

Systematic Review of Egyptian Studies on Schizophrenia

By

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Dedicated to my parents and my wife

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List of Abbreviations

ADHD: Attention deficit hyperactivity disorder
AEs: adverse events
ALT: Alanine aminotransferase
ANA: Antinuclear antibody
ARISE: Adaptive regression in the service of the ego
ARR: Argyle's Relationships Rules
AST: Aspartate aminotransferase
BDI: Beck Depression Inventory
BMI: Body Mass Index
BPRS: Brief Psychiatric Rating Scale
BR: Blink rate
BRMS: Beck Rafaelsen mania scale
CAMI: Community Attitudes toward the Mentally Ill
CAQ: Child Attitude Questionnaire
CAT: Computerized Axial Tomography
CBI: Children Behavior Inventory Scale
CGI: Clinical Global Impression
CLANG: Clinical language disorder rating scale.
COPD: Chronic obstructive pulmonary disease
CPK: Creatine phosphokinase
CPT: Colloquial Proverb Test

DA: Dopamine

DAI: Arabic Version of the Drug Attitude Inventory

D.M.: Diabetes mellitus

DMP-1: Diagnostic Manual of Psychiatric Disorders

DSM: Diagnostic and Statistical Manual of Mental Disorders

ECG: Electrocardiogram

ECI: The Experience of Caregiving Inventory

ECT: Electro-Convulsive Therapy

EEC: Electroencephalogram

EPQ: Eysenck Personality Questionnaire

ESR: Erythrocyte sedimentation rate

EPS: extrapyramidal side effects

FABI: The Fear and Behavioral Intentions Inventory

GAF: Global Assessment of Function scale

GSA: Global scholastic achievement

ICD: International statistical classification of diseases and related health problems

IEP: Immunoelectrophoresis

Ig: Immunoglobulins

IL-6: Interleukin-6

IRS: Initiative rating scale

KASI: The knowledge About Schizophrenia Interview

LQL: Lehman's Quality of Life Interview

LTH: Long-term hospitalization
M.D.: Doctorate degree
MMPI: Minnesota Multiple Inventory Scale
M.Sc.: Master degree
NE: Norepinephrine.
NORS: Nurse's observation rating scale
OC: Obsessive compulsive
PANSS: Positive and Negative Syndrome Scale
PCASEE: Quality of Life scale
PHE: Phenylalanine
PSE: Present State Examination
PSS: Psycho-Social Scale
QOL: Quality of life
rCBF: Regional cerebral blood flow
RLE: Recent life experiences
SAPS: Social Behavior Schedule and the Community Placement
SD: Simple depression
SESSF: Socio-Economic Status Scale of the Family
SFQ: Social Functioning Questionnaire
SPECT: Single photon emission computed tomography
SPEM: Smooth pursuit eye movements
SPSS: Statistical Package for Social Sciences
SRE: Schedule of Recent Experience

SSBA: Susan Spence's behavioral analysis.

STH: Short-term hospitalization

TD: Tardive dyskinesia

TYR: Tyrosine

VBR: Ventricular brain ratio

WAIS: Wechsler Adult Intelligence Scale

WIS: Wechsler Intelligence Scale

WISC: Wechsler Intelligence Scale for Children

WPA: World Psychiatric Association

INTRODUCTION

Introduction

The term "schizophrenia" was coined by the Swiss psychiatrist Eugen Bleuler in 1908, referring to the disconnection or splitting of psychic functions, believed to be an outstanding symptom of the whole group (**Parveen and Michael, 1990; Sadock and Sadock, 2005**).

Schizophrenia is a disorder of unknown causes characterized by positive symptoms as delusions and hallucinations and negative symptoms as social withdrawal, apathy, anhedonia and poverty of thought (**James, 1996**).

Several clinical subtypes have been posited, even before its widespread acceptance as a unified nosological entity, and are currently established in the DSM and ICD classification systems. Schizophrenia has also been described in terms of several continuous traits, often embodied in symptom factors extracted in factor analysis. These descriptions have included models consisting of three, four, five, or more factors, the most salient of which have been positive, negative, and disorganization symptoms (**Peralta and Cuesta, 2001; Fanous et al, 2005**).

Schizophrenia occurs in national populations with an annual prevalence of 1.4 to 4.6 per 1000 and incidence rates of 16– 42 per 100000. Although the incidence rates vary between countries by a factor of less than 3, wider ranges of variation are found among population subgroups within the single countries **(Jablensky, 2000; Cooper, 2005)**.

The lifetime prevalence of schizophrenia worldwide was estimated to be slightly less than 1%. There is no evidence that the incidence and prevalence figures in Egypt for schizophrenia and other psychosis would differ from those found in other parts of the world. If the assumption is true, it could be estimated that the number of persons in Egypt with schizophrenia would be within 0.5-1.5 million and some 10000 - 25000 new schizophrenia group psychoses should appear yearly. With the present population growth rate these figures will double in about 40 years and be tenfold in 140 years **(Ghanem, 2005)**.

According to Ciompi; lasting recovery occurred in 20 to 26 per cent of the cases, 43 per cent had either remitted or exhibited mild residual abnormalities which did not interfere with their living in the community **(Ciompi, 1980)**.

Forty-four per cent were still in hospital and severe chronic states had developed in 14 to 24 per cent. In 50 to 75 per cent of the patients, a clinically stable state set in after the fifth year since onset, with no significant further deterioration, remitting course with multiple episodes and full remissions characterized 22 per cent of the patients catastrophic course (rapid onset of chronic deterioration) was observed in 1 to 4 per cent. The 20-year suicide rate was 14 to 22 per cent (**Ciampi, 1980; Huber et al, 1980**)

Schizophrenia is a chronic disabling disorder for most affected individuals. Although vulnerability to schizophrenia is likely to be related to genetic and environmental factors that influence early brain development, the disorder is only minimally expressed until adolescence or young adulthood. Despite historical pessimism about prognosis, more recent studies suggest that early intervention can improve outcome (**Lieberman et al, 2001; Perkins et al, 2005**).

The treatment for schizophrenia is in many ways similar to that for other medical conditions such as diabetes or epilepsy. The new medical improvements increased the chances of recovery and made it possible for people with schizophrenia to

lead a much more independent and productive life (**Mental Health Program, 2005**).

Schizophrenia constitute a major public health problem throughout the years, many Egyptian studies were done to address this important topic, so it is prudent to review these studies with the intent of finding their results & critically appraising the findings. This will enable us to know where Egyptian studies on schizophrenia stand & what needed to be done in future researches.

Rationale

Schizophrenia is the commonest chronic variety of psychosis in Egypt and represents the bulk of in-patients in mental hospitals. Many Egyptian studies were done to address this important topic. In our study we want to systemically review and critically appraise the Egyptian studies on schizophrenia. Also we will generate recommendations for further studies.

At the end of our study we will provide a summary of clinical doctorate degree thesis and master degree thesis on schizophrenia at the institute of psychiatry, Ain-Shams University; this will be included as an appendix.

Aim of Work

The aim of this work is:

- 1- To systemically review & appraise the Egyptian studies on schizophrenia.
- 2- To generate recommendations for further studies.
- 3- To provide a summary of clinical doctorate degree thesis and master degree thesis on schizophrenia at the institute of psychiatry, Ain-Shams University, which will be included as an appendix. (Appendix 1)

Methods

In order to fulfill the aim of work, a systematic review of all available Egyptian studies on schizophrenia will be done.
(Appendix 2)

The following database will be explored:-

- 1-Library of faculty of medicine Ain-Shams University.
- 2- Library of faculty of medicine ELAzhar University.
- 3- Library of faculty of medicine Cairo University.
- 4- Library of other faculties of medicine.
- 5- Databases of Egyptian Journal of Psychiatry, Current Psychiatry and other available resources.

The obtained studies from these databases will be categorized according to the following categories:-

- 1- Epidemiology.
- 2- Etiology.
- 3- Clinical description.
- 4- Outcome.
- 5- Management.

These studies will be critically appraised & important findings will be discussed.

Following these steps, recommendation for further studies will be generated.

Chapter 1

Epidemiology

Epidemiology of Schizophrenia

A basic requirement for understanding any disease is an understanding of the distribution of the illness in the general population and variables that determine that distribution. Epidemiology is the study of variation in the distribution of specific disorders in population and the factors that influence that distribution. Epidemiological studies can generate three types of information about a disorder: states, variations of these states by person, time and place and identification of risk factors which increase the probability of developing the disorder. Such information, pathogenesis. Treatment and prevention can provide insights to improve practice and planning for care. **(Okasha, 1988).**

Inspite of the importance of epidemiology in understanding any disease, scanty epidemiological studies was done on schizophrenia in Egypt.

Sex Differences in Schizophrenia

Okasha and his colleagues studied 200 schizophrenic patients diagnosed according to DMP-1, they found 72% were males (144), 28% females (56) **(Okasha et al, 1990).**

Ramadan studied the number of psychotic patients attending the psychiatric out-patient clinic of Alexandria University Hospital in the period of the 3 months duration from the start of January till the end of March 1979. He recorded that 146 patients had functional psychosis, 116 labeled the diagnosis of schizophrenia. He found that male patients constituted the highest percentage 104 (89.5%) compared to only 12 female patients (**Ramadan, 1979**).

Owaida and his colleagues studied a sample comprised of 45 schizophrenic outpatients, they found that two thirds were males and one third was females. (**Owaida et al, 1999**)

Raslan studied 63 Egyptian schizophrenic. The results showed that 40 patients (63.4%) were males and 23 (36.6%) were females. (**Raslan, 2000**)

Haggag and his colleagues studied 65 patients with the diagnosis of schizophrenia according to DSM-IV, they found that 49 (75.4%) were males, 16 (24.6%) were females. (**Haggag et al, 1998**)

Awad studied 105 patients were selected from the out patient clinic in Alexandria Main University Hospital (from January 2000 to June 2000) they were diagnosed according to DSM IV criteria. He found that 71 were males (74.5%) and 34 females (25.5%). (**Awad, 1999**)

Haroun El Rasheed and his coworkers studied 66 schizophrenics admitted to the Institute of Psychiatry, Ain Shams University, diagnosed according to ICD-10, they found that 48 males (72.7%) compared to 18 females (27.3%) (**Haroun El Rasheed et al, 2001**)

Mahfouz and his coworkers conducted a clinical study of the prodromal period of relapse in schizophrenia to show its importance and implications. Subjects for the study comprised of 100 outpatients with DSM-III-R schizophrenia, they found 63 were males (63%) and 37 were females (37%). They concluded that males had a higher prevalence than females due to the earlier age at onset and the poor outcome than females. (**Mahfouz et al, 1997**).

This results is not representative of gender differences as it may indicate that families of female schizophrenic patients not seek help because of the stigma of schizophrenia.

Age of Onset

Ramadan studied 116 schizophrenics. He found that the age of onset ranged between 16-22 years with a peak incidence at 19 years. (**Ramadan, 1979**).

Okasha and his coworkers studied 200 schizophrenic patients diagnosed according to DMP-I (EPA, 1979). They found that the mean age of onset was 28.2 years ranging from 16 to 59 years. (**Okasha et al, 1990**)

Owaida and his colleagues studied a sample which was comprised of 45 schizophrenic outpatients, to assess the age of onset, gender and positive/negative symptoms of schizophrenia. The results showed that the mean age of the sample was 32.96 ± 11.84 years. Age of onset of schizophrenia was about 24.02 ± 10.57 years. Males tended to have schizophrenia earlier than female in the early onset subgroup. While, females tended to have schizophrenia earlier than males in the late onset subgroup. (**Owaida et al, 1999**)

Raslan studied 63 Egyptian schizophrenic. He found that their age ranged from 18 to 35 years old. The mean age was 28.2

± 3.7 years. The mean age of onset was 19.4 ± 2.5 ranging from 16-27. **(Raslan, 2000)**

Mahfouz and his colleagues studied 100 outpatients with DSM-III-R schizophrenia (36 patients with paranoid schizophrenia and 64 patients with non-paranoid schizophrenia). The results showed that their age ranged from 20 to 65 years (mean SD of 38.7 ± 9.8 years). The mean age at onset of schizophrenia was 27.2 ± 8.7 years and paranoid schizophrenia patients had significantly higher mean age at onset than nonparanoid patients (28.1 ± 7.2 and 21.2 ± 4.2 years), $p < 0.001$. **(Mahfouz et al, 1997)**

Haggag and his coworkers studied 65 patients with the diagnosis of schizophrenia according to DSM-IV. They found that the mean age was 32.8 years (19-56). **(Haggag et al, 1998).**

Abdel Messih studied 75 schizophrenic patients. He found that the mean age was 43 years and the mean age of onset was 25 years. **(Abdel Messih, 2002).**

El-Hamrawy studied 40 patients suffering from negative symptom schizophrenia, 10 patients of positive symptom schizophrenia and 10 normal controls. The results showed that

negative symptom schizophrenic patients were older and showed an earlier age of onset than those positive symptom schizophrenic patients, but with no significant difference. Among the negative schizophrenic subgroups; the oldest and earliest age of onset was those with previous positive period more than five years, with highly significant difference between them and patients of other subgroups. **(El-Hamrawy, 1992).**

Abdel Razek and his colleagues studied 40 patients with schizophrenia according to ICD-10 criteria. They found that the mean age at onset of illness was 20 years. **(Abdel Razek et al, 2001).**

Socioeconomic Status

Ramadan found that 70.7% of the schizophrenic patients encountered in his study were of low social standard where the cases from the upper two classes were comparatively low 29.3%. **(Ramadan, 1979).**

Mahfouz and his colleagues studied 100 outpatients with DSM-III-R schizophrenia and found that 85 cases (85%) were of the very low and low socioeconomic status and 15 cases (15%)

were of the middle and high socioeconomic status. (**Mahfouz et al, 1997**).

Ata studied 100 long-stay schizophrenic patients diagnosed according to ICD-10 Criteria. He found that 73% of his patients were within the very low to below average social class. (**Ata, 2004**).

Marital Status

Okasha and his colleagues studied 200 schizophrenic patients diagnosed according to DMP-1 (EPA, 1979). They found that 151 were single, 38 married and 11 divorced. (**Okasha et al, 1990**).

Mahfouz and his coworkers studied 100 outpatients with DSM-III-R schizophrenia and found that 46 cases (46%) never married and 35 cases (35%) married and 19 cases (19%) divorced and widowed. (**Mahfouz et al, 1997**).

Haggag and his colleagues studied 65 patients with the diagnosis of schizophrenia according to DSM-IV. They found that 38 cases (58.5%) were singles. (**Haggag et al, 1998**).

Raslan studied 63 schizophrenic patients recruited from Kasr El-Aini University Hospital Psychiatric Clinic according to DSM IV criteria. He found that 20 patients (31.7%) were married while 43 patients (68.3%) were unmarried. (**Raslan, 2000**).

Ahmed studied 100 patients with schizophrenia according to ICD-10 criteria. He found that 82% were single. (**Ahmed, 2002**)

Haroun El Rasheed and his colleagues studied 66 schizophrenics admitted into the Institute of Psychiatry, Ain Shams University, diagnosed according to ICD-10. They found that 28 (42.42%) were single, 38 (57.58%) were married, and 30 (45.45%) had children (**Haroun El Rasheed et al, 2001**)

Badr studied 100 schizophrenic patients diagnosed according to DSM IV criteria. He found that 80% were single. (**Badr, 1998**)

Birth Order

Haggag and his colleagues studied 65 patients with the diagnosis of schizophrenia according to DSM-IV. They found that 29 cases (44.6%) were first births. (**Haggag et al, 1998**).

The Premorbid Personality

Ramadan found that the premorbid personalities, which were found in the schizophrenic patients included in his study according to their frequency were, schizoid 77.5% followed by cycloid 13.79% then paranoid and anxious where every one constituted 3.4%. The least number of cases were found to have hysterical personality 1.73%. (**Ramadan, 1979**)

The Body Physique

Ramadan found that most of the schizophrenic patients in his study had asthenic body built (50%) while still a large number of patients had no specific body physique (44.5%), pyknic body built was encountered only in a small number of cases and no one of athletic physique was found among these patients. (**Ramadan, 1979**)

Geographical and Cultural Variation

Ramadan found that geographical place of residence is related to mental illness in a significant manner. Rural dwellers have lower hospitalization rates than urban dwellers as most of the patients came from Alexandria (99 cases out of 116) where minority of cases came from near-by provinces especially El-Behera. (17 cases). (**Ramadan, 1979**).

Haroun El Rasheed and his colleagues studied 66 schizophrenic patients diagnosed according to ICD-10. They found that 49 (81.67%) of the schizophrenic patients were living in urban areas. (**Haroun El Rasheed et al, 2001**)

Fertility

Abd El-Latif conducted a study in psychiatric inpatient unit in Zagazig University Hospital aiming to compare the fertility rate between schizophrenic patients and non schizophrenic patients. A total sample of 520 psychiatric patients having diagnosis of schizophrenia (n=180), mood disorders (n=110) and neurotic illness (n=230) according to ICD -10 were selected. The fertility index was estimated and the Disabilities Assessment schedule was applied. The patient data were subdivided by diagnosis, gender, and family history of mental illness. The results revealed that the proportion of those never married was markedly reduced in the schizophrenic group in comparison to those with mood disorders or neurotic illness. Men with schizophrenia had a particularly low rate of marriage. The married men, particularly those with family history of mental disorder, produced more children than married women. So, there

is evidence for increased fertility in schizophrenic men despite of decreased marital rate. (Abd El Latif, 2000)

Medical Comorbidity

Abo Elwafa studies a sample of schizophrenic patients aiming to assess the general health state of schizophrenic population presenting to the outpatient clinic of Alexandria main university hospital and to find any correlation between the schizophrenia and positive medical disorders if present. The sample consisted of 100 patients with the diagnosis of schizophrenia from outpatient clinic of Alexandria main university hospital. There were females, and males, their ages range from 15-55 years, their duration of treatment ranged from 6 months up to 20 years. All patients were subjected to complete history taking, clinical and psychiatric examinations, and full laboratory investigations, serum albumin/prothrombin time, ECG and plain X-ray chest. Brief Psychiatric Rating Scale (BPRS) was used for assessment of the severity of the disease. As well as Body Mass Index (BMI) calculated to assess the presence of overweight or obesity, and smoking index calculated to assess the severity of smoking. The subtypes of schizophrenia were disorganized 51% of patients, undifferentiated 23% of patients, paranoid 20% of patients, residual 4% of patients and catatonic

2% of patients. Patients were divided into three groups according to the treatment received, 25 patients who received conventional antipsychotics, 25 patients who received novel antipsychotics and 50 patients who never received antipsychotic treatment (naive to drugs). The results showed that body mass index measurement was none statistically significant difference among different groups. In spite of this schizophrenic patients showed an overweight (BMI 25) regardless the type of medication. Atypical antipsychotics seem to play a role in the development of diabetes mellitus ($x = 10.33$, $P = 0.035172$). 20% of patients on atypical antipsychotics have D.M. while 12% of patients on typical antipsychotics have D.M. no naive patients have D.M. Age was a strong determinant factor for the development of D.M in schizophrenics in groups 1 & 2. The family history regarding the presence of schizophrenia and DM showed no significant difference in the three groups. Antipsychotics either typical or atypical show a little tendency to affect serum triglycerides and total serum cholesterol levels significantly. There was no statistical significance difference between the studied Groups as regard the smoking. Males showed a statistically significant higher smoking index than females. Among the studied sample: 12% showed increase bronchovascular markings. 20% showed a picture of COPD. 2% showed a picture of non COPD

emphysema. Both liver functions as measured by: ALT, AST, S. albumin, prothrombin time, as well as kidney functions as measured by serum urea and creatinine showed no statistically significant difference among different groups and seem to be within the normal range. The author concluded that schizophrenic patients are at high risk to develop many medical disorders which could be attributed to both their psychiatric illness and to the medications they received. (**Abo Elwafa, 2002**).

Type of Onset of Schizophrenia

Ramadan found that the onset of the disease was found to be insidious in the majority of cases (87.94%) and it was rapid in small proportion of cases (12.066%). The acute undifferentiated, catatonic and schizoaffective schizophrenia tended to have rapid onset while the other types occurred insidiously. (**Ramadan, 1979**).

