intervals for binary data and where appropriate, the number needed to treat on an intention-to-treat basis. For continuous data, we calculated mean differences. The mean result family intervention may decrease the frequency of relapse, although some small but negative studies might not have been identified by the search. Family intervention may also reduce hospital admission and encourage compliance with medication.

3.2.3. Factors affecting the family support system of patients with schizophrenia: A survey in the remote island of Tsushima:

(Hamada et al, 2008:161) This study provides information about possible support for home-cared schizophrenic patients and their families was investigated on Tsushima, one of the many isolated islands in Japan. The psychopathologic symptoms of the patients were evaluated using the Brief Psychiatric Rating Scales (BPRS), their social adjustment using the Psychiatric Disability Assessment Schedule, mental states of the families using the General Health Questionnaire , and the quality of life (QOL) using the Life Satisfaction Rating Scales (LSR). The family support systems for the patients were evaluated with regard to: (I) family support for the patient's daily life (FS), (ii) hardships of family life caused by living with the patient (HF), and (iii) empathic attitude of the family toward the patient (EA). Psychotic symptoms of schizophrenic patients were closely related to the mental state and QOL of their families. Family support was significantly correlated with HF and EA. Moreover, the family support system was shown to be related both to the psychotic symptoms of the patient and the mental state of the family. These results suggest that an approach to improve the family support system for the patient may exert positive effects on the patient's psychotic symptoms and his/her social adjustment. We also consider that intervention by a public organization is necessary to improve the family support system on islands.

3.2.4. Psychoeducational intervention and prevention of relapse among schizophrenic disorders in the Italian community psychiatric network

(Aguglia et al, 2007:7) This study explains the lack of compliance is associated with an increased risk of hospitalization and switching or augmentation of therapy when compared with being compliant. A synergy of drug therapy and psychosocial interventions can give more benefits in treatment. Methods by a perspective study were conducted on 150 patients with schizophrenia over 15 centers in Italy. The experimental group was treated with drug therapy, traditional psychosocial and psycho education for the patients and their families, while the control group received traditional psychosocial and drug intervention over 1 year. Results the experimental group showed a significant statistical improvement ($p < 0, 05$) in almost all the scales that have been assessed. Significant was the reduction of the number of hospitalizations and of days of hospital stay.

3.2.5. Family Psychiatry: From Research to Practice:

(Heru, 2006:962) The purpose of this article is to review current research evidence for clinicians involving families in the assessment and treatment of their patients. Method of study by Research on effects of family support on illness outcome and outcomes of family-centered treatment in medicine, pediatrics, and psychiatry are reviewed. The Results were Research in many medical fields' showed that families have powerful influences on health that are equal to or surpass interventions increase health and decrease the risk of relapse in chronic illnesses. Research in psychiatry affirms that family interventions reduce the rate of relapse, improve recovery, and increase family well-being.

3.2.6. Family education for people with schizophrenia in Beijing, China Randomized controlled trial:

(Li & Arthur, 2005:339) This study aims to conduct a longitudinal experimental study examining the effect of patient and family education in a sample of Chinese people with schizophrenia. Method by a randomized controlled trial was conducted in a large hospital with sample of 101 patients with schizophrenia and their families. Data were collected at admission and discharge, and then at 3 and 9 months after discharge. The intervention group received family education, and data on their knowledge about schizophrenia, symptoms, functioning, psychosocial behavior, relapse and psychosocial behavior, medication adherence were collected and compared with the control group. Results there was a significant improvement in knowledge about schizophrenia in the experimental group and a significant difference in symptom scores and functioning at 9 months after regimens were non adherent to medication more likely to relapse.

3.2.7. The Effect of Family Interventions on Relapse and Rehospitalization in Schizophrenia: A Meta-Analysis:

(Pitschel-Walz et al, 2001:73) This study explains of twenty-five intervention studies were meta-analytically examined regarding the effect of including relatives in schizophrenia treatment. The studies investigated family intervention programs to educate relatives and help them cope better with the patient's illness. The patient's relapse rate, measured by either a significant worsening of symptoms or rehospitalization in the first years after hospitalization, served as the main study criterion. The main result of the meta-analysis was that the relapse rate can be reduced by 20 percent if relatives of schizophrenia patients are included in the treatment. If family interventions continued for longer than 3 months, the effect was particularly marked. Furthermore, different types of comprehensive family interventions have similar results.

3.2.8. The effect of family intervention on chronic schizophrenics under individual psychosocial treatment: a 3-year study.

(Tomaras et al, 2000:487) This study concern of the effectiveness of family intervention in schizophrenia has mainly been tested by controlled trials which recruited patients after hospital discharge. Less is known about its effectiveness when chronic schizophrenics displaying negative rather than positive symptoms are engaged in treatment. This study was conducted in two community-based rehabilitation units for chronic psychiatric patients and was planned to test: (1) whether family intervention combined with individual psychosocial treatment is more effective than individual psychosocial treatment in improving the clinical and social prognosis of schizophrenic patients belonging to high expressed emotion (high-EE) families, and (2) whether family intervention exerts its effect on the patients through the reduction of EE in their families. Method of study by taking Forty patients from high-EE families, all under neuroleptic medication and in remission at intake, were evenly assigned to individual psychosocial treatment or to psycho educational family intervention plus individual psychosocial treatment. Individual treatment consisted of vocational and social skills training; family intervention mainly comprised 13 group sessions with relatives. Patients were treated for 12 months and were followed-up for the next 2 years. Measures of clinical outcome comprised relapse, hospitalization and

clinical exacerbation. Measures of social outcome included social functioning and role performance. Re-employment served as an additional measure at the follow-up assessments.

3.2.9. Three-Year Trials of Personal Therapy Among Schizophrenic Patients Living With or Independent of Family, I: Description of Study and Effects on Relapse Rates:

(Hogarty et al, 1997:1504) This study aimed to clarify the important of the family support when clients living with family and the ability of psychosocial treatments to prevent psychotic relapse appears to lessen over time. The authors' goal was to develop and test a demonstrably effective individual therapy for schizophrenia by using a study design that addressed previous methodological issues, the author's evaluated personal therapy specifically designed to forestall late relapse in patients with schizophrenia. They evaluated the effectiveness of personal therapy over a period of 3 years after hospital discharge among 151 patients with schizophrenia or schizoaffective disorder diagnosed according to Research Diagnostic Criteria. The patients were randomly assigned to receive either personal therapy or contrasting therapies in one of two concurrent trials. One trial studied patients who were living with family (N=97); the other studied patients who were living independent of family (N=54). Results of the study were all of the patients had extensive psychiatric histories, but only 44 (29%) experienced recurrent psychotic episodes over the 3-year study period, and only 27 (18%) prematurely terminated the study; most of those who left the study were in the no-personal-therapy conditions. Among patients living with family, personal therapy was more effective than family and supportive therapies in preventing psychotic and affective relapse as well as noncompliance. However, among patients living independent of family, those who received personal therapy had significantly more psychotic decompositions than did those who received supportive therapy.

3.2.10. Psycho-educational multiple family groups: four-year relapse outcome in schizophrenia:

(Mcfarlane et al, 1995) The study aimed to examine psycho-educational multiple family group in improve relapse out come by compared two multiple family group strategies with one individual family approach in 47 patients with schizophrenic disorders who were in contact with relatives and attending outpatient services in New York city over a 4 year follow up period. They were assigned randomly to either, multiple family groups" MFG" with education about schizophrenia, MFG without education, or Individual family education. The family approach was based on the psychoe-ducation strategies. Results After 12 months 13% of cases allocated to the educational MFGs had been readmitted to hospital, 22 % of those in the individual family education, and 43% in the MFG without education. The proportion of patients admitted to hospital was similar for each of the educational approaches, whereas only a few additional cases were admitted in the 7cases receiving the traditional MFG.

3.3. Summary

The researcher not found local and regional studies, most of studies from Asia, America and European, that discussed the drug compliance and family support in preventing relapses. The research in clinical area that regards mental illness is very rare in Gaza strip.

The researcher got many studies from many countries to enhance the topic of study; some of studies have direct relation with the topic of study like study of Masand & Narasimhan, (2006) and Goldstein et al, (1978).

Many of studies discusses the factors that lead to drug compliance such as the study of Perkins, (2002), the researcher found the overlapping in drug compliance factors and family support, the researcher after review of the researches suggests that drug compliance can not be separate from family support intervention, many of researches show the importance of family support with client have schizophrenia in increases drug compliance such as study of Pharoah et al, (2010).

Drug compliance, family support, Psycho-education, insight, dose of drug, ,type of drug, cost and type of family there are main interest of the previous literature review, there are important in the research topic. The researcher agrees with literature review through the important of factors in continuity of treatment.

The methods used in a previous studies, retrospective design and case control study such as study of Morken G, et al. (2008). Other methods were used the experimental deign example, "study dose reduction" conduct by Schooler, et al (1997). Descriptive design was done by computerized searches conducted by Razali, (2o10). Other design Review of the literature based on a midline search on the terms schizophrenia and adherence or compliance by Masand & Narasimhan, (2006). Some of studies used Questionnaire like study conducted by Bajaj et al, (2009).

The researcher think the experimental design need to more time, money, accessibility and effort, the ethical consideration is stand barrier in applying medical intervention on client such as administration medication so the researcher prefer uses the descriptive design.

Re-hospitalization and relapse are complex problems that need cooperation between clients, family, community and community mental health center because every one have part in management of the clients with schizophrenia, the follow up and support that is essential for care and can prevent episodes of psychosis in early time and decreases the relapses and re-hospitalization.

The researcher agrees with these studies in enhance role of family in treatment and encourage clients in treatment engagement. Most of studies encourage family support to enhance drug compliance so the rate of relapses decreased. These studies help researcher in build three tools to achieve the objectives of the study.

Chapter four

Methodology

Chapter four

Introduction

This chapter describes the methodology that was used in this research. The adopted methodology to accomplish this study uses the following techniques: the information about the research design, research population, questionnaire design, statistical data analysis, content validity and pilot study.

4. Research Design:

The researcher wants to use in this study non-experimental design, cross sectional design to identify the relation between research variables, the researcher selected this method because this study involves human subject, ethical consideration and difficult to expose human to experimental intervention. And this method allows performing the study quickly and not expensive. The researcher used some of phases to apply research design.

The first phase of the research thesis proposal included identifying and defining the problems and establishment objective of the study and development research plan.

The second phase of the research included a summary of the comprehensive literature review. A literature on claim management was reviewed.

The third phase of the research included a field survey which was conducted with the drug compliance and family support contributes in preventing relapse among schizophrenia clients in Gaza strip.

The fourth phase of the research focused on the modification of the questionnaire design, through distributing the questionnaire to pilot study, The purpose of the pilot study was to test and prove that the questionnaire questions are clear to be answered in a way that help to achieve the target of the study. The questionnaire was modified based on the results of the pilot study.

The fifth phase of the research focused on distributing questionnaire. This questionnaire was used to collect the required data in order to achieve the research objective.

The sixth phase of the research was data analysis and discussion. Statistical Package for the Social Sciences, (SPSS) was used to perform the required analysis. The final phase includes the conclusions and recommendations.

A seventy five questionnaires were distributed to the research population and **sixty five questionnaires** are received Figure (2) shows the methodology flowchart, which leads to achieve the research objective.

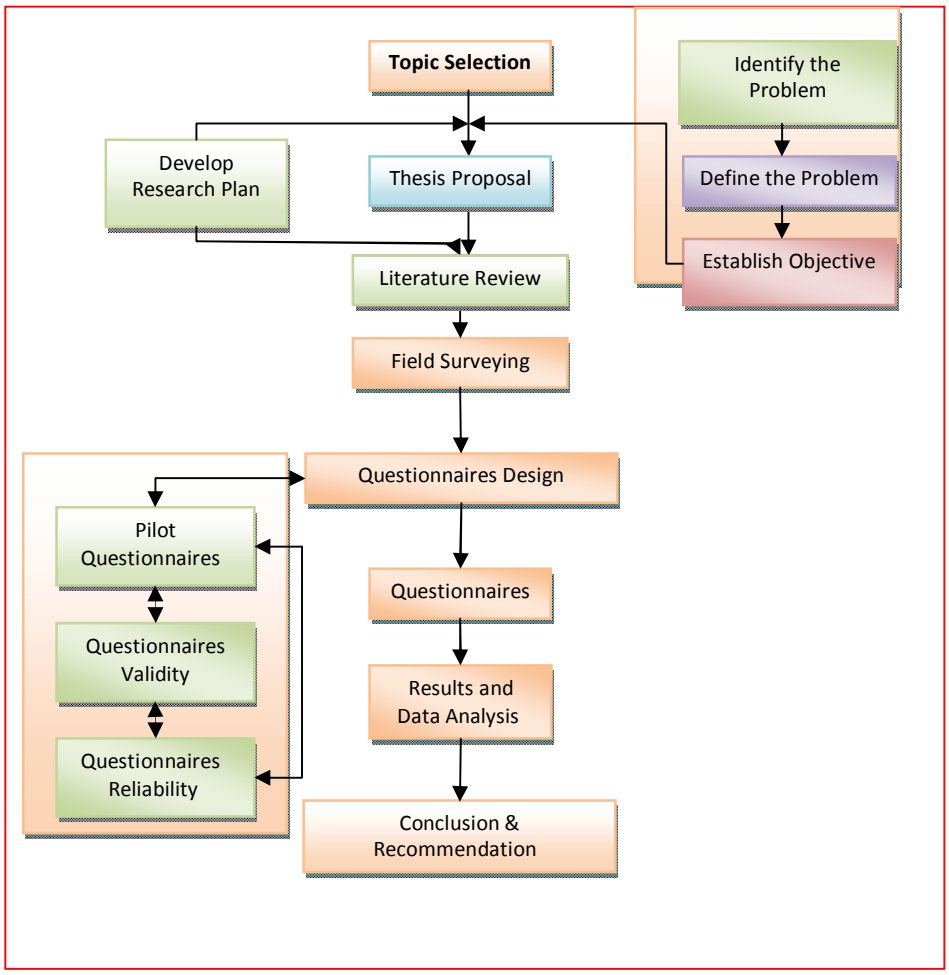


Figure (2) illustrates the methodology flow chart.

4.1. Research methodology

4.1.1. Data Collection Methodology:

In order to collect the needed data for this research, we use the secondary resources in collecting data such as books, journals, statistics and web pages, in addition to preliminary resources that not available in secondary resources through distribute questionnaires on study population in order to get their opinions about the drug compliance and family support contribute in preventing relapse among schizophrenia clients in Gaza strip. Research methodology depends on the analysis of data on the use of descriptive analysis, which depends on the poll and use the main program (SPSS).

4.1.2. Study Population:

Study Population is a group of individuals (or a group of organizations) with some common defining characteristic that the researcher can identify and study (Creswell, 2008:152).

The population is Clients with schizophrenia that was diagnosed at "2010" in community mental health out clinic in governorates was distributed in Gaza strip. The number of population approximately are "84" clients. The rate of response was 77.38% equal 65 cases.

The researcher use non random purposive sampling by distribution of the clients in community mental health out clinic was diagnosed at "2010". Clients with schizophrenia were diagnosed "2010" male and female committed in community mental health out clinic visit included in the sample. Distribution of Study Population by locally and sex are illustrated in table No. (1).

Table No. (1)
Distribution of study population by locality and sex

DIAGNOSIS	OUT CLINIC RAFAH		OUT CLINIC ABU SHBAK		OUT CLINIC KHAN YOUNIS		OUT CLINIC ALNUSIRAT		OUT CLINIC WEST GAZA		OUT CLINIC ALSORANY		Total
SEX	M	F	M	F	M	F	M	F	M	F	M	F	
SCHIZOPHRENIA	7	6	4	4	2	5	16	3	6	2	17	12	84

4.2. Personal data:

1- Age:

Table No. (2) Shows that 38.5 % from the sample ages "20-30 years", 38.5% from the sample ages "31-40 years" and 23.1% from the sample ages "up 40 year".

Table No. (2)
Distribution by age

Age	Frequency	Percentages
20-30 years	25	38.5
31-40 years	25	38.5
up 40 years	15	23.0
Total	65	100.0

2- Gender:

Table No. (3) Shows that "73.8%" from the sample are "male", and 26.2% from the sample are "female". Most of cases male.

Table No. (3)
Distribution by gender

Gender	Frequency	Percentages
Male	48	73.8
Female	17	26.3
Total	65	100.0

3- Governorates:

Table No.(4) shows that "9.2%" from the sample from "North governorate", 44.6% from the sample from "Gaza", 26.2% from the sample from "Middle", 10.8% from the sample from "Khanyounis" and 9.2% from the sample from "Rafah". Most of cases are from Gaza city "44.6%".

Table No. (4)
Distribution by address

Address	Frequency	Percentages
North governorate	6	9.2
Gaza	29	44.6
Middle	17	26.2
Khanyounis	7	10.8
Rafah	6	9.2
Total	65	100.0

5- Social status:

Table No. (5) Shows that "38.5%" from the sample the social status are "single", 36.9% from the sample the social status are "married", "3.1%" from the sample the social status are "widow" and "21.5%" from the sample the social status are "divorced".

Table No. (5)
Distribution by social status

Social status	Frequency	Percentages
Single	25	38.5
Married	24	36.9
other	16	24.6
Total	65	100.0

6- Number of children:

Table No. (6) Shows the numbers of children for married boys and girls.

Table No. (6)
Distribution by number of children for married

	Boys		Girls	
Number of children	Frequency	Percentages	Frequency	Percentages
One	9	42.9	4	26.7
Two	6	28.6	5	33.3
Three or more	6	28.6	6	40.0
Total	21	100.0	15	100,0

7- Education:

Table No.(7) show that "21.5%" from the sample level of education are "elementary", '38.5%" from the sample level of education are "preparatory", "32.3%" from the sample level of education are "secondary" and "7.7%" from the sample level of education are " university ". Most of cases are low level of education.