Table (2-1) The Sex Differences in Schizophrenia in some Egyptian studies on schizophrenia

Authors	No of patients	Sex	
		male	female
Okasha et al (1990)	200	144	56
Mahfouz et al (1997)	100	63	37
Ramadan (1979)	116	104	12
Owaida et al (1999)	45	30	15
Raslan (2000)	63	40	23
Haggag et al (1998)	65	49	16
Awad (1999)	105	71	34
El Rasheed et al (2001)	66	48	18

Table (2-2) Age and age of onset of schizophrenia in some Egyptian studies

Authors	No of patients	Age	The mean age	Age of onset	The mean age of onset
Okasha et al (1990)	200	16-59	28.2		
Mahfouz et al (1997)	100	20-65	38.7 ± 9.8		27.2± 8.7
Ramadan (1979)	116			16-22	19
Owaida et al (1999)	45		32.96± 11.84		24.02±10.57
Raslan (2000)	63		28.2 ±3.7	16-27	19.4± 2.5
Haggag et al (1998)	65	19-56	32.8		
Abdel Messih (2002)	75		43		25
Abdel Razek et al (2001)	40		25		20

Table (2-3) Marital Status in Some Egyptian Studies on Schizophrenia

Authors	No of patients	Marital status		
		single	married	others
Okasha et al (1990)	200	151	38	11
Mahfouz et al (1997)	100	46	35	19
Raslan (2000)	63	43	20	
Haggag et al (1998)	65	38		
Ahmed (2002)	100	82		
Haroun El Rasheed et al (2001)	66	28	38	
Abdel Razek et al (2001)	40	32		
Badr (1998)	100	80		

Chapter 2

Aetiology

Aetiology

Egyptian studies discussed the etiology of schizophrenia from the following aspects:

1 -Biological factors:

- a) Genetic Factors**
- b) Biochemical Factors**
- c) Immunological Factors**
- d) Brain Morphology**
 - i) *Computerized Axial Tomography***
 - ii) *Regional Cerebral Blood Flow***
 - iii) *Brain Electrical Activity Mapping***
 - iv) *Evoked Potential***

2- Psychosocial Factors

- a) Life Events**
- b) Familial Factors**
- c) Psychosis in Egyptian Immigrants**

1) Biological Factors

a) Genetic Factors

Kamel studied chromosomal anomalies on the cytological level in 40 selected cases of schizophrenia, unmixed with any other mental or physical disorder. He reached the following findings: (1) Counts for the percentage of sex chromatin body obtained from the buccal smears of patients belonging to both sexes were always within the limits characteristic for their sex. (2) Chromosomal counts obtained by short term leukocyte culture proved the presence of a normal modal number of 46 chromosomes per cell. (3) Chromosome karyotyping submitted a strong evidence of trisomy in the group 13-15 in association with monosomy of group 16-18. The exact position of the extra acrocentric autosome could not be identified with precision. Strong evidence points out at the fact that the missing autosome in group 16-18 is more liable to be a member of 17-18 pairs. (4) Abnormally enlarged satellites could be observed among all the acrocentric autosomes of groups 13-15 as well as those of group 21-22. Satellites were frequently observed in the form of thin threads that were connecting specific autosomes in characteristic aggregations. (5) Enlarged satellites were discussed as a possible means for anomalies in chromosome mapping, without an accompanying change in the modal number of the chromosomes of those patients. (**Kamel, 1965**)

Sadek examined ninety six Egyptian schizophrenic patients who were experiencing a schizophrenic episode, in partial remission, or in complete remission according to the 1CD 10 Diagnostic criteria for research, in addition to a control group consisted of the two parents of the patients to find out whether schizophrenia is related to mutations in one of the receptor genes of the neurotransmitters hypothesized to be involved in the pathogenesis of schizophrenia. The author tried to correlate between the positive genetic findings (detected transmitted alleles related to schizophrenia) and any of the clinical variables. The results of the genetic association showed a significant association between the transmission of dopamine receptor D4 (allele 4) and the presence of paranoid and undifferentiated types of schizophrenia. Patients having allele 4 transmitted, had higher presence of a moderate response to antipsychotic medication than patients who did not have it. Transmission of allele 4 was associated with the predominance of negative symptoms which was statistically significant. Serotonin type 2C receptor gene show a significant association of genotype ser/ser (SS) and the occurrence of schizophrenia in his sample. Also, the CS genotype showed a high significance for association with transmission in schizophrenia. (**Sadek, 2001**)

b) Biochemical Factors

Gawwad and Abdel Gawad studied the fractions of serum proteins in 19 male schizophrenic patients were analyzed quantitatively by paper electrophoresis. The α 2-globulin was found to be distinctly increased above average normal. The trend of increase was also found for the α -1 and the B-globulin fractions. The γ -globulin was almost normal in studied sample of schizophrenics. In some patients the albumin was slightly increased. The total proteins were significantly increased in all schizophrenic patients studied. The A/G ratio was decreased. the level of plasma albumin in studied schizophrenic patients is not significantly different from the average normal. The general trend, however, is increased globulin fractions of the α -2, α -1 and B-globulin. γ -globulin level in studied patients is very close to the normal average. The authors concluded that those findings might be interpreted by an increased globulin synthesis in schizophrenic patients especially of the α - 2-globulin fraction, and this protein fraction may contribute to the etiology of the schizophrenic syndrome. (**Gawwad and Abdel Gawad, 1979**)

Al-Mahallawy and her coworkers conducted a study aiming to reexamine the question of the value of the skin response to

intradermal histamine in the diagnosis of schizophrenias in an Egyptian setting. 30 schizophrenic patients recently admitted to Ain-Shams University Hospital short stay psychiatric wards according to the Egyptian Diagnostic Manual of psychiatric disorders (DMPI), (1976). They were 18 males and 12 females. The experimental group into two sub-groups named Schneider +ve and Schneider -ve, according to the ability to demonstrate Schneider's first rank symptoms of schizophrenia. A control group of 15 subjects matched for age, sex, area of residence and social class. Controls were free from psychiatric pathology or a history of psychiatric pathology or a history of psychiatric illness or a family history. or a history of allergic disorders and freedom of any drug intake at least 3 weeks before the study. Intradermal histamine test administered on admission before any treatment, 4 weeks after being on phenothiazine and/or ECT therapy, then after another 4 weeks of the same treatment. The size of skin wheal that arises 15 minutes after the intradermal injection of 0.05 ml of 1: 1000 histamine in normal saline was measured by a special template and stencil. The results showed that schizophrenics produce a smaller wheal than normal in relation to intradermal injection of histamine, the skin of schizophrenic patients contains fewer mast cells than normal, the reduced wheal formation showed a tendency to return to normal

following a therapeutic response to phenothiazines and that schizophrenics have a raised blood histamine level. A raised capacity for N methylation might account for this increased resistance to histamine. The authors concluded that the test could significantly differentiate between normal (N=15) and schizophrenics (N=30). The schizophrenics showed smaller wheals. It failed to differentiate between Schneider +ve and Schneider -ve schizophrenics. In Schneider +ve schizophrenics under phenothiazines and/or ECT therapy, the clinical improvement was associated with improved histamine reactivity after 8 weeks. No similar changes were shown by Schneider -ve schizophrenics. **(Al-Mahallawy et al, 1980)**

Hussien studied the levels of some blood enzymes in schizophrenia, found an elevated serum CPK activity in 52.9% of recent schizophrenic patients. The recent schizophrenic patients were either developing the psychotic manifestations for the first time in whom the elevated serum CPK activity was found in 44.4% of cases, or undergoing acute relapse of the psychotic symptoms on top of chronic in whom the elevated serum CPK activity was found in 62.5% of cases. This elevated serum CPK activity was found only in the first week of the appearance of psychotic symptoms. The elevated serum CPK

activity was found only in acutely schizophrenic patients with increased psychomotor activity especially when there was positive family history for psychotic disorder. Serum CPK activity was within normal limits in chronic schizophrenic patients. Enzymatic levels of LDH, SGOT and SGPT were normal in both acute and chronic schizophrenic patients even when there was elevated serum CPK activity. **(Hussien, 1983)**

El-Hamrawy found a highly significant increase in the platelet monoamine oxidase activity in unmedicated male negative schizophrenics compared with the controls. This positive correlation could be an indication that one of the substrates of monoamine oxidase enzyme may be a factor in the etiology of negative symptoms schizophrenia. On the other hand, there was highly significant decrease in the activity of platelet monoamine oxidase in unmedicated positive schizophrenic patients compared with the controls. **(El Hamrawy, 1992)**

Youssef conducted a study aiming to study relation of blood group to schizophrenia. 400 subjects, 200 schizophrenic patients and 200 control group, and The schizophrenic patients: 200 patients (130 males and 70 females). Their age ranged from 20 to 65 years, with a mean of 40.9 years. Most of them were

chronically ill. Out of the 200 schizophrenics, 50 cases were diagnosed as hebephrenic, 20 paranoid, 25 simple, 10 schizoaffective, 8 catatonic, 20 residual, 57 chronic undifferentiated, and 10 pseudoneurotic type. Blood samples were taken from each individual of both groups, and were tested for groups ABO, and Rh-D. Comparison made between the blood groups (ABO & Rh) of the controls and the schizophrenics showed increased incidence of blood group O, followed by group A among the schizophrenics, but with no statistical significance. No blood group was specifically related to schizophrenia. The study of the family history of the schizophrenics indicated that 7.5% of the patients had positive family history of mental diseases. (Youssef, 1982)

c) Immunological Factors

Gawad and Abdel Gawad studied immunoelectrophoresis in five cases selected out of 19 Schizophrenic patients screened for their electrophoretic protein pattern on basis of their high protein content, for further study by immunoelectrophoresis (I E P). Anti-Total Human Serum was used for the five cases while Anti-IgG, IgM, and IgA were used for the three cases that revealed increased gamma-globulins. In their study, there is definite increase in IgG fraction which indicates the presence of

a homeostatic process leading to the formation of antibodies. The increase in IgM fraction is an indicator for an active stress situation; this biochemical finding is positively correlated with the clinical condition of the three patients in whose sera the phenomenon was detected, as they were in acute psychotic state. The authors concluded that the current hypothesis is that the schizophrenic patient has an unusual globulin of fluctuating titer, possibly genetically determined and probably antibody. This globulin can combine with cells in the septal region of the brain (an activation center involved in integration of pleasure and emotional expression) to impair physiological activity at this site probably by altering neurohumoral conduction, and thereby induce disturbed behaviour. The nature of the antibody and of the specific brain antigen requires further definition. **(Gawad and Abdel Gawad, 1980)**

Soliman studied some immunological changes associated with schizophrenia and study the differences in immune response between chronic and recent schizophrenic patients on 20 chronic schizophrenic patients with duration of illness more than 10 years, 20 recent schizophrenic patients with duration of illness less than 2 years and 20 normal healthy control subjects matched with the schizophrenic patients in age and sex. All subjects were

subjected to clinical examination, full medical examination to exclude any organic disease affecting immune system, full psychiatric history and examination by using DSM IV diagnostic criteria of schizophrenia, semistructured interview to exclude other psychiatric illnesses. routine laboratory investigations, antinuclear antibody (ANA) and interleukin-6 (IL-6).The result showed a higher serum IL-6 in schizophrenic patients than control subjects. And within schizophrenic patients, there was positive relationship between IL-6 and illness duration. That means the chronic schizophrenic patients had higher serum IL-6 than recent patients. Elevated serum levels of IL-6 during the active state of schizophrenia. Higher IL-6 levels were found in patients with long duration of treatment. A significantly higher frequency of positive ANA was found among schizophrenic patients as compared with healthy controls. Also it was found that within schizophrenic patients there was a significant relation between duration of illness and frequency of positive ANA. The author concluded that chronic schizophrenic patients had higher frequency of positive ANA than recent schizophrenic patients. A significant relation between duration of treatment and frequency of positive ANA. A significant relation between the state of the disease and ANA. Higher frequency of positive ANA were found in patients with active state of schizophrenia. Higher levels of

IL-6 and higher frequency of positive ANA may reflect a syndrome specific to schizophrenia. So IL-6 and ANA may be used as clinical state markers. From the above results, we can say that schizophrenia is related to an autoimmune disorder. (Soliman, 2001)

d) Brain Morphology

i) *Computerized Axial Tomography*

Okasha and his colleagues conducted a study in an attempt to give a clue to the possible radiological presentations in CAT scanning of the schizophrenic population, and to search for the different factors that may be associated with them. 60 schizophrenic patients according to DSM-III criteria were assessed by clinical and radiological CAT scanning, third ventricular width, and the cella media index, the ventricular index as linear measurements, the ventricular brain ratio, and the ventricular surface area as real measurements. For the study of cerebellar atrophy: the presence of two or more cerebellar vermian folia. For the presence of cortical atrophy: the higher 3 slices, after disappearance of the ventricles, were compared with other slices of patients with no cortical atrophy, mild, moderate or severe degrees of it. The density of different brain regions were measured. The results showed that patients had a significant

central atrophy, increased mean density of both hemispheres, and non significant higher incidence of mild, moderate cortical and cerebellar atrophy than did the controls. 45% of patients had ventricular enlargement as equivalent to having a VBR more than 2 SD larger than that of control group mean, Patients with larger ventricles have a significant higher incidence of negative symptoms, but they could not be differentiated from those with small ventricles regarding personality and psychodemographic variables. The authors concluded that schizophrenic illness may start frontally. The disease may be the result of loss of asymmetry which coincides with the hypothesis of thickening of corpus callosum in schizophrenia. The lesion spreads posteriorly to involve the central and the occipital regions with the severity and the chronicity of the disorder. (**Okasha et al, 1986a**)

Okasha and his coworkers conducted a study aiming to investigate the presence or absence of ventricular enlargement and cortical atrophy in chronic schizophrenic. CT of the brain was carried out in 43 chronic schizophrenics of more than 5 years duration and less than 60 years of age, and normal controls matched for age, sex and education. There was no statistical difference between controls and schizophrenics as regards cortical atrophy (as measured by the inter-hemispheric and

Sylvian fissures and mean sulcal width). Highly significant differences were found regarding central atrophy. Third ventricle measurements were normal in 9.3%, slight enlargement in 37.2%, moderate enlargement in 48.8% and extreme enlargement in 4.7%. The cella media index denoting lateral ventricle dilatation showed moderate changes in 46.5%, slight in 9.3% and the remaining 44.2% were normal. This study showed that a large number of chronic schizophrenics have an associated central atrophy. The authors concluded that CT of the brain shows central atrophy, enlargement of third ventricle. The cella media index denoting lateral ventricle dilatation and the study shows that a large number of chronic schizophrenics have an associated central atrophy. (Okasha et al, 1981)

ii) *Regional Cerebral Blood Flow*

Khalil studied regional cerebral blood flow in schizophrenia and its relation to cognitive functions. Tc99m-HMPAO-SPECT method was used to assess rCBF in 10 patients with schizophrenia and 10 normal control subjects of comparable age, sex, social background and educational status, while two neuropsychological measures were used to assess cognitive function: WCST and WIS. Results showed that schizophrenic patients had significantly low rCBF of the frontal, parietal and

temporal lobes than the control group. Also they performed worse on WCST and had lower total IQ score than the control subjects. Correlations between negative and positive symptoms demonstrated that schizophrenics with predominantly negative symptoms had highly significant decrease of rCBF of the right frontal, both parietal and right temporal lobes than those with predominantly positive symptoms. Although the reduction of rCBF was bilateral, the decrease of perfusion was most marked on the right hemisphere, Moreover, both groups did not differ regarding rCBF of the left frontal lobe, these data suggest that multiple brain areas are specifically involved in schizophrenic patients with predominantly negative symptoms. Although it could not correlate specifically negative symptoms with a decrease in blood flow, the significantly lower rCBF in the parietal lobes may relate to disordered tracts that can be observed the negative subgroup. The hypoparietal function observed in the schizophrenic patients with negative symptoms may reflect some dysfunction of processing complex somatic information and might be implicated in the production of psychotic symptoms in these patients. On neuropsychological measures, schizophrenics with predominantly negative symptoms demonstrated more preservative errors on WCST than those with positive symptoms, although, both groups did not differ on total scores. Correlations

between SPECT and WCST were significant within the schizophrenic group as both demonstrated prefrontal lobe dysfunction. The fact that schizophrenic patients have right and left prefrontal lobe dysfunction than control subjects gives some initial indication that this deficit is relatively specific to schizophrenia. In conclusion, there are differences among diagnostic subgroups in the degree of neuropsychological deficit and rCBF perfusion. There is clear evidence of cognitive impairment and frontal lobe dysfunction in schizophrenia. Also there is evidence of right hemisphere dysfunction, as well as evidence of dysfunction in more posterior regions of the brain i.e. parietal lobes and that high correlation between symptomatology and cognitive impairment and rCBF were more frequent than those between symptomatology and cognitive impairment. **(Khalil, 1996)**

Mostafa studied regional cerebral blood flow in Egyptian schizophrenic patients. The selected cases and controls assessed by single photon emission computed tomography (SPECT), typically examining regional cerebral blood flow (rCBF). The results showed various degrees of hypoperfusion in their SPECT in the selected cases and none of the control showed any abnormality. The Incidence of qualitative abnormal perfusion in

different brain areas in patients immediately after admission showed affection for most parts of the brain, both the right temporal and the right parietal showed normal perfusion when compared to control subjects. In terms of group difference pre-treatment data showed lower mean rCBF values than controls in superior frontal regions and parietal and left temporal regions as well as basal ganglia structures. Following therapy, the frontal lobe and parietal lobes remained as the most common site for hypoperfusion followed Basal ganglia structures and lastly temporal lobe where the least effected. After response to Antipsychotics, the left temporal activity returned to a normal level. Our findings suggested that left temporal under activity detected by SPECT together with clinical remission may indicate a better response to treatment. After treatment, a significantly increased rCBF was observed in the left thalamus (possibly due to neuroleptic action on dopamine receptors in this area). During this study, There were highly significant hypoperfusion left parietal lobe perfusion and metabolism, Following treatment, there were still a highly significant differences between the patient and control groups as regard left parietal lobe perfusion and metabolism. During the study There were highly significant hypoperfusion basal ganglia perfusion and metabolism, this remained following treatment with no apparent statistically

significant change. As found in their analysis of reversible symptoms, positive symptoms showed loadings on separate dimensions, there here markedly significant decrease in their scores following treatment. These findings reflect the psychopathological condition in schizophrenic patients who experience one type of phenomenon involving inappropriate and self-referenced judgments of reality independently from the other type, which is defined by disturbed and distorted perceptions of reality. Negative symptoms were not affected by neuroleptic treatment. Following treatment, there were still highly significant differences between the patient and control groups as regard superior frontal lobe, left parietal lobe and bilateral basal ganglia perfusion and metabolism perfusion and metabolism, and highly significant differences between the two groups. The author concluded that schizophrenia is a more like to be a heterogonous syndrome rather than a continuum of symptoms, The frontal, left temporal, left parietal lobes and basal ganglia are the most vulnerable areas in demonstrating hypoperfusion, thus supporting the theory of circuits were more than theories suggesting localized and discrete lesions. **(Mostafa, 2001)**

El-Hamrawy conducted a study aiming to provide some clue to the pathophysiology and cause of negative symptom schizophrenia by studying some of its radiological and

biochemical changes in 40 patients suffering from negative symptom schizophrenia, 10 patients of positive symptom schizophrenia and 10 normal controls who were assessed by PSE, SANS, SAPS. The results showed that structural changes in negative schizophrenics as examined by Computerized Axial Tomography showed insignificant increase in the diameters of the 3rd ventricle and significant lateral ventricular enlargement (evidenced by Evans Index as a linear measure for lateral ventricular enlargement) and this might indicate potentially direct information about the underlying pathophysiology and cause of the disorder. None of the sociodemographic parameter variables showed associations with ventricular abnormalities which provides a strong evidence to the concept that; the brain atrophy found in negative schizophrenics is related to the pathogenesis of the illness, rather than being a consequential findings. As regards cortical changes, it was found a highly significant increase in the diameter of left sylvian fissure and non significant changes in the right sylvian fissure and supraventricular sulci. On the other hand, although this study showed non significant frontal lobe atrophy in negative symptom schizophrenics group as a whole; there was significant frontal lobe atrophy in that subgroup with previous positive period below two years who began their negative period early in the

first two years of their illness. This might indicate an early neural injury in that subgroup and also emphasized the importance of the frontal lobe in the pathogenesis of negative symptom schizophrenia which is a main subject now in the new researches evidenced by other more advanced structural as magnetic resonance study or functional techniques (e.g. positron emission tomography). (El Hamrawy, 1992)

In an interesting work done by **Mostafa**, thirty schizophrenic patients and thirty normal controls were subjected to clinical neurological and psychiatric assessment, neuropsychological tests and clinical examination to detect frontal, temporal and basal ganglia. Conventional EEC and BEAM. C.T. scans with measurements of the ventricular areas and corresponding VBRs. The results showed that schizophrenic patients would be classified into patients with positive features, patients with negative features and patients with mixed positive & negative features. Regarding the clinical and neuropsychological tests the results showed that schizophrenic patients suffered dysfunction of the frontal lobes, temporal lobes and basal ganglia. Conventional EEC showed disorganized alpha waves, focal slow waves over the frontal and temporal regions and temporal sharp waves. BEAM showed relative increased

delta power over frontal regions, relative decrease in alpha power over the occipital regions while C.T. scan showed third ventricular enlargement. In conclusion, the results showed that there are three crucial sites that are affected which are the frontal lobes, the temporal lobes and basal ganglia. Based on his findings of enlarged third ventricle in schizophrenic patients the author hypothesized that there is atrophy of the surrounding nuclei of the basal ganglia with primary degeneration of the basal ganglia dopaminergic neurons with a secondary hypofunction of the frontal and temporal lobes due to the imbalance of the cybernetic circuit between the basal ganglia and both lobes. This is evident in schizophrenics with predominantly negative features. However, schizophrenics with positive features showed epileptic activity originating from the temporal lobes suggesting that the nature of the lesion is irritative and is due to abnormal hyperactivity of the temporal lobes. **(Mostafa, 1993)**

iii) *Brain Electrical Activity Mapping*

Khashaba and co investigators studied the brain electrical activity mapping in schizophrenic patients. They examined ten

schizophrenic patients with duration of illness (6 months-2 years), ten chronic schizophrenic patients with duration of illness (3-7 years) and ten healthy persons as control group. Patients were free from medication at least two weeks before their study; all were free from neurological medical disorders, or psychotropic medication. All subjects were subjected to full psychiatric history including DSM-IV criteria for diagnosis of schizophrenia and mental state examination, full medical and neurological examination to exclude organicity; EEG mapping using the neurometric EEG feature extraction methods. schizophrenic patients (both acute and chronic) showed statistically significant increased relative power in delta, theta and beta frequency bands and statistically significant decreased relative power in alpha frequency band when compared to control. Chronic schizophrenic patients showed that increased frontal delta, theta and beta, central theta, temporal theta and beta, occipital beta and relatively increased alpha frequency bands, while acute schizophrenic showed that increased central delta and beta, parietal theta, temporal and significant decreased alpha band. The brain electrical activity mapping in schizophrenic indicates that certain global features of pathophysiology are shared by a high proportion of schizophrenics. The findings demonstrated a number of

important points: Increased relative power in delta frequency band in frontal region and theta frequency band were most marked anteriorly, and these can be explained as excessive delta and theta frequency bands in frontal region may be related to the reduction of cerebral blood flow and neuronal metabolic activity in frontal cortex in schizophrenic patients and are in line with the hypothesis of hypofrontality in schizophrenic disorder. Decreased alpha power most marked in occipital as well as central and temporal regions in schizophrenic patients reflect a dysfunction of basal ganglia and diencephalons. The excessive beta activity particularly over the occipital region (post central) is consistent with the relatively increased blood flow in both central regions reported in schizophrenic patients using the cerebral blood flow technique, these results suggest that the posterior region in schizophrenic may be demonstrate elements of irritability. The increased coherence between homologous temporal regions in delta band is of particular interest as these electrodes overlies Heschl's gyrus which one might expect to be activated during auditory hallucinations. The difference between acute and chronic schizophrenics in relative power and interhemispheric coherence may be due to long history of illness undergo structural changes or changes in the levels of synthesis of certain neurotransmitter or long medication history among

chronic patients than acute patients that alter these physiological features. (Khashaba et al, 1996)

iv) *Evoked Potential*

Soliman and Ibrahim studied concreteness in schizophrenia and normal subjects. Rakhawy's Egyptian Proverbs test, a measure of abstract thinking and thought disorder (1986) comprising 5 proverbs with increasing degree of difficulty was used to test concreteness in 20 inpatients at Kasr El-Aini department of Psychiatry, fulfilling DSM IV criteria for schizophrenia and 20 normal subjects with no family history of schizophrenia participated in the study, matched for age, sex and education. . P300 was assessed in all the subjects using 4 channel- Nihon Kohden apparatus. To test the hypothesis that impairment in abstraction ability might result from attention impairment reflected in the reduced P300 amplitude (P300 was recorded at 5 sites using an odd ball paradigm). Mean score on abstraction in the schizophrenic subjects was 9.7 (4. 281), while it was 14.1 (3.421) in the control group. The difference was statistically significant ($t = -3.36$, $p = .002$). The P300 amplitude in schizophrenics is much reduced as compared to that in the normal subjects, with p value ranging from .01 to .001. On the other hand, the P3 latency is longer in schizophrenics than in the

control group with statistically significant differences found at all electrode sites, the significance ranging from .01 to .001. Impairment of abstraction ability in schizophrenics, as measured by Proverbs test, was marked in comparison to the control group and schizophrenics also showed lower scores on abstraction. Results showed that the sensitivity of the proverbs test was 85% and its specificity was 80%. P300 amplitude was significantly lower in schizophrenics, while latency was prolonged. P300 amplitude correlated negatively with the ability to abstract in both groups impairment in abstraction ability is correlated with attention impairment as proved by low amplitude and prolonged latency in P300. The authors concluded that the hypothesis that impairment in abstraction ability in schizophrenics as well as in normal subjects results from attention impairment is supported. **(Soliman and Ibrahim, 1997).**

2) Psychosocial factors

a) Life Events

El-Khouly and his coworkers used an Arabic version of the PSE to examine one hundred patients (20 with 1st schizophrenic episode and 80 with acute exacerbation) which were selected from Psychiatric Department of Mansoura University Hospital and diagnosed according to the criteria described by Diagnostic Manual of Psychiatric Disorders DMP-1 aiming to study stressful Life experiences and its relation to the onset of schizophrenia. Their life events histories for 4 weeks before onset or relapse were studied using the Schedule of Recent Experience (SRE). The disease in all patients presented in an active condition whether this activity coincided with the first presentation of schizophrenia (acute attack), or with an exacerbation of an already existing illness (i.e. a relapse). All patients were subjected to Clinical assessment using Present State Examination (PSE) and Schedule of Recent Experience (SRE). 41% of the whole sample reported that they had been exposed to stressful events of variable nature within the month prior to the onset or recurrence of schizophrenic symptoms. Experiences related to study (including start of new scholastic year, exam failure, etc ...) were the most common presenting in 15% of patients, followed by inter-familial troubles (7%). Marital and engagement disturbances (5% for each) and pregnancy and delivery (3%). Females reported a significantly

higher ratio of these recent life experiences (RLE) than males (52% and 30% respectively). 43.9% of the recent life experiences reported by the patients were identified by them as "undesirable", while 26.83% were "desirable" and the remaining 29.27% "neutral". The authors concluded that a positive association between stressful life events and onset of first schizophrenic episode was established. However, the role played by stressful events in precipitation of relapse was less pronounced. The nature of life experience may also influence the severity of illness expressed in PSE scores. The undesirable experiences were associated with higher PSE scores, while desirable experiences were associated with lower scores. **(El-Khouly et al, 1993)**

Ashour and his colleagues examined forty schizophrenic patients, 20 males and 20 females which were selected from the patients attending the psychiatric out-patient clinic in Ain Shams University Hospitals, diagnosed according to ICD-9 and matched with 40 controls aiming to study the role of life events in the causation or precipitation of Schizophrenia. The study was conducted in years 1977-78. The concentrated on two periods in the life of the patients, the first ten years and the 3 years prior to the illness short of the last 6 months. The results showed that an

excess of number of events in schizophrenic patients than normal control group prior to the development of the illness e.g. father's loss, death of spouse, moving to another house, troubles at work, divorce, entering military service and major physical illness. The authors concluded that work trends in the life events higher in the schizophrenic subjects compared to the controls mainly in association with recent parental loss. **(Ashour et al, 1980)**

Ramadan examined 116 schizophrenic patients to find out possible precipitating factors occurred at the onset of the schizophrenia; the results showed that the precipitating factors were found in 48 cases out of the total number. The most frequent and apparent precipitating factors encountered in this study was stress imposed upon the students just before the final examination of third year of secondary school. The death of one of the parents or one of the intimate relatives (7 cases), failure in love (7 cases) and physical illnesses (4 cases) considered in that order of sequences at the onset of their schizophrenic illnesses **(Ramadan, 1979).**

b) Familial Factors

There are several studies discussing the impact of familial factors in the etiology of schizophrenia.

Mahfouz studied twenty-five schizophrenic parents with 41 of their children chosen from the psychiatric out-patient clinic of Alexandria University main hospital over eleven months aiming to study the children of schizophrenic parents to detect those at risk for schizophrenia. A control group consisted of 25 neurotic parents with 43 of their children, and 10 normal parents with 17 of their children, all matched for age and sex. They were assessed by Physical examination, psychiatric history with detailed antenatal, natal, and postnatal information, Wechsler Intelligence Scale for Children (WISC), Children Behavior Inventory Scale (CBI) and Psycho-Social Scale (PSS). The results showed that the duration of contact between the children and their schizophrenic parents ranged from 2-14 years, with a mean of 8 ± 3.420 years. The children of schizophrenic parents who had longer duration of contact with their parents, showed higher incidence of psychological maladjustment than those with shorter duration of contact. The results showed that out of the 41 children of schizophrenic parents, 27 (65.85%) had history of obstetric complications which were significantly higher in children of schizophrenic parents than children of neurotic and normal parents. The physical anomalies were found in 25

(60.98%) of children of schizophrenic parents. The intelligence of children of schizophrenic parents varied from 25-100 with a mean of 81.78 ± 12.204 , with a significant lower score than control groups. The children of schizophrenic parents had scores on Psycho-Social Scale varying from 28.6 - 40.3 with a mean of 35.1 ± 3.133 , with a significant higher score than control groups. The CBI Scale scores of children of schizophrenic parents varied from 3-20 with a mean of 14.98 ± 2.23 , with a significant higher score than control groups. Twenty seven (65.85%) children of schizophrenic parents had psychological maladjustment with significantly higher incidence of psychological maladjustment than control groups. The author concluded that the children of schizophrenic parents showed higher levels of aggressive behavior, hyperactivity, irritability, withdrawal, hypoactivity, dependency and higher degree of physical handicaps. The children of schizophrenic parents are more vulnerable to schizophrenia than the children of neurotic and normal parents. The sex of schizophrenic parents did not affect the morbidity risk for schizophrenia in their children. The subtype of schizophrenia in the parents didn't affect the risk for schizophrenia in their children. **(Mahfouz, 1992)**

Rakhawy and his coworkers conducted a study based on the hypothesis that children of schizophrenic fathers differ on different clinical scales from those of non- schizophrenic fathers. The study aimed at detecting this difference and to test the degree of its influence on such children. The studied group included 29 children (15 boys and 14 girls) whose fathers have schizophrenic illness who were compared with 41 children of the control group (21 boys and 20 girls). The range of age of the whole sample is 8-14. Data related to fathers were collected from their medical reports. The prevalence of positive and negative symptoms was assessed using PANSS. A specially designed inventory was applied to assess different psychiatric symptoms. The results between both groups showed statistically significant differences, as the studied group had higher scores of symptoms of ADHD and learning disabilities. Correlation between positive and negative symptoms of fathers with different clinical presentations was studied. The authors concluded that children of schizophrenic fathers show different symptom profile from the control group which is a consequence of a biological, social and psychological background and which can be reflected on the personality and future development of those children. (**Rakhawy et al, 2002**)

El-Morsi examined thirty chronic schizophrenic patients, who have been married and have children were selected from Abassya mental hospital and Ain Shams outpatients during a period of six months from December 1981 till April 1982 aiming to try to know the incidence and the characters of behavioral, emotional and psychiatric disturbances in children of chronic schizophrenic parents. Fifteen were females and fifteen were males. Forty six offspring were studied; they were twenty males and twenty six females, their age varied from 8-15 years. Cases reported a big group who live with somebody else other than both parents. The attitude of diseased parents was of significant differences in rejecting attitude, also protective attitude was significantly low in this group, this reflect why a big group of the studied cases reported both dislike and aggressive attitude towards their diseased parents. Although family income was very low in the studied sample but no significantly differences observed. Regarding the relationships between those children and their school mates, they reported aggressive forms of behaviour which was significantly more than the control group. Global scholastic achievement showed no differences between the studied cases and the controls. Sleep disturbance recorded a high incidence of significance in both night terrors and night mares among the studied cases. The commonest type of

punishment in the studied sample was severe beating. Present mental state examination revealed both depressed and indifferent mood of statistical significance in the studied cases. Obsessional symptoms and hysterical reaction appeared in the studied cases especially hysterical fits in female cases. Five children reported diagnostic criteria of schizophrenic syndrome, ten of their sibs also were schizophrenics. The author concluded that children of schizophrenic parents are more vulnerable to schizophrenia. (**El-Morsi, 1982**)

Mikhael studied a sample consisted of 66 male patients selected from Abassya State psychiatric hospital (32 paranoid and 34 hebephrenic schizophrenics) aiming to study the personalities of mothers and fathers of paranoid and hebephrenic schizophrenics (male patients) and the relationship between parents. Additional aims included studying parent-child relationships and comparing all studied variables among the two diagnostic subgroups. A control group was selected from male workers and nurses from the same hospital. The method involved application of the Eysenck Personality Questionnaire (EPQ) to parents of both groups and a Child Attitude Questionnaire (translated into Arabic) which investigated 18 different attitudes of parents toward their schizophrenic sons and the relationships

between parents retrospectively. Results showed that parents of paranoid schizophrenics showed a pattern of dominance-submission and skewed marital relationship, while the reversal of parental roles occurred in parents of hebephrenic. Fathers of paranoid schizophrenics appeared to be domineering with some abusive characteristics, while fathers of hebephrenic schizophrenics were submissive with passive and adequate traits. Paranoid personality patterns predominated fathers of paranoid schizophrenics, while schizoid personality prevailed among fathers of hebephrenic schizophrenics. Mothers of paranoid schizophrenics showed affective symptoms while mothers of hebephrenic schizophrenics appeared to be anxious and neurotic. Parental attitudes showed fathers of paranoid schizophrenics to be guilt-provoking while those of hebephrenic schizophrenics were permissive and accepting. The author concluded that personality of parents, parental interaction and parent-child relationship may determine the symptoms of schizophrenia and so its type. (Mikhael, 1989)

From Benha hospital for mental health and Benha University hospital, **Gad** and his colleagues examined fifty cases of hebephrenic schizophrenia, thirty cases of schizophrenia other types than hebephrenic, thirty cases of generalized anxiety

disorder and thirty persons (volunteers) without psychiatric disorders (working at the same hospitals were selected according to inclusive criteria. Parents of all types were followed up over the period from 1992 till the end of 1994 in regular individual as well as family meetings with a trial to discuss the concept of schizophrenogenic parents in cases of hebephrenic type and their impact on different sex patients. A semi-structured interview was performed and MMPI was applied to all parents. Comparison between results of the four groups as well as between results of male and female cases of hebephrenic schizophrenia proved some important findings. The study emphasized the important role of parents in unfolding the psychotic process in schizophrenia. The study proved that same sex parent has more important role in determining psychopathology. Personality of parents, parental interaction and parent-child relationship may determine the symptoms of schizophrenia and so its type. **(Gad et al, 1997).**

Ramadan studied 116 schizophrenic patients, he was found 54 cases had positive family history of psychosis especially of schizophrenia among the first degree relatives, 40 cases of them had psychosis from the mother side. **(Ramadan, 1979)**

Haggag and his coworkers studied 65 schizophrenic patients found 14 cases (21.5%) had positive family history of schizophrenia. (**Haggag et al, 1998**)

Awad studied 105 schizophrenic patients were selected from the outpatient clinic at Alexandria main university hospital, found 39.5% had positive family history (**Awad, 1999**).

c) Psychosis in Egyptian Immigrants

Psychobiograms of 103 immigrant patients admitted to a psychiatric hospital in Cairo were assessed for relevant demographic and clinical data aiming to explore some demographic and clinical characteristics of psychiatric disorders among Egyptian immigrants. The results revealed that a preponderance of males with a mean age of 31.2 years. Married and single patients were almost equally represented; most of them were of middle level education. The majority of patients were temporary immigrants to Arab-oil countries and most of them exhibited their disorder during the first immigration attempt. Clinically, schizophrenia paranoid type was the most frequent diagnosis (39.8%) followed by affective disorders (24.7%) and paranoid states (22.4%), while depressive symptoms were marked in about one fourth (26.7%). The term''

culture shock" has been coined to describe the stressful process which immigrants generally go through in their adaptation to the new change. The generally reported increased prevalence of schizophrenia among immigrants could be explained by two principal hypotheses; a social selection hypothesis suggesting that persons suffering from or predisposed to psychiatric disorder are more prone to migrate, and a social causation hypothesis suggesting that the explanation lies in the stresses associated with migration and resettlement. **(Mahfouz et al, 1988)**

Table (3 - 1) Etiological Factors of schizophrenia in different Egyptian studies

Etiological study	Author	Site	Results
Genetic factors	Kamel (1965)	Ain Shams University	possible means for anomalies in chromosome mapping
	Sadek (2001)	Ain Shams University	There is a possible association between schizophrenia and polymorphisms in either one of the dopamine or serotonin receptor genes as these genes are considered candidate loci for schizophrenia
Biochemical factors:	Gawad and Abdel Gawad (1979)	Kasr El-Aini Hospital	The total proteins were increased in schizophrenic patients studied. The A/G ratio was decreased with increased globulin fractions of the α -2, α -1 and B-globulin.
	Al-Mahallawy et al (1980)	Ain Shams University	Intradermal histamine test could significantly differentiate between normal (N=15) and schizophrenics (N=30). The schizophrenics showing smaller wheals. It failed to differentiate between Schneider +ve and Schneider – ve schizophrenics.
	Hussien (1983)	Alexandria University	Elevated serum CPK activity in acute and chronic schizophrenic patients which was found only in the first week of the appearance of psychotic symptoms.
	El-Hamrawy (1992)	Tanta University	Increase in the platelet monoamine oxidase activity in unmedicated male negative schizophrenics and highly significant decrease in the activity of platelet monoamine oxidase in unmedicated positive schizophrenic patients.
	Youssef (1982)	Alexandria University	No blood group was specifically related to schizophrenia.
Immunological factors	Gawad and Abdel Gawad (1979)	Kasr El-Aini Hospital	There is definite increase in IgG fraction which indicates the presence of a homeostatic process leading to the formation of antibodies.
	Soliman (2001)	Alexandria University	Higher levels of IL-6 and higher frequency of positive ANA may reflect a syndrome specific to

Brain Morphology			schizophrenia. From these results, we can say that schizophrenia is related to an autoimmune disorder.
	Okasha et al (1986)	Ain Shams University	Central brain atrophy, increased mean density of both hemispheres, and ventricular enlargement. Patients with larger ventricles have a significant higher incidence of negative symptoms.
	Okasha et al (1981)	Ain Shams University	CT of the brain shows central atrophy, enlargement of third ventricle. The cella media index denoting lateral ventricle dilatation and the study shows that a large number of chronic schizophrenics have an associated central atrophy.
	Khalil (1996)	Ain Shams University	schizophrenics with predominantly negative symptoms had highly significant decrease of rCBF of the right frontal, both parietal and right temporal lobes than those with predominantly positive symptoms. Although the reduction of rCBF was bilateral.
	Mostafa (2001)	Ain Shams University	various degrees of hypoperfusion in schizophrenics in their SPECT.
	El-Hamrawy (1992)	Tanta University	Significant lateral ventricular enlargement and brain atrophy found in negative schizophrenics is related to the pathogenesis of the illness, rather than being consequential findings.
	Mostafa (1993)	Ain Shams University	Dysfunction of the frontal lobes, temporal lobes and basal ganglia. EEC showed disorganized alpha waves, focal slow waves over the frontal and temporal regions and temporal sharp waves. BEAM showed relative increased delta power over the frontal regions, relative decrease in alpha power over the occipital regions. The C.T. scan showed third ventricular enlargement.

Life Events	Khashaba et al (1996)	Zagazig University Hospital	Increased relative power in delta, theta and beta frequency bands and decreased relative power in alpha frequency band. The brain electrical activity mapping in schizophrenic indicate that certain global features of pathophysiology
	Soliman and Ibrahim (1997).	Cairo University	The impairment in abstraction ability in Egyptian schizophrenic patients is correlated with attention impairment as proved by low amplitude and prolonged latency in P300.
	El-Khouly et al (1993)	Mansoura University	A positive association between stressful life events and onset of first schizophrenic episode was established. However, the role played by stressful events In precipitation of relapse was less pronounced.
	Ashour et al (1980)	Ain Shams University	Work trends in the life events higher in the schizophrenic subjects compared to the controls mainly in association with recent parental loss.
	Ramadan (1979)	Alexandria University	The precipitating factors occurred at the onset of the disease were found in 48 cases out of the total number of 116 schizophrenic patients.
Familial factors	Mahfouz (1992)	Alexandria University Main Hospital	Children of schizophrenic parents show higher levels of aggressive behavior, hyperactivity, irritability, withdrawal, hypoactivity, dependency and higher degree of physical handicaps and obstetric complications The children of schizophrenic parents are more vulnerable to schizophrenia.

Rakhawy et al (2002)	Cairo University	children of schizophrenic fathers show higher scores of symptoms of ADHD and learning disabilities which is a consequence of a biological, social and psychological background and which can be reflected on the personality and future development of those children.
El-Morsi (1982)	Abassya Mental Hospital	the children of schizophrenic parents are more vulnerable to schizophrenia.
Mikhael (1989)	Abassya Psychiatric Hospital	Personality of parents, parental interaction and parent-child relationship may determine the symptoms of schizophrenia and so its type.
Gad et al (1997)	Benha hospital for mental health and Benha University hospital	The same sex parent has more important role in determining psychopathology. Personality of parents, parental interaction and parent-child relationship may determine the symptoms of schizophrenia and so its type.
Ramadan (1979)	Alexandria University	Of 116 schizophrenic patients, 54 cases had positive family history of psychosis especially of schizophrenia among the first degree relatives, 40 cases of them had psychosis from the mother side.
Haggag et al (1998)	Suez Canal University	Of 65 schizophrenic patients, 14 cases (21.5%) had positive family history of schizophrenia.
Awad (1999)	Alexandria main university hospital	Of 105 schizophrenic patients, 39.5% had positive family history.

Chapter 3

Clinical Description

Clinical description

Diagnosis and Classification

Gawad and his coworkers found a number of important differences in the diagnosis of schizophrenia in Egypt compared

to USA and UK. **Gawad** and his colleagues studied the cross-national differences in symptom importance in the diagnosis "of schizophrenia among the three countries. They found that restriction and incongruity of affect ranked first in the Egyptian study compared to the British and American ones. Their results were in agreement with other studies who stated that what is normal emotional expression in an Anglo Saxon culture may suggest a schizoid reduction of emotional response in a Mediterranean culture. The top ten symptoms in the Egyptian hierarchy for diagnosis of schizophrenia were incongruity and restricted affect, formal thought disorder, thought block, thought withdrawal, incoherence, passivity feeling, neologism, hallucination, delusions and ideas of reference while in the British study formal thought disorder ranked first followed by incongruity of affect, neologism, thought block, passivity of feeling, paranoid delusions, stereotype of other delusions, thought withdrawal and ideas of references. The Americans ranked symptoms of importance for diagnosis of schizophrenia as follows: formal thought disorder, delusions, paranoid delusions, incongruity of affect, hallucinations, ideas of reference, neologism, depersonalization and thought block. (**Gawad et al, 1981**).