Table No. (7)
Distribution by education

Education	Frequency	Percentages
Elementary	14	21.5
Preparatory	25	38.5
Secondary	21	32.3
University	5	7.7
Total	65	100.0

8- Number of admitting hospital:

Table No.(8) shows that "52.3 %" from the sample admitting hospital "none ", 30.8% from the sample admitting hospital "one", "9.2%' from the sample admitting hospital "two", '6.2%' from the sample admitting hospital "Three to five" and "1.5%" from the sample admitting hospital "more than five". Most of cases don't admitted hospital "52.3%'.

Table No. (8)
Distribution by number of admitting hospital

Number of admitting hospital	Frequency	Percentages
None	34	52.3
One	20	30.8
More than Two	11	16.9
Total	65	100.0

9- Economic status:

1. Source Family income :

Table No.(9) shows that "69.2%" from the sample the Source family income are "hard social cases", "10.8%" are " job", "3.1%" are "wife job", "3.1%" are "sons \daughter work" and "13.8%" are "others". Most of cases are hard social status "69.2%".

Table No. (9)
Distribution by family income

Family income	Frequency	Percentages
Hard social cases	45	69.2
Job	7	10.8
Wife job & Sons \Daughter work	4	6.2
Others	9	13.8
Total	65	100.0

Monthly income:

Table No.(10) shows that "47.7%" from of the sample monthly income are " less than 500 NIS", "15.4%" are"600-500 NIS", "13.8" % are "1000-1500 NIS", "16.9%" are "1600- 2000 NIS", "4.6%" are "2100-2500 NIS" and '1.5%" are more than "2500 NIS". Most of cases are low monthly income "47.7%".

Table No. (10)
Distribution by monthly income

Monthly income	Frequency	Percentages
Less than 500 NIS	31	47.7
600-500 NIS	10	15.4
1000-1500 NIS	9	13.8
1600- 2000 NIS	11	16.9
More than 2100 NIS	4	6.1
Total	65	100.0

3- Participation in housing:

Table No.(11) shows that "60.0.%" from the sample agree that the Participation in housing are "Parents", "3.1%" are "father only", "6.2%" are "mother only", and "12.3%" are "siblings" and "18.5%' are " none". Around 1/5 of cases are living alone.

Table No. (11)
Distribution by participation in housing

Participation in housing	Frequency	Percentages
Parents	39	60,0
Father only	2	3.1
Mother only	4	6.2
Siblings	8	12.3
alone	12	18.5
Total	65	100,0

9- The client follows up in mental health out clinic:

Table No.(12) shows that 18.5% from the sample follow up by "The client", 70.8 % from the sample follow up by "the client with family" and 10.8 % from the sample follow up by "family only". Most of cases follow up by client and family 70.8%

Table No. (12)
Distribution by the client follows up in mental health out clinic

The client follow up in mental health out clinic	Frequency	Percentages
The client	12	18.4
The client with family	49	70.8
Family only	7	10.8
Total	65	100.0

4.3. Questionnaire content:

The questionnaire was self constructed by the researcher after reviewing the related literature. The questionnaire was provided with a covering letter explaining the purpose of the study, the way of responding, the aim of the research and the security of the information in order to encourage a high response. The questionnaire included multiple choice questions, which were used widely in the questionnaire; the variety in these questions aims first to meet the research objectives, and to collect all the necessary data that can support the discussion, results and recommendations in the research. The sections in the questionnaire will verify the objectives in this research related to drug compliance and family support contribute prevent relapse among schizophrenia clients in Gaza strip as the follows:

First tool Drug compliance scale: this scale to measure clients attitude towards treatment, level of drug compliance and the relationship between them refer annex (8). The researcher subdivided questionnaire regard drug compliance as follows:

1- **The client attitude towards medication** consist of 12 questions
2- **The drug compliance to antipsychotic drug** consist of 16 questions

Second tool: **Family support scale:** to measure level of family support refer annex (9) and subdivided into subfields as follows:

1. **Emotional support** consists of 7 questions
2. **Therapy support** consists of 7 questions
3. **Social support** consists of 10 questions.

Third tool: **Relapse scale fills by family:** to evaluate relapse rate refer to annex (10) subdivided into subfields as follows:

1. **Behavioral** consist of 16 questions
2. **Socially** consist of 8 questions
3. **Emotional** consist of 8 questions
4. **Sensory and intellectually** consist of 8 questions

And all questions follow Lekart scale as the following:

Level	**Strongly disagree**	**Disagree**	**Don't know**	**Agree**	**Strongly agree**
Scale	1	2	3	4	5

4.4. Interview with clients and family:

The researcher did interview separately with clients then family to implement questionnaires in community mental health clinic in governorate in Gaza strip after taken permission from mental health general administration refer to annex (11), to detect the contribution of drug compliance and family support in preventing relapse among clients with schizophrenia.

The clients and family approved before data collection from him. the researcher explain the goal of questionnaire to client and family. The period of filled all interview were sex month. Three questioners were filled by researcher through interviews with client to filled drug compliance scale and family support scale. Relapse scale filled during interview with family because the clients not aware the signs and symptoms of relapses**.**

The time of session with clients and family was 30 to 40 minute. The response rate to interview was 77.38% equal 65 cases. Most participants were collaborators with the researcher and they were happy to participate.

The researcher faced some obstacles such as the clinic place was very small no designated seating for interview, mainly participant coming separately client without family or vice. Accidently the annual report for clients help the researcher in collection information from clients and family

4.5. Pilot Study:

A pilot study for the questionnaire was conducted before collecting the results of the sample. It provides a trial run for the questionnaire, which involves testing the wordings of question, identifying ambiguous questions, testing the techniques that used to collect data, and measuring the effectiveness of standard invitation to respondents.

4.5.1Validity of the Questionnaire:

We can define the validity of an instrument as a determination of the extent to which the instrument actually reflects the abstract construct being examined. "Validity is refers to the degree to which an instrument measures what it is supposed to be measuring" (Lewis R J, 1999:3). High validity is the absence of systematic errors in the measuring instrument. When an instrument is valid; it truly reflects the concept it is supposed to measure. Achieving good validity required the care in the research design and sample selection.

4.5.2 Content Validity of the Questionnaire:

Is the extent to which the questions on the instrument and the scores from these questions are representative of all the possible questions that a researcher could ask about the content or skills (Creswell, 2008:172).

Content validity test was conducted by sending the questionnaire to seven expert people working in mental health services to see suggestions "annex 12", advice and to evaluate and identify whether the questions agreed with the scope of the items and the extent to which these items reflect the concept of the research problem. The

researcher can apply the any modifications in questionnaire. The other was requested to evaluate that the instrument used is valid statistically and that the questionnaire was designed well enough to provide relations and tests between variables.

4.5.3. Statistical Validity of the Questionnaire:

To insure the validity of the questionnaire, two statistical tests should be applied. The first test is Criterion-related validity test (Pearson test) which measures the correlation coefficient between each item in the field and the whole field. The second test is structure validity test (Pearson test) that used to test the validity of the questionnaire structure by testing the validity of each domain and the validity of the whole questionnaire. It measures the correlation coefficient between one domain and all the domains of the questionnaire that have the same level of similar scale.

1) Construct Validity:

A- Internal consistency:

Internal consistency of the questionnaire is measured by a scouting sample, which consisted of twenty five questionnaires, through measuring the correlation coefficients between each paragraph in one item and the Questionnaire the tables No. (13, 14, 15) below shows the correlation coefficient and p-value for each item items. As show in the table the p- Values are less than 0.05 or 0.01,so the correlation coefficients of this Questionnaire are significant at $\alpha = 0.01$ or $\alpha = 0.05$, so it can be said that the paragraphs of this field are consistent and valid to be measure what it was set for.

Table No. (13)
The correlation coefficient between each paragraph in the field and the whole tool
(Drug compliance scale: fill by interview with client)

NO.0F ITEMS	PEARSON COEFFICIENT	P-VALUE	NO.0F ITEMS	PEARSON COEFFICIENT	P-VALUE	NO.0F ITEMS	PEARSON COEFFICIENT	P-VALUE
(1)	0.734	0.000	(11)	0.658	0.000	(21)	0.684	0.000
(2)	0.512	0.009	(12)	0.778	0.000	(22)	0.444	0.026
(3)	0.513	0.009	(13)	0.428	0.033	(23)	0.491	0.013
(4)	0.503	0.010	(14)	0.562	0.003	(24)	0.520	0.008
(5)	0.717	0.000	(15)	0.489	0.013	(25)	0.498	0.011
(6)	0.629	0.001	(16)	0.704	0.000	(26)	0.758	0.000
(7)	0.463	0.020	(17)	0.550	0.004	(27)	0.681	0.000
(8)	0.483	0.014	(18)	0.642	0.001	(28)	0.484	0.014
(9)	0.469	0.018	(19)	0.472	0.017			
(10)	0.775	0.000	(20)	0.507	0.010			

Table No. (14)

The correlation coefficient between each paragraph in the field and the whole tool
(Family support scale: fill by interview with client)

NO.OF ITEMS	PEARSON COEFFICIENT	P-VALUE	NO.OF ITEMA	PEARSON COEFFICIENT	P-VALUE	NO.OF ITEMS	PEARSON COEFFICIENT	P-VALUE
(1)	0.544	0.005	(9)	0.695	0.000	(17)	0.451	0.024
(2)	0.610	0.001	(10)	0.640	0.001	(18)	0.630	0.001
(3)	0.485	0.014	(11)	0.663	0.000	(19)	0.552	0.004
(4)	0.515	0.008	(12)	0.432	0.031	(20)	0.545	0.005
(5)	0.720	0.000	(13)	0.610	0.001	(21)	0.474	0.017
(6)	0.638	0.001	(14)	0.591	0.002	(22)	0.662	0.000
(7)	0.549	0.005	(15)	0.456	0.022	(23)	0.556	0.004
(8)	0.527	0.007	(16)	0.555	0.004	(24)	0.534	0.006

Table No. (15)

The correlation coefficient between each paragraph in the field and the whole field
(Relapse scale fills by family)

NO.0F ITEMS	PEARSON COEFFICIENT	P-VALUE	NO.0F ITEMS	PEARSON COEFFICIENT	P-VALUE	NO.0F ITEMS	PEARSON COEFFICIENT	P-VALUE
(1)	0.717	0.00	(15)	0.438	0.02	(29)	0.631	0.001
(2)	0.636	0.00	(16)	0.650	0.00	(30)	0.698	0.000
(3)	0.737	0.00	(17)	0.447	0.02	(31)	0.469	0.018
(4)	0.734	0.00	(18)	0.610	0.00	(32)	0.559	0.004
(5)	0.612	0.00	(19)	0.488	0.01	(33)	0.677	0.000
(6)	0.585	0.00	(20)	0.451	0.02	(34)	0.447	0.025
(7)	0.548	0.00	(21)	0.561	0.00	(35)	0.645	0.000
(8)	0.436	0.02	(22)	0.552	0.00	(36)	0.430	0.032
(9)	0.680	0.00	(23)	0.541	0.00	(37)	0.652	0.000
(10)	0.456	0.02	(24)	0.479	0.01	(38)	0.567	0.003
(11)	0.658	0.00	(25)	0.447	0.02	(39)	0.547	0.005
(12)	0.483	0.01	(26)	0.465	0.01	(40)	0.577	0.003
(13)	0.460	0.02	(27)	0.609	0.00			
(14)	0.489	0.01	(28)	0.543	0.00			

B- Structure Validity of the Questionnaire:

Structure validity is the second statistical test that used to test the validity of the questionnaire structure by testing the validity of each domain and the validity of the whole questionnaire. It measures the correlation coefficient between one filed and all the fields of the questionnaire that have the same level of liker scale. As shown in table No. (16), the significance values are less than 0.05 or 0.01, so the correlation coefficients of all the fields are significant at $\alpha = 0.01$ or $\alpha = 0.05$, so it can be said that the fields are valid to be measured what it was set for to achieve the main aim of the study

Table No. (16)
Structure Validity of the Questionnaire

Number	**Section**	Pearson **correlation coefficient**	**p-value**
1	Drug compliance scale : fill by interview with client	0.688	0.000
2	Family support scale : fill by interview with client	0.744	0.000
3	Relapse scale fill by family	0.927	0.000

4.6.1. Reliability of the Questionnaire:

Reliability means that scores from an instrument are stable and consistent. Scores should be nearly the same when researchers administer the instrument multiple times at different times. Also, scores need to be consistent. When an individual answers certain questions one way, the individual should be consistently answer closely related questions in the same way (Creswell, 2008:169). Other definition reliability of an instrument is the degree of consistency with which it measures the attribute it is supposed to be measuring (Lewis R J, 1999:3).

The test is repeated to the same sample of people on two occasions and then compares the scores obtained by computing a reliability coefficient. For the most purposes reliability coefficient above 0.7 are considered satisfactory. Period of two weeks to a month is recommended between two tests Due to complicated conditions that the contractors is facing at the time being, it was too difficult to ask them to responds to our questionnaire twice within short period. The statistician's explained that, overcoming the distribution of the questionnaire twice to measure the reliability can be achieved by using Cronback Alpha coefficient and Half Split Method through the SPSS software.

4.6.2. Half Split Method:

This method depends on finding Pearson correlation coefficient between the means of odd rank questions and even rank questions of each field of the questionnaire. Then, correcting the Pearson correlation coefficients can be done by using Spearman Brown correlation coefficient of correction. The corrected correlation coefficient (consistency coefficient) is computed according to the following equation. Consistency coefficient = $2r/(r+1)$, where r is the Pearson correlation coefficient. The normal range of corrected correlation coefficient $2r/(r+1)$ is between 0.0 and + 1.0 As

shown in table No.(17), all the corrected correlation coefficients values are between 0.8590 and 0.9020 and the general reliability for all items equal 0.8954, and the significant (α) is less than 0.05 so all the corrected correlation coefficients are significance at α = 0.05. It can be said that according to the Half Split method, the dispute causes group are reliable.

Table (17)
Split-Half Coefficient method

Number	section	Person-correlation	Spearman-Brown Coefficient	Sig. (2-(Tailed
1	Drug compliance scale : fill by interview with client	0.7529	0.8590	0.000
2	Family support scale : fill by interview with client	0.8215	0.9020	0.000
3	Relapse scale fill by family	0.7925	0.8843	0.000
	Total	0.8106	0.8954	0.000

4.6.3. Coefficient Alpha:

This method is used to measure the reliability of the questionnaire between each field and the mean of the whole fields of the questionnaire. The normal range of Cronbach's coefficient alpha value between 0.0 and + 1.0, and the higher values reflects a higher degree of internal consistency. As shown in table No. (18), the Cronbach's coefficient alpha was calculated for the first field of the causes of claims, the second field of common procedures and the third field of the Particular claims. The results were in the range from 0.8892 and 0.9347, and the general reliability for all items equal 0.9247. This range is considered high; the result ensures the reliability of the questionnaire.

Table (18)
Cronbach's Alpha For Reliability

Number	Section	No. of Items	Cronbach's Alpha
1	Drug compliance scale : fill by interview with client	28	0.8892
2	Family support scale : fill by interview with client	24	0.9347
3	Relapse scale fill by family	40	0.9014
	Total	92	0.9247

4.7. Statistical Analysis:

To achieve the research goal, researcher used the statistical package for the Social Science (SPSS) for Manipulating and analyzing the data. Statistical methods are as follows:

1- Frequencies and Percentile
2- Alpha- Cronbach Test for measuring reliability of the items of the questionnaires
3- Person correlation coefficients for measuring validity of the items of the questionnaires.
4- Spearman –Brown Coefficient
5- One sample t test
6- Independent samples t test
7- One way ANOVA test

4.8. Limitation of the study

- There is no previous academic study that were carried out in this field in Gaza, The research about drug compliance and family support with clients have schizophrenia or mental disorder there are no literature review about this in academic study. And it has limited educational resource like books and journals.

- There is no registration statistic to determine number of clients have mental health problem.

- There is no computerized system to make follow up in easy way.

- The fills were arranged by number not by diagnosis.

- The families were visiting the community mental health clinic in most time without client.

- This study employed a cross-sectional study design. Cross-sectional data does not allow causality to be established.

Chapter five
Data analysis and results

Chapter five

5. One Sample K-S Test:

One Sample K-S test will be used to identify if the data follow normal distribution or not, this test is considered necessary in case testing questions as most parametric test stipulate data to be normality distributed and this test used when the size of the sample are greater than 50.

Results test as shown in table (19), clarifies that the calculated p-value is greater than the significant level which is equal 0.05 (p-value. > 0.05), this in turn denotes that data follows normal distribution, and so parametric tests must be used.

Table (19)
One Sample K-S

Number	Section	items No.	Statistic	P-value
1	Drug compliance scale : fill by interview with client	8	1.060	0.211
2	Family support scale : fill by interview with client	8	1.059	0.212
3	Relapse scale fill by family	8	0.634	0.816
	Total	40	0.989	0.282

5.1. Results:

In the following tables we use a one sample T test to test if the opinion of the respondent in the content of the sentences are positive (weight mean greater than "60%" and the p-value less than 0.05) or the opinion of the respondent in the content of the sentences are neutral (p- value is greater than 0.05) or the opinion of the respondent in the content of the sentences are negative (weight mean less than "60%" and the p-value less than 0.05). "The negative statement converted to positive".

5.1.1. First section: Drug compliance scale:

A- The client attitude towards medication

We use a one sample T test to test if the opinion of the respondent about the client attitude towards medication and the results shown in Table No. (20) As follows:

The two highest statements according to weight mean as follows:

1. In item No. (9) the weight mean equal " 76.92%" and p-value equal " 0.000" which is less than 0.05, that means (I don't refuse the drug taken).

2. In item No. (8) the weight mean equal " 75.69%" and p-value equal "0.000" which is less than 0.05, that means (I go to the clinic for follow up in limited time).