Okasha and his colleagues compared the frequencies and agreements of 13 systems for the diagnosis of schizophrenia: Schneider; E.Bleuler; M. Bleuler; Langfeldt; Kraepelin, North America; Great Britain, Dongier; WHO-CSB; Yusin; Newmark; DSM-111; and Feighner. They tested also the validity of five of these systems as their concordance with clinical diagnosis and their sensitivity and specificity. The sample consisted of 200 newly admitted psychotic patients at four psychiatric hospitals in Egypt. Patients were assessed by the Arabic version of Landmark's questionnaire for the assessment of schizophrenia which is constructed to cover the requirement of the 13 systems showed that the 13 systems varied much in comprehensiveness. The highest agreement was between systems that specify the type of onset and course. The validity study supports the usefulness of DSM-III, WHO-CSB, and Langfeldt's systems for clinical practice. Feighner's criteria were the most specific for biological researches and Schneider's criteria were the least specific as they are unable to exclude other forms of psychoses. (**Okasha et al, 1990a**)

Okasha and his coworkers tried to investigate the notion that psychosis is not synonymous with schizophrenia. Psychiatric symptoms are not unique to a particular psychiatric disorder but

rather a measurable dimension underlying different disorders even those of neurosis. A sample of 117 patients labeled with the diagnosis of schizophrenia, 56 patients with affective psychoses and a control group of 25 patients with neurotic disorders were investigated. Psychosis was assessed in these patients using a locally constructed rating scale composed of five dimensions, these were: loose association, delusion, hallucination, personality deterioration and passivity experiences. The results were discussed in the light of the psychiatric profile and it was found that psychosis is found in different patterns among the studied disorders. Schizophrenia was found to be a heterogeneous disorder and bipolar affective disorder was found to be of more severe psychosis than unipolar disorder. In conclusion, the scale of psychosis is a new instrument, the reliability and validity of which need to be improved. Nevertheless, it is at least a first attempt to assess psychosis in a clinical setting and in an objective manner. The present findings suggest its potential value: Psychosis as a cluster of symptoms which could be quantitatively assessed in different psychiatric disorders. Psychosis as a clinical entity is not synonymous to schizophrenia but could be traced in affective disorders and even in neurotic disorders. Every patient has a psychotic profile through which we can compare the scores obtained by the patient with the

known profile, a tool which may help in the process of diagnosis. Loose association scale was the most sensitive one that could determine the degree of psychosis. While personality deterioration scale was the least sensitive one. According to the results, schizophrenia can be considered as a heterogeneous disorder or a group of such diseases with vary in degrees of psychotic severity (psychic disintegration). The mild forms are those of residual and latent subtypes. The most severely disorganized ones are those of the hebephrenic and unspecified subtypes. Schizoaffective psychosis would better be included within the schizophrenic spectrum, as its psychotic profile is nearer to that of schizophrenia than that of affective psychosis. Affective disorder according to ICD-9 system of diagnosis is a rather homogeneous one, indicating the validation of this system as regards the diagnosis of affective disorder. Bipolar affective disorder was of a more severe degree of psychosis than unipolar affective disorder, especially if the patient is assessed during the manic phase. The clearly differentiating scale was the loose association one. **(Okasha et al, 1990b)**

Abdel Aziz conducted a study which was mainly concerned with evaluating and comparing two different methodological approaches to classification: the empirical approach or logical

empiricism as embodied in DSM-III-R classification of schizophrenia and the ideal type approach as embodied in the classification of schizophrenia proposed by **Rakhawy (1991)**. A convenience sample of 94 male schizophrenic patients was classified using two different approaches; DSM-III-R and the proposed classification by **Rakhawy (1991)**. In addition, each subject was assessed using the Positive and Negative Syndrome Scale (PANSS). Subjects were classified according to DSM-III-R criteria, the diagnosis was initially made by investigator and confirmed by at least one of the supervisors, and on the other hand, the assessment of the different subjects in this study in accordance with proposed classification was carried out by six raters. Each subject received at least two ratings and was classified under the corresponding type on the basis of the ratings obtained. In case of the PANSS rating scale, an initial sample of 66 subjects was assessed simultaneously by two raters while the remaining subjects were assessed by one rater only. On the other hand, the ratings obtained using the PANSS rating scale were subjected to statistical analysis to identify the principle components which maximally differentiated between the subjects in the whole sample. Results suggest that the proposed classification demonstrated adequate and acceptable reliability. However, the distribution of the proposed types was found to be

not concordant with that of DSM-III-R types. Results suggest that schizophrenia can be classified on the basis of two major approaches: an empirically oriented approach based on operationally defined concepts as in DSM-III-R classification and a clinically and phenomenologically oriented approach based on ideal type concepts as in the proposed classification. Also, operational definitions by outlining precise, clear and specific diagnostic criteria for reaching a psychiatric diagnosis offer the potential advantages of enhancing reliability of psychiatric diagnosis and facilitating communication. Moreover, this study has shown that defining psychiatric disorders in terms of specified and explicit diagnostic criteria (operational definitions) may hide behind it a lack of validity (inadequate discriminant validity and low coverage) which poses certain limitations on the use of operational definitions in clinical practice. Furthermore, this study has shown that clinical judgment based on empathic understanding can be a reliable diagnostic method. In addition, this study has shown that ideal types demonstrated acceptable validity, (adequate discriminant validity and high diagnostic coverage) compared to operational definitions. As regards the positive-negative distinction, although the results of this study support its validity they show that this distinction alone was insufficient to account for the heterogeneity of schizophrenia

since the subjects in this study differed significantly on other clinical dimensions. (**Abdel Aziz, 1992**)

Farid and his colleagues conducted a study aiming to evaluate the value of positive and negative symptoms for cross-sectional differential diagnosis on a sample of 52 consecutively admitted patients with schizophrenia and schizoaffective psychosis. Subjects were diagnosed by DSM IV criteria and classified as schizophrenic, depressive schizoaffective and manic schizoaffective disorders. The scale for the assessment of positive symptoms (SAPS) and scale for the assessment of negative symptoms (SANS) were used. The findings showed that both positive and negative symptoms were relevant to differential diagnosis between schizophrenia and other psychotic disorders. However, negative symptoms presented higher significant differences between diagnostic groups than positive symptoms. Certain symptoms were found to be of higher severity in only one diagnostic group. They were as follow: pressure of speech for manic schizoaffective disorder; guilt for depressive schizoaffective; high scores on negative symptoms for depressive schizoaffective and schizophrenic disorders, inappropriate affect for schizophrenic disorder and three symptoms of the affective flattening subscale of SANS (unchanging facial expression,

decreased spontaneous movements, and paucity of expressive gestures) for depressive schizoaffective disorder. (**Farid et al, 1998**).

Haggag and her coworkers investigated phenomenology of schizophrenia among patients who are living in the community and are being managed in outpatient facilities while receiving neuroleptic medication. Sixty five patients with the diagnosis of schizophrenia according to DSM-IV had been assessed using BPRS and Andreasen's SANS and SAPS. The mean duration of illness in months was 125. 9 (8-360) and the mean number of hospitalizations for the total sample was 2.78 (0-12) and 45 (69.2%) of patients were on drugs at the time of assessment. A principal components analysis of individual symptom scores of the 65 patients yielded a four-dimensional structure of negative, positive, disorganized and affective symptoms. Affective syndrome showed high loadings on the following symptoms: Anxiety, depressive mood, tension, somatic concern, distractible speech, guilt feelings and hostility. The affective syndrome that emerged in this study showed negative correlation with reality distortion, disorganization, while it showed some but very little correlation with psychomotor poverty, suggesting that it is a discrete entity. The high factor scores on affective behavior

syndrome in this study of patients with schizophrenia living in the community suggests an alternative explanation, despite the obvious benefits, living in the community may have its price in terms of the distressing effects of affective symptoms which are, in turn, known to be associated with an increased risk of suicide. This would suggest that clinicians need to be aware that patients with schizophrenia living in the community may be at particular risk for depression .At the same time attention impairment loads mainly on negative factor. In this context, the key question is; what are the dimensions of variations of which the various pathological syndromes (negative and nuclear symptoms, etc.) form the boundaries? The delineation of the core dimensions or domains of schizophrenia clearly has implications beyond facilitating efforts concerned with the etiology of the illness. For example, knowledge of such core dimensions of schizophrenia phenomenology could also be of use in improving diagnostic criteria for the illness and clarifying those dimensions that have greatest prognostic significance. They can also help in enhancing a more differential and tailored approach to therapeutics e.g. social skill training for social deficits, or affect-oriented interventions for flattened affect and negative symptoms. **(Haggag et al, 1998).**

Positive and Negative Symptoms

ELSheshai and his colleagues studied positive and negative symptoms in schizophrenia. One hundred schizophrenics were chosen from psychiatric out patient clinic of Alexandria University Main Hospital (from 1/1/1991-31/6/1991). They were selected according DSM III-R criteria (1987). Fifty of schizophrenics have had symptoms between 6 -12 months of duration (subchronic). The other 50 patients have had symptoms of more than two years (chronic). Clinical and psychometric study showed negative schizophrenic symptoms in 16% of cases, while positive symptoms were found in 36% and mixed (negative and positive) in 48%. Fifty subchronic schizophrenics comprised 9 cases (9% of total) negative, 16 cases (16% of total) positive and 25 cases (25% of total) mixed. While the other 50 chronic schizophrenics, 7% were negative, 20% were positive and 23% were mixed. The majority of subchronic cases were mainly presented by positive symptoms, while the majority of chronic schizophrenics were presented by mixed symptoms. Positive symptoms of total sample were: hallucinations 67%, delusions in 85%, Positive formal thought disorders in 38%, behavioral disorders (as aggressive, agitated, ritualistic and stereotyped behavior) in 67%. Negative symptoms included affective flattening 67% of all cases, alogia 52%, avolition-

apathy 37%, anhedonia asociality 42% and attention impairment 62%. (ELSheshai et al, 1994)

Soliman investigated symptoms in first episode schizophrenia to clarify their primary nature, gender differences and their relationship to positive symptoms. 43 patients with ICD-10 diagnosis of schizophrenia at the first episode of the illness were investigated. PANSS was used to assess positive and negative symptoms. Cluster analysis of the subjects was carried out to examine the distribution of negative symptoms in the sample. The relationship between negative symptoms, on the one hand, and depression and positive symptoms was investigated. Gender differences in negative symptoms were also examined. The prevalence of negative symptoms was high, with 75% of the subjects showing moderate to severe degree. Patients were classified into two groups: the first (N 27) was characterized by predominance of positive symptoms, characterized by significantly more delusions. Hallucinations were also more prominent in this group and the second (N 16) by predominance of negative symptoms. characterized by significantly more conceptual disorganization, blunted affect, emotional withdrawal, poor rapport, passive social withdrawal, difficulty in abstract thinking, lack of spontaneity, stereotyped thinking,

mannerism and posturing, motor retardation, disorientation, poor attention, and disturbance of volition. Negative symptoms showed weak negative correlation with positive symptoms and depression. Except for a tendency towards significant difference in blunted affect, no statistically significant differences between male and female patients. The primary nature of negative symptoms is supported by the absence of correlation between the latter and positive or depressive symptoms. The results support the two-syndrome model of schizophrenia, without contradiction with the three-factor model. Two of the proposed factors were present in the group of patients with predominant negative symptoms. **(Soliman, 2002)**

Abd El Reheem conducted a study to survey chronic schizophrenic in-patients as regards the negative symptoms and to explore the relationship between these negative symptoms and depressive symptoms, tardive dyskinesia and cognitive deficits. 2000 schizophrenic patients have been screened. Among them 650 schizophrenic inpatients were found to be chronic according to DSM III-R criteria for schizophrenia-chronic course. 95 patients with predominant negative symptoms were further assessed by SANS. The results showed that 46.4% of the sample had severe negative symptoms, 37.7% had moderate degree of

negative symptoms and 15.9% had mild degree of negative symptoms. Negative symptoms have been found to be significantly correlated with age, duration of hospitalization and negatively with education. No correlation has been found between negative symptoms and frequency of admission. Female patients had higher negative symptoms score than male patients. The prevalence of tardive dyskinesia was 20%. Negative symptoms have been found to be significantly correlated with tardive dyskinesia. The author concluded that negative symptoms have been found to be correlated with age, duration of hospitalization. However, they were not correlated with frequency of hospitalization. Incongruity of affect has not been found to be correlated with negative symptoms. High prevalence of tardive dyskinesia among a sample of schizophrenic inpatients with predominance of negative symptoms. This tardive dyskinesia correlated significantly with negative symptoms. Negative symptoms have been found to be associated with poor cognitive function. And that poor cognitive function becomes severer if negative symptoms is associated with tardive dyskinesia. Depressed patient has been found among his sample, negative symptoms negatively correlated and to significant degree with depressive symptoms. **(Abd El Reheem, 1993)**

El-Hamrawy conducted a study with the aim of providing some clue to the pathophysiology and cause of negative symptom schizophrenia by studying some of its radiological and biochemical changes. Forty patients suffering from negative symptom schizophrenia, ten patients of positive symptom schizophrenia and ten normal controls who were assessed by PSE, SANS, SAPS. The results showed that negative symptom schizophrenic patients were older and showed an earlier age of onset than those positive symptom schizophrenic patients, but with no significant difference. In negative symptom schizophrenics, male were more than female (male to female ratio 2:1). Most of them (62.5%) were less educated than positive schizophrenics and such an observation could suggest that negative subtype perhaps distinguished by early developmental failures. The negative symptom schizophrenics had a high SANS scores and the highest were in those with previous positive period more than five years followed by pure negative subgroup and lastly those with previous positive period less than two 2 years. SAPS subscores were mainly of bizarre behaviour (40%) and inappropriate affect (30%). (**El-Hamrawy, 1992**)

Raslan studied the relationship between premorbid functioning, some clinical and treatment variables and cognitive

functions of the schizophrenic patients from one side and the severity of their negative symptoms on the other side. The results revealed that the severity of the negative symptoms was not correlated with the duration of illness or the duration of neuroleptic medication, or duration of hospitalization or the number of hospital admissions or the number of ECT sessions received by the patients. It was correlated with the severity of premorbid social and scholastic maladjustment, cognitive deterioration and age of onset of schizophrenic illness. In conclusion: Schizophrenia especially its fundamental negative symptoms may be a neurodevelopmental disorder that manifests itself during childhood and early adolescence by maladjustment and during the active phase of illness by negative symptoms and cognitive deterioration. (Raslan, 2000)

Disorders of Thought Content

Rakhawy and his coworkers conducted a study aiming to assess symptoms of thought content disorder in schizophrenia and manic depressive illness with the aim of detecting significant similarities and/or differences. Five main symptoms were selected for this purpose; namely, delusions, obsessions,

preoccupations, hypochondriasis and phobias. 20 schizophrenic patients (11 paranoid, 9 non-paranoid types) and 20 manic depressive patients diagnosed according to DMP-1. Assessment of thought content disorder by a semistructured interview. Delusions are present in 90% of schizophrenic and 60% of manic depressive patients. Obsessions are present in 35% of schizophrenic and 5% of manic depressive patients. Preoccupations are present in 15% of schizophrenic and 50% of manic depressive patients. Hypochondriasis is the second most frequent thought content disorder in schizophrenic (50%) and third in manic depression (30%) a non significant difference. Phobias are present in 20% of schizophrenic and 15% of manic depressive patients. Namely in schizophrenia, delusions are present in 90% of schizophrenics. Delusions of persecutions are the commonest delusions (70%). Delusions of reference (60%). Delusions of self-accusations (10%). Delusions of grandeur (20%). Delusions of control (10%), infidelity (10%), depersonalization (15%), and sexual delusions in (20%), with a significant excess of delusions in paranoid over non-paranoid schizophrenic patients. Obsessions are present in 35% of schizophrenics, they are actually rituals (25%) compared to ruminations (10%) with a significant excess of obsessions in paranoid over non-paranoid schizophrenic patients.

Hypochondriasis is present in 50% schizophrenic patients, which is second most common form of thought content disorder in schizophrenia. Hypochondriasis was more bizarre and related to the head. Preoccupations were present in 15% of schizophrenic patients which were significantly higher in paranoid than non-paranoid schizophrenic patients, which may be related to that schizophrenics are more alienated from reality, their thought are fragmented and often contradictory so that they are difficult to integrate into coherent preoccupations. Support of this explanation may be sought in the finding that preoccupations are least in non-paranoid (disorganized) schizophrenic patients, and highest in depressed patients. The frequency of phobias in schizophrenia is low (20%). Phobias were significantly higher in paranoid than non-paranoid schizophrenic patients, which may be related to the lesser degree of disorganization in the former groups. **(Rakhawy et al, 1987b)**

Obsessive Thought

Abolmagd and his colleagues studied the impact of obsessive compulsive symptoms on the performance of schizophrenic patients in different neuropsychological tests. 50 schizophrenic patients without OC symptoms and 50 patients with OC symptoms were subjected to a battery of

neuropsychological tests including Positive and Negative Syndrome Scale (PANSS), YBOCS, MMSE, COWA, Trail Making test A & B and selected subtests of WAIS and of WMS-R. The results revealed that there are definite affection of OC symptoms on the performance of patients on different neurocognitive tests, especially tests which measure visuospatial ability, delayed visual memory, executive functions and ability to shift cognitive set. The findings raise the possibility that the OC symptoms in schizophrenic patients are separate from symptoms of persistent psychosis in schizophrenia. **(Abolmagd et al, 2002)**

Thought Process Disorders

Hamdi and El-Nahrawi conducted a study with the aim of distinction between paranoid and nonparanoid schizophrenia which may serve as a basis for better understanding of etiology of the disorder. There are several indicators that the distinction is clinically valid. This study deals with the possible differences between the two groups in terms of abstraction ability, and intellectual performance. Following the Tsuang-Winokur criteria, 15 paranoid schizophrenic subjects, 15 nonparanoid schizophrenics and 20 age and education matched controls were compared on the Egyptian Colloquial Proverb Test (CPT) and the Wechsler Adult Intelligence Scale (WAIS). Nonparanoid

schizophrenics performed poorly on the majority of dimensions of both tests. Paranoid schizophrenic subjects were less impaired but performed worse than controls. The results indicate a continuum of general dysfunction in abstraction and intellectual performance rather than discrete abnormalities that distinguish these two types of schizophrenia from normal. They therefore support a process approach to conceptualizing schizophrenia in which the paranoid type is regarded as a more integrated form of the same disorder rather than a distinct diagnostic entity. **(Hamdi and El-Nahrawi, 1992)**

Rakhawy and his colleagues studied thought disorder in schizophrenia using six psychometric tests and clinical tools, thought disorder in 20 schizophrenic subjects was compared with homogenous contrast groups. These are namely 10 patients with personality disorder and 10 normal control subjects. Where as the progressive Matrices, the Word Association and the Concept Formation tests did not show significant differences. The Proverb test, the Free Verbalization Interview and Word Meaning test documented the presence of significant differences between the three populations. The results showed that 62.8% of schizophrenic patients were less capable of making common association to words, and failure of concept formation.

Schizophrenic patients had a high grade of loose association evident more in free speech. The process of giving the abstract meaning of stimulus proverb getting a low score in schizophrenic patients. 89.6% of schizophrenics showed more impairment than normal in conceptualizing stimulus words. According to the results, disordered thinking is not unique to schizophrenia. The characteristics differentiating thought disorder in each of the three groups could be vagueness, preservation, paucity of responses and the overall deviancy of speech which represent a continuum where schizophrenics are the most disturbed, normal controls the least and personality disorder patients have an intermediate position. **(Rakhawy et al, 1987a)**

Hamdi used The Colloquial Proverb Test which was designed by **Rakhawy (1978)** in order to study the process of thinking and abstraction with an instrument suitable for the Egyptian culture. The test is designed to allow free and structured responses so that the process of abstraction and the characteristics of thought disorder are evaluated from different? The validity of the CPT was tested in 30 schizophrenic patients and 20, age and education matched, normal controls using the WAIS similarities subtest as an independent criterion and the full WAIS as a measure of Intelligence. Schizophrenic patients were

significantly impaired in their ability to give the abstract meaning of the stimulus proverbs, to apply them to a real life situation, to correlate them with suggested meaning, and to select a suitable alternative proverb. They were also significantly impaired on the similarities subtest of the WAIS. Schizophrenic subjects gave significantly more bizarre responses, and were characterized by poverty of speech and thought. The differences between schizophrenic patients and controls in total CPT scores were not maintained when verbal, and total WAIS scores were used as coverlets. (**Hamdi, 1992**)

Affective Symptoms

Shohdy studied affective symptoms in schizophrenia in 27 untreated first-illness acute schizophrenic patients, 51 chronic schizophrenic patients on medication. 41 Chronic schizophrenic patients without medication and 40 normal controls to evaluate clinically and objectively the prevalence of affective symptoms. The results of the study have highlighted the high prevalence of depressive symptoms in untreated acute schizophrenic patients (62.9%) compared with chronic schizophrenic patients, whether they were on treatment or not, (27.4%) and (36.5%), respectively. Acute schizophrenic patients were characterized primarily by more prevalent depressive symptoms, compared

with treated and untreated chronic schizophrenic patients, and which its decrease cannot be explained by the effect of the treatment solely. The effect of the treatment was rather more obvious on the psychotic and anxiety symptoms, which were significantly more prevalent in the untreated acute and chronic schizophrenic patients compared with the chronic schizophrenic patients maintained on treatment, which suggest the influence of another factors than the treatment per se in decreasing depression from the acute stage of illness to the chronic stage, and these factors could probably be the chronicity itself and/or development of affective flattening. The clusters of depressive symptoms appeared in the schizophrenic patients were that of simple depression syndrome (SD), other symptoms of depression (OD) and special features of depression (ED) syndromes, melancholic and psychotic depressive features were not presented in our depressed schizophrenic patients. The cluster of depressive symptoms cannot be categorized under the heading of major depression or dysthymic disorders in the DSM-3, but can be categorized under atypical depression. The depressed schizophrenic patients were characterized generally by more prevalent psychotic and anxiety symptoms compared with the nondepressed schizophrenic patients who suggest that the

severity of psychosis might play a role in inducing depression.
(Shohdy, 1985)

EL-Hadidi studied affective blunting or flattening on drug free 45 schizophrenic patients. They had undergone clinical evaluation and scaling procedures that includes socioeconomic status, premorbid adjustment, negative and positive symptoms, depression, soft neurological signs and cognitive functioning. They were followed up as out-patients with maintenance antipsychotics for one-year stabilization period. The SANS-subscale for affective blunting showed tendency to measure only the lack of modulation of affect. The affective blunting was found belonging to the negative symptom domain and independent from depression, positive symptoms and incongruity of affect. There was step-down of affective blunting from the acute episode to post episode with opposite course through the stabilization period. At the index episode, the younger age at onset, poor premorbid adjustment, social poverty, excess neurological signs and cognitive deterioration showed contributions to the futurity stable affective blunting. Only poor premorbid adjustment and delusions were found contributing to the unstable affective blunting. He concluded that the term affective blunting can be restricted to the lack of modulation of

affect. The lack of rapport may be valuable and should be operationalized. Affective blunting and incongruity of affect cannot be used interchangeably in diagnosis and subtyping of schizophrenia. A characteristic pattern of neuropsychological impairments could be used as a predicate for stable affective blunting. The prediction of unstable affective blunting may only be found by exclusion (**EL Hadidi, 1996**).

Rakhawy and his coworkers conducted a study aiming to investigate possible characteristics of affective pattern in schizophrenic patients. A convenience sample of 20 schizophrenic patients representing different nosological types of schizophrenia was subjected to a rating of affect by multiple raters in a semistructured interview setting. The judgment of affect according to developed rating scale was largely based on phenomenological considerations. The assessment of affect according to this method has produced a satisfactory level of interrater reliability. Analysis of the revealed affective pattern indicates the following: Affect is not quantitatively lost or severely weakened in schizophrenia. The apparent impoverishment is more probably related to qualitative and functional considerations. Data from affect profiles point to some possibly significant characteristic features: Some affect are

particularly prominent, the most prominent of which is fear. Other affects show a consistently low position in the profiles. These are mainly pleasurable affects and love. Other affects such as anxiety, depression, hate, shame and shyness occupy a comparatively moderate position in the profiles (**Rakhawy et al, 1985**).

Rakhawy and his colleagues in their study of the character of affective pattern in schizophrenic patients, did not support the assumption that affect is quantitatively lost or grossly weakened in schizophrenics. The affective changes are more probably related to a qualitative shift from higher to lower orders of emotional functioning, with a resultant apparent impoverishment of conventional or socially expected emotions or emotional responsiveness and this was supported by the scores of most affects assessed which show that these affects were at least present in the great majority of assessments (93.5%) and their intensity ranged between mild and moderate degrees in a good percentage of cases (57%), while it was high in another small percentage (20.8%). They found also that the possibly significant characteristics of schizophrenic affective pattern are: some affects occupy prominent position; "Fear" in particular is consistently the highest of all affects assessed. Other prominent

affects include, suspicion, tension, anger and Jealousy. Other affects occupy a consistently low position. These are mainly pleasurable affects, Joy, elation, exaltation, ecstasy, and love. This may support the validity of the phenomenon of (anhedonia) previously reported in relation to schizophrenia. Other affects such as anxiety, depression, hate, shame, and shyness constitute a third group which occupies a comparatively moderate position and most of the above findings are cogently explainable in terms of accepted psychodynamic hypotheses of schizophrenia. As regards the characteristics of affective pattern in each subtype of schizophrenia they found that: In hebephrenic schizophrenic patients, disorders of affective expression are generally high, incongruity and lability in particular show their highest values in this type. In paranoid schizophrenia suspicion is the highest of all affects, anger and hate are also comparatively high, disorders of affective expression particularly incongruity are generally low. Schizoaffective patients showed an over all higher level of scores of pleasurable, dysphoric and hostile affects. Blunting showed the lowest scores in this type. In catatonic patients, depression showed the highest score while pleasurable affects reach their extremely lowest scores, ambivalence showed its highest score in this type while blunting is relatively low. Acute undifferentiated schizophrenic patients showed mainly relatively high disorder of

affective expression as blunting and incongruity. In simple schizophrenia all affects had extremely the lowest scores in relation to other subtypes, but blunting showed its highest value in this type. In residual schizophrenia fear and tension show their comparatively highest scores between other types. However pleasurable affects particularly ecstasy are comparatively high. They reach to a conclusion that affective changes are more probably related to qualitative shift from higher to lower order of emotional functioning with a resultant apparent impoverishment of conventional or socially expected emotions or emotional responsiveness (**Rakhawy et al, 1985**)

Insight in Schizophrenia

Askar assessed insight in a sample of Egyptian schizophrenic patients. A new insight scale for clinical assessment of insight was applied on 20 schizophrenic patients together with the Brief Psychiatric Rating Scale (BPRS) in a trial to find a correlation between the degree of psychopathology and level of insight. Results showed that no correlation existed between insight and severity of illness, but a positive correlation was found between insight and duration of illness. Also the non-paranoid group scored significantly higher on BPRS than the paranoid group, while no significant difference was found

between the two groups on insight scale. The author concluded that the scale used in his study provides a quantitative and qualitative assessment of insight despite of its good internal consistency and reliability, yet the reported results are not consistent neither with the degree of psychopathology or with results from applications (**Askar, 1994**).

Ramadan found that against the role, the psychotic patients usually lacking the insight about their illness, a large number of cases included in this study was found to have apparently full insight regarding their diseases(46 cases out of 116 cases) while the rest either had partial insight or there was no insight at all (**Ramadan, 1979**)

Speech Perception

El-Rashidi and his colleagues conducted a study aiming to investigate disorders of speech perception in Egyptian schizophrenic patients. Thirty schizophrenic patients, fifteen

patients with major depression and thirty non-psychiatric patients were subjected to an assessment that included full psychiatric examination, block design, similarities and picture-completion subtests of WAIS, the tool matching test, and the speech Perception Test (A modified version of Miller and Selfridge technique). The results indicate that the performance of schizophrenic and depressive patients on a speech perception test is generally inferior to that of normal controls. However, the two patient groups showed no evidence of an inability to make use of contextual constraint. In conclusion the present research has shown that Egyptian, male schizophrenics and depressives are inferior to normal on a speech perception task. The two patient groups showed no evidence of an inability to make use of high contextual constraint. Explanations of these findings can be attributed to possibilities such as impaired attention, slow processing or presence of multiple organizations. Other possibilities such as overall cognitive deficit, a general perceptual defect, lack of motivation seem less plausible. The similarity in results obtained by schizophrenics and depressives points to the possibility of a pathology or deficit common to both groups (El-Rashidi et al, 1994).

Linguistic disturbances

ELShahawi and his coworkers conducted a study aiming to examine the relationship between linguistic deviations and symptoms in patients with acute psychosis and to elucidate the possibility that language disturbance can distinguish schizophrenia from other psychosis. Assessment of language disturbance was done in 40 consecutive cases of acute psychosis, using the clinical language disorder rating scale (CLANG). Twenty patients were diagnosed with schneiderian first rank symptoms, another 10 were diagnosed as psychosis with schneiderian first rank symptoms but not fulfilling the criteria of schizophrenia and the remaining 10 were diagnosed as depression with psychotic features without first rank symptoms. Linguistic disturbance in the form of semantic disorder, poverty of speech, and total severity score of the CLANG, were more evident in the schizophrenia group more than the other psychosis. The total score of the clinical language assessment scale was positively correlated with the increased number of the episodes in patients with schizophrenia and the total score of the positive and negative symptom scale. Language disturbances in schizophrenia may be related to the severity of the disorder and might distinguish schizophrenia from other forms of psychosis. **(ELShahawi et al, 2004)**

Ego Functions

Rakhawy and his colleagues studied twenty schizophrenic patients to evaluate the extent and the manner of impairment of ego functions in schizophrenic patients, and whether it is even or uneven. The clinical interview was used to assess 12 functions by five senior rains using a 10-point scale along the adaptive-maladaptive dimension. The study came forth with the following: Ego functions are impaired in schizophrenic patients in general. Some functions showed severe impairment as (adaptive regression in the service of the ego) ARISE, synthetic functioning and object relations which represent the main disorder in schizophrenia, while other functions such as stimulus barrier, autonomous functions and thought processes showed a less degree of impairment. Intercorrelations among various ego functions were proved to depend on many factors such as chronicity, the assessor and the way of calculation. The highest correlation detected was that between reality testing and judgment, while the lowest was that between reality testing stimulus barriers and ARISE functions. They also found that marked disturbances in judgment, reality testing and regulation and control functions may indicate acuteness or relapse of the schizophrenic process. Ego functions were studied in various subtypes of schizophrenia. In acute undifferentiated

schizophrenic patients there was an over all poor ego functioning i.e. (all functions were severely impaired). In incipient schizophrenia seven functions are mildly affected (reality-testing-judgment-sense of reality-regulation and control-thought processing, defense functions, stimulus barrier), there were relatively poor synthetic functioning and a very poor ARISE functioning. Eight functions are mildly affected in schizoaffective patients (reality testing-judgment-sense of reality regulation and control, thought processing, defense functions, autonomous functioning and mastery and competence). While synthetic functioning and ARISE are relatively poor. In paranoid schizophrenia eight functions are mildly affected (reality testing, judgment, sense of reality, regulation and control, thought processing, defense function, stimulus barrier, autonomous functioning). Object relation functioning was moderately affected while synthetic functioning and ARISE were relatively poor. In chronic undifferentiated schizophrenic patients two functions were mildly affected (thought processing and judgment) while functions were moderately affected (reality testing, judgment, sense of reality, regulation and control, autonomous functioning mastery and competition). Synthetic functioning, object relation and ARISE are very poor. Hebephrenic patients and schizophrenic patients others showed

an over all poor ego functioning. In conclusion, (1) Ego functions are severely impaired in schizophrenia. (2) Severe impairments in adaptive regression in the service of the ego (ARISE), synthetic functioning and object relations perhaps represent the main disorders in schizophrenia.(3) Marked disturbances in judgment, reality testing and regulation and control may indicate acuteness or relapse of the schizophrenic process.(4) Intercorrelations among ego functions are present. **(Rakhawy et al, 1983)**

The Concept of Self

Loutfi and his coworkers conducted a study aiming to assess the concept of self among psychotic patients. Data were collected from a convenient sample of 50 psychotic patients hospitalized in both Kasr EL-Aini psychiatric department and El-Nile Sanatorium at Maady. Their mean age was 27 years, 70% were diagnosed as schizophrenics and 30% were diagnosed as psychotic depression, and hypomanics. The tools used for data collection were a questionnaire that contains items related to the self-esteem, self-concept and body image, and an observation rating scale for the patient's general performance i.e. his responsibility for cleanliness and general appearance, his social interest, his cooperation, and his psychotic manifestations.

Results showed that the psychotic patients are poor in their general performance i.e. their appearance and social interest are deficient. They have negative feelings toward their self-esteem and self confidence, they also feel disintegrated and their body images are affected. They cannot control their thinking and their self identity is affected. They were also found to have hope facing people, going back to their normal life and getting cured but their hope is mixed with different fears. They fear from recurrence and aggravation of their disease and particularly from the stigma of being mental patients. It was recommended that these patients should receive a nursing care that provides an accepting attitude that allows them security and freedom to examine all aspects of themselves and total being, beside experiencing different activities that make them aware of their body and increase their self-esteem and self confidence. **(Loutfi et al, 1990)**

Clinical Ocular Manifestations

Rakhawy and his colleagues studied the clinical ocular manifestations in schizophrenia, the blink rate (B.R.) of 70 schizophrenic patients, 25 depressed patients, and 45 normal

controls were compared. Schizophrenic patients have a significantly higher mean B.R. (31.8 ± 18.8 blinks/min) than controls (21.1 ± 10 b/min). Depressed patients have an intermediate mean B.R. (27.2 ± 15.4 b/min.). Never medicated, drug-free, and medicated schizophrenic patients have similar B.R. Blink rates were not significantly associated with any B.P.R.S. score, age, sex (except in depressed patients), or duration of the illness. Poor eye contact and staring were compared in schizophrenic and depressed patients. Both are commoner in schizophrenic patients but only severe degrees of poor eye contact could be found to be significantly higher in schizophrenia. An abnormal glabellar reflex was detected in 70% of never medicated and 47% of drug-free schizophrenic patients. Because of the wide range of overlap with normal controls, B.R. cannot be considered a reliable clinical sign of schizophrenia. The low frequency of severe poor eye contact also limits the clinical usefulness of this sign. Staring in schizophrenia requires redefinition in operational terms since B.R. and the glabellar reflex are influenced by dopaminergic mechanisms. The finding supports the possibility of a dopaminergic hyperfunction in schizophrenia. **(Rakhawy et al, 1986)**

Raslan and Shabana studied smooth pursuit eye movements (SPEM) on 15 medicated chronic schizophrenics, 12 of their first degree relatives and 12 normal subjects. The results showed that schizophrenics definitely do poorly on Smooth pursuit eye movements (SPEM). Incidence was around 90% on most of SPEM measurement parameters. First degree relatives of schizophrenics showed nearly similar performance to the sample of normal people. SPEM dysfunction in schizophrenics was not correlated to the age of patient, age of onset of Illness, duration of illness, nor to the degree of neuropsychological impairment. It concluded that schizophrenics in a high frequency, show poor SPEM and this is mostly related to their poor selective attention abilities. But, because of the small number of the sample and the selection criteria, we should be cautious of the generalization of these results. (**Raslan and Shabana, 1994**)

Social Functions

Ashour and his coworkers studied psychopathology and social skills in 32 Egyptian chronic schizophrenic patients of age

less than 40 years and have illness from 3-10 years with repeated short stay admissions to the hospital, diagnosed according to DSM III, assessed by Present State Examination (PSE), Argyle's Relationships Rules and Susan Spence's behavioral analysis. The results as regards social skills of Argyle's Rules were 60 %. The results of social skills by using the two tools i.e. Susan Spence's behaviour analysis and Argyle's Rules showed that schizophrenic patients had deficient in social skills. There is a correlation between the psychopathology of patients and their social skills. They are; the anxiety symptoms are correlated with gross body movement, eye contact, initiation and latency of response. Psychotic symptoms are correlated with Argyle's Brother-Sister of Similar Age Rules, gestures, fiddling, dysfluencies and amount spoken. Anxiety and psychotic symptoms with question asked and Argyle's Parent- Adolescent child Relationship Rules. Affective symptoms are correlated with Argyle's Close Friends of the Same Sex and attention feedback response. Neurotic and affective symptoms are correlated with appropriate head movements. Psychotic and affective symptoms are correlated with smiling. The results showed that the major disability of these patients is the social incompetence. The prevailing symptoms and syndromes are non-specific psychotic and neurotic ones. The nuclear schizophrenic syndrome is present

only in half of the cases and this nuclear half doesn't seem to be more particularly disabled than other non-nuclear half. In this profile the high slowness is dissimilar to both (S) and (P) profiles and looks more similar to the (O) profile (other psychoses) which is composed mainly of simple and catatonic schizophrenia. Eye contact is less, so is smiling and gross body movements. The studied patients didn't differ as regards amount spoken and gestures. There was an extensive matrix of correlations between deficits in elements of social skills like adhering to the relationship rules, verbal and non-verbal behavior, and elements of psychopathology represented by PSE symptoms. In conclusions, the P.S.E. profile is similar to the (S) Schizophrenic profile of the I.P.S.S. and US/UK with some features from (P) Paranoid psychoses and other psychoses (O) profiles. The nuclear schizophrenic group showed higher figures of deficit in brother-sister relationship, questions asked, eye contact and total P.S.E. Scores than the non-nuclear schizophrenics. Multiple correlations could be demonstrated between the social skills components and psychiatric symptoms. In conclusion, the results of social skills by using the two tools showed that schizophrenic patients had deficient in social skills which are correlated with the psychopathology of patients. **(Ashour et al, 1986)**

Mahfouz and his coworkers found that chronic psychiatric disorders, particularly schizophrenia are incapacitating as they usually lead to social isolation and serious deterioration in the personality. This, in turn, leads to a marked decline in social competence. (**Mahfouz et al, 1992**)

Subtypes of Schizophrenia

Okasha studied the subtypes of schizophrenia in Egypt. He reported that hebephrenic schizophrenia constitutes 24.8% of cases, paranoid schizophrenia comes next in frequency 18.9 %, and catatonic forms were relatively common compared to other variants. The main symptoms were retardation, withdrawal, mutism, and stupor. These may be interrupted by outbursts of excitement. A large group of patients presented an undifferentiated type of schizophrenia (19.6%) exhibiting a wide variety of symptoms such as confusion of thinking and turmoil of emotion manifested by perplexity, ideas of reference, fear, dream states, and dissociative phenomenon. This is in contrast to the same study done in Libya by the same authors in whom the commonest variety of schizophrenia was chronic undifferentiated, followed by acute undifferentiated, hebephrenic, and catatonic, the last being of simple type. These figures for presentation of schizophrenia are fairly similar to

those in European studies except that Egypt may have a commoner incidence of the catatonic and undifferentiated forms. **(Okasha, 1977).**

Raslan studied 63 Egyptian schizophrenic patients diagnosed according to DSM IV criteria. He found that there were 15 patients (23.8%) of paranoid type, 34 patients (53.9%) undifferentiated type, 8 patients (12.7%) disorganized type, and 6 patients (9.5%) residual type. **(Raslan, 2000)**

Haggag and her colleagues investigated phenomenology of schizophrenia among patients who are living in the community and are being managed in out-patient facilities while receiving neuroleptic medication. Sixty five patients with the diagnosis of schizophrenia according to DSM-IV had been assessed using BPRS and Andreasen's SANS and SAPS. 20 cases were paranoid, 18 undifferentiated, 15 residual and 12 disorganized subtypes respectively. **(Haggag et al, 1998).**

Prodromal Phase of Relapse

Haroun El-Rasheed conducted a study to identify the symptoms clusters of prodromes of schizophrenic disorder

relapse and their relative diagnostic value and clarifying the role of life events in precipitation of schizophrenic relapse. She studied 100 schizophrenic patients who had recently relapsed. A control sample formed of 50 schizophrenic patients who have been in full remission for at least 6 months and another control sample formed of 50 healthy controls. The two control samples were matched as far as possible with the relapsing patients group based on the diagnostic criteria of DSM-III-R (patient version) for proper psychiatric diagnosis. All are assessed by; Semi-structured interview based on the "Early Sign Questionnaire" for detection of prodromal symptoms during the month preceding relapse. The same interview was applied to a significant family member. Structured scale for life events assessment during the six months preceding the relapse based on the Egyptian version by Okasha et al., (1981) of "The Social Readjustment Rating Questionnaire" by Holmes and Rahe (1967). Healthy controls were subjected to SCID-NP in place of SCID-P. The results showed that a highly significant association was found between relapse and greater number of previous hospitalization. Although age at onset and at first hospitalization was significantly younger in the non-relapsing patients, there was an insignificant difference in the number and total duration of hospitalization between relapsing and non-relapsing patients. Only 52% of the

relapsing patients had severe enough relapses to necessitate admission. A highly significant association was found between non-compliance and relapse. So, the proportional attributable risk was calculated for non-compliance and was found to be 80.89%. Also, there was a highly significant association between the longer duration of non-compliance and relapse. The disorganized subtype was the commonest (66% of relapsing patients and 70% of non-relapsing patients). Both paranoid and undifferentiated subtypes were more represented in females in the relapsing and non-relapsing patients, while the disorganized type as more represented in males in both groups. There was a significant association between greater number of episodes and relapses in the paranoid and disorganized subtypes. Minor life events were more common than major life events in relapsing patients. There was a significant association between lower scores of life events and stability of patients (96% of non-relapsing patients). The association was also significant between married relapsing males and higher life events scores compared to single males, the same applies for non-relapsing divorced females compared to single females. However, there was no statistically significant association between life events scores and compliance state in both relapsing and non-relapsing patients. The non-psychotic symptoms as: trouble concentrating, depression, being tense and

nervous, trouble sleeping, restlessness, enjoying things less, and eating less were the commonest from the patients and their relatives own point of view. Although, some of the prodromal symptoms were present in non-relapsing patients, the difference was highly significant between them and relapsing patients, however, the difference was significant between healthy controls and relapsing patients regarding those symptoms. The relapsing patients gave significantly better results on assessment of prodromal symptoms compared to their relatives. But considering the different subtypes of schizophrenia, paranoid and undifferentiated schizophrenics gave insignificantly different results from their relatives. Also, it is worth mentioning that paranoid relapsing patients and their relatives gave results which were highly significantly higher than non-relapsing. On the other hand, disorganized and undifferentiated relapsing patients gave results significantly higher than non-relapsing, and their relatives gave highly significant higher results than relatives of non-relapsers. In conclusion, non-psychotic symptoms were the most commonly reported prodromal symptoms by relapsing patients and their relatives, prodromal symptoms were ambiguous in their diagnostic values. The best results for prodromal symptoms assessment will be obtained if we are able to interview both the patient and at least one of his reliable relatives by the psychiatrist

or primary care GP at regular follow-up. Life events scores were low among patients, being lowest in the non-relapsing patients; minor life events occupied the early ranks for patients both relapsing and non-relapsing. No difference was found in life event scores between compliant and non-compliant patients both relapsing and non-relapsing. Non-compliance was highly associated with relapse (**Haroun El-Rasheed, 1996**).

Mahfouz and his colleagues conducted a study with the aim of the clinical study of the prodromal period of relapse in schizophrenia, and to show its importance and implications. Subjects for the study comprised 100 outpatients with DSM-III-R schizophrenia (36 patients with paranoid schizophrenia and 64 patients with non-paranoid schizophrenia) and their close family informants. Sociodemographic and clinical characteristics of patients were gathered through a semistructured interview with the patient and his or her family member. A questionnaire for prodromal manifestations was applied by directly interviewing each patient as well as his or her close family informant. The results showed that 53% of schizophrenic patients recognized prodromes of the last relapse, while 69% of their corresponding family members recognized these prodromes ($P < 0.05$). The duration of the prodromal phase in the total sample was about 25

days. The prodromal symptoms showed a high degree of intra-individual consistency, but inter-individual variation. The percentages of the most common symptoms are relatively small. The majority of the symptoms are present in less than 50% of patients. Also, there is a very wide range between the most frequently reported symptom and the least frequent one. This may indicate higher inter-individual variability of the prodromal phases of relapse. Also, the wide range of the duration of the prodromal phase as reported in this study may indicate the same, inter-individual variability. Insomnia, depressed mood, anxiety, decreased appetite and suspiciousness were among the most frequently reported prodromes. The mean duration of prodromes in schizophrenic patients was 25.3 ± 16.8 days, with nearly the same results in both paranoid and non-paranoid patients. The same observed with family members. In the present study, almost all relapses were consistent, whether regarded by patients or families, in the same individual patient. This finding could facilitate psychoeducation of individual patients and their families about the prodromal phase. However, considerable inter-individual variability is found in this respect. This point should also be considered in psychoeducation. The study also showed that with progress of the disorder, percentages of relapses with recognized prodromes by patients and their family members

significantly increased in all groups. Nevertheless, the psychiatrist must inform the patients and their families about the prodromal changes and the importance of therapeutic interventions at that time since the first episode, and not to wait that they have to know by themselves. Patients, as well as their family members, most probably sought help at laymen during the prodromal stages of the first attacks, but in the prodromal stages of the last ones, psychiatrists were exclusively sought. Differences were statistically significant. In Upper Egypt ignorance about psychiatric treatment is highly prevalent and superstitions are well believed in. However, with increasing severity and frequency of the relapses and the quacks failing to induce improvement in the patient's condition, the correct alternative (the physician) is usually sought who usually proves success with such patients. A substantial percentage of patients recognize the prodromes without passing into the full attack. Almost all of those who recognized their prodromes without passing into full relapse received early treatment. So, the early abortive treatment is crucial in preventing the relapse. The duration of the prodromal phase is sufficient to seek help and to have the appropriate management, aiming at abortion of the impending relapse. The study concludes that most schizophrenic patients and their family members could become aware of the

prodromal period preceding the full relapse, and the duration of this period was sufficient enough to allow for therapeutic intervention to prevent the development of a full-blown schizophrenic relapse. Psychoeducation of patients and their families as regards this phase is highly recommended (**Mahfouz et al, 1997**)

Abdel Ghany and his coworkers studied the value of families' expressed emotion (EE) in predicting relapse in Egyptian schizophrenia patients and evaluated trans-cultural differences in assessment of these measures. The subjects were 46 consecutive schizophrenic patients from a mental health hospital in Cairo, Egypt, who fulfilled the DSM-III-R criteria for schizophrenia. An Arabic version of the Camberwell Family Interview was administered to key relatives of the schizophrenic patients. Rating of EE was performed blindly by, a qualified rater to assess levels of criticism, hostility, emotional over-involvement, warmth and positive remarks. All patients were followed up for two years to assess relapse and compliance with treatment. Results revealed that there was statistically significant positive relation between high EE and relapse rate. The relapse rate was higher in the first year than in the second year of follow up, which reflects that the effect of EE diminished with time.