And the two lowest statements according to weight mean as follows:

1. In item No. (4) the weight mean equal "44.69%" and p-value equal "0.000" which is less than 0.05, that means (I don't feel sorry when I go to the mental health clinic).

2. In item No. (7) the weight mean equal "43.38%" and p-value equal "0.000" which is less than 0.05, that means (I'm not interested to know about the psychological illness).

For general the results for all items of the field shows that the average mean equal 3.30 and the weight mean equal "65.93%" which is greater than "60%" and the value of t test equal 2.205 which is greater than the critical value which is equal 2.0 and the p- value equal 0.000 which is less than 0.05, that means the client attitude towards medication is positive at significant level $\alpha = 0.05$

Table No. (20)
Mean, Stander deviation, Weight mean, T-test and P-value of the client attitude towards medication

No.	Items	Mean	standard deviation	Weight mean	t-value	P-value
1	I realize my need to the medications	3.55	1.803	71.08	2.477	0.016
2	I go to the clinic for follow up especially when I feel bad	2.58	1.560	51.69	-2.147	0.036
3	I realize that I suffer psychological disorder	2.95	1.754	59.08	-0.212	0.833
4	I feel sorry when I go to the mental health clinic	2.23	1.477	44.69	-4.146	0.000
5	I don't have any signs and symptoms to take of antipsychotic drug	2.95	1.545	59.08	-0.241	0.811
6	I don't need to antipsychotic drug absolutely	2.40	1.519	48.00	-3.185	0.002
7	I'm interested to know about the psychological illness	2.17	1.506	43.38	-4.448	0.000
8	I go to the clinic for follow up in limited time	3.78	1.536	75.69	4.118	0.000
9	I don't refuse the drug taken	3.85	1.428	76.92	4.778	0.000
10	I think the people don't understand the psychological disorder and there are can treated	3.54	1.147	70.77	3.786	0.000
11	I don't know why this medication	3.03	1.741	60.62	0.143	0.887
12	My family forces me to take these drugs	3.09	1.852	61.85	0.402	0.689
	Total	3.30	1.09	65.93	2.205	0.031

Critical value of t at df "64" and significance level 0.05 equal 2.0

B-The drug compliance to antipsychotic drug

We use a one sample T test to test if the opinion of the respondent about the drug compliance to antipsychotic drug and the results shown in table No. (21) as follows:
The two highest statements according to weight mean as follows:

1. In item No. (23) the weight mean equal "88.00%" and p-value equal "0.000" which is less than 0.05, that means (Taking the drugs keep me calm and co-operative).

2. In item No.(13) the weight mean equal "85.23%" and p-value equal "0.000" which is less than 0.05, that means (I'm committed to take the drug as prescribe).

And the two lowest statements according to weight mean as follows:

1. In item No. (19) the weight mean equal "36.62%" and p-value equal "0.000" which is less than 0.05, that means (I increase the dose according to how I feel).

2. In item No. (26) the weight mean equal "31.08%" and p-value equal "0.000" which is less than 0.05, that means (There is no one encourage me to take the drugs).

the results for all items of the field shows that the average mean equal 3.74 and the weight mean equal "74.796%" which is greater than " 60%" and the value of t test equal 6.975 which is greater than the critical value which is equal 2.0 and the p- value equal 0.000, which is less than 0.05, that means (The drug compliance to antipsychotic drug is good).

Table No. (21)
Mean, Stander deviation, Weight mean, T-test and P-value of the drug compliance to Antipsychotic drug

No.	Statement	Mean	standard deviation	Weight mean	t-value	P-value
13	I'm committed to take the drug as prescribe	4.26	1.302	85.23	7.810	0.000
14	Very often forget to take the drug	1.94	1.321	38.77	-6.477	0.000
15	Without these drugs I would feel very bad	3.72	1.398	74.46	4.171	0.000
16	I'm don't interested to take of prescribe drugs	2.36	1.665	47.19	-3.077	0.003
17	The side effect is reason to don't take of antipsychotic drug	3.02	1.474	60.31	0.084	0.933
18	I'm not committed to take the drug because there are not useful	2.37	1.557	47.38	-3.266	0.002
19	I decrease the dose according to how I feel	1.83	1.269	36.62	-7.426	0.000
	I feel bored taking these drugs regularly and daily	3.57	1.384	71.48	3.238	0.002
21	When I feel better I stop taking these drug	2.48	1.552	49.54	-2.717	0.008
22	I take the drugs when I feel bad	2.42	1.488	48.31	-3.167	0.002
23	Taking the drugs keep me calm and co-operative	4.40	0.898	88.00	12.570	0.000
24	Taking the drugs dose not make me feel psychological and physical tiered	3.52	1.448	70.46	2.912	0.005
25	I deliberately neglect taking the drugs	2.38	1.486	47.69	-3.338	0.001
26	No one encourage me to take the drugs	1.55	1.173	31.08	-9.940	0.000
27	I go to the doctor when I feel the impact of the side effect of drugs	4.25	1.061	84.92	9.468	0.000
28	The antipsychotic drugs make me feel worst	2.51	1.572	50.15	-2.524	0.014
	Total	3.74	0.86	74.796	6.975	0.000

Critical value of t at df "64" and significance level 0.05 equal 2.0

5.1.2. Drug compliance scale:

We use a one sample T test to test if the opinion of the respondent about drug compliance scale and Table No. (22) Shows that the average mean equal 3.55 and the weight mean equal "70.999%" which is greater than "60%" and the value of T test equal 4.873 which is greater than the critical value which is equal 2.0 and the p- value equal 0.000 which is less than 0.05, that means patients take their medicine regularly.

Table No. (22)
Mean, Stander deviation, Weight mean, T-test and P-value of drug compliance scale: fill by interview with client

No.	Statement	Mean	standard deviation	Weight mean	t-value	P-value
1	The client attitude towards medication	3.30	1.09	65.939	2.205	0.031
2	The drug compliance to antipsychotic drug	3.74	0.86	74.796	6.975	0.000
	Total	3.55	0.91	70.999	4.873	0.000

Critical value of t at df "64" and significance level 0.05 equal 2.0

5.2.1. Second section: Family support scale

A- Emotional support:

We use a one sample T test to test if the opinion of the respondent about Emotional support and the results shown in table No. (23), as follows:

The two highest statements according to weight mean as follows:

1. In item No. (3) the weight mean equal "89.23%" and p-value equal "0.000" which is less than 0.05, that means (My family sit with me most of the time when I need them).

2. In item No. (1) the weight mean equal "88.31%" and p-value equal "0.000" which is less than 0.05, that means (I feel my family support me when I need).

And the two lowest statements according to weight mean as follows:

1. In item No. (2) the weight mean equal "40.00%" and p-value equal "0.000" which is less than 0.05, that means (My family not ashamed from me and from my illness).

2. In item No. (7) the weight mean equal "32.00%" and p-value equal "0.000" which is less than 0.05, that means (I do have any love feeling from my family).

the results for all items of the field shows that the average mean equal 4.17and the weight mean equal "83.487%" which is greater than " 60%" and the value of T test equal 10.561 which is greater than the critical value which is equal 2.0 and the p-value equal 0.000 which is less than 0.05, that means there is emotional support from family.

Table No. (23)
Mean, Stander deviation, Weight mean, T-test and P-value of Emotional support

No.	Statement	Mean	standard deviation	Weight mean	t-value	p-value
1	I feel my family support me when I need	4.42	1.184	88.31	9.634	0.000
2	My family ashamed from me and from my illness	2.00	1.321	40.00	-6.054	0.000
3	My family sit with me most of the time when I need them	4.46	0.849	89.23	13.876	0.000
4	My family makes me feel as a burden on them	2.26	1.406	45.23	-4.234	0.000
5	- my family- irritates me	2.15	1.383	43.08	-4.932	0.000
6	My family makes me feel loved	4.38	0.934	87.50	11.773	0.000
7	I don't have any love feeling from my family	1.60	0.932	32.00	-12.110	0.000
	Total	4.17	0.90	83.487	10.561	0.000

Critical value of t at df "64" and significance level 0.05 equal 2.0

B- therapy support:

We use a one sample T test to test if the opinion of the respondent about Emotional support and the results shown in table No. (24), as follows.

The two highest statements according to weight mean as follows:

1. In item No. (13) the weight mean equal "96.88%" and p-value equal "0.000" which is less than 0.05, that means (My family reminds me of the dates of the clinic visits).

2. In item No. (14) the weight mean equal "95.69%" and p-value equal "0.000" which is less than 0.05, that means (When I suffer from side effect, my family check the doctor).

And the two lowest statements according to weight mean as follows

1. In item No. (12) the weight mean equal "41.54%" and p-value equal "0.000" which is less than 0.05, that means (When I hurt someone they not help me at once).

2. In item No. (10) the weight mean equal "31.08%" and p-value equal "0.000" which is less than 0.05, that means my family are care about me.

For general the results for all items of the field shows that the average mean equal 4.59 and the weight mean equal "91.788%" which is greater than "60%" and the value of T test equal 25.339 which is greater than the critical value which is equal 2.0 and the p- value equal 0.000 which is less than 0.05, that means there is therapy support from family.

Table No. (24)
Mean, Stander deviation, Weight mean, T-test and P-value of therapy support

No.	Statement	Mean	standard deviation	Weight mean	t-value	p-value
8	My family understand my illness	4.77	0.632	95.38	22.581	0.000
9	When I feel tired my family takes me to the clinic or to the hospital	4.74	0.619	94.77	22.628	0.000
10	My family dose not care about me	1.55	1.146	31.08	-10.173	0.000
11	My family reminds me to take the drug	4.63	0.651	92.62	20.190	0.000
12	When I hurt someone they help me at once	2.08	1.407	41.54	-5.291	0.000
13	My family reminds me of the dates of the clinic visits	4.84	0.407	96.88	36.238	0.000
14	When I suffer from side effect, my family check the doctor	4.78	0.450	95.69	31.943	0.000
	Total	4.59	0.51	91.788	25.339	0.000

Critical value of t at df "64" and significance level 0.05 equal 2.0

C- Social support:

We use a one sample T test to test if the opinion of the respondent about social support and the results shown in table No. (25), as follows.

The two highest statements according to weight mean as follows:

1. In item No. (20) the weight mean equal "89.23%" and p-value equal "0.000" which is less than 0.05, that means (When I sick my family visit me in home or on hospital).

2. In item No. (18) the weight mean equal "81.23%" and p-value equal "0.000" which is less than 0.05, that means (I'm sit with visitors).

And the two lowest statements according to weight mean as follows:

1. In item No. (24) the weight mean equal " 30.77%" and p-value equal "0.000" which is less than 0.05, that means (I am not suffer from my family because they are not co-operative).

2. In item No. (22) the weight mean equal "26.15%" and p-value equal "0.000" which is less than 0.05, that means (My family allow me to sit with their visitors).

The results for all items of the field shows that the average mean equal 3.98and the weight mean equal "79.65%" which is greater than "60%" and the value of t test equal 11.103 which is greater than the critical value which is equal 2.0 and the p- value equal 0.000 which is less than 0.05, that means there is social support from family.

Table No. (25)
Mean, Stander deviation, Weight mean, T-test and P-value of social support

No.	Statement	Mean	standard deviation	Weight mean	t-value	p-value
15	I share my family their occasions	3.17	1.474	63.38	0.925	0.358
16	I visit mu relatives regularly	3.17	1.420	63.38	0.961	0.340
17	My family dose not help me communicate with the society	1.69	1.139	33.87	-9.029	0.000
18	I'm sit with visitors	4.06	1.130	81.23	7.572	0.000
19	My family consider me invaluable	2.00	1.187	40.00	-6.631	0.000
20	When I sick my family visit me in home or on hospital	4.46	0.920	89.23	12.810	0.000
21	I have many of friend ,there are help me when I need	3.08	1.524	61.54	0.407	0.685
22	My family dose not allow me to sit with their visitors	1.31	0.748	26.15	-18.231	0.000
23	There are many problems between me and my family	1.58	1.130	31.69	-10.095	0.000
24	I suffer from my family because they are not co-operative	1.54	1.091	30.77	-10.802	0.000
	Total	3.98	0.71	79.655	11.103	0.000

Critical value of t at df "64" and significance level 0.05 equal 2.0

5.2.2. Family support scale: fill by interview with client

We use a one sample T test to test if the opinion of the respondent about Family support scale and table No. (26) shows that the average mean equal 4.22 and the weight mean equal "84.312%" which is greater than "60%" and the value of T test equal 17.582 which is greater than the critical value which is equal 2.0 and the p-value equal 0.000 which is less than 0.05, that means there is a family support to the patient.

Table No. (26)
Mean, Stander deviation, Weight mean, T-test and P-value of Family support scale: fill by interview with clients

No.	Statement	Mean	standard deviation	Weight mean	t-value	P-value
1	Emotional support	4.17	0.90	83.487	10.561	0.000
2	therapy support	4.59	0.51	91.788	25.339	0.000
3	social support	3.98	0.71	79.655	11.103	0.000
	Total	4.22	0.56	84.312	17.582	0.000

Critical value of t at df "64" and significance level 0.05 equal 2.0

5.3.1. Section three: Relapse scale fills by family

A-Behavioral:

We use a one sample T test to test if the opinion of the respondent about Behavioral and the results shown in table No. (27), as follows.

The two highest statements according to weight mean as follows:

1. In item No. (8) the weight mean equal "85.85%" and p-value equal "0.000" which is less than 0.05, that means (Quite and co-operative in the home).
2. In item No. (2) the weight mean equal "81.54%" and p-value equal "0.000" which is less than 0.05, that means (He sleep all the time).

And the two lowest statements according to weight mean as follows:

1. In item No. (6) the weight mean equal "33.44%" and p-value equal "0.000" which is less than 0.05, that means (He is not broke furniture's).
2. In item No. (9) the weight mean equal "24.38%" and p-value equal "0.000" which is less than 0.05, that means (Not goes out home and not comes after few days).

the results for all items of the field shows that the average mean equal 3.56 and the weight mean equal 71.179% which is greater than "60%" and the value of T test equal 6.291 which is greater than the critical value which is equal 2.0 and the p- value equal 0.000 which is less than 0.05, that means the families believes that the point of good behavior for patients.

Table No. (27)

Mean, Stander deviation, Weight mean, T-test and P-value of behavioral

No.	Statement	Mean	standard deviation	Weight mean	t-value	p-value
1	Go out from home without reason	2.18	1.695	43.69	-3.879	0.000
2	He sleep all the time	4.08	1.395	81.54	6.222	0.000
3	He takes care of his appearance	3.48	1.288	69.54	2.985	0.004
4	He is aggressive	2.58	1.499	51.69	-2.234	0.029
5	Smokes heavily	1.83	1.398	36.56	-6.707	0.000
6	He broke furniture's	1.67	1.248	33.44	-8.514	0.000
7	Hyperactive without goal	2.83	1.599	56.56	-0.860	0.393
8	Quite and co-operative in the home	4.29	1.195	85.85	8.716	0.000
9	Goes out home and comes after few days	1.22	0.745	24.38	-19.135	0.000
10	Hurts himself and others when irritated	1.73	1.275	34.69	-7.938	0.000
11	No daily actives, shaving, change clothes	2.64	1.226	52.81	-2.345	0.022
12	Drink too mach tea and coffee	3.08	1.665	61.56	0.375	0.709

13	He\she has high voice and cursing others	2.33	1.207	46.56	-4.348	0.000
14	He\she help his husband and takes care of his children	2.08	1.384	41.56	-5.330	0.000
15	He dose not go to the his work regularly	2.38	1.555	47.50	-1.969	0.061
16	Dose not accept going to the doctor	2.30	1.520	46.03	-3.647	0.001
	Total	3.56	0.72	71.179	6.291	0.000

Critical value of t at df "64" and significance level 0.05 equal 2.0

B- socially:

We use a one sample T test to test if the opinion of the respondent about socially and the results shown in table No. (28) As follows.

The two highest statements according to weight mean as follows:

1. In item No. (17), the weight mean equal "70.16%" and p-value equal "0.022" which is less than 0.05, that means (Isolated and alone).

2. In item No. (18), the weight mean equal "60.32%" and p-value equal "0.934" which is greater than 0.05, that means (Share social occasions moderately).

And the two lowest statements according to weight mean as follows:
1. In item No. (23), the weight mean equal "37.00%" and p-value equal "0.000" which is less than 0.05, that means (not go out with his friend weekly).

2. In item No. (24), the weight mean equal "23.17%" and p-value equal "0.000" which is less than 0.05, that means (Not go to the hospital by the police).

the results for all items of the field shows that the average mean equal 3.51 and the weight mean equal "70.119 %" which is greater than " 60%" and the value of T test equal which is greater than the critical value which is equal 2.0 and the p- value equal 0.000 which is less than 0.05, that means the families believes that the point of good socially for patients

Table No. (28)
Mean, Stander deviation, Weight mean, T-test and P-value of socially

No.	Statement	Mean	standard deviation	Weight mean	t-value	p-value
17	Isolated and alone	3.51	1.712	70.16	2.355	0.022
18	Share social occasions	3.02	1.508	60.32	0.084	0.934
19	Dose not like to take with others	2.54	1.435	50.79	-2.546	0.013
20	Visits his relatives such as sister daughter , uncles	3.03	1.704	60.63	0.148	0.883
21	Have problem with neighbors	1.44	1.012	28.89	-12.195	0.000
22	Go to the police station frequently	1.25	0.538	25.08	-25.766	0.000

23	Go out with his friend weekly	1.85	1.287	37.00	-6.924	0.000
24	Go to the hospital by the police	1.16	0.653	23.17	-22.391	0.000
	Total	3.51	0.77	70.119	5.234	0.000

Critical value of t at df "64" and significance level 0.05 equal 2.0

C-Sensory and Intellectually:

We use a one sample T test to test if the opinion of the respondent about sensory and intellectually and the results shown in table No. (29) As follows.