Specially, the relation of family criticism and hostility to relapse was statistically significant, while no statistically significant difference between relapsers and non-relapsers was found as regards emotional over-involvement, warmth or positive remarks. In case of presence of warmth with criticism or hostility at the same time, the warmth could neutralize and minimize the harmful effect of them and may protect the patients against relapse. There are obvious differences in distribution of EE components according to cultural differences. The hostility and criticism were considered the most important indicators for relapse rate and they had stable effect across different cultures. The authors concluded that EE is a prognostic factor that should be assessed with consideration of the specific culture and intra-familial patterns (**Abdel Ghany et al, 2001**).

Suicidality

Al-Mahallawy examined the inpatients in the institute of psychiatry, Ain Shams Hospital who met ICD-I0 criteria for schizophrenia during August 1996. 17 of 41 schizophrenics (41%) had a history of 30 attempted suicides. At time of attempted suicide, the mean age was 25.3 ± 4.8 years; most of them were unmarried and lived with their families. There are a high percentage of violent attempts regardless of sex, although most of them were with low lethality. Suicide attempters appear to be a heterogeneous group. Attempted suicides result from either psychotic pictures (60%) or depressed mood (60%) which was secondary to persecutory delusion or to interpersonal conflict. 67% of the attempters had poor work functions at time of attempted suicide. The mean duration of illness was 4.3 ± 1.2 years and there is history of psychiatric admission prior to 70% of the attempts. No type of schizophrenia was liable to attempt suicide than others. She found a positive correlation between previous attempted suicides and current depressive symptoms. Current suicidal ideas were significantly higher in suicide attempters than in nonattempters. There was no correlation between past attempted suicide and either current positive or negative symptoms and there was no correlation between depressive symptom and either positive or negative symptoms. (Al-Mahallawy, 1997)

Omar examined the relationship between suicidality and illness subtype, duration of illness and relapse rates; together with the presence of co-morbid personality disorder diagnosis among patients with schizophrenia. Admitted patients with schizophrenia (128) during one year were assessed with SCID-I and SCID-II for classical subtyping and personality disorder diagnosis. Suicidal attempts and ideation among patients were ascertained by means of beck scale for suicide ideation. Fifty four percent of the patients reported suicidal ideation (The paranoid schizophrenia subtype was associated with an elevated risk [28 %] followed by undifferentiated [13%]). 18 % reported suicide attempts. Suicide ideation and behaviors significantly increase among patients with co morbid personality disorder diagnosis especially those of odd cluster and borderline personality disorder. The frequent relapse rate rather than the chronic course is more associated with increased suicidality. The impact of co morbid personality disorder diagnosis, together with certain subtypes of schizophrenia and high relapse rates on suicide risk has been significantly reported. Prominent paranoid symptoms, either in schizophrenia or the co morbid personality disorder defines a relatively high-risk group (**Omar, 2002**).

Symptomatological Changes in Schizophrenia from the Sixties to the Nineties

Badr conducted a study aiming to study the difference between the symptoms of schizophrenia with which cases presented in the sixties and those with which cases presented in the nineties. One hundred schizophrenic patients allocated into 2 groups according to the duration of illness according to DSM IV criteria. Group I: 50 schizophrenic patients had the first attack of schizophrenic symptoms in the sixties, while group II: 50 schizophrenic patients had the first attack of schizophrenic symptoms in the nineties. Brief Psychiatric rating scale (BPRS) was applied for all patients. The results showed that there was no statistical significant difference between them as regards the marital status, level of education, consanguinity between the parents and positive family history of psychiatric illness. The majority of studied patients were single (76%) and (84%), with a low level of education (60%) and (40%), with no consanguinity between parents (58%) and (64%) and with no family history of psychiatric illness (60%) and (56%) in group I and group II respectively. According to clinical subtypes of schizophrenia, most of the studied cases (34%) were of the undifferentiated type and the minority (8%) was of the catatonic type (all in group I). The paranoid type of schizophrenia was the most common

subtype in group II (40%), while was only (26%) of group I. Lack of volition and anhedonia were the most prominent, common (80%, 90%, respectively) and persistent manifestations of schizophrenia in both groups; with no significant difference between them. Flat and blunted affect was present in 60% of group I compared to 46% of group II while incongruity of affect was detected in 34% and 40% of both groups respectively. One of the promising findings in this work was the increase in the percentage of depressed and anxious patients on comparing group I and group II from 6% to 14% which denotes better prognosis. There was a significant difference between both groups as regards some manifestations of behavioral disturbance. Unusual clothing and appearance was present in 92% of group I and in 78% of group II. Posturing 9% and 0%, negativism 16% and 0%, catatonic stupor 9% and 0% and catatonic excitement 6% and 1% in both groups, respectively. The most common type of hallucinations in the present study was auditory hallucinations present in 94% of group I and in 96% of group II. There was no significant difference in the prevalence of different types of hallucinations in both groups, but the difference actually presented in the content of those hallucinations. Delusions were absent in 8% of group I and in 14% of group II- On the other hand, delusion of persecution was the most common type of

delusions among them; present in 68% of group I and in 64% of group II. Religious delusions diminished sharply from 22% in group I to only 12% in group II, and they also changed as regards their content. Passivity phenomena was present and stable along the period from the sixties to the nineties, where it was found in 44% and 40% of group I and group II respectively and presented in different forms. Some types of formal thought disorder showed apparent change from group I to group II. For example, neologism and echolalia were absent in group II and were present in 4% and 2% respectively of group I. This points out to rapid and better treatment regimens which led to decrease of cognitive disturbance recently. On application of the BPRS on group II of patients and on the data collected from the files of group I, significant changes in most items of the scale could be noticed, for example, excitement, mannerism, posturing and conceptual disorganization. The higher prevalence of those items in group I denotes improvement in the outcome of symptomatology of schizophrenia, is also suggested by the increase of the level of depressive manifestations in group II. The total measure of BPRS changed from 86% in group I to 70.2% in group II. As regards group I, there was a statistical significant difference between both sexes as regards conceptual disorganization, hallucinatory behaviour, blunted affect,

depression, motor retardation, uncooperativeness, unusual thought content and disorientation. In group II, there was a statistical significant difference between both sexes as regards hallucinatory behaviour, blunted affect and unusual thought content. In conclusion, catatonic schizophrenia decreased in incidence significantly from the sixties to the nineties, while paranoid schizophrenia increased. Lack of volition and anhedonia were the most common, prominent and persistent manifestations of schizophrenia in the sixties and up to the nineties. Flat, Blunted or inappropriate affect was common and persistent in the sixties and nineties, but in spite of that, there was a slight increase in the percentage of depressed and anxious schizophrenic patients in the nineties. Auditory hallucinations and delusion of persecution persisted as the most common types of hallucinations and delusion among schizophrenics from the sixties to the nineties. Religious delusions decreased from sixties to nineties. The content of hallucinations and delusions changed widely from the sixties to the nineties. Some types of formal thought disorder showed apparent change, for example, neologism and echolalia were absent in the nineties. Some manifestations of behavioral disturbance have decreased or became absent in the nineties. Significant improvement of most items and of the total score of the BPRS can be noticed in the

nineties. The significant difference between both sexes as regards most of the items of the BPRS in the sixties had been restricted in the nineties to only a limited number of them. **(Badr, 1998)**

Table (4-1) Summary of Egyptian studies on clinical description of schizophrenia

Study	Author	Site	Results
Diagnosis and Classificatio	Gawad et al (1981).	Cairo University	The top ten symptoms in the Egyptian hierarchy for diagnosis of schizophrenia were incongruity and

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			restricted affect, formal thought disorder, thought block, thought withdrawal, incoherence, passivity feeling, neologism, hallucination, delusions and ideas of reference.
	Okasha et al (1990a)	Ain Shams University	The validity study supports the usefulness of DSM-III, WHO-CSB, and Langfeldt's systems for clinical practice. Feighner's criteria were the most specific for biological researches and Schneider's criteria were the least specific as they are unable to exclude other forms of psychoses.
	Okasha et al (1990b)	Ain Shams University	Loose association scale was the most sensitive one that could determine the degree of psychosis. While personality deterioration scale was the least sensitive one.
	Abdel Aziz (1992)	Cairo University	Schizophrenia can be classified on the basis of two major approaches: an empirically oriented approach based on operationally defined concepts as in DSM-III-R classification and a clinically and phenomenologically oriented approach based on ideal type concepts as in the proposed classification by Rakhawy, 1991.
	Farid et al (1998).	Mansoura University	Both positive and negative symptoms were relevant to differential diagnosis between schizophrenia and other psychotic disorders. However, negative symptoms presented higher significant differences between diagnostic groups than positive symptoms.
	Haggag et al (1998).	Suez Canal University	A principal components analysis of individual symptom scores yielded a four-dimensional structure of negative, positive, disorganized and affective symptoms.
Positive and Negative Symptoms	ELSheshai et al (1994)	Alexandria University	Negative symptoms in 16% of cases, while 36% positive and 48% mixed. Positive symptoms were hallucinations 67%, delusions in 85%, Positive formal thought disorders in 38%, and behavioral

			disorders in 67%. Negative symptoms included affective flattening 67% of all cases, alogia 52%, avolition-apathy 37%, anhedonia asociality 42% and attention impairment 62%.
	Soliman (2002)	Minia University.	The prevalence of negative symptoms was high. Patients with positive symptoms, characterized by more delusions and hallucinations, and patients with negative symptoms characterized by more disorganization, blunted affect, social withdrawal, concrete stereotyped thinking, lack of spontaneity, poor attention, and disturbance of volition. Negative symptoms showed weak negative correlation with positive symptoms and depression
	(Abd El Reheem (1993)	Ain Shams University	46.4% had severe negative symptoms, 37.7% had moderate degree of NS and 15.9% had mild degree of NS. NS have been found to be positively significantly correlated with age, duration of hospitalization and negatively with education. The prevalence of TD was 20%.
	El-Hamrawy (1992)	Tanta University	The negative symptom schizophrenics had a high SANS scores and the highest were in those with previous positive period more than (5) years, followed by pure negative subgroup and lastly those with previous positive period less than two 2 years. SAPS subscores were mainly of bizarre behaviour (40%) and inappropriate affect (30%).
	Raslan (2000)	Cairo University	The severity of the negative symptoms was correlated with the severity of premorbid social and scholastic maladjustment, cognitive deterioration and age of onset of schizophrenic illness.
Disorders of Thought Content	Rakhawy et al (1987b)	Cairo University	Delusions are present in 90% of schizophrenic, obsessions in 35%, and preoccupations in 15%,

			hypochondriasis in 50% and phobias in 20%. Delusions are commonest form of thought content disorder in schizophrenia while hypochondriasis is the second most common form of thought content disorder in schizophrenia. There are definite affection of OC symptoms on the performance of patients on different neurocognitive tests, especially tests which measure visuospatial ability, delayed visual memory, executive functions and ability to shift cognitive set.
Thought Process Disorders	Abolmagd et al (2002)	Cairo University	Nonparanoid schizophrenics performed poorly on the majority of dimensions of CPT and WAIS. Paranoid schizophrenic subjects were less impaired but performed worse than controls.
	Hamdi and El-Nahrawi (1992)	Cairo University	62.8% of schizophrenic patients were less capable of making common association to words, and failure of concept formation. Schizophrenic patients had a high grade of loose association evident more in free speech. The process of giving the abstract meaning of stimulus proverb getting a low score in schizophrenic patients. 89.6% of schizophrenics showed more impairment than normal in conceptualizing stimulus words
	Rakhawy et al (1987a)	Cairo University	Schizophrenic patients were significantly impaired in their ability to give the abstract meaning of the stimulus proverbs, and similarities subtest of the WAIS. Schizophrenic subjects gave significantly more bizarre responses, and were characterized by poverty of speech and thought.
	Hamdi (1992)	Cairo University	The depressed schizophrenic patients were characterized generally by more prevalent psychotic and anxiety symptoms compared with the nondepressed schizophrenic patients
Affective Symptoms	Shohdy (1985)	Ain Shams University	

	EL Hadidi (1996).	Mansoura University	which suggest that the severity of psychosis might play a role in inducing depression The affective blunting was found belonging to the negative symptom domain and independent from depression, positive symptoms and incongruity of affect. The term affective blunting can be restricted to the lack of modulation of affect.
	Rakhawy et al (1985).	Cairo University	Affect is not quantitatively lost or severely weakened in schizophrenia. The apparent impoverishment is more probably related to qualitative and functional considerations. Some affect are particularly prominent, the most prominent of which is fear. Other affects show low position mainly pleasurable affects and love. Other affects such as anxiety, depression, hate, shame and shyness occupy moderate position in the profiles
Insight	Askar (1994).	Cairo University	No correlation existed between insight and severity of illness, but a positive correlation was found between insight and duration of illness.
	Ramadan (1979)	Alexandria University	a large number of cases included in this study was found to have apparently full insight regarding their diseases(46 cases out of 116 cases) while the rest either had partial insight or there was no insight at all
Speech Perception	El-Rashidi et al (1994)	Cairo University	Schizophrenics are inferior to normal on a speech perception task with no evidence of an inability to make use of high contextual constraint.
Linguistic disturbances	ELShahawi et al (2004)	Ain Shams University	Linguistic disturbance in the form of semantic disorder, poverty of speech, and total severity score of the CLANG, were more evident in the schizophrenia more than other psychosis. The total score of the

clinical language assessment scale was positively correlated with the increased number of the episodes in patients with schizophrenia and the total score of the positive and negative symptom scale.

Ego Functions	Rakhawy et al (1983)	Cairo University	Ego functions are impaired in schizophrenic patients in general. Some functions showed severe impairment as (adaptive regression in the service of the ego) ARISE, synthetic functioning and object relations which represent the main disorder in schizophrenia, while other functions such as stimulus barrier, autonomous functions and thought processes showed a less degree of impairment.
The Concept of Self	Loutfi et al (1990)	Cairo University	The psychotic patients are poor in their general performance i.e. their appearance and social interest are deficient. They have negative feelings toward their self-esteem and self confidence, they also feel disintegrated and their body images are affected.
Clinical Ocular Manifestations	Rakhawy et al (1986)	Cairo University	Severe degrees of poor eye contact could be found to be significantly higher in schizophrenia. An abnormal glabellar reflex was detected in 70% of never medicated and 47% of drug-free schizophrenic patients.
	Raslan and Shabana (1994)	Cairo University	Schizophrenics in a high frequency showed poor SPEM, and this is mostly related to their poor selective attention abilities.
Social Functions	Ashour et al (1986)	Ain Shams University	Schizophrenic patients had deficient in social skills. There is a correlation between the psychopathology of patients and their social skills.
	Mahfouz et al (1992)	Cairo University	Chronic psychiatric disorders, particularly schizophrenia are incapacitating as they usually lead to social isolation and serious deterioration in the personality. This,

Subtypes of schizophrenia	Okasha (1977).	Ain Shams University	in turn, leads to a marked decline in social competence Hebephrenic schizophrenia constitutes 24.8% of cases; paranoid schizophrenia 18.9 %, undifferentiated type of schizophrenia (19.6%) and catatonic forms were relatively common compared to other variants.
	Raslan (2000)	Cairo University	15 patients(23.8%) of paranoid type, 34 patients (53.9%) undifferentiated type, 8 patients (12.7%) disorganized type, and 6 patients (9.5%) residual type
	Haggag et al (1998).	Suez Canal University	20 cases were paranoid 30.7%, 18 undifferentiated 27.6%, 15 residual 23.1% and 12 disorganized 18.4%.
Prodromal Phase of Relapse	Haroun El-Rasheed (1996)	Ain Shams University	Non-compliance was highly associated with relapse. Minor life events were more common than major life events in relapsing patients. Only 52% of the relapsing patients had severe enough relapses to necessitate admission.
	Mahfouz et al (1997)	Minia University.	The duration of the prodromal phase is sufficient to seek help and to have the appropriate management, aiming at abortion of the impending relapse.
	Abdel Ghany et al (2001)	Al Azhar University	The hostility and criticism were considered the most important indicators for relapse rate and they had stable effect across different cultures.
suicidality	Al-Mahallawy (1997)	Ain Shams University	41% of schizophrenics had a history of attempted suicides; most of them were unmarried and lived with their families. Attempted suicides result from either psychotic pictures (60%) or depressed mood (60%) which was secondary to persecutory delusion or to interpersonal conflict. 67% of the attempters had poor work functions at time of attempted suicide.

Omar (2002)	Ain Shams University	54% of the patients reported suicidal ideation, 18 % reported suicide attempts. Suicide ideation and behaviors significantly increase among patients with co morbid personality disorder especially those of odd cluster and borderline personality disorder. The frequent relapse rate rather than the chronic course is more associated with increased suicidality.
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Chapter 4

Management

Management

Pharmacotherapy

In an open multicenter international trial which was designed to investigate the efficacy and safety of risperidone administered once daily during 7 months in subjects with acute

exacerbation of chronic or sub-chronic schizophrenia. It was conducted in 10 countries (Egypt, Cyprus, Gulf, Pakistan, Saudi Arabia, Iran, Jordan, Lebanon, Syria and Turkey). 1000 subjects were to be enrolled in this multicenter study. They were diagnosed according to DSM-IV. The subject's psychopathology was assessed by the PANSS and clinical response was defined as a reduction of >20% on the total PANSS score compared to baseline. Secondary parameters were shift between endpoint and baseline of the PANSS subscales, total BPRS and clusters score and the Clinical Global Impression (CGI). Quality of life (QOL) was assessed using the SF-12 questionnaire. Safety evaluation included laboratory analysis (blood biochemistry and hematology, urine analysis). ESR assessments, ECG, and vital signs (weight, blood pressure and heart rate). 809 (68.7% of males) out of the 819 subjects admitted to the study were included in the safety analysis and 797 in the ITT efficacy analysis. The mean daily dose of risperidone averaged 5.9 mg. Early study termination occurred in 22.6% of subjects of which 3.1% were due to adverse events (AEs). The results showed that the schizophrenia was of the paranoid type in 45.3% of the subjects, disorganized in 20.4%, residual in 6.2% and catatonic in 2.5%. Undifferentiated schizophrenia was diagnosed in 25.6%. Clinical response was seen in 86% of the subjects at endpoint. A

58% clinical improvement in total PANSS was observed ($P < 0.0001$). Negative and positive PANSS subscales improved by 54% and 64% respectively ($P < 0.0001$). Clinical improvement on the total BPRS was 58.7% at endpoint ($P < 0.0001$). Based on CGI, 87% of the subjects experienced an improvement of their condition compared to baseline and 9% remained unchanged. In conclusion, these data show that risperidone administered once daily at a mean dose of 5.9 mg / day for up to 7 months significantly reduced the severity of acute exacerbation in subjects with chronic or sub-chronic schizophrenia, with an overall good safety profile (**Okasha and Okasha, 2003**).

Awad conducted a study with the aim of to evaluate the effect of novel antipsychotics (clozapine-risperidone and olanzapine) on the PANNS, (positive and negative syndrome scale) on different stages and severity of schizophrenia considering acute schizophrenia as below two years of illness with subdivision as below one year and from (1-2) years searching for prognostic value and chronic schizophrenia as above two years of duration of illness and searching for the expected side effect of the different drugs on the schizophrenic patients for a period of six months duration. One hundred and five patients were selected from the out patient clinic n the

Alexandria main university hospital (from 1/1/2000 to 1/6/2000) they were selected according to the DSM IV criteria. Fifty eight of schizophrenics had a trial of clozapine, forty patients had a trial of risperidone and seven patients had a trial of olanzapine for six months each. Different types of schizophrenia were presented in the studied group. At the end of the trial there was significant clinical and psychometric improvement of the patients. Regarding the total score: In the clozapine group, there was no significant difference between the effect of the drug on acute or chronic patients, $F= 1.02$ $P> 0.05$. In the risperidone group there was significant differences between the cases indicating more effect in acute than chronic schizophrenics, $F = 3.33$, $P< 0.05$. In the olanzapine group there was no significant difference between acute and chronic cases response to the drug, $F=1.23$, $P> 0.05$. There is no significant difference between the effect of clozapine and risperidone on acute or chronic cases, $F=1.52$, 1.63 , $P>0.05$. Regarding the general symptoms of schizophrenia, there was no significant difference between the uses of different drugs in acute cases. $F=1.4$, 0.99 , $P> 0.05$. There was a significant difference between the use of clozapine and olanzapine than risperidone in chronic cases. $F=2.98$, $P<0.05$. There is no significant differences regarding improvement of general symptoms in acute or chronic cases

using clozapine, $t=1.48$, $P>0.05$. In risperidone group there was a significant differences, $F=3.21$, $P<0.05$ indicating more effect in acute than chronic cases. No cases of extrapyramidal side effects were reported in the studied group on six months duration of the study on (ESRS) scale parkinsonism, dystonia and dyskinesia subscales. 31.03% of all cases using clozapine and 57.1% of all cases using olanzapine had weight gain. 6.9% of all cases taking clozapine had somnolence while 12.5% of cases taking risperidone had insomnia. 5.2% of all cases taking clozapine had dizziness while 14.3% of cases had dizziness also was taking olanzapine with no cases in risperidone group. 5.2% of all cases taking clozapine had dry mouth and 6.9% of cases taking clozapine had blurring of vision. In conclusion; there is a significant improvement with use of novel antipsychotics in different stages and severity of schizophrenia. There is a significant effect of olanzapine in decreasing the positive symptoms of schizophrenia over clozapine and risperidone in acute cases. There is a very low liability for the novel antipsychotics to cause extra pyramidal side effects. There is high liability for patients taking clozapine and olanzapine for weight gain. Side effects like somnolence, insomnia, dizziness, dry mouth and blurring of vision are reported with the use of atypical antipsychotics (Awad, 1999).