The two highest statements according to weight mean as follows:

1. In item No. (25) the weight mean equal "52.62%" and p-value equal "0.090" which is greater than 0.05, that means (Obsessive moderately from people around him).

2. In item No. (26) the weight mean equal "27.08%" and p-value equal "0.000" which is less than 0.05, that means (eats and drink from his own).

And the two lowest statements according to weight mean as follows:

1. In item No. (31) the weight mean equal "26.46%" and p-value equal "0.000" which is less than 0.05, that means (not Says that he is very important such as gods messenger).

2. In item No. (32) the weight mean equal "53.23%" and p-value equal " 0.115" which is greater than 0.05, that means (not Says he is threatened).

the results for all items of the field shows that the average mean equal 3.75and the weight mean equal "74.912%" which is greater than " 60%" and the value of T test equal 6.718 which is greater than the critical value which is equal 2.0 and the p-value equal 0.000, which is less than 0.05, that means the families believes that the point of good sensory and intellectually for patients

Table No. (29)

Mean, Stander deviation, Weight mean, T-test and P-value of sensory and intellectually

No.	Statement	Mean	standard deviation	Weight mean	t-value	p-value
25	Obsessive from people around him	2.63	1.728	52.62	-1.723	0.090
26	Never eats and drink expect from his own	1.35	0.943	27.08	-14.080	0.000
27	Feels obscured	3.22	1.625	64.31	1.069	0.289
28	Says that he have great abilities	1.69	1.286	33.85	-8.198	0.000
29	Talks to himself	3.16	1.851	63.17	0.681	0.499
30	Complains that there is something strange in his body	2.02	1.452	40.31	-5.466	0.000
31	Says that he is very important such as gods messenger	1.32	0.937	26.46	-14.426	0.000

32	Says he is threatened	2.66	1.707	53.23	-1.598	0.115
	Total	3.75	0.89	74.912	6.718	0.000

Critical value of t at df "64" and significance level 0.05 equal 2.0

C- Emotional:

We use a one sample T test to test if the opinion of the respondent about emotional and the results shown in table No. (30), as follows.

The two highest statements according to weight mean as follows:

1. In item No. (35) the weight mean equal "88.62%" and p-value equal "0.000" which is less than 0.05, that means (Feels comfortable with his family).
2. In item No. (34) the weight mean equal "52.00%" and p-value equal "0.057" which is greater than 0.05, that means (Laugh without a reason moderately).

And the two lowest statements according to weight mean as follows:

1. In item No. (33) the weight mean equal "38.46%" and p-value equal "0.000" which is less than 0.05, that means (Not Cries easily).
2. In item No. (40) the weight mean equal "35.69%" and p-value equal "0.000" which is less than 0.05, that means (Not Cries and laughs at the same time).

the results for all items of the field shows that the average mean equal and the weight mean equal "76.231%" which is greater than "60%" and the value of T test equal 7.014 which is greater than the critical value which is equal 2.0 and the p- value equal 0.000 which is less than 0.05, that means the families believes that the point of good emotional for patients.

Table No. (30)
Mean, Stander deviation, Weight mean, T-test and P-value of emotional

No.	Statement	Mean	standard deviation	Weight mean	t-value	p-value
33	Cries easily	1.92	1.395	38.46	-6.222	0.000
34	Laugh without a reason	2.60	1.666	52.00	-1.936	0.057
35	Feels comfortable with his family	4.43	0.935	88.62	12.338	0.000
36	He\she is blunt	2.55	1.620	51.08	-2.220	0.030
37	Gets angry very quickly without a reason	2.14	1.321	42.77	-5.256	0.000
38	Sadness and happiness are the same	2.51	1.669	50.15	-2.378	0.020
39	He\she can not express happiness feeling and sadness feeling	2.43	1.541	48.62	-2.979	0.004
40	Cries and laughs at the same time	1.78	1.293	35.69	-7.579	0.000
	Total	3.81	0.93	76.231	7.014	0.000

Critical value of t at df "64" and significance level 0.05 equal 2.0

5.3.2. Relapse scale fills by family:

We use a one sample T test to test if the opinion of the respondent about Relapse scale fill by family and table No. (31) shows that the average mean equal 3.65 and the weight mean equal "72.917%" which is greater than "60%" and the value of T test equal 8.073which is greater than the critical value which is equal 2.0 and the p-value equal 0.000 which is less than 0.05, that means the family believes that there are no setbacks in patients.

Table No. (31)
Mean, Stander deviation, Weight mean, T-test and P-value of Relapse scale fill by family

No.	Statement	Mean	standard deviation	Weight mean	t-value	P-value
1	behavioral	3.56	0.72	71.179	6.291	0.000
2	Socially	3.51	0.77	70.119	5.234	0.000
3	sensory and intellectually	3.75	0.89	74.912	6.718	0.000
4	Emotional	3.81	0.93	76.231	7.014	0.000
	Total	3.65	0.64	72.917	8.073	0.000

Critical value of t at df "64" and significance level 0.05 equal 2.0

5.3.3 Is there a significant relationship between the client attitude towards medication and the drug compliance to antipsychotic drug at significant level α =0.5?

To test the question we use the Pearson correlation between the client attitude towards medication and the drug compliance to antipsychotic drug, and the results shown in table No.(32) which illustrate that the p-value equal 0.000 which is less than 0.05, and the value of Pearson correlation is equal 0.818 which is greater than the critical value which is equal 0.246 that means there is a positive relationship between the client attitude towards medication and the drug compliance to antipsychotic drug at significant level α =0.5.

Table No. (32)
Correlation between The client attitude towards medication and **the drug compliance to antipsychotic drug**

section	statistic	The client attitude towards medication
The drug compliance to antipsychotic drug	Pearson coloration	0.818
	p-value	0.000
	N	65

Critical value of r at significance level 0.05 and df equal 63 equal 0.246

5.3.4 Is there a significant relationship between the drug compliance to antipsychotic drug and behavioral relapse at significant level α =0.5?

To test the question we use the Pearson correlation between the drug compliance to antipsychotic drug and behavioral relapse at significant, and the results shown in table No.(33) which illustrate that the p-value equal 0.000 which is less than 0.05, and the value of Pearson correlation is equal 0.525 which is greater than the critical value

which is equal 0.246 that means there is positive relationship between the drug compliance to antipsychotic drug and behavioral at significant at significant level α =0.5.

Table No. (33)

Correlation between the drug compliance to antipsychotic drug and **behavioral relapse**

section	statistic	behavioral
The drug compliance to antipsychotic drug	Pearson coloration	0.525
	p-value	0.000
	N	65

Critical value of r at significance level 0.05 and df equal 63 equal 0.246

5.3.5 Is there a significant relationship between the drug compliance to antipsychotic drug and socially relapse at significant level α =0.5?

To test the question we use the Pearson correlation between The drug compliance to antipsychotic drug and socially at significant, and the results shown in table No.(34) which illustrate that the p-value equal 0.045 which is less than 0.05, and the value of Pearson correlation is equal 0.253 which is greater than the critical value which is equal 0.246 that means there is positive relationship between the drug compliance to antipsychotic drug and socially at significant at significant level α =0.5.

Table No. (34)
Correlation between the drug compliance to antipsychotic drug and **socially relapse**

section	statistic	socially
The drug compliance to antipsychotic drug	Pearson coloration	0.253
	p-value	0.045
	N	63

Critical value of r at significance level 0.05 and df equal 63 equal 0.246

5.3.6 Is there a significant relationship between the drug compliance to antipsychotic drug and sensory and intellectually relapses at significant level α =0.5?

To test the question we use the Pearson correlation between the drug compliance to antipsychotic drug and sensory and intellectually at significant, and the results shown in table No.(35) which illustrate that the p-value equal 0.000 which is less than 0.05, and the value of Pearson correlation is equal 0.542 which is greater than the critical value which is equal 0.246 that means there is positive relationship between the drug compliance to antipsychotic drug and sensory and intellectually at significant at significant level α =0.5.

Table No. (35)
Correlation between the drug compliance to antipsychotic drug and sensory and intellectually relapses

section	statistic	sensory and intellectually
The drug compliance to antipsychotic drug	Pearson coloration	0.542
	p-value	0.000
	N	65

Critical value of r at significance level 0.05 and df equal 63 equal 0.246

5.3.7 Is there a significant relationship between the drug compliance to antipsychotic drug and emotional relapse at significant level α =0.5?

To test the question we use the Pearson correlation between the drug compliance to antipsychotic drug and emotional at significant, and the results shown in table No.(36) which illustrate that the p-value equal 0.000 which is less than 0.05, and the value of Pearson correlation is equal 0.420 which is greater than the critical value which is equal 0.246 that means there is positive relationship between the drug compliance to antipsychotic drug and emotional at significant at significant level α =0.5.

Table No. (36)
Correlation between The drug compliance to antipsychotic drug and emotional relapse

section	Statistic	emotional
The drug compliance to antipsychotic drug	Pearson coloration	0.421
	p-value	0.000
	N	65

Critical value of r at significance level 0.05 and df equal 63 equal 0.246

5.3.8 Is there a significant relationship between emotional support and behavioral relapse at significant level α =0.5?

To test the question we use the Pearson correlation between emotional support and behavioral at significant, and the results shown in table No.(37) which illustrate that the p-value equal 0.009 which is less than 0.05, and the value of Pearson correlation is equal 0.324 which is greater than the critical value which is equal 0.246 that means there is positive relationship between emotional support and behavioral at significant at significant level α =0.5.

Table No. (37)
Correlation between Emotional support and **behavioral relapse**

section	statistic	behavioral
Emotional support	Pearson coloration	0.324
	p-value	0.009
	N	65

Critical value of r at significance level 0.05 and df equal 63 equal 0.246

5.3.9. Is there a significant relationship between emotional support and socially relapse at significant level α =0.5?

To test the question we use the Pearson correlation between emotional support and socially at significant, and the results shown in table No. (38) which illustrate that the p-value equal 0.620 which is greater than 0.05, and the value of Pearson correlation is equal 0.064 which is less than the critical value which is equal 0.246 that means there is no relationship between emotional support and socially at significant at significant level α =0.5.

Table No. (38)
Correlation between emotional support and socially relapse

section	statistic	socially
Emotional support	Pearson coloration	0.064
	p-value	0.620
	N	63

Critical value of r at significance level 0.05 and df equal 63 equal 0.246

5.3.10. Is there a significant relationship between emotional support and sensory and intellectually relapse at significant level α =0.5?

To test the question we use the Pearson correlation between emotional support and sensory and intellectually at significant, and the results shown in table No. (39) which illustrate that the p-value equal 0.000 which is less than 0.05, and the value of Pearson correlation is equal 0.694 which is greater than the critical value which is equal 0.246 that means there is invert relationship between emotional support and sensory and intellectually at significant at significant level α =0.5.

Table No. (39)
Correlation between emotional support and sensory and intellectually relapse

section	statistic	sensory and intellectually
Emotional support	Pearson coloration	0.694
	p-value	0.000
	N	65

Critical value of r at significance level 0.05 and df equal 63 equal 0.246

5.3.11. Is there a significant relationship between emotional support and emotional relapses at significant level α =0.5?

To test the question we use the Pearson correlation between emotional support and emotional at significant, and the results shown in table No. (40) which illustrate that the p-value equal 0.041 which is less than 0.05, and the value of Pearson correlation is equal 0.255 which is greater than the critical value which is equal 0.246 that means there is positive relationship between emotional support and emotional at significant at significant level α =0.5.

Table No.(40)
Correlation between Emotional support and emotional relapse

section	Statistic	emotional
Emotional support	Pearson coloration	0.255
	p-value	0.041
	N	65

Critical value of r ate significance level 0.05 and df equal 63 equal 0.246

5.3.12. Is there a significant relationship between therapy support and behavioral relapse at significant level α =0.5?

To test the question we use the Pearson correlation between therapy support and behavioral at significant, and the results shown in table No.(41) which illustrate that the p-value equal 0.003 which is less than 0.05, and the value of Pearson correlation is equal 0.362 which is greater than the critical value which is equal 0.246 that means there is positive relationship between therapy support and behavioral at significant at significant level α =0.5.

Table No. (41)
Correlation between therapy support and behavioral relapse

section	statistic	behavioral
Therapy support	Pearson coloration	0.362
	p-value	0.003
	N	65

Critical value of r at significance level 0.05 and df equal 63 equal 0.246

3.3.13. Is there a significant relationship between therapy support and socially relapse at significant level α =0.5?

To test the question we use the Pearson correlation between therapy support and socially at significant, and the results shown in table No. (42) which illustrate that the p-value equal 0.103 which is greater than 0.05, and the value of Pearson correlation is equal 0.207 which is less than the critical value which is equal 0.246 that means there is no relationship between therapy support and social at significant at significant level α =0.5.

Table No. (42)
Correlation between therapy support and social relapse

section	statistic	socially
Therapy support	Pearson coloration	0.207
	p-value	0.103
	N	63

Critical value of r at significance level 0.05 and df equal 63 equal 0.246

5.3.14. Is there a significant relationship between therapy support and sensory and intellectually at significant level α =0.5?

To test the question we use the Pearson correlation between therapy support and sensory and intellectually at significant, and the results shown in table No.(43) which illustrate that the p-value equal 0.003 which is less than 0.05, and the value of Pearson correlation is equal 0.368 which is greater than the critical value which is equal 0.246 that means there is positive relationship between therapy support and sensory and intellectually at significant at significant level α =0.5.

Table No. (43)
Correlation between therapy support and sensory and intellectually relapses

section	statistic	sensory and intellectually
Therapy support	Pearson coloration	0.368
	p-value	0.003
	N	65

Critical value of r at significance level 0.05 and df equal 63 equal 0.246

5.3.15. Is there a significant relationship between therapy support and emotional relapse at significant level α =0.5?

To test the question we use the Pearson correlation between therapy support and emotional at significant, and the results shown in table No. (44) which illustrate that the p-value equal 0.001 which is less than 0.05, and the value of Pearson correlation is equal 0.406 which is greater than the critical value which is equal 0.246 that means there is positive relationship between therapy support and emotional at significant at significant level α =0.5.

Table No. (44)
Correlation between Therapy support and emotional

section	Statistic	emotional
Therapy support	Pearson coloration	0.406
	p-value	0.001
	N	65

Critical value of r at significance level 0.05 and df equal 63 equal 0.246

5.3.16. Is there a significant relationship between social support and behavioral at significant level α =0.5?

To test the question we use the Pearson correlation between social support and behavioral at significant, and the results shown in table No.(45) which illustrate that the p-value equal 0.000 which is less than 0.05, and the value of Pearson correlation is equal 0.558 which is greater than the critical value which is equal 0.246 that means There is positive relationship between social support and behavioral at significant at significant level α =0.5.

Table No. (45)
Correlation between social support and behavioral relapse

section	statistic	behavioral
Social support	Pearson coloration	0.558
	p-value	0.000
	N	65

Critical value of r at significance level 0.05 and df equal 63 equal 0.246

5.3.17. Is there a significant relationship between social support and socially relapse at significant level α =0.5?

To test the question we use the Pearson correlation between Social support and socially at significant, and the results shown in table No.(46) which illustrate that the p-value equal 0.000 which is less than 0.05, and the value of Pearson correlation is equal 0.544 which is greater than the critical value which is equal 0.246 that means there is positive relationship between social support and socially at significant at significant level α =0.5.

Table No. (46)
Correlation between social support and socially relapse

section	statistic	socially
Social support	Pearson coloration	0.544
	p-value	0.000
	N	63

Critical value of r at significance level 0.05 and df equal 63 equal 0.246

5.3.18. Is there a significant relationship between social support and sensory and intellectually relapses at significant level α =0.5?

To test the question we use the Pearson correlation between social support and sensory and intellectually at significant, and the results shown in table No. (47) which illustrate that the p-value equal 0.000 which is less than 0.05, and the value of Pearson correlation is equal 0.468 which is greater than the critical value which is equal 0.246 that means there is positive relationship between social support and sensory and intellectually at significant at significant level α =0.5.

Table No. (47)
Correlation between social support and sensory and intellectually relapses

section	statistic	sensory and intellectually
Social support	Pearson coloration	0.468
	p-value	0.000
	N	65

Critical value of r at significance level 0.05 and df equal 63 equal 0.246

5.3.19. Is there a significant relationship between social support and emotional relapse at significant level α =0.5?

To test the question we use the Pearson correlation between social support and emotional at significant, and the results shown in table No.(48) which illustrate that the p-value equal 0.000 which is less than 0.05, and the value of Pearson correlation is equal 0.687 which is greater than the critical value which is equal 0.246 that means there is positive relationship between Social support and emotional at significant at significant level α =0.5.

Table No. (48)
Correlation between Social support and emotional

section	Statistic	Emotional
Social support	Pearson coloration	0.687
	p-value	0.000
	N	65

Critical value of r at significance level 0.05 and df equal 63 equal 0.246

5.3.20. Is there a significant differences about Drug compliance and family support contribute prevent relapse among schizophrenia clients in Gaza strip due to sex at significant level α =0.5?

To test the question we use the independent samples test and the result illustrated in table no.(49) which shows that the p-value equal 0.256 which is greater than 0.05 and the absolute value of T test equal 1.147 which is less than the value of critical value which is equal 2.0, that's means there are no statistical differences about the drug compliance and family support contribute prevent relapse among schizophrenia clients in Gaza strip due to sex at significant level.

Table No. (49)
Independent Samples Test for difference in point of view up the Drug compliance and family support contribute prevent relapse among schizophrenia clients in Gaza strip due to sex

Field	sex	N	Mean	Std. Deviation	T	P-value
Drug compliance and family support contribute prevent relapse among schizophrenia clients in Gaza strip	Male	48	3.714	0.596	-1.147	0.256
	Female	17	3.905	0.570		

Critical value of t at df "63" and significance level 0.05 equal 2.0

5.3.21. Is there a significant differences about Drug compliance and family support contribute prevent relapse among schizophrenia clients in Gaza strip due to age at significant level α =0.5?

To test the question we use the one way ANOVA and the result illustrated in table no.(50) which shows that the p-value equal 0.877 which is greater than 0.05 and the value of F test equal 0.132 which is less than the value of critical value which is equal 3.35, that's means there are not statistical differences about drug compliance and family support contribute prevent relapse among schizophrenia clients in Gaza strip due to age at significant level $\alpha = 0.05$.

Table No. (50)
One way ANOVA test for difference in point of view up to Drug compliance and family support contribute prevent relapse among schizophrenia clients in Gaza strip due to age

Field	Source	Sum of Squares	df	Mean Square	F value	Sig.(P-Value)
Drug compliance and family support contribute prevent relapse among schizophrenia clients in Gaza strip	Between Groups	0.095	2	0.047	0.132	0.877
	Within Groups	22.283	62	0.359		
	Total	22.378	64			

Critical value of F at df "2, 37" and significance level 0.05 equal 3.35

5.3.22. Is there a significant differences about Drug compliance and family support contribute prevent relapse among schizophrenia clients in Gaza strip due to social status at significant level α =0.5?

To test the question we use the one way ANOVA and the result illustrated in table no.(51) which shows that the p-value equal 0.452 which is greater than 0.05 and the value of F test equal 0.889 is less than the value of critical value which is equal 2.76, that's means there are not statistical differences about drug compliance and family support contribute prevent relapse among schizophrenia clients in Gaza strip due to social status at significant level.

Table No. (51)
One way ANOVA test for difference in point of view up to Drug compliance and family support contribute prevent relapse among schizophrenia clients in Gaza strip due to social status

Field	Source	Sum of Squares	df	Mean Square	F value	Sig.(P-Value)
Drug compliance and family support contribute prevent relapse among schizophrenia clients in Gaza strip	Between Groups	0.937	3	0.312	0.889	0.452
	Within Groups	21.440	61	0.351		
	Total	22.378	64			

Critical value of F at df "3, 61" and significance level 0.05 equal 2.76

5.3.23. Is there a significant differences about Drug compliance and family support contribute prevent relapse among schizophrenia clients in Gaza strip due to Monthly income at significant level α =0.5?

To test the question we use the one way ANOVA and the result illustrated in table No.(52) which shows that the p-value equal 0.600 which is greater than 0.05 and the value of F test equal 0.375 is less than the value of critical value which is equal 2.37, that's means there are not statistical differences about drug compliance and family support contribute prevent relapse among schizophrenia clients in Gaza strip due to Monthly income at significant level $\alpha = 0.05$.

Table No. (52)
One way ANOVA test for difference in point of view up to Drug compliance and family support contribute prevent relapse among schizophrenia clients in Gaza strip due to Monthly income

Field	Source	Sum of Squares	df	Mean Square	F value	Sig.(P-Value)
Drug compliance and family support contribute prevent relapse among schizophrenia clients in Gaza strip	Between Groups	1.312	5	0.262	0.735	0.600
	Within Groups	21.065	59	0.357		
	Total	22.378	64			

Critical value of F at df "5, 59" and significance level 0.05 equal 2.37

5.4. Main results

the clients attitude towards treatment with clients have schizophrenia is 65.93 %, the level of drug compliance 74.79%, the level of family support is 84.312% and the level of relapse is 27.8%. The researcher thinks this result is important because reflect the role of family and community mental health clinic in treatment and follow up to decrease relapse rate this result agree with Edelman, (2010). And agree with study Ranjber & Taghizadeh, (2008), showed decrease number of hospitalization and the rate of relapse was "41.5%".

The significant and extrusive relationship between the client attitude towards medication and the drug compliance to antipsychotic drug at significant level α =0.5, the p-value equal 0.000. That agrees with study by Mahadun & Marshall, (2008). This result don't reflect the insight but reflect clients need to treatment because the client are feeling many complains such as insomnia, mood changes, agitations and violence. Some clients had somatic complain.

The significant relationship between the drug compliance to antipsychotic drug and relapses at significant level α =0.05, the p-value equal 0.000. The relationship between drug compliance and relapses with behavior, social, sensory, intellectual and emotional are inverted correlation, that refer to efficiency of treatment that agree with study conducted by Tellis, (2008).

The significant relationship between the family support and relapses at significant level α =0.05, the p-value equal 0.000. The relationship between family support and relapses with behavior, social, sensory, intellectual and are inverted correlation, except emotional relapse, the researcher observe through interview the emotion was the same such as apathy or blunt. The study conducted by Dixon et al (2000) has showed the positive influence of the family on treatment and rehabilitation, suggesting that family interventions can reduce relapse rates.

No significant differences about drug compliance and family support contribute prevent relapse among schizophrenia clients in Gaza strip due to sex at significant level α =0.05. The researcher not accepted this result because the female more stigmatize the male, and male more aggressive.

No significant differences about drug compliance and family support contribute prevent relapse among schizophrenia clients in Gaza strip due to age at significant level α =0.05. The researcher thinks the most clients have the same signs and symptoms

No significant differences about drug compliance and family support contribute prevent relapse among schizophrenia clients in Gaza strip due to social status at significant level α =0.05. Because most of clients have hard social status.

No significant differences about drug compliance and family support contribute prevent relapse among schizophrenia clients in Gaza strip due to monthly income at significant level α =0.05. These results point to role of family and Community mental health clinic in providing support and services without cost

Chapter SIX
Discussion, conclusion and recommendations

Chapter six

In this chapter, the researcher will present the main study results based on the statistical analysis, the researcher will clarify the relationships between drug compliance and family support in preventing relapse among clients with schizophrenia in Gaza strep. The first part of the results relates to the distribution of the study personal data. The second part relates to results of study questions and comparison with literature review. From these results the researcher dose makes conclusions and recommendations.

6.1. Personal data:

The proportion of the sample by age "20-30 years "38.5 % and "38.5%" from the sample ages "31-40 years" and "23.1%" from the sample ages "up 40 years". We talked about the onset of the schizophrenia in theoretical framework, Sadock, (2009), said the disorder usually begins before age 25. The researcher explain the age over 25 for the clients in this study to some of them was not registered in out clinic before " 2010", because some clients were taking care in special center and the stigma prevents the family to visit mental health out clinic.

The result shows the number of male more than female because the nature of the society and stigma that prevent the female to visit the community mental health clinic, so the number of female "17" from the sample size and number of male "48" from. The researcher agrees with Shean, (2004), a similar total cumulative risk of developing schizophrenia for male and female.

The most of clients has difficult social status "61.5%" because the people in Gaza have discrimination towards clients who are mental disorder and the disorder has impact on stability of family if signs and symptoms were not controlled.

Most of clients have hard economic status result because of Israeli occupation and the siege. The researcher agrees with Pitschel-Walz et al, (2001) that social factors, e.g., low socioeconomic status, single status, ethnic group, are significantly associated with the prevalence of schizophrenia.

Only 5% from sample have high level of education and most of clients are low level of education, this refers to low mental function and low of concentration, there is vulnerability causes factor to mental disorder.

52.3 % from the sample had no admission to hospital, the researcher sees the decrease number of admissions to hospital, refers to decrease the relapse rate but some of clients overwhelming in negative symptom such as "isolation, apathy and social withdrawal" so the family justifies that, the client does not need admission if he dose not cause the problems to family and society.

6.2. Research questions

6.2.1. What is client's attitude towards medication?

The result of first questions about the clients attitude towards treatment was positive "65.93 %", that agrees with study by Mahadun & Marshall, (2008), so the clients in this study had relatively high levels of insight into their illness and agree with study conducted by Ranjbar & Taghizadeh, (2008), the Positive drug attitudes were "68%.5". The clients had many complains such as insomnia, mood changes, agitations and violence. Some clients had somatic complain.

Concerning about the highest statements of the clients attitude towards medication according to weight mean in item No. (9), was equal "76.92%", that means the client don't refuse medications, the researcher clarifies this result from the interviews, some of the clients have insight and others feel comfortable with drug which treats some signs and symptoms such as insomnia and agitation, that means the clients don't have full insight "partial insight". The study conducted by Bajaj et al, (2009), agrees with this result, the insight and compliance with treatment were positively correlated.

The researcher point to the weight mean in item No. (8), was equal "75.69%" that means the clients taking the treatment in regular time. According in interview, some of clients depend on family to get the drug, there are enhance the role of family in treatment because some cases complain of negative symptoms and side effect of medications. To enhance this result, the study by O'doherty et al. (2006), showed the positive influence of the family on treatment and rehabilitation.

Concerning about the lowest statements for the clients attitude towards medication according to weight mean in item No. (4), the weight mean was equal "44.69%" and p-value was equal "0.000", so this result refers to the most of the clients have stigma towards mental health center, the researcher agrees with Masand and Narasimhan, (2006) that stigma is block on drug compliance.

Other the lowest statements for the clients attitude towards medication according to weight mean in item No. (7), the weight mean was equal "43.38%" and p-value was equal "0.000", that mean the client not interested to know about the psychological illness because most clients had poor concentration and mental function.

6.2.2 What is the level of drug compliance?

The level of drug compliance was "74.796%" among schizophrenia clients in Gaza strip. That is high level point to the important community mental health clinic in provide services with out cost, we have professional team able to encourage clients and family in treatment. This result agrees with Edelman, (2010) level of drug compliance "73%", and not agrees with Gilmer, (2004), the drug compliance was 40%.

Concerning about Highest statements for drug compliance according to weight mean in item No. (23) the weight mean was equal "88.00%" and p-value was equal " 0.000", that mean the drug keep the client calm and cooperative, because the actions of antipsychotic are make inhibitor to histamine receptors so clients were careful and calm, Varghese et al, (2002), the antipsychotic work on several levels, they can have

an immediate calming effect, reducing anxiety, agitation and restlessness in the affected member with symptoms of schizophrenia

Item No. (13), the weight mean was equal "85.23%" and p-value was equal "0.000", that means the clients committed to drug as prescribed. When clients feel to need treatment and be calm and quite, they become more committed to medication and keep on dose and time of drug as prescribed.

Lowest statements for drug compliance according to weight mean in item No. (19), the weight mean was equal "36.62%" and p-value was equal "0.000", that means the clients increases the dose according to how they fell. Some of clients are increased and decreased dose and time of administration according to what is he feeling, if he feels good he stops or decreases the dose of drug, the percentage of those not committed to prescribe "36.62%", which refer to the clients more committed to prescribe of drug. The result of study conducted by Schooler, et al "1997" about dose reduction of antipsychotic and family treatment on relapse, increase in relapse rate and rehospitalization during reduction dose.

Item No. (26), the weight mean was equal "31.08%" and p-value equal "0.000" that means the family encourage clients to take medication. This result refers to family support and rule of the family in treatment. When clients know or have positive attitude towered medications not need to other to encourage him or make pressure to take medications,

6.2.3. What is the level of drug compliance and client's attitude towered medications?

Table (22), showed the level of drug compliance and clients attitude towered medications was equal "70.999", it agrees with study by Tsang et al,(2009), insight was identified to be the strongest predictor on compliance which accounted for "68.35%" of the total variance. The clients had positive attitude towered medications so Patients take their medicine regularly.

6.2.4. What is the level of family support?

The family support divided to three domains emotional, therapeutic and social. The researcher clarifies the results according to domains.

6.2.4.1. Emotional support:

Family support results we can start in emotional support, in table (23), this result show the level of emotional support "83.487" was high result that mean clients had emotional support, which agrees with study conducted by Hamada et al, (2008), family support was significantly correlated with empathic attitude families towered clients.

6.2.4.2. Therapy support:

Table (24), showed result of therapy support from family, the weight mean was equal "91.788%", this result showed the interest of families' towered treatment, because the worse of client's condition affect family stability. This result showed the role of family in treatment and help clients to compliance with drug, this result agree with Heru, (2006), which refer to family intervention with schizophrenic clients in improving client's functions.

6.2.4.3. Social support:

Result showed of the level of social support is high "79.65%", this clarifies the nature of society and we have good social and family cohesions. The Islamic religion, habits, values and good manners in support the social relationship.

6.2.4.4. The level of family support:

The result about family support showed in table No. (26). Point to the level of family support with clients who have schizophrenia is "84.312%", there is clarify the family interested towered clients with schizophrenia, during interview the families make effort to care for the clients because there is encourage the reduction of adverse family atmosphere and keep family in stable condition. The study by Hamada et al, (2006), that identify the role of family to prevent relapse among schizophrenia clients.

6.3. What is the level of relapses?

The level of relapse among clients schizophrenia in community mental health in Gaza strip was "27.8%". The researcher see that is low level, some factors play in this result such as the role of community mental health clinic in provide services, role of the families in treatment and follow up. This result agreed with study conduct by Hogarty et al, (1997), the relapse rate was "40%", and agreed with study conducted by Ranjber & Taghizadeh, (2008), showed decrease number of hospitalization and the rate of relapse was "41.5%".

The relapse divided to four domains behavioral, social, Sensory and intellectually and emotional. The researcher clarifies the results according to domains.

6.3.1. Behavioral relapse:

The behavior relapse level was "28.821%", that was low level that reflect the important the family support and drug compliance because behavior is best indicator for relapse, and change in behavior affects clients, family and society.

Regard to highest statement about behavior relapse, in item No. (8), the weight mean was equal "85.85%" and p-value equal "0.000", which means the clients were quiet, cooperative and sleep most of the time. The families are interested in treatment especially when clients have violence, agitation and harm them selves or other. The other action of antipsychotic drugs are sedative and help clients to sleep so the clients becomes relax and quite. The study by Varghese et al, (2002), showed the antipsychotic drugs have an immediate calming effect, reducing anxiety, agitation and restlessness in the affected member with symptoms of schizophrenia. The family

support and decrease level of stress lead to decrease exacerbation signs and symptoms.

The two lowest statements about behavior relapse according to weight mean, in item No. (6), the weight mean was equal "33.44%" and p-value was equal "0.000" and in item No. (9), the weight mean was equal "24.38%" and p-value was equal "0.000", this result means decrease the levels of agitation and violence.

6.3.2. Social relapse:

The level of social relapse was "29.881" point to low level of social relapse. That mean the clients are integrated in the society. The families believes that the point of good socially for clients. The social relapse is impact on social context and these results are relative. In item No (24), refer to the clients don't make problem with family and other, the relationship in social context is induce stability of client's towered family.

6.3.3. Sensory and intellectually relapse:

The level of sensory and intellectually relapse was "25.088%", that was low level reflect improvement in the person's condition or decrease in symptoms, the families now are more aware to early signs of relapse before exacerbation signs and symptoms, according to study by Birchwood et al, (2000), the early warning signs approach to relapse prevention seeks to identify the earliest signs of impending psychotic relapse and to offer timely and effective intervention to arrest their progression towards frank psychosis .

Sensory and intellectually about highest and lowest statement, those results are measured delusion for clients such as grandiosity and persecutory, delusion is positive sign of schizophrenia that points to relapse but some clients try to hide this sign, when clients become relapse, signs and symptoms appear clearly. Family observes the clients and detects any change in client condition in early time and able to prevent exacerbation by start in treatment and follow up. The results point to decrease relapse level.

6.3.4. Emotional relapse:

The level of emotional relapse is "24%", this was low level, the researcher collected data by families because the families are observing the affect that appear on clients. The families believes that the point of good emotional for patients.

6.4. Is there relationship between the client attitude towards medication and the drug compliance to antipsychotic drug?

The Correlation between the client attitude towards medication and the drug compliance to antipsychotic drug was showed in table No. (32), this result showed the extrusive relationship between drug compliance and clients attitude toward medication in Gaza strip. This result agrees with study conducted by Bajaj et al, (2009), so the clients attitude toward medication and the compliance were positively correlated to each other, when client know and feel he is need to relief The health problem he is make effort to prevent exacerbation he is condition and go to compliance with drug.

The study conduct by Tsang et al, (2009), showed insight was identified to be the strongest predictor on compliance which accounted for "68.35%" of the total variance.

6.4.Is there relationship between the drug compliance to antipsychotic drug and emotional, sensory and intellectually, socially and behavioral?

The result showed a significant relationship between the drug compliance to antipsychotic drug and emotional, sensory and intellectually, socially and behavioral at significant level α =0.5, the inverted correlation between drug compliance and relapses with behavior, social, sensory, intellectual and emotional, that means the drug compliance act as an inhibitor for signs and symptoms so we may decrease relapse rate by drug compliance. We can get a lot of the studies that enhance this result such as Morken G, et al (.2008), this study showed the low the rate of relapse with drug compliance, other study conducted by Tellis, (2008), point to the Medication adherence is important in the ability to adapt and the capacity to function, the third studies conducted by Svarstad et al, (2001), Irregular medication use was one of the strongest predictors of hospital use and cost.

The results showed a significant relationship between the emotional support and sensory and intellectually and behavioral at significant level α =0.5, this result point to the inverted correlation between emotional support and relapses with behavior, sensory, intellectual and emotional, because the clients with schizophrenia are very sensitive for any stress so emotional support acts as an inhibitor for stress.

Socially, relapse has no relationship between emotional support and socially at significant level α =0.5. This result is acceptable, the clients with schizophrenia wish live to especial world and the social withdrawal is the nature of personality.

6.6. Is there relationship between the therapeutic support and sensory and intellectually, socially and behavioral?

The results showed a significant relationship between the therapeutic support and sensory and intellectually, socially and behavioral at significant level α =0.5, this result point to inverted correlation between therapy support and relapses with behavior, sensory, intellectual and emotional, that point to the role of family in treatment and follow up, that can delay or even prevent relapse in people with schizophrenia who have significant family contact. Therapy support is involve as many family members as possible and aims to reduce some of the stress and extreme emotions of family life that can make schizophrenia symptoms worse.