El-Hamrawy conducted a study with the aim of providing some clue to the pathophysiology and cause of negative symptom schizophrenia by studying some of its radiological and biochemical changes. At the same time to assess the efficacy of fluspirilene on negative symptom schizophrenic patients. 40 patients suffering from negative symptom schizophrenia, 10 patients of positive symptom schizophrenia and 10 normal controls assessed by PSE, SANS, SAPS. In an open trial of fluspirilene, fluspirilene was used in doses ranging from 6 to 18 mg. weekly, deep intramuscularly. Negative schizophrenics response to drug depend on the presence of positive symptoms or not, the presence of catatonic features or not, the previous productive period which preceded the negative period and the type of positive symptoms whether of bizarre behaviour or not. Fluspirilene treatment produced the highest level of improvement in those patients with pure negative symptoms which increased in those with catatonic features. Negative schizophrenics with mixed negative and positive symptoms differed in their response to drug according to the presence of Bizarre or not. If they had bizarre behaviour, they showed no improvement and even deterioration of the condition, while if they had other than bizarre behaviour, they showed either significant improvement or no

change in negative symptoms occurred. There was no improvement at all as regards positive symptoms in negative schizophrenics with mixed negative and positive symptoms even they increased in some patients. In pure negative schizophrenics without catatonic features, fluspirilene treatment produced a highly significant improvement in negative symptoms which began nearly at the 8th week of 12 mg/ week and the maximum occurred at the 9th week. Meanwhile, in pure negative schizophrenics with catatonic features, fluspirilene treatment produced a highly significant improvement in negative symptoms which began at the 2nd week of 6 mg/week, being maximum at the 4th week. The improvement was mainly for anhedonia-asociality then alogia, avolition-anergia, inattention and lastly affective flattening. Fluspirilene treatment in negative schizophrenics with mixed negative and positive symptoms varied in the following manner (1) Negative schizophrenics with low positive symptoms scores and without bizarre behaviour respond as the following: a) Negative schizophrenic with previous positive period below two years there was significant improvement in negative symptoms in the 6th week, which increased to a highly significant level at the 8th.week of 12 mg/week. Improvement occurred mainly in anhedonia-asociality and avolition-apathy. b) Negative schizophrenics with

previous positive period more than five years: They showed no improvement at all after 12 weeks of 18mg/ week. (2) Negative schizophrenics with high positive scores and of bizarre behaviour they responds as the following: a) Negative schizophrenics with previous positive period below two years patients showed no improvement after 12 weeks of 18 mg/ week. b) Negative schizophrenics with previous positive period above two years they suffered from increased positive symptoms with deterioration of patients' condition during the first 6 weeks of 6 mg/ week so stoppage of fluspirilene trial was indicated. The author concluded that fluspirilene is effective in reducing negative symptoms in absence of positive symptoms and especially in the presence of catatonic features. Fluspirilene produces no effect or even deteriorates the condition of negative schizophrenics when they are accompanied by positive symptoms in the form of bizarre behaviour. **(El-Hamrawy, 1992).**

Abd ElGilil studied 60 psychotic inpatients in order to detect both the beginning and peak time of excretion of three different preparations of phenothiazine medications namely: Thioridazine (Melleril), perphenazine (trilafon) and trifluoperazine (stelazine) in the urine of patients receiving one equivalent dose of each drug. Twenty control patients not

receiving these drugs, all groups subjected to Forrest's FPN test for drug detection and liver function tests; SGOT , SGPT, thymol turbidity, and zinc sulphate turbidity. The ages of the patients group ranged between 15-60 years, 41 were males and 19 were females. The 60 patients group was divided into three equal subgroups receiving three different phenothiazines: first (Thioridazine), second (perphenazine), and the third (trifluoperazine). The result showed that at the beginning time of excretion in the first subgroup it ranged between 3-6 hours with a mean of 4.5 hours $\pm$ S.D 1.15 hours, in the second subgroup it ranged between 2-4 hours with a mean of 3.2 $\pm$ S.D 0.7 hours and in the third subgroup it ranged between 2-6 hours with a mean of 4.1 $\pm$ S.D 1.21 hours. The peak time of excretion in the first subgroup it ranged between 16-32 hours with a mean of 24 $\pm$ S.D 5.8 hours, in the second subgroup it ranged between 16-48 hours with a mean of 24 $\pm$ S.D 7.8 hours and in the third subgroup it ranged between 24-64 hours with a lean of 29.2 $\pm$ S.D 10.77 hours. All patients of the three subgroups proved to be still excreting on the fifth day. Liver function tests in both patients and control group proved to be all within the normal range values. It recommended that Forrest's FPN test has to be applied to psychotic patients receiving phenothiazine medications in mental hospital; this will render their management and

supervision of actual drug intake more easier (**Abd ElGilil, 1984**).

Extrapyramidal Side-effects

Okasha and his colleagues conducted a study with the aim of verifying quantitatively and qualitatively the prevalence of manifestations of extrapyramidal side-effects in a sample of Egyptian schizophrenic patients treated with oral doses of neuroleptics. 55 schizophrenic patients according to ICD-8 taking oral phenothiazines observed for appearance of EPS. The results showed that 36.4% of cases developed EPS with moderate doses of oral phenothiazines. The authors concluded that 60% of schizophrenic patients are receiving antiparkinsonian drugs unnecessarily and risk of return of EPS after discontinuation of antiparkinsonian drugs is small i.e. 30% (**Okasha et al, 1979**).

El Sayed studied the incidence of extra-pyramidal side effects in neuroleptic administration without antiparkinsonian medications. 340 patients with different diagnosis of schizophrenic reaction, affective disorder and drug abusers were selected. Neuroleptics used in this study were Phenothiazine group including thioridazine taken by 110 patients,

chlorpromazine taken by 90 patients and trifluoperazine taken by 80 patients and non phenothiazine group which was butyrophenone and taken by 60 patients. These were given for two weeks period and patients had to be examined every three days interval for the presence of extrapyramidal side effects. The extrapyramidal side effects were found to occur in 112 patients out of the 340 (32.8%). Parkinsonism occurred in 63 patients (18.5%), appeared more in female, the mean age was 32.4 years and it occurred after the 10th day. Dyskinesia found to occur in 19 patients (5.5%), appeared more in male, with mean age of 24.8 years and occurred within hours up to 6th day. Akathisia occurred in 30 patients (8.8%), more in female, with mean age of 26.7 years and it occurred after the 8th day (El Sayed, 1985).

Al-Fiky studied the prevalence of tardive dyskinesia (T.D.) in Egyptian psychotic inpatients under long-term neuroleptic treatment and identified its risk factors, degree of severity, and association with other abnormal involuntary movements. 3037 Subjects were sampled from 3 psychiatric facilities at Cairo and Kaliobiah Governorate. The assessment of each subject consisted of an interview for demographic medical, psychiatric, and medication histories, also a systematized, standardized neurological examination for the abnormal movements was

carried out. Application of the Neurological Rating scale, the abnormal Involuntary Movement Scale, and the Pockland (Simpson) scale for dyskinesia supported the clinical assessment of the dyskinetic movements. The results showed that 52 dyskinetic cases were found among 3037 patients surveyed. The prevalence rate was estimated to be 1.1%. Clinical neurological assessment showed that 5.7% of the dyskinetic patients had parkinsonian symptoms with T.D. Significant associations between T.D. and age at examination (> 40 years), female sex, Christian females, and duration of hospitalization that reflects duration of neuroleptic exposure roughly were detected. But, the relative contributions of the other different variables in occurrence of T.D. are far from clear in the current work. T.D. movements in Egyptian sample were characterized by being mostly central (orofacial) i.e. in 61.6% of cases that was found to affect most commonly the lips (73.1% and jaw (67.3%) followed by the face, upper limbs, and tongue. The trunk and lower limbs were the least affected areas, the chewing movements were the most frequent presentation of T.D. in the study sample (59-6%), followed by smacking movements (55-8%), pouting puckering, grimacing. The sucking movements, rocking movements and head nodding receded back in the preference of manifestations for the diagnosis of T.D. Tardive dyskinesia movements were

mostly of the mild degree of severity (in 61.5% of cases). Neither the localization nor severity of T.D. movements were related to the age, sex, duration of hospitalization, dosage of neuroleptics and number of ECT treatments, and both were not related to each other. Only 15-3% of dyskinetic patients were aware of presence of the abnormal involuntary; movements. Complications secondary to T.D. were present in only 7.7% of cases and were mainly physical. The author concluded that T.D. is a distinct, recognizable syndrome that is attributable to long-term neuroleptic treatment in susceptible individuals (Al-Fiky, 1985).

Drug Compliance in Schizophrenic Patients

Haroun El Rasheed and her colleagues studied the factors associated with non-compliance in relapsing schizophrenic and bipolar affective disorder in Egyptian patients. A clinician administered interview was used to assess compliance and its potential determining factors in 66 relapsing schizophrenics and 60 relapsing bipolar affective patients consecutively admitted into an Institute of Psychiatry, Ain Shams University, Cairo, Egypt. These factors included sociodemographic variables, ICD-10 diagnosis, factors related to disease and beliefs about illness, medication variables and factors related to patient's environment. Results showed that noncompliance was present in 54 (81.82%)

schizophrenic patients and 48 (80%) bipolar affective patients. Schizophrenic patients' sample was formed of 48 males and 18 females, Mean of age was 35.5 years ($SD = 6.9$) for schizophrenic patients. Regarding the educational grade of the schizophrenic patients, 6 (9.09%) finished primary school only, 18 (27.27%) reached secondary school but did not graduate from it, 22 (33.33%) reached college but did not graduate from it, and 20 (30.3%) graduated college. 49 (81.67%) of the schizophrenic patients were living in urban areas. Regarding the marital status of the schizophrenic patients, 28 (42.42%) were single, 38 (57.58%) were married, and 30 (45.45%) had children Fifty-four (81.82%) schizophrenic patients were currently working. Fifty-four (81.82%) schizophrenic patients were non-complaint. All schizophrenic females were non-compliant as compared to 75% of the males. There was no statistically significant difference between compliant and noncompliant patients in terms of marital status or residence status (urban versus rural), illness-related factors including diagnosis and symptom subtypes, insight into illness, feeling stigmatized by illness and substance abuse. Only history of recent substance abuse was significantly related to non-compliance in schizophrenic patients. Regarding the age at onset in schizophrenic disorder, it has a mean of 26.91 ($SD=6.52$), only 6 (9.09%) of the schizophrenic patients had no

previous relapses prior to the present one however, 6 (9.09%) of the schizophrenic patients had more than five previous relapses. On the other hand, regarding the frequency of hospitalization of the schizophrenic patients 4 (6.06%) were hospitalized for the first time while 8 (12.12%) of the schizophrenic patients were hospitalized for more than five times. Non-compliant schizophrenic patients were significantly older than those who were compliant and had significantly more frequent hospitalization. Non-compliant patients in both groups had significantly older age of onset of illness. Larger doses of antipsychotics, oral medication and certain types of antipsychotics were more significantly associated with noncompliance. Previous non-compliance was statistically highly significantly associated with current non-compliance. Moreover, boredom from taking treatment in schizophrenic patients as well as financial burden of drug therapy was significantly associated with current non-compliance. Extrapyramidal side effects, negative symptoms in general and inability to work in particular were significantly associated with noncompliance. Other associated side effects included weight gain, and sleepiness in schizophrenic patients. Patients were non-compliant although they knew they needed the medication, that the medication was a must in schizophrenic patients, moreover the finding that they

improved on medication and that they expected continuation of improvement on medication were significantly associated with non-compliance as well. There was no association between non-compliance and any of the patients' environmental factors. Improved compliance will have an impact in decreasing the disease burden of schizophrenic by decreasing relapse rates, rehospitalization, suicide rate, homicide, violent behavior and its consequent legal sequel as well as improving the overall functioning of the patients. Moreover, the used interview can be applied to patients regularly as a part of their routine follow-up to assess them for the appearance of any of the risk factors that threaten compliance. Older age at onset of illness, previous non-compliance, higher doses of antipsychotics, medication side effects, and financial burden of drugs were associated with non-compliance in both groups. Female gender, being employed, frequent hospitalization, sense of boredom from treatment and substance abuse during the month preceding relapse were significantly correlated with non-compliance in schizophrenic patients. Insight into mental illness and need for treatment were not protective against noncompliance. The authors concluded that compliance is a multifactorial and complex problem. Factors associated with compliance should be pre-empted and specifically addressed in a comprehensive treatment program in

order to improve the overall outcome of psychiatric patients **(Haroun El Rasheed et al, 2001).**

Haggag and her coworkers studied personal, phenomenological and medication risk factors that may determine negative attitude towards medication in a group of hospitalized patients with schizophrenia. Forty-eight consecutive hospitalized patients with schizophrenia were assessed. Assessment included interviewing the patients and a close relative to identify sociodemographic and historical variables by a trained psychiatrist. Detailed symptoms were assessed using PANSS. Schizophrenia diagnosis and subtypes were based on DSM-IV criteria. Patients were assessed for compliance using the Arabic Version of The Drug Attitude Inventory (DAI-10, Awad 1993). Data entry and analysis was done using Epi-info computer and SPSS system. To identify the risk factors for negative drug attitude, multiple logistic regression analysis was applied using drug attitude (negative/positive) as dependent variable and other personal and disease characteristics as independent variables. Statistical significance was considered at P-value, <0.05 . Of the 48 patients, 28 were male and 20 were female. Mean age of males was 33.0 ± 8.4 and 29.6 ± 6.3 of females with no significant statistical difference. The mean

duration of illness in years was 9.0 ± 5.1 for male and 7.9 ± 5.3 for female with no significant statistical difference. The mean number of hospital admissions was higher in males (8.6 ± 18.7) than females (1.3 ± 1.2) with highly significant statistical difference. Duration of hospitalization in days was also higher in males (325 ± 364.0) in comparison to females (35.3 ± 41.3) and the difference was highly significant statistically. No significant statistical difference was noted between males and females regarding family history, history of medication and type of medication side effects. But males reported history of medication side effects more frequently than females and the difference was significant statistically. The most common subtype was the undifferentiated (45%) with no significant statistical difference between males and females. The total number of patients who expressed negative drug attitude was 22 out of the 46 (47.8%) patients. Males showed significantly negative subjective response to prescribed medications (negative drug attitude) in comparison to females. The total PANSS score, as a measure of severity of schizophrenia symptoms, was significantly higher in males than females. Males scored significantly higher also on PANSS subscale "general psychopathology". No significant relation was found between the state of drug attitude and other sociodemographic characteristics. Negative drug attitude was

significantly correlated with the duration of hospitalization. There is significant statistical relation between negative drug attitude and the severity of both positive symptom subscales of PANSS and the total PANSS score. In this study, gender determines significantly the number and duration of hospitalization, reported side effects to medication, drug attitude and severity of schizophrenia psychopathology. Twenty-two (47.8%) of patients expressed negative drug attitude. The final regression model, in this study, after exclusion of age, sex and course of illness, identified the following variables as best predictors of negative drug attitude: the presence of any side effect and the severity of positive and negative symptoms (high scores on positive and negative symptom subscale of PANSS) and low score on PANSS general psychopathology symptoms (**Haggag et al, 2002**).

Electro-Convulsive Therapy

Rashed and her colleagues conducted a study to assess the memory and social behavioral changes in patients with major depression and schizophrenia receiving ECT. Twenty one patients with major depression and 23 with schizophrenia were selected. Memory tests and social behavioral evaluation were

done. The results for schizophrenic patients showed that the mean scores of memory tests before and after unilateral ECT course of therapy revealed no significant improvement. While after bilateral ECT course there was significant improvement in the mean scores of digit span ($t=4.04$), copy part of Bender Gestalt test ($t = 3.96$) and part (A) of the trail making test ($t=2.73$). The comparison of the mean scores differences of the memory test after unilateral and bilateral ECT courses in schizophrenic patients revealed a significant improvement after bilateral ECT course in the mean scores of digit span test ($t = 2.84$) and the copy part of Bender Gestalt test ($t = 3.41$). All behaviors on the social behavior scale improved significantly after unilateral ECT course in schizophrenics except for the psychomotor retardation. After bilateral ECT course the improvement was significant among all mean scores of behaviors except for mean score of suicide. Comparison of the mean scores differences on social behavior scale after unilateral or bilateral ECT courses showed only a significant improvement for psychomotor retardation after 8 bilateral ECT course ($t = 2.79$). Bilateral ECT provided significant improvement of immediate memory and visual motor performance. This may be explained by improvement of psychomotor retardation or excitement which interferes with the performance of the test. Furthermore trail

making test become worse after bilateral ECT course (i.e. takes longer time) than after unilateral ECT course, but with no significant difference between both methods. However memory impairments have been constantly found in schizophrenic patients of all grades of severity, and additional iatrogenic impairment by anticholinergics and dopaminergic antiparkinsonian agents may further compromise already limited functioning in such patients. Also patients who received more ECT courses during their life showed lower scores on digit span than those who did not. Duration of generalized convulsions was positively correlated with improvement in patients' activities. The present study revealed post ECT behavioral improvement after both unilateral and bilateral ECT courses. The comparison between both methods showed no significant differences except for psychomotor retardation. For schizophrenic patients, it was shown that when the number of previous ECT is increased or with longer period of generalized convulsions there was better improvement in patient's activities as well personal appearance and hygiene. Also with increasing the number of ECT sessions the score of incoherence speech and laughing and talking to self decreased. No significant differences in memory functions and social behavior after both unilateral and bilateral ECT, except for significant improvement of immediate memory (digit span),

visual motor performance (copy part of Bender Gestalt) and psychomotor retardation in schizophrenic group. The trail making test became worse after bilateral ECT than after unilateral ECT in schizophrenics but not in major depressive patients with no significant difference. Also patients who received more ECT courses during their life showed lower scores on digit span than those who did not. Duration of generalized convulsions was positively correlated with improvement in patients' activities (**Rashed et al, 1999**).

Psychotherapy

Abdel Razek and his coworkers studied quality of life in a sample of Egyptian patients with schizophrenia. 40 patients with schizophrenia were interviewed using Lehman's Quality of Life Interview. Particular focus was on whether clinical characteristics, such as medication compliance, medications side effects and social skills, could be changed by interventions. Self-reports of better quality of life were associated with fewer depressive symptoms, fewer medication side effects, and better family interactions. The authors hypothesized that clinical interventions to improve quality of life in this population should include family psychoeducational programs and better detection, evaluation, and treatment of both depressive symptoms and side

effects of medication. The authors concluded that improving the quality of life of persons with chronic mental illness is an important treatment goal (**Abdel Razek et al, 2001**).

Abdel-Hameed and his colleagues conducted a study with the aim to modify maladaptive behaviors of chronic schizophrenic patients, and to help patients learn, practice, and develop the skills necessary to be effectively interacting with others. A sample of 30 chronic schizophrenic patients admitted in the psychiatry department of Assiut University Hospital, whose age ranged from 19-55 with illness duration from 2-14 years, 24 were males and 6 were females. 7 cases (23.3%) were disorganized schizophrenia, 7 cases (23.3%) were undifferentiated schizophrenia, 15 cases (50%) were paranoid schizophrenia and one case was catatonic schizophrenia. They were diagnosed according to DSM-IV. They were subjected to Nurse's observation rating scale (NORS), Initiative rating scale (IRS), the Brief psychiatric rating scale (BPRS) and group activities including: group psychotherapy, group reading newspaper, rhythmic body movements and physical exercise activities. They were admitted for one month in the hospital, and then followed up three times after discharge. The results showed that patients' scores improved significantly at the end of the

program in all activities. A significant improvement ($P<0.001$) in IRS in all of its items except sleeping, in BPRS ($P<0.001$) in all of its items except megalomania, in NORS in all schizophrenic groups except the disorganized group, in group psychotherapy ($P<0.001$) in all items except in attitude toward beer mother, and a significant improvement ($P<0.001$) in the scores of other group activities e.g. reading newspaper, rhythmic body movements and physical exercise activity at the end of the program. It can be concluded that paranoid schizophrenia is the best group in improvement, then the undifferentiated schizophrenia and the disorganized group is the worst outcome. Social skills training and group activity can recoup some of these lost skills, and group activities helped them to modify their maladaptive behaviors. Also, it is recommended that, all psychiatric hospitals should be interested in and use activity therapy and group psychotherapy as a pattern of treatment to complement medication in chronic schizophrenic patients, and before discharge of patients from hospital, we must learn their families should be thought to practice the social skills and activity therapy with them after discharge (**Abdel-Hameed et al, 2003**).

Mahfouz and his coworkers conducted a study with the aim of evaluating the effects of an integrated activity therapy

program on the social competence of chronic hospitalized psychiatric patients. Over a period of 10 weeks, 12 chronic psychiatric patients (mostly schizophrenic) were subjected to a rather intensive schedule of group activities within a structured therapeutic milieu. 12 chronic hospitalized psychiatric patients at Al Mokattam mental health center included schizophrenia paranoid type (four patients), chronic undifferentiated type (three patients), catatonic type (one patient); manic depressive, illness (one patient), schizotypal personality disorders (one patient) and schizoid personality disorder (one patient). Age ranged between 15-41 years with a mean of 31 years. Nine of the patients were males (all single) and three were females (one married and two separated) with different educational levels. The duration of illness ranged between 2-8 years and all patients had been hospitalized more than one time before. However, the concept of chronicity adopted in this study was not restricted to the time factor, but was rather in terms of established or settled malorganization, i.e. the active process of disorganization has become over ruled and personality structure has been transformed into an established pathological pattern. Assessment of performance in activities as well as in different aspects related to social competence was carried out at the beginning and at the end of the program. The results have indicated significant

positive changes. Chronic psychiatric disorders, particularly schizophrenia are incapacitating as they usually lead to social isolation and serious deterioration in the personality. This, in turn, leads to a marked decline in social competence. The significant improvement in the patients symptomatology was clearly associated with a significant progress in social competence as indicated from several assessment parameters covering performance in different group activities, performance in daily life activities, as well as the level of relevant ego functioning. The mean scores on performance in every day life activities as assessed by the NOSIE before and after the program .The maximal level of performance is given the highest score and the minimal level are given the lowest score. It can be seen that the percentage of the maximal levels of performance have increased after the therapy program while the percentage of minimal levels of performance have decreased by the end of the program. (Mahfouz et al, 1992).