Socially relapse is no relationship between therapy support and socially at significant at significant level α =0.5. This result is acceptable, the clients with schizophrenia likes live in especial world and the social withdrawal is the nature of personality. Some of clients stop take drugs because the side effect of drug and low insight

Some of previous studies showed the importance of therapy support, the study conducted by Dixon et al (2000) have showed the positive influence of the family on treatment and rehabilitation, suggesting that family interventions can reduce relapse rates among persons with mental problems and help their rehabilitation in the community.

The study conducted by Heru, (2006) was showed that families have powerful influences on health that are equal to or surpass interventions increase health and decrease the risk of relapse in chronic illnesses. Research in psychiatry affirms that family interventions reduce the rate of relapse and improve recovery. The study conducted by Pitschel-Walz et al, (2001) showed the important family intervention in preventing relapse. The main result of the meta-analysis was that the relapse rate can be reduced by 20 percent if relatives of schizophrenia patients are included in the treatment. If family interventions continued for longer than 3 months, the effect was particularly marked.

6.7. Is there relationship between the emotional support and sensory and intellectually, socially and behavioral?

The results showed a significant relationship between the emotional support and sensory and intellectually, social and behavioral at significant level $\alpha = 0.5$, this result point to inverted correlation between social support and relapses with behavior, socially, sensory, intellectual and emotional, this result showed the important social support in prevent relapses because social support breaks the client isolation and help him to engagement in society by visiting, occasion and celebration. We have some of studies agree with this result.

The study conducted by Aguglia et al, (2007), agreed with this result, the rate of relapses decrease and the reduction of number hospitalizations and days of hospital stay by using the traditional psychosocial and drug intervention.

The study by Pharoah et al, (2010), the study showed decrease relapse and hospitalization by effects of family psychosocial interventions in community settings for people with schizophrenia or schizophrenia-like conditions compared with standard care.

6.8. Is there the relationship between Drug compliance and family support contribute prevent relapse among schizophrenia clients in Gaza strip due to sex?

The result illustrated in table No.(49) no statistical differences concerning the drug compliance and family support contribute prevent relapse among schizophrenia clients in Gaza strip due to sex at significant level $\alpha = 0.05$. This result was acceptable because the client's male and female have the same signs and symptoms, no gender discrimination for treatment, the discrimination by way of treatment and the families with schizophrenia move to treatment and support to prevent relapses. This result disagree with Nordick W G, (2008), write in literature review from of studies conducted by Grossman, Harrow, Rosen, & Faull, (2006) Women with schizophrenia and other psychotic disorders generally have better outcomes than men with similar disorders and Takahashi et al.,(2000),, males with the illness showed poorer pre-morbid history, more negative symptoms, a higher relapse rate, a worse outcome, poorer response to neuroleptic drugs, and a lower family morbidity risk (prevalence) for schizophrenia than female patients with schizophrenia. This result disagrees with Ranjber & Taghizadeh, (2008), showed females were high risk for hospitalization.

6.9. Is there the relationship between Drug compliance and family support contribute prevent relapse among schizophrenia clients in Gaza strip due to age?

The result illustrated in table No.(50), no statistical differences about the Drug compliance and family support contribute prevent relapse among schizophrenia clients in Gaza strip due to Age at significant level $\alpha = 0.05$. The study by Masand and Narasimhan (2006), showed the patient related factors in influencing compliance such as Young or earlier age of onset of schizophrenia, that point to early age onset is less compliance to medication, so the age has role in compliance, that don't agree with result of this study may be most of clients are chronic and the impact of family support.

The study conducted by Ranjbar & Taghizadeh, (2008), agrees with this result the patients was 37.34±10.74 years which was not statistically significant between patients with or without re-hospitalization (p=0.861), hospitalization point to relapses

6.10. Is there the relationship between Drug compliance and family support contribute prevent relapse among schizophrenia clients in Gaza strip due to social status?

The result illustrated in table No.(51) no statistical differences about the Drug compliance and family support contribute prevent relapse among schizophrenia clients in Gaza strip due to social status at significant level $\alpha = 0.05$. This result is acceptable, the clients with schizophrenia prefer keep to him self alone, social status may increase or decrease support towered clients, drug compliance acts as an inhibitor for negative and positive symptoms and family support enforces compliance. The relapses are impact of social status because that has an effect on family stability.

6.11. Is there the relationship between drug compliance and family support contribute prevent relapse among schizophrenia clients in Gaza strip due to Monthly income?

The result illustrated in table No.(52) no statistical differences about the Drug compliance and family support contribute prevent relapse among schizophrenia clients in Gaza strip due to monthly income significant level $\alpha = 0.05$. In Gaza strip we have six community mental health clinics, the treatment and services are available with out any cost. Services for community mental health already exist in most places across Gaza strip provided by the ministry of health, NGOs and other organizations.

6.12.The general conclusion

Despite of the bad economic and the political situation, the siege around the Gaza Strip and the high level of psychological distress. The family support, custom and religion contribute to the interdependence of family and family support towered of clients with schizophrenia. Family support is provide an atmosphere far from the stress and ensures the follow-up treatment and continuity.

According to my work in the psychiatric hospital there are some of cases that are experienced lack of family support, so there are no compliance to medication in regularly time so lead to relapse and hospitalization.

The Clients with Schizophrenia do not full recover but some of disturbances in behaviors and feelings "negative symptoms" still observed. The drug compliance inhibited the positive signs and symptoms such as violence, agitation, hallucination and delusions.

Patients with positive attitude towards treatment were reported with high compliance to drug. Improving drug compliance is difficult but necessary for achieving optimal treatment outcomes and decrease relapses among schizophrenia client. Drug compliance alone is not enough but needed for family support to encourage clients to take medications, the role of family is to observe and follow up clients condition.

Extrusive relationship between the client attitude towards medication and the drug compliance to antipsychotic drug. The level of clients attitude towered medications is high so a patient's beliefs about the relative risks and benefits of treatment to determine his or her willingness to take medication. Some of clients do not have insight to disorder but have some of complains such as insomnia, somatic complain, violence's and agitation so have attitude toward medications.

The greatest improvement in drug compliance was seen when clients were committed in treatment and family support, compliance to treatment in patients with schizophrenia could be improved if continuously supported by family and monitored by caregivers and treating doctors, to facilitate a change in the patient's attitude.

The levels of drug compliance and family support were very high so relapse level was low. Good medication compliance generally contributes to an improvement in the clinical outcome that needs cooperation between clients and families, community mental health clinic. The families become more oriented for clients conditions and make more effort to prevent relapses that enhance the role of family in treatment.

The inverted correlation between drug compliance and relapses with in behavior, social, sensory, intellectual and emotional, that means loss of drug compliance lead to increase in relapses. Decrease level of relapses that enhance drug treatment for clients with schizophrenia.

The inverted correlation between family support and relapses with in behavior, social, sensory, intellectual and, except emotional relapse because the clients keep him self alone and live in especial world. Family support is enhances the follow up, continuity of treatment and observe early signs and symptoms of relapses. Age, social status, gender and economic status had no correlation with drug compliance and family support in preventing relapses, because the client has the same disorder and signs and symptoms.

6.13.Recommendations:

1-Research recommendations:

Further research is necessary to measure the levels and relationship of drug compliance, family support and relapse in mental health hospital.

Further research is necessary to use the experimental design and actual case study and applied on all mental disorders.

According to limitation, the researcher recommends to determine annual prevalence rate and incidence rate by using computerized system.

This field from research needs fund and team so we need support from MOH and NGOs to advance the research in mental health disorder.

2- Practical recommendations:

The role of family is very important, so should be family encouragement to follow up of treatment and teach him about early signs of relapse by develop program and home visit.

The community mental health clinic must be exploring the general attitudes of the clients and relatives towards medication and other treatment.

Some of families need to develop programs about relapse prevention to make follow up and continuity

The evaluation of the community mental health out clinic services to insures its efficacy in improving mental health care.

Develop plan to client who aren't committed to mental health out clinic.

References

References

Afana A, Qouta S & Sarraj E, (2004): Mental health needs in Palestine, **humanitarian exchange magazine**, Issue 28.

American psychiatric association**,** (2000): **Diagnostic Statistical Manual of Mental Disorders,** 4th edition, USA

Bajaj V, Sengupta S & Gupta D K (2009): Psychopathology, insight and compliance in schizophrenia. **Ir J Psych**; 26(1): 12-15.

Barnes T R E & the Schizophrenia Consensus Group of the British Association for Psychopharmacology, (2011): Evidence-based guidelines for the pharmacological treatment of schizophrenia, **Journal of psychopharmacology**.

Bond G R, (2002): Assertive Community Treatment for People with Severe Mental Illness**, Behavioral Health Recovery Management Project,** the University of Chicago Center for Psychiatric Rehabilitation.

Bostrom A C & Boyd M A, (2008): **Psychiatric Nursing: Contemporary Practice** (4th ed.), Philadelphia: Lippincott, Williams, & Wilkins.

Brichford C, (2011): schizophrenia, Everyday Health, Inc**. very day health**.**com**, 1:30 pm, 08-17.

Birchwood M, Spencer E & McGovern D (2000): Advances in Psychiatric Treatment: Schizophrenia early warning signs, **journal of continuity professional development vol. 6, pp. 93–101.**

British medical association & the royal pharmaceutical society of Great Britain, (2009): **British national formulary**. Buff .org. London.

Boyd, M A, (2008): Psychiatric **Nursing: Contemporary Practice** (4th ed.), Philadelphia: Lippincott, Williams, & Wilkins.

The Canadian Psychiatric Association & Schizophrenia Society of Canada. (2007): **Schizophrenia the Journey to Recovery**. Canada.

Carr A. (2005): **Family therapy concept, process and practice**. 2 nd edition, Wiley Series in clinical psychology, UK.

Casernansky J G. (2001): **Schizophrenia a New Guide for Clinicians**. Marcel Dekker, Inc**.** New York.

Chakraborty K & Basu D (2010): Insight in Schizophrenia – A Comprehensive Update. **The German Journal of Psychiatry.** 13: 17-30.

Chu-Mei Lan, Shu-Jen Shiau1& Li-Chuan Lin(2003): Knowledge, Beliefs, Attitudes, and Drug Compliance in Schizophrenic Patients, **Tzu Chi Med J.** 15 - No. 6,Taiwn .

Claxon A J, Cramer J & Pierce C ,(2001) : A systematic review of the associations between dose regimens and medication compliance**, Clinical Therapeutics Volume 23, Issue 8**, August, Pages 1296-1310, USA.

Cookson J C, Taylor D, Katona C L E (2002): Use of drugs in psychiatry: the evidence from psychopharmacology, **5 Th edn, the britich Library.**

Coon d & Mitterer J O (2008): **Introduction to Psychology: Gateways to Mind and Behavior**, 12th edition Wadsworth publishing, cengage learning Inc, USA.

Corrigan P. W (2002): Adherence to anti-psychotic medications and Health Behavior theories. **Journal of Mental Health,** 11(3): 243-254.UK

Creswell, J. (2008): **Educational research**, **planning, conducting, and evaluating quantitative and qualitative research**, third edition, by Pearson international edition, 1-670.

.

Daniel A. Hussar PH D. (2010): adherence to a drug regimen. Online medical library.

Diab, (2008): **conference about effect the siege on Palestinian people**, community mental health program Gaza.

Edelman E M, (2010): **patient's perception of family involvement and its relationship to medication adherence for persons with schizophrenia and schizoaffective disorder,** the State University of New Jersey.

Elder R, Evans K, Nizette D, (2005): **Psychiatric Mental Health Nursing**, Elsevier Australia.

Elgie R, Amerongen APV, Byrne P, D'Arienzo S, Hickey C, Lambert M, cCrae J, and Sappia S. (2004): Discover the road ahead. **Bristol-Myers Squibb Company and Otsuka Pharmaceuticals Europe Ltd.**

Elmasri M, (2010): Family interventions for families of patients with Severe Mental Illness, Islamic university, Gaza.

Elmasri, (2010): Family Burden and Role of the Family in Care for Patients with SMI, Islamic university, Gaza.

Jewell T C, Dowing D, Mcfarlane W R (2009): **Journal of clinical psychology** vol 65(8), 868-878.

Johnson E, (2000): Recovery Principles; An Alternative in Maricopa County for Individuals Who Experience Psychiatric Symptoms, **META Services**, Inc. Phoenix, AZ 85006 (602) 650-1212

Fleischhacker W W, Oehl M A &Hummer M: Factors Influencing Compliance, Physicians post graduate press, INC. **J clin psychiatry 2003:64** (suppl 16).

Gilmer T P, Dolder C R, Lacro J B, Folsom D P, Lindamer L, Garcia P &. Jeste D V (2004): Adherence to Treatment With Antipsychotic Medication and Health Care Costs Among Medicaid Beneficiaries With Schizophrenia **(Am J Psychiatry**; 161:692–699**)**.

Gaza Community Mental Health Program, (2010): annual report of general mental health directorate in out clinic, Gaza strip.

Gray R, Leese M, Bindman J, Becker T, Burti L, David A, Gournay K, Kikkert M, Koetero M, Puschner B, Schene A, Thornicrof T G and Tansella M (2oo6): Adherence therapy for people with schizophrenia. **British Journal OF Psychiatric,** 18 9, 5 0 8 - 514**.**

Haycock D A & shaya E K, (2009): The Everything Health Guide to Schizophrenia: The Latest information on treatment medication, and coping strategies**. F +W MEDIA**, INC, USA.

Heru A M. (2006): Family psychiatric practice. **Is J Psychiatry** 163:962– 968?

Hamada Y, Ohta Y, Nakane Y (2008): Factors affecting the family support system of patients with schizophrenia: A survey in the remote island of Tsushima. **Psychiatry and Clinical Neurosciences.** Volume 57, Issue 2, pages 161–168.

Hogarty, G. E, Greenwald, D., Ulrich, R. F, Kornblith, S. J., DiBarry, A. L., Cooley, Flesher S, Carter M (1997): Three-year trials of personal therapy among schizophrenic patients living with or independent of family, I: Description of Study and Effects on Relapse Rates. **The American Journal of Psychiatry**; 154:1504–1513.

Lacro J, (2006): **Medcation adherence**, the University of California, San Diego. Eli Lilly and Company.

Lam P TC (2008): Treatment Resistance in Schizophrenia. **Medical Bulletin**. VOL.13 NO.2.Hong Kong.

Levitt P. (2007): **psychological disorder schizophrenia**. Chelsea House books, New York.

Lefley. (1989): Family Burden and the family stigma associated with major mental illness. **American Psychologist**, 44(3), 556–560.

Lewis R J, (1999): **Reliability and Validity: Meaning and Measurement,** Presented at the 1999 Annual Meeting of the Society for Academic Emergency (SAEM) in Boston, Massachusetts.

Liberman J A & Tasman A, (2006): **Hand book of psychiatric drug,** Wiley & Sons, Ltd. ISBN: 0-470-02821-1**, USA.**

Libreman & kopelowicz, 2005: Schizophrenia: A Concept in Search of Research. **Psychiatric on line .org**. June Vol. 56 No. 6.

Lindstrom E. and Bingefors K, (2000): "Patient compliance with drug therapy in schizophrenia: Economic and clinical issues." **Pharmacoeconomics** 18(2): 105-124.

Li z & Arthur D: Family education for people with schizophrenia in Beijing, China Randomized controlled trial. **British Journal of Psychiatry. British** (2 00 5)**,** 1 8 7, 3 3 9 - 3 4 5**.**

Love R. C (2002): "Strategies for increasing treatment compliance the role of long-acting antipsychotic." **American Journal of Health-System Pharmacy 59**(SUPPL. 8): S10-S15.

Kan J M, (2007): Closing the Gap to Adherence in Schizophrenia: Putting Evidence into Practice, **ArcMesa Educators**.

Kathleen M W, Mildred S B, Judith M B, Karen S, Barbara S & Roz M, (2005): **An evidenced-based approach to care and treatment of individuals with schizophrenia for advanced practice nurse**, ISPN/AGPN Task Force Members, USA

Kingdon D G, Turkington D. (2008): **Cognitive Therapy of Schizophrenia**. The Guilford Press. New York.

Kingdon D & Turkington D, (2002): **Guide to cognitive behavioral therapy of psychosis**, John Wiley & Sons Ltd, The Atrium, Southern Gate, Chichester, West Sussex PO19 8SQ, and England.

Knapp M, King D & Pugner K, (2004): Non-adherence to antipsychotic medication regimens: associations with resource use and costs, **The British Journal of Psychiatry** 184: 509-516.

Mahadun P N and Marshall M, (2008): patients on depot and atypical antipsychotics Insight and treatment attitude in schizophrenia: comparison of patients on depot and atypical antipsychotics. **Psychiatric Bulletin** 32: 53-56, the Royal College of Psychiatrists.

Marvin I, Herz J, Lamberti S, Mintz J, Scott R, Susan P, O'Dell, McCartan L, Nix G,(2000): A Program for Relapse Prevention in Schizophrenia. **Arch Gen Psychiatry.** 57:277-283.

Masand P S and Narasimhan M, (2006): Improving Adherence to Antipsychotic Pharmacotherapy, **Current Clinical Pharmacology,** 1, 47-56, USA.

Masand P& Narasimhan M, (2006): Improving Adherence to Antipsychotic Pharmacotherapy. **Current Clinical Pharmacology.** USA, 1, 47-56.

McFarlane, W.R., Link, B., Dushay, R., Marchal, J. & Crilly, J. (1995): Psycho-educational multiple family groups: four-year relapse outcome in schizophrenia. Family Process, 34, 127-144.

Ministry of health, (2010): **annual report of ministry of health in Palestine**, Gaza.

Ministry of health, (2006): **Population and Demography**. Health Status in Palestine 2005, Gaza.

Ministry of health (2003): annual report of mental health in Palestine. Gaza

Misdrahi D., Llorca P. M., Lancon C. and Bayle F. J (2002): "Compliance in schizophrenia: Predictive factors, therapeutical considerations and research implications. [French]". **Encephale** 28(3I): 266-272.

Morken G, Grawe RW, Widen JH. (2008): Non-adherence to antipsychotic medication, relapse and rehospitalisation in recent-onset schizophrenia. **BMC Psychiatry,** Apr 30; 8:32**.**

MOH&WHO, (2003): plan on the organization of mental health services in Palestine draft report, Gaza.

Mullins T G & Toner C, (2008): Implementation the family support approach for community supervision, Cooperative Agreement Number 2006-RE-CX-K002, USA.

Naber D, Mehnert A, Rosillon D, Farmer D, SchreinerA, And an Jacobs (2005): Long-term Treatment of Schizophrenia for Relapse Prevention (Laser). **Poster ISPOR_Naber_ v2.**

National Collaborating Centre for Mental Health, (2010): **Schizophrenia: Core Interventions in the Treatment and Management of Schizophrenia in Adults in Primary and Secondary Care**, Updated edition, The British Psychological Society and The Royal College of Psychiatrists

National Institution of Mental Health, (2009): **Schizophrenia**, NIH Publication No. 09-3517.

Noll R, (2007): **The encyclopedia of schizophrenia and other psychotic disorders,** third edition, facts on file, Inc, USA.

Nordick, (2008): **insight in to Insight: a study on understanding in schizophrenia,** Requirements for the Degree of Doctor of Philosophy, University of Canterbury.

Newell R& Gournay K, (2009): **mental health nursing evidence –based approach.** Elsevier limited.

O'Donohue W& Fisher J E, (2008): **Cognitive behavior therapy: applying empirically supported techniques in your practice,** 2nd ed. JohnWiley & Sons, Inc., Hoboken, New Jersey. Published simultaneously in Canada.

Obrien an S, (2008): **The effects of schizophrenia on the family a view and personal account.** Requirements for the degree MASTER OF SCIENCE, Kansas State University.

O'Doherty- Y K, Doherty D T& Walsh D (2006): Family support study. **The Health Research Board**.

Ranjbar F & Taghizadeh H, (2008): Relationship between Attitude to Treatment in Patients with Schizophrenia on Discharge and Re-hospitalization. **Iran J Psychiatry 2008; 3: 121-123**

Razali M H, (2O10): Prevention of relapse and interventions for enhancing medication. **Asia-Pacific Psychiatry 2 (2010) 68–76**.

Razali S M & Yahya H, (1997): Health education and drug counseling for schizophrenia. **International Medical Journal. 4(3), 187-9.**

Ruzanna Z, Marhani M, Parveen K & Cheah YC. (2010): Does Psycho education Improve Insight of Patients with Schizophrenia. **Malaysian journal of psychiatric.**

Palestinian Central Bureau Statistics, (2009): **Survey on the Impact of War and Siege on Gaza Strip**. Ramallah - Palestine.

Palestinian Central Bureau Statistics, (2011): **Palestine in figures**. Ramallah-Palestine.

Perkins D. O: Adherence to antipsychotic medications. **Journal of Clinical Psychiatry**. (1999) 60(Suppl 21): 25-30.

Perkins D. O: Predictors of noncompliance in patients with schizophrenia. **Journal of Clinical Psychiatry**. (2002) **63**(12): 1121-8.

Pitschel-Walz G, Leucht S, Baumal J, Kissling W & Engel R R (2001): The Effect of Family Interventions on Relapse and Rehospitalization in Schizophrenia: A Meta-Analysis. **Schizophrenia Bulletin**. 27(1):73-92.

Pharoah F, Mari J, Rathbone J& Wong W, (2010): **Family intervention for schizophrenia (Review)**, the Cochrane Library, issue 11. John Wiley & Sons, Ltd

Sadock B G, Sadock-A V (2007): **Kaplan & Sadock's Synopsis of Psychiatry**: **Behavioral Sciences/Clinical Psychiatry**, 10th Edition USA**.** Lippincott Williams & Wilkins**.**

Sanbrook, M., Harris, A., Parada, R. & Young, P. (2003) the effectiveness of an early intervention team in the treatment of first-episode psychosis. **Australian e-Journal for the Advancement of Mental Health** Vol. 2, Issue 1, ISSN: 1446-7984.

Schizophrenia Society of Canada, (2003): **Learning about schizophrenia: Rays of Hope reference manual for familie**s & caregiver, third edition, Pfizer Canada Inc.

Schmidt W J & Reith M E A, (2005): Dopamine and glutamate in psychiatric disorders, **Human press**, Inc, new jersey07512.

Schooler N R, (2006): relapse prevention and recovery in the schizophrenia, **physicians postgraduate press, Inc, J clin psychiatric** 67(suppl 5): 19-23.

Schooler NR , Glick ID, Bellack AS , Matthews SM, ,Severe JB, Keith SJ, Jacobs M, Lieberman JA, Mance R, Simpson GM, Woerner MG, Frances, (1997): A Relapse and rehospitalization during maintenance treatment of schizophrenia. The effects of dose reduction and family treatment. **Arch Gen Psychiatry**. 54(5):453-463.

Shean G D, (2004): Understanding and treatment of schizophrenia: contemporary, research and practice. **Haworth press**. Inc. USA.

Shibre T, Kebede D, Alem A, Negash A, Deyassa N, Fekadu A, Fekadu D, Jacobsson L& Kullgren G (2003): Schizophrenia: illness impact on family members in a traditional society – rural Ethiopia, **Soc Psychiatry Epidemiology** 38: 27–34.

Stahl S M (2000): **Essential psychopharmacology: neuroscientific basis and practical applications,** second edition, UK.

Steering committee on mental health, 2004: **plan on the organization of mental health services in Palestine,** West Bank and Gaza

Stevan M, travis M & murray R M, (2002): **An Atlas of SCHIZOPHRENIA**, The Encyclopedia of Visual Medicine Series, The Parthenon Publishing Group CRC Press LLC, UK &USA.

Strickland B R, (2001): **Gale Encyclopedia of Psychology,** second ediation. Gale Group 27500 Drake Rd, USA.

Stuart G W, (2009): **principle and practice of psychiatric nursing**, 9th edition. Mosby Elsevier Inc, Australia.

Svarstad B. L., Shireman T. I. and Sweeney J. K (2001): **"Using drug claims data to assess the relationship of medication adherence with hospitalization and costs.**" **Psychiatric Services** 52(6): 805-811.

Tellis P, (2008): **Medication non-adherence in schizophrenia.** Master project. University of Arizona.

Thaker G K & carpenter W T, (2009): **The year in Schizophrenia**, V 5, Clinical publishing oxford Atlas Medical Publishing Ltd.

The California Council of Community Mental Health Agencies, (2001): Early Intervention Programs For Schizophrenia: Successful in Increasing Recovery and Decreasing the Severity of Disability, Early Psychosis Prevention and Intervention Center – EPPIC.

The National Collaborating Centre for Mental Health "NCCMH" (2010): **The Nice Guideline on Core Interventions in the Treatment and Management of Schizophrenia in Adults in Primary and Secondary Care**. Updated edition, ISBN: 978-1-854334-79-4

Thornicroft G and Susser E (2001): Evidence – based psychotherapeutic interventions in community care for schizophrenia. **The British Journal of Psychiatry 2001 178: 2-4**.

Tomaras V, Mavreas V, Economou M, Ioannovich E, Karydi V& Stefanis C,(2000) : The effect of family intervention on chronic schizophrenics under individual psychosocial treatment: a 3-year study, **Soc Psychiatry Psychiatr Epidemiol**. 35(11):487-93.

Torrey EF (2002): A review studies of individuals with schizophrenia never treated with antipsychotic medications. **National Library of Medicine , USA. 1; 58(2-3):101-15.**

Tsang h w, Fung K M & Crrigan P W, (2009) : Psychosocial and socio-demographic correlates of medication compliance among people with schizophrenia**, Journal of Behavior Therapy and Experimental Psychiatry**, Volume 40, Issue 1, , Pages 3-14

Turkington D, Dudley R Warman D M &Aaron T. Beck A T (2004): cognitive-behavioral therapy for schizophrenia: A review. **The Journal of Psychiatric Practice, 10:5–16.**

Varghese M, shah A, kumar G U, Murali T &PAUL M (2002) : **A Manual on Family Intervention ForThe Mental Health Professional**, WHO/ NIMHANS, Version 2,

Veague H B & Levitt P, (2007): **Schizophrenia (Psychological Disorders)**, Infobase publishing, new york NY 10001

Videbeck S L, (2003): **Psychiatric Mental Health Nursing**, third edition, wolter kluwer \ Lippincott &wilikins.

Waston S J, (1996): Biology of schizophrenia and affective disease, Association for Research in Nervous and Mental Disease, **American psychiatric pres**, Inc.

Weyerer s (1994): social risk factor in schizophrenia. **Psychol Rep.** Jun; 74(3 Pt 1):795-800.

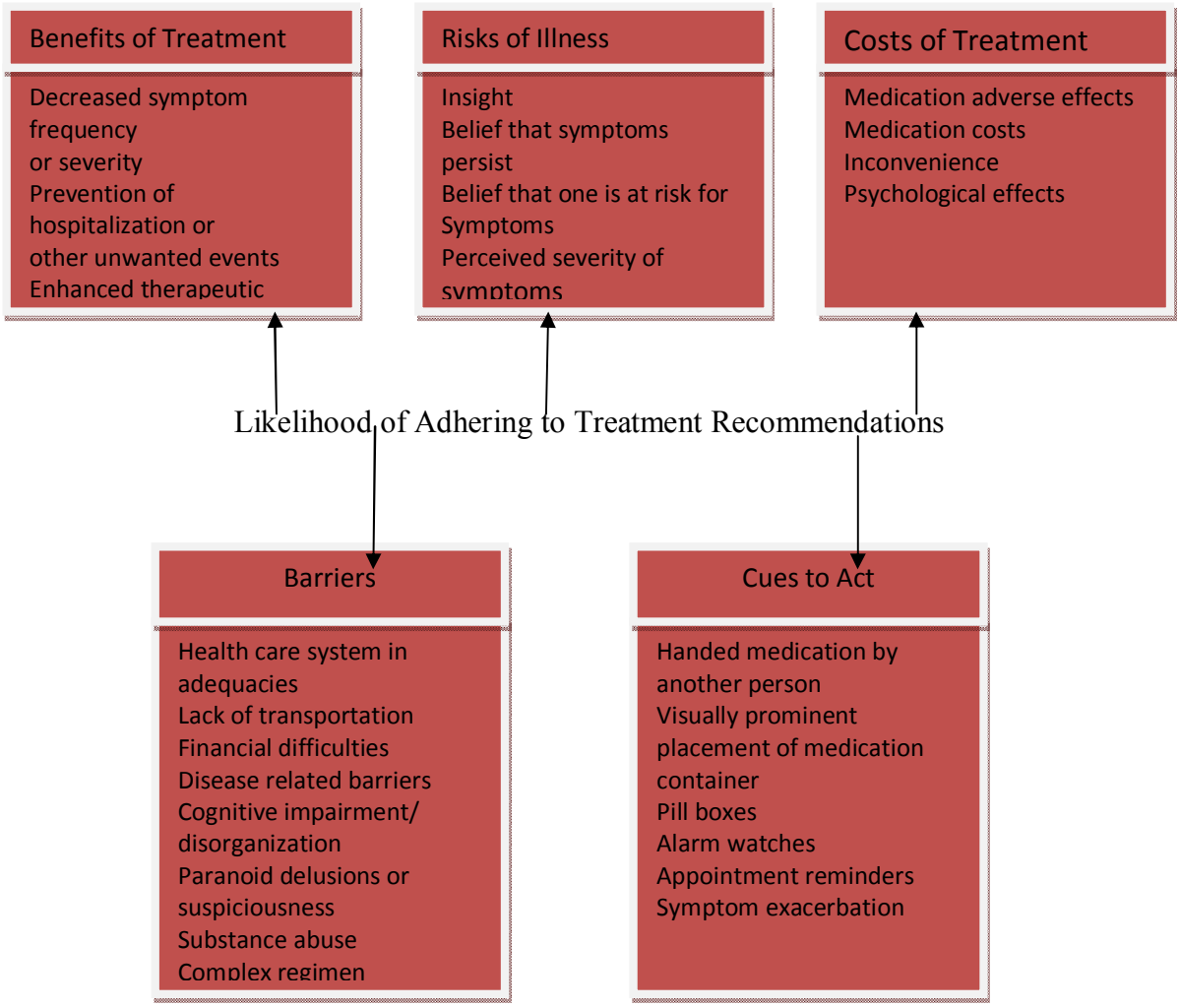
World health organization (2004): **Promoting Mental Health: concept, emergency evidence and practice**, Geneva.

World health organization "WHO". (2003): **Adherence to long –treatment therapies evidence for action .**Geneva

World health organization (1998): **Schizophrenia and public health**, Geneva.

Annex 1

Modified health belief model for drug adherence



*This model adopts by Diana O. Perkins, M.D., M.P.H.

Annex 2

بســـــم اللـــــه الرحـــمن الرحـــــــــــيم

استبانـــة

عزيزي المشارك

تهدف هده الإستبانة إلي جمع البيانات اللازمة لدراسة حول **دور الالتزام الدوائي والدعم الأسري في منع الانتكاسة لمرضى الفصام في محافظات غزة.**

أرجو التكرم بالتعاون في تعبئة هذه الاستبانة والتي هي جزء من دراستي للحصول علي درجة الماجستير في الصحة النفسية المجتمعية-علوم التمريض.

كما سيكون لأرائكم بالغ الأثر في نجاح هده الدراسة وما يترتب عليها من تحسين في خدمات الصحة النفسية المجتمعية .

الإستبانة تحتوي علي خمسة خيارات للإجابة فحاول اختيار الإجابة المناسبة، إذا وافقت علي المشاركة في البحث فيبقي لك الحق في الانسحاب من المشاركة متى شئت، علما بأن إجابتك ستحترم وستعامل بسرية تامة، وستستخدم لأغراض البحث العلمي فقط، ولا داعي لذكر اسمك.

شكرا لتعاونكم

الباحث/ حسن محمد أبو رحمة.

Annex 3

التاريخ: / / 2011 الرقم ----------

(خاص بالباحث)

أولا: البيانات الشخصية

من فضلك ضع علامة (×) في المربع المناسب لك.

1-العمر. من20 سنة إلي 30 سنة ☐ من 31سنة إلي 40 سنة ☐ فما فوق ☐ .

2-**الجنس:** ذكر ☐ أنثى ☐ .

3-العنوان:

محافظة الشمال ☐ محافظة غزة ☐ محافظة الوسطى ☐ محافظة خان يونس ☐

محافظة رفح ☐ .

4- تاريخ المرض: سنة فما فوق ☐ سنتان ☐ ثلاث سنوات فأكثر ☐ .

5-الحالة الاجتماعية:

أعزب/ آنسة ☐ متزوج/ ة ☐ أرمل/ ة ☐ مطلق/ ة ☐

إذا كنت متزوجا عدد الأولاد ☐ عدد البنات. ☐

من له دور وظيفي داخل الأسرة .....

1- **المستوى العلمي**:

ابتدائي ☐ إعدادي ☐ ثانوي ☐ جامعي ☐

7- عدد مرات دخول مستشفي الطب النفسي المرض خلال السنة :

ولا مرة ☐ مرة واحدة ☐ مرتان ☐ من ثلاث إلي خمس مرات ☐

اكثر من خمس مرات ☐

8- الوضع الاقتصادي

أ. مصادر دخل الأسرة:

شئون اجتماعية ☐ عمل الشخص نفسه ☐ عمل الزوج/ ة ☐ عمل الأولاد ☐ أراضي زراعية ☐

تربية المواشي والأغنام ☐ أعمال أخرى. ☐

ب. قيمة الدخل الشهري:

اقل من 500 شيقل ☐ من 500-1000شيقل ☐ من 1000-1500شيقل ☐

من 1600-2000شيقل ☐ من 2100-2500شيقل ☐ أكثر من 2500شيقل ☐ .

ج- يشاركني في السكن : الوالدان ☐ احدهما : الأب ☐ الأم ☐

إخوتي ☐ أخواتي ☐ لا أحد ☐ غير ذلك ..... .

9-متابعة العيادة الخارجية بواسطة: المريض نفسه ☐ المريض مع الأهل ☐ الأهل فقط ☐.

Annex 4

ثانيا: استبانه الالتزام الدوائي تعبأ بواسطة المريض .

من فضلك ضع علامة (×) في المربع المناسب لك .

الرقم	العبـارة	موافــق بشدة	موافق	لا أعرف	غيـــر موافق	غيـــــر موافــق بشدة
	أولا: اتجاه المريض نحو المرض و العلاج					
1	أدرك أنني احتاج إلي العلاج الدوائي النفسي.					
2	أتابع في عيادة الصحة النفسية عندما اتعب ـ فقطـ .					
3	أدرك أنني أعاني من اضطرابات نفسية .					
4	اشعر بالعار عند الذهاب إلي عيادة الصحة النفسية.					
5	ليس لدي من الأعراض لكي أتناول الأدوية النفسية.					
6	لست بحاجة إلي هذه الأدوية النفسية إطلاقا .					
7	اهتم بمعرفة المرض النفسي .					
8	أتابع في عيادة الصحة النفسية بصورة منتظمة .					
9	لا أمانع بأخذ الدواء النفسي .					
10	اعتقد بأن الناس يجهلون بحقيقة المرض النفسي وانه قابل للعلاج.					
11	لا اعلم لماذا هده العلاجات .					
12	عائلتي تمارس الضغط علي لأخذ العلاج .					
	ثانيا :ـ الالتزام الدوائي للعلاج النفسي					
13	ملتزم في تناول أدويتي النفسية الموصوفة.					
14	كثيرا ما انسي اخذ أدويتي النفسية الموصوفة.					
15	لولا هذه الأدوية لكنت في أسوأ حال .					
16	لا اهتم بأخذ الأدوية النفسية الموصوفة في موعدها .					
17	الأعراض الجانبية هي سبب عدم التزامي بأخذ الأدوية.					
18	لا التزم بأخذ الأدوية لأنها غير مجدية .					
19	اقلل من الجرعات المحددة حسب ما اشعر بهذاتياً .					
20	اشعر بالملل من تناول الأدوية النفسية بشكل يومي.					
21	عندما اشعر بتحسن اترك أخذ الأدوية النفسية .					
22	أتناول الدواء النفسي فقط عندما اشعر بتعب .					
23	تناول الدواء النفسي يجعلني هادئا و متعاونا .					
24	تناولي للدواء النفسي يجعلني لا اشعر بالتعب النفسي والبدني .					
25	أهمل تناول العلاج متعمدا لعدم جدواه .					
26	ليس هناك من يشجعني علي تناول الدواء النفسي .					
27	أراجع طبيبي عندما يكون هناك أعراض جانبية.					
28	الأدوية النفسية تجعلني في أسوأ حالتي النفسية والبدنية.					

Annex 5

ثانياً : استبانه الدعم الأسري تعبأ بواسطة المريض

من فضلك ضع علامة (×) في المربع المناسب لك .

الرقم	العبارة	موافق بشدة	موافق	لا أعرف	غير موافق	غير موافق بشدة
	أولاً الدعم العاطفي					
1	اشعر بوقوف أسرتي إلي جانبي وخاصة عندما احتاج.					
2	أسرتي تشعر بالخجل مني ومن مرضى .					
3	أفراد أسرتي يجلسون معي كلما كنت بحاجة لهم .					
4	أسرتي تشعروني بأنني عبء عليهم .					
5	من يغضبني هم أفراد أسرتي فقط .					
6	أسرتي تشعرني أسرتي بالحنان والعطف .					
7	لا أتلقى أي عطف من أفراد أسرتي .					
	ثانياً الدعم العلاجي					
8	أسرتي متفهمة لمرضي .					
9	عندما اشعر بالتعب يأخذونني إلي العيادة أو المستشفي فورا.					
10	أفراد أسرتي غير مهتمين بعلاجي.					
11	أفراد أسرتي يذكروننني بتناول الدواء .					
12	تسعي أسرتي إلي علاجي عندما اسبب لهم المتاعب .					
13	أفراد أسرتي يذكروننني بمواعيد الزيارة للعيادة المجتمعية النهارية .					
14	عند حدوث أعراض جانبية للأدوية يقومون بمراجعة الطبيب المعالج.					
	ثالثاً الدعم الاجتماعي					
15	أشارك أسرتي في المناسبات العائلية مثل الأفراح .					
16	أقوم بزيارة أقاربي باستمرار.					
17	أسرتي تعمل علي عدم اتصالي بالمجتمع .					
18	اجلس مع أسرتي بوجود ضيوف .					
19	أسرتي تعتبرني إنساناً بلا قيمة .					
20	إذا مرضت يقومون بزيارتي في البيت أو المستشفي .					
21	لدي الكثير من الأصدقاء الذين يقفون إلي جانبي .					
22	أفراد أسرتي يقومون بمنعي من الجلوس مع الضيوف .					
23	تكثر الخلافات بين أفراد أسرتي .					
24	أعاني من عدم تعاون أفراد أسرتي معي .					

Annex 6

رابعا : استبانه الانتكاسة تعبأ بواسطة الأهل

من فضلك ضع علامة (×) في المربع المناسب .

الرقم	العبارة	موافق بشدة	موافق	لا أعرف	غير موافق	غير موافق بشدة
	أولاً سلوكياً					
1	يخرج من البيت بلا هدف.					
2	معظم وقته يقضيه نائما.					
3	يهتم بمظهره والاعتناء بنفسه .					
4	يتصرف بعدوانية لأقل الأسباب.					
5	يدخن بشراهة عالية.					
6	يكسر أثاث البيت .					
7	كثير الحركة بدون هدف .					
8	هادئ ومتعاون داخل البيت .					
9	يخرج من البيت ويعود بعد أيام.					
10	يؤذي نفسه ومن حوله عندما يغضب.					
11	النشطات اليومية معدومة مثل الحلاقة، تنظيف أسناني، تغير ملابسي.					
12	يشرب القهوة والشاي بشراهة عالية.					
13	دائما صوته مرتفع بالشتم داخل البيت.					
14	يساعد أهل البيت ويهتم بأبنائه مثل أعمال البيت أو تعليم الأطفال .					
15	إذا كان يعمل : يغيب عن عمله كثيرا.					
16	يمتنع بشدة عند الذهاب إلي الطبيب النفسي.					
	ثانياً اجتماعياً					
17	دائما منعزلا ووحيدا في بيته.					
18	يشارك في المناسبات الاجتماعية مثل الأفراح.					
19	لا يرغب بالحديث مع أي شخص يعرفه أو لا يعرفه.					
20	يقوم بزيارة أقربائه مثل أخواته و بناته وخالاته وعماته.					
21	دائما يفتعل المشاكل مع جيراني .					
22	يذهب إلي مركز الشرطة كثيرا.					
23	يخرج مع أصدقائي كل أسبوع .					
24	يذهب إلي المستشفي بواسطة الشرطة .					
	ثالثا حسياً وفكرياً					
25	يشك في من حوله .					
26	لا يشرب ولا يأكل إلا من صنع يديه .					
27	يشعر بالاضطهاد و الظلم .					
28	يقول أنه يمتلك قدرات عظيمة .					
29	يقول انه هناك من يحدثه .					
30	يشكو من شي غريب في جسمه .					
31	يقول انه رجل مهم ومكلف من الله مثل أن يقول أنا المهدي أو نبي.					
32	يقول انه مهدد .					

الرقم	العبـارة		موافق	لا أعرف	غيـــر موافـــق	غيـــــر موافـــق بشدة
	رابعاً عاطفياً					
33	يبكي بسهولة .					
34	يضحك بدون سبب .					
35	يشعر بالرضا والراحة بين أفراد أسرتي .					
36	متبلد لا يفرح للفرح أو يحزن للحزن					
37	يغضب بسرعة بدون سبب .					
38	الأفراح والأحزان بالنسبة له واحدة.					
39	لا يظهر مشاعر الحزن والفرح.					
40	يبكي ويضحك في نفس الوقت .					

Annex 7

Demographic data:

Please tick {X} in the suitable box

1- Age: 20-30 ☐ 31-40 ☐ up 40 ☐

2- Gender: male ☐ female ☐

3-governorate:

North governorate☐ Gaza ☐ Middle ☐ Khanyounis ☐ Rafah ☐

4- History of illness: up one year ☐ two year ☐ three year and up ☐

5- Social status: single ☐ married ☐ widow ☐ divorced ☐

Number of children : Boys ☐ girls ☐

Who have rowel function...?

6- Education : elementary ☐ preparatory ☐ secondary☐ university ☐

7- Number of admitting hospital: none ☐ one ☐ two ☐ more than two ☐

8- Economic status:
1- **Family income**: hard social cases ☐ job ☐ wife job ☐ sons \daughter work ☐ others ☐

2- **Monthly income**: less than 500 shi ☐ 600-500 shi ☐ 1000-1500 ☐
1600- 2000 ☐ 2100-2500 ☐ more than 2500 ☐

3- **I live with**:

Parents☐ father only ☐ mother only ☐ siblings ☐ none ☐

9- The client follows up in mental health out clinic:

The client ☐ the client with family☐ family only ☐

Annex 8

Drug compliance scale: fill by interview with clients

No	Statement	Strongly agree	Agree	Don't know	Don't agree	Strongly agree
	1-The client attitude towards medication.					
1.	**I realize my need to the medications.**					
2.	**I go to the clinic for follow up especially when I feel. ....bad.**					
3.	**I realize that I suffer psychological disorder.**					
4.	**I feel sorry when I go to the mental health clinic.**					
5.	**I don't have any signs and symptoms to take of antipsychotic drug.**					
6.	**I don't have any signs and symptoms to take of antipsychotic drug**					
7.	**I'm interested to know about the psychological illness**					
8.	**I go to the clinic for follow up in limited time**					
9.	**I don't refuse the drug taken**					
10.	**I think the people don't understand the psychological disorder and there are can treated**					
11.	**I don't know why this medication**					
12.	**My family forces me to take these drugs**					
	2-The drug compliance to antipsychotic drug					
13.	**I'm committed to take the drug as prescribe**					
14.	**Very often forget to take the drug**					
15.	**Without these drugs I would feel very bad**					
16.	**I'm don't interested to take of prescribe drugs**					

17.	**The side effect is reason to don't take of antipsychotic drug**					
18.	**I'm not committed to take the drug because there are not useful**					
19.	**I decrease the dose according to how I feel**					
20.	**I feel bored taking these drugs regularly and daily**					
21.	**When I feel better I stop taking these drug**					
22.	**I take the drugs when I feel bad**					
23.	**Taking the drugs keep me calm and co-operative**					
24.	**Taking the drugs dose not make me feel psychological and physical tiered**					
25.	**I deliberately neglect taking the drugs**					
26.	**No one encourage me to take the drugs**					
27.	**I go to the doctor when I feel the impact of the side effect of drugs**					
28.	**The antipsychotic drugs make me feel worst**					

Annex 9

Family support scale: fill by interview with clients

N	Statement	Strongly Agree	Agree	Don't know	Don't agree	Strongly Don't agree
	A-Emotional support					
1	I feel my family support me when I need					
2	My family ashamed from me and from my illness					
3	My family sit with me most of the time when I need them					
4	My family makes me feel as a burden on them					
5	- my family- irritates me					
6	My family makes me feel loved					
7	I don't have any love feeling from my family					
	B- therapy support					
8	My family understand my illness					
9	When I feel tired my family takes me to the clinic or to the hospital					
10	My family dose not care about me					
11	My family reminds me to take the drug					
12	When I hurt someone they help me at once					
13	My family reminds me of the dates of the clinic visits					
14	When I suffer from side effect , my family check the doctor					

	C- social support					
15	I share my family their occasions					
16	I visit my relatives regularly					
17	My family dose not help me communicate with the society					
18	I'm sit with visitors					
19	My family consider me invaluable					
20	When I sick my family visit me in home or on hospital					
21	I have many of friend ,there are help me when I need					
22	My family dose not allow me to sit with their visitors					
23	There are many problems between me and my family					
24	I suffer from my family because they are not co-operative					

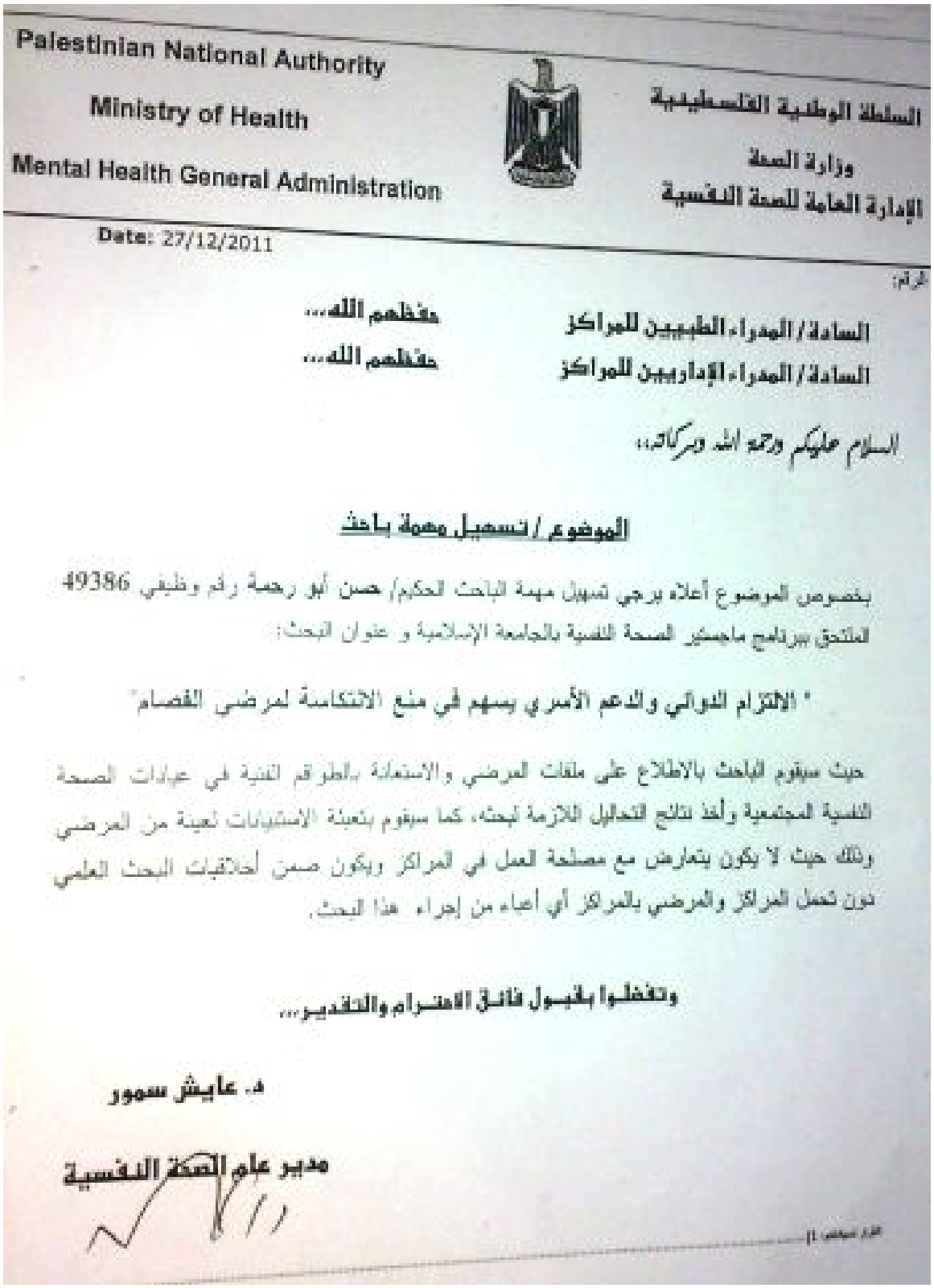
Annex 10

Relapse scale fill by family:

N	STATEMENT	Strongly agree	Agree	Don't know	Don't agree	Strongly don't agree
A	behavioral					
1	Go out from home without reason					
2	He/she sleep all the time					
3	He/ she takes care of his appearance					
4	He/she is aggressive					
5	Smokes heavily					
6	He/ she broke furniture's					
7	Hyperactive without goal					
8	Quite and co-operative in the home					
9	Goes out home and comes after few days					
10	Hurts himself and others when irritated					
11	No daily actives, shaving, change clothes					
12	Drink too mach tea and coffee					
13	He\she has high voice and cursing others					
14	He\she help his husband and takes care of his children					
15	He dose not go to the his work regularly					
16	Dose not accept going to the doctor					
B	Socially					
17	Isolated and alone					
18	Share social occasions					
19	Dose not like to take with others					
20	Visits his relatives such as sister daughter , uncles					

21	**Have problem with neighbors**					
22	**Go to the police station frequently**					
23	**Go out with his friend weekly**					
24	**Go to the hospital by the police**					
C	**sensory and intellectually**					
25	**Obsessive from people around him**					
26	**Never eats and drink expect from his own**					
27	**Feels obscured**					
28	**Says that he have great abilities**					
29	**Talks to himself**					
30	**Complains that there is something strange in his body**					
31	**Says that he is very important such as gods messenger**					
32	**Says he is threatened**					
	4-emotional					
33	**Cries easily**					
34	**Laugh without a reason**					
35	**Feels comfortable with his family**					
36	**He\she is blunt**					
37	**Gets angry very quickly without a reason**					
38	**Sadness and happiness are the same**					
39	**He\she can not express happiness feeling and**					
40	**Cries and laughs at the same time**					

Annex 11



Palestinian National Authority
Ministry of Health
Mental Health General Administration

السلطة الوطنية الفلسطينية
وزارة الصحة
الإدارة العامة للصحة النفسية

Date: 27/12/2011

الرقم:

السادة / المدراء الطبيين للمراكز حفظهم الله...
السادة / المدراء الإداريين للمراكز حفظهم الله...

السلام عليكم ورحمة الله وبركاته،،

الموضوع / تسهيل مهمة باحث

بخصوص الموضوع أعلاه يرجى تسهيل مهمة الباحث الحكيم/ حسن أبو رحمة رقم وظيفي 49386 الملتحق ببرنامج ماجستير الصحة النفسية بالجامعة الإسلامية و عنوان البحث:

" الالتزام الدوائي والدعم الأسري يسهم في منع الانتكاسة لمرضى الفصام"

حيث سيقوم الباحث بالاطلاع على ملفات المرضى والاستعانة بالطرق الفنية في عيادات الصحة النفسية المجتمعية وأخذ نتائج التحاليل اللازمة لبحثه، كما سيقوم بتعبئة الاستبيانات لعينة من المرضى وذلك حيث لا يكون يتعارض مع مصلحة العمل في المراكز ويكون ضمن أخلاقيات البحث العلمي دون تعطل المراكز والمرضى بالمراكز أي أعباء من إجراء هذا البحث.

وتفضلوا بقبول فائق الاحترام والتقدير،،

د. عايش سمور

مدير عام الصحة النفسية

Annex 12

Arbitrators

Dr AAdel Oda	Psychiatric hospital
Dr Nabeel Dokhan	Islamic university
Dr khadra Elamasy	Psychiatric hospital
Dr Habeeb Elhwagry	Psychologist psychiatric hospital
Dr HekmyElromy	Psychiatric hospital
Khder Doyma	Psychiatric nurse
Emad Habob	Psychiatric nurse