Family Psychoeducation

El-Shafei studied the importance of integration of family psychoeducation in the regular psychiatric practice for a more comprehensive management of schizophrenia. Hence, the main objective was to test the effect of educational program providing

information, on the knowledge, attitudes, and care giving burden of relatives of patients with schizophrenia. A sample consisted of 90 relatives related to 50 patients with schizophrenia according to the ICD-10 Diagnostic Criteria. Relatives consisted of the main caregivers of patients who were responsible for checking the patient's compliance on medication and for bringing the patient for follow-up whether or not they were living with patients in the same place. Then, an educational program in the Arabic language was designed which included educational material concerning schizophrenia aiming to improve knowledge, attitudes, and care giving burden of relatives of patients. Patients (both cases and controls) were assessed by PANSS, SFQ. Also, relatives (both cases and controls) were assessed by The Community Attitudes toward the Mentally Ill (CAMI), The Fear and Behavioral Intentions Inventory (FABI) to assess the attitudes of relatives. The knowledge About Schizophrenia Interview (KASI) to assess relatives' knowledge about the illness and The Experience of Care giving Inventory (ECI) to assess the care giving burden of relatives. Following the baseline assessment, the educational program was conducted over 6 days and consisted of 3 sessions. The program imparted information about schizophrenia, included group discussions and responding to questions of relatives. Information sheets were

distributed in an attempt to summarize and highlight the most critical information of the program. Moreover, social activities were held for the attendees. At the end of the program, relatives in the experimental group only were reassessed on the following scales CAMI, FABI and KASI. Finally, at the end of the study (3 months following the educational intervention), patients and relatives of both case and control groups were reassessed using the same baseline scales. The results showed an improvement in attitudes and knowledge in relatives of the experimental group over time with very highly significant differences between baseline and end of program scores. Also, results showed a very highly significant decrease on ECI, Total Negative scale and Problems with Services Subscale. Also, a highly significant decrease was detected on the Negative Symptoms subscale which means that the program resulted in a decrease in some aspects care giving burden of relatives. The program showed no significant differences on SFQ and its subscales which means that educating relatives did not result in any significant improvement of the social functioning of patients. However, a significant decrease was detected over time on PANSS Total scale and on the Negative subscale which means that educating relatives resulted in some clinical improvement of patients. Also, the program showed significant change in attitudes of relatives,

mothers were found to have highly significant better attitudes as measured on FABI than brothers and significantly better than wives at baseline. Also, they improved highly significantly better than brothers at the end of the study. Similarly, housewives had very highly significantly better attitudes as measured on FABI than clerks / technicians and they also improved very highly significantly better than they did. In addition, relatives who were illiterate or had lower educational levels expressed highly significant better attitudes at baseline and their attitudes were changed in a significantly more positive direction following education compared to the other groups. The author concluded that family psychoeducation resulted in an improvement in attitudes and knowledge in relatives, change their attitudes towards patients in a positive direction, and decrease their care giving burden. Also, educating relatives resulted in some clinical improvement of patients (El-Shafei, 2002).

Dietary Manipulation

Saleh conducted a study with the aim of studying dietary manipulation in schizophrenia as most of the researches made on the etiology of schizophrenia suggested the presence of a biochemical disorder in the form of neurotransmitter imbalance. Dopamine (DA) and Norepinephrine (NE) are the most

neurotransmitters appear to be involved in schizophrenia. This study is made on 10 schizophrenic patients (5 males, 5 females), with an average age of 50.9 years and an average duration of illness of 26.8 years. All of them were previously exposed to a diet deficient in phenylalanine (PHE), and Tyrosine (TYR), the precursors of DA, NE, and serotonin for two weeks. The preliminary results showed marked, although temporary, improvement in their active symptoms, that suggest the usefulness of using this diet poor in PHE and TYR as supplement to the pharmacological regimen of those patients who failed to respond to pharmacological treatment alone (Saleh, 1990).

Long versus short term hospitalization

Ata conducted a study to define the characteristics of the long-stay schizophrenic patients in an Egyptian sample and to search for factors interfering with their discharge. 100 patients (50 males and 50 females) of different types of schizophrenia for more than five years diagnosed according to ICD-10 Criteria assessed by modified FACE Profile (which allows collecting data on demographic data, psychiatric history, mental health, danger to others and to self, problems in aspect of personal

functioning, and desire for discharge) and The Socio-Economic Status Scale of The Family. The results showed that 73% of our patients were within the very low to below average social class. The single status was more prevalent in males while the divorced status was more in females. There was a significant difference in education between sexes. The families represent the corner stone of the community psychiatric services in our culture because 96% of schizophrenic patients were referred to the hospital by their families. Although the mean duration of the current admission was 13.7 years, it is shorter than long-stay-patients in western countries. 97% schizophrenic patients was diagnosed with different types of schizophrenia. 95 % had moderate to severe illness. Also, 80% had marked negative symptoms, 42% had marked positive symptoms, and 29% had both. All of the above confirm the importance of the clinical factors in prolonged hospitalization. Criminal behavior and other behavioral problems were more prevalent in males before admission while violence was more in females. Three months before the assessment, violence, sexual assault, and behavioral problems were more prevalent in males. Deliberate self-harm was more prevalent in males while non-deliberate self-harm was more in females. 18% had current actual risk to self or others. 19% had no desire for discharge, and it was found that the negative symptoms followed

by the regularity of visits were the most important predictors of desire for discharge. In conclusion, There were many factors interfering with the discharge of patients, including clinical factors (positive symptoms, risk to others and self), social factors (mainly related to the family and regularity of visits), and demographic characteristics (marital status, social class, and level of education). (**Ata, 2004**).

Abd El Malik conducted a study with the aim of exploring the possible available factors which could be influential in affecting the period of stay inside Khanka Mental Hospital. 100 schizophrenic patients who stayed less than 90 days, compared with another group of 100 schizophrenic patients who had been in hospital for more than 3 months. Both groups were subjected to a semistructured psychiatric interview, physical and neurological examination. They were diagnosed according to the DSM III criteria (1980). The results revealed that married patients were found more among those with short-term hospitalization (53%) than among those with long-term hospitalization (26%). LTH were significantly less educated and younger on admission, they recorded a significantly higher prevalence of disturbed home atmosphere (67%), positive family history of psychiatric disorder (21%) they tended to be of low

socioeconomic status and unemployed than STH. Patients with STH show significantly higher rate of voluntary admission (21%). They had a significantly fewer number of previous psychiatric admissions, received a higher number of visits/month than LTH. Patients of short-term hospitalization were more frequently diagnosed as paranoid 39% disorganized 35% and catatonic subtypes (12%) , than patients with long-term hospitalization who were labeled the diagnosis of residual (29%) and undifferentiated subtypes (13%) more often according to DSM III criteria. The author concluded that long-term hospitalization are accompanied with low socioeconomic status and unemployment, single status, disturbed home atmosphere, positive family history of psychiatric disorder and higher number of previous psychiatric admissions, Residual and undifferentiated subtypes of schizophrenia are associated with Long-term hospitalization (**Abd El Malik, 1985**).

Shama conducted a study with the aim to assess satisfaction with life among long stay patients in psychiatric hospital. The study was carried out at Tanta Mental Health Hospital. The sample included 151 long stay psychiatric patients hospitalized for a minimum of 2 years without any discharge exceeding one month. Data were collected using interview technique including

biosocial and clinical data. The second part was an Arabic version of long stay hospitalized psychiatric patients satisfaction with life scale. Conclusions drawn from this study reveal that long stay patients in psychiatric hospitals feel dissatisfied with their life. Most of the dissatisfied patients have feelings of fearfulness, isolation, lack of individualization, perceived the hospital environment as unsatisfactory, lack of autonomy, perceived personal hygiene facilities as unsatisfactory, lack of status and recognition and restriction of action. Patients in private wards feel more satisfied than patients in gratis wards. Also the patients who get visitors are more satisfied with their life in psychiatric hospital than those who have no visitors. There was no significant statistical relationship between satisfaction with life within the hospital and patient's sex, age, marital status, level of education and diagnosis (**Shama, 2001**).

Ahmed conducted a study aiming to find out the characteristics of long stay schizophrenia patients and their needs of support, if they are to be discharged and to establish a standard, comprehensive integrated and reliable way of assessing patients with schizophrenia before discharge, not only as regards clinical signs and symptoms, but also as regards their level of social functioning and problematic behaviors. 100 patients with

schizophrenia according to ICD-10 criteria, 50 of them were recruited from the inpatients at Abassya Hospital and 50 from those attending the outpatient clinics of the Institute of Psychiatry, Ain Shams University. Cases assessed by: SANS, SAPS, Social Functioning Questionnaire (for the detailed assessment of the individuals' level of adaptive functioning for both rehabilitation and research purposes), Social Behavior Schedule and The Community Placement. Then data were analyzed using computerized version of Statistical Package for Social Sciences (SPSS 10). The results showed that both groups differed in sociodemographic factors where inpatients tended to be older than outpatients (mean inpatients 36.9 ± 8.5 years vs. mean outpatients 31.9 ± 9.2 years) inpatients were less educated and more likely to be single (92% inpatients - 72% outpatients) (68% illiterate or primary vs. 30% in outpatients) Outpatients performed better in activities of daily living assessed by SFQ, but this was mainly due to lack of chance to practice in hospital setting. Autonomy was almost complete for 30% of outpatients as compared to 14% of inpatients. Outpatients had larger number of significant relations which are mainly kins (68% had kins vs. 10% in inpatients) and less problematic family relations (38% vs. 93.9% in inpatients). Inpatients were mainly unwanted by their families (51%). Outpatients were exclusively more advantaged

than inpatients regarding availability of resources. Regarding accommodation needs none of the patients was believed to need long term hospitalization. Both groups needed a various range of accommodation with nearly half of the patients of both groups needing intermediate care (62% of inpatients vs. 42% of outpatients). Finally only 16% of inpatients were thought capable of living independently as compared to 88% of outpatients. Females inpatient were comparable to males in every aspect of the illness except for the final outcome where they tended to be have no previous employment (female patients consisted 29.6% of those in open employment vs. 78.6% of men). Social functioning of the patients was weakly correlated to positive symptoms of schizophrenia. The author concluded that a significant number of long-stay inpatients of Abassya Hospital with schizophrenia could be successfully discharged and the reason for their prolonged hospitalization is mainly because they are being abandoned by their families and not related to their clinical condition, level of social functioning or degree of problematic social behaviors. Social functioning may not always be correlated to the clinical presentation of schizophrenia. (Ahmed, 2002).

Role of Day Center

Abdou conducted a study to test the main hypothesis that psychosocial day center program will improve outcome and quality of life of patients suffering from schizophrenia, bipolar I disorder, or major depression and to detect the psychodemographic data that mediate the effect of day center program on the outcome. The sample consisted of 58 patients attending outpatient clinic related to 59 patients attending day center of Abu Dhabi New Psychiatry Hospital. They were diagnosed according to DSM IV criteria using SCID I and assessed by: PCASEE, SCIDI, Beck Depression Inventory, Beck Rafaelsen mania scale, Brief Psychiatric Rating Scale and GAP scale. Then the patients were subjected to same scales after three months and again after six months. The results showed that there was significant improvement in the study group compared to control group in cognitive problems, and social dysfunction. Also there was significant improvement in GAP scores and BPRS Scale in schizophrenic patients. Significant improvement in affective problems, cognitive problems, ego problems, physical problems, social dysfunction, and total quality of life score also there was significant improvement in GAP scores and Beck Depression Inventory in depressed patients. Significant improvement in ego problems, social dysfunction, and total quality of life score. Also there was significant improvement in GAP scores and Mania

Scale in manic patients. In conclusion, day care is an essential component of community care, providing structured and individualized care close to the patient's home. It fills the gap between the inpatient setting and the outpatient clinic. The day center has a role in improving the quality of life of the chronic mental patients both subjectively and objectively (**Abdou, 2003**).

Quality of Service

Khalil and her colleagues studied quality of services offered to schizophrenic patients in an Egyptian hospital. A sample of 62 schizophrenic patients who were admitted to Ain Shams University Psychiatric Hospital during the second quarter of year 2000. Beds for Psychiatric patients are not always available, so it may be wise to increase the number of beds. Services lack the supportive groups for community therapy, psychosocial intervention and extra mural facilities e.g. rehabilitation & self help groups in stead they utilize family cohesion, as mental patients are not usually rejected by their families, society or work

place, but it is mandatory to raise the public awareness and to provide counseling services for the patient's family. Concerning treatment modalities, they found that conventional drugs are but not usually acceptable. Novel drugs are available and acceptable, but not affordable nor accessible. ECT is available, accessible and affordable but not acceptable. The standards of the western guidelines could only fit the wealthy patients who can pay, but it is not suitable for the poor patients. The authors hypothesized that we should tailor the Egyptian guidelines for the treatment of schizophrenia, to conform to the local needs and resources, and we have to take into consideration our economic resources social and cultural perspectives. At the mean time it is preferable to increase the number of beds, prepare training courses for social workers, psychologists and G.P.s, raise the public awareness in a trial to overcome the stigma of psychiatric disorders, and to create advocate groups by the help of the Non Governmental Organizations (Khalil et al, 2001).

Stigma and Attitude towards Patients with Schizophrenia

El-Sheikh and El-Defrawi studied knowledge and attitude of adolescents towards patients with schizophrenia, in order to identify the adolescent concepts about schizophrenia and the

degree of stigma and discrimination against people who suffer from this mental disorder, a cross sectional survey was done in a randomly selected secondary school in Port Said city. A specially designed questionnaire was used to collect data. The result shows 381 students in 1st year secondary school answered the questionnaire, about 22.8% of them did not know any knowledge about schizophrenia (Arabic term is fusam) while 32% of them defined it as split personality. 10% refuse to be in the work or in the class of a Patient with Schizophrenic. In addition, there were statistically significant differences in social isolation regarding those who had poor and good knowledge. Only 3% of the students knew that schizophrenia could be treated with drugs. They concluded that programs aiming at reduction of stigma of schizophrenia should target the knowledge and attitudes. **(El-Sheikh and El-Defrawi, 2001).**

El-Defrawi and his colleagues interviewed 282 accompanied members of families of patients with psychoses attending psychiatric treatment facilities in Ismailia to elicit their knowledge and attitudes about the identified patient's mental illness. 55% of patients were accompanied by their first degree relatives, followed by second (22.5%) and third degree relatives (22.5%). TV (37.5%) and physicians (37.5%) were the main

source of knowledge about mental illness, and knowledge about patient's diagnosis was significantly associated with the educational level of relatives ($p<0.03$). 50% of those with secondary educational level reported that mental illness is a neuropsychiatric disease. Self neglect (75%), talking to one self (75%), meaningless speech (62.5%), and bizarre behaviors (62.5%) were among the highest frequent perceived psychotic manifestations reported by relatives to increase the stigma. While 87.5% of relatives reported that psychotic mental disorders are caused by disturbed family relationships, 75% believed that psychotic patient can not work, is likely to be violent (75%), and that antipsychotic drugs lead to addiction (75%). Moreover, relatives expressed positive attitudes (87.5%) indicting that family support has a great role in treatment, however, 62.5% expressed their negative attitudes that they will not marry a mentally ill patient, although more than 50% reported that the illness improves with treatment. The results are discussed in the light of an ongoing World Psychiatric Association (WPA) antistigma educational program in Ismailia (**El-Defrawi et al, 2001**).

El-Shatoury and his coworkers conducted a study aiming to assess knowledge and attitude of Bedouins towards mental

disorders. 81 subjects from Saint Catharine (South Sinai) were randomly and systematically recruited and interviewed with a semistructured technique to obtain a profile of their concepts and beliefs. Results showed that 89% of interviewee does not recognize the term schizophrenia (Fusam) and 66.6% refused to work with a patient known to have mental disorder. The implications of these finding suggest that programs aiming at reduction of stigma of mental illness should target the knowledge and attitudes of various community subgroups. **(El-Shatoury et al, 1999).**

Table (6 - 1) Summary of Egyptian studies on management of schizophrenia

Study	Author	Site	Results
Pharmacotherapy	Okasha and Okasha (2003)	Ain Shams University	Risperidone administered once daily at a mean dose of 5.9 mg / day significantly reduced the severity of acute exacerbation in subjects with chronic or sub-chronic schizophrenia, with an overall good safety profile.
	Awad (1999)	Alexandria University	There is a significant improvement with use of novel antipsychotics (clozapine, olanzapine and risperidone) in different stages and severity of schizophrenia. There is a very low liability to cause extra pyramidal side effects. There is high liability for patients taking clozapine and olanzapine for weight gain.
	El-Hamrawy (1992)	Tanta University	Fluspirilene used in doses ranging from 6 to 18 milligrams weekly, deep intramuscularly, is effective in reducing negative symptoms in absence of positive

			symptoms and especially in the presence of catatonic features.
Extra-pyramidal Side-effects	Abd ElGilil (1984)	Alexandria University	Forrest's FPN test has to be applied to psychotic patients receiving phenothiazine medications in mental hospital; this will render their management and supervision of actual drug intake easier.
	Okasha et al (1979)	Ain Shams University	36.4% of cases developed EPS with moderate doses of oral phenothiazines. 60% of schizophrenic patients are receiving antiparkinsonian drugs unnecessarily and risk of return of EPS after discontinuation of antiparkinsonian drugs is small i.e. 30%.
	El Sayed (1985)	Alexandria University	32.8% of cases developed EPS. Parkinsonism occurred in 63 patients (18.5%), appeared more in female, it occurred after the 10th day. Dyskinesia found to occur in 19 patients (5.5%), appeared more in male, it occurred within hours up to 6th day. Akathesia occurred in 30 patients (8.8%), more in female, it occurred after the 8th day.
Electro-Convulsive Therapy	Al-Fiky (1985)	Ain Shams University	The prevalence rate of T.D. was estimated to be 1.1%. Significant associations between T.D. and age at examination (> 40 years), female sex above 50 years. At examination, Christian females, and duration of hospitalization that reflects duration of neuroleptic exposure roughly were detected.
	Rashed et al (1999).	Alexandria University	Duration of generalized convulsions was positively correlated with improvement in patients' activities. No significant differences in memory functions and social behavior after both unilateral and bilateral ECT
Drug Compliance	Haroun El Rasheed et al (2001)	Ain Shams University	Non-compliance was present in 54 (81.82%) schizophrenic patients. Non-compliance was associated with older age of onset of illness, larger doses of antipsychotics, oral medication, previous non-compliance, boredom from taking treatment, financial burden of drug therapy, EPS, negative symptoms in

	Haggag et al (2002)	Ain Shams University	general and inability to work in particular were significantly associated with noncompliance. 47.8% of patients expressed negative drug attitude. The presence of any side effect and the severity of positive and negative symptoms were associated with non-compliance.
Psychotherapy	Abdel Razek et al (2001)	Ain Shams University	Clinical interventions to improve quality of life in this population should include family psychoeducational programs and better detection, evaluation, and treatment of both depressive symptoms and side effects of medication.
	Abdel-Hameed et al (2003)	Assiut University	Social skills training and group activity can recoup some of the lost skills, and group activities helped schizophrenic patients to modify their maladaptive behaviors.
Family Psycho-education	Mahfouz et al (1992)	Al-Mokattam mental health Center.	The percentage of the maximal levels of performance has increased after the therapy program while the percentage of minimal levels of performance has decreased by the end of the program.
	El-Shafei (2002)	Ain Shams University	Family psychoeducation resulted in an improvement in attitudes and knowledge in relatives, change their attitudes towards patients in a positive direction, and decrease their care giving burden. Educating relatives resulted in some clinical improvement of patients.
Dietary Manipulation	Saleh (1990)	Al Azhar University	Diet poor in PHE and TYR may be useful as supplement to the pharmacological regimen in patients who failed to respond to pharmacological treatment alone
Long versus short term hospitalization	Ata (2004)	Ain Shams University	There were many factors interfering with the discharge of patients, including clinical factors (positive symptoms, risk to others and self), social factors (mainly related to the family and regularity of visits), and demographic characteristics (marital status, social class, and level of education)
	Abdel Malik (1985)	Ain Shams University	long-term hospitalization are accompanied with low socioeconomic status and unemployment, single status, disturbed

			home atmosphere, positive family history of psychiatric disorder and higher number of previous psychiatric admissions, Residual and undifferentiated subtypes of schizophrenia are associated with Long-term hospitalization
	Shama (2001)	Tanta University.	Most of the dissatisfied patients have feelings of fearfulness, isolation, and lack of individualization, perceived the hospital environment as unsatisfactory, lack of autonomy. There was no significant statistical relationship between satisfaction with life within the hospital and patient's sex, age, marital status, level of education and diagnosis.
	Ahmed (2002)	Ain Shams University	Significant number of Long-stay inpatients of Abassya Hospital with schizophrenia could be successfully discharged; and the reason for their prolonged hospitalization is mainly because they are being abandoned by their families; and not related to their clinical condition, level of social functioning or degree of problematic social behaviors.
Role of Day Center	Abdou (2003)	Ain Shams University	Day care is an essential component of community care, providing structured and individualized care close to the patient's home. It fills the gap between the inpatient setting and the outpatient clinic. The day center has a role in improving the quality of life of the chronic mental patients both subjectively and objectively.
Quality Of Service	Khalil et al (2001)	Ain Shams University	We should tailor the Egyptian guidelines for the treatment of schizophrenia, to conform to the local needs and resources, and we have to take into consideration our economic resources social and cultural perspectives. At the mean time it is preferable to increase the number of beds, prepare training courses for social workers, psychologists and G.P.s, and raise the public awareness in a trial to overcome the stigma of psychiatric disorders.
Stigma and Attitude towards	El-Sheikh and El-	Port Said.	22.8% of 381 students in 1st year secondary school did not know any knowledge about schizophrenia (Arabic

Patients with Schizophrenia	Defrawi (2001)		term is fusam) while 32% of them defined it as split personality. 10% refuse to be in the work or in the class of a patient with schizophrenic.
	El-Defrawi et al (2001)	Ismailia.	TV (37.5%) and physicians (37.5%) were the main source of knowledge about mental illness, and knowledge about patient's diagnosis was significantly associated with the educational level of relatives.
	El-Shatoury et al (1999)	Saint Catharine (South Sinai)	89% of interviewee does not recognize the term schizophrenia (Fusam) and 66.6% refused to work with a patient known to have mental disorder.

Chapter 5

Outcome

Outcome

Outcome of Schizophrenia

Abdel Messih studied 75 schizophrenic patients. Overall outcome was assessed using both Global Assessment of Function (GAP) scale and the Quality of Life scale (PCASEE). There were no statistically significant correlation between overall outcome and psychodemographic data (age, sex, marital status, educational level and social class) of the sample. The results of this study on the outcome of schizophrenic patients showed that

25.3 % were self-supportive (favorable outcome) with regards to functional outcome, as measured by the Residential and Occupational outcome scales; whereas 23.6 % were "improved" with regard to psychopathological outcome. There were no significant differences between male and female subjects with regard to current functional outcome. When multiple regression analysis was applied to all the variables, to find probable risk factors that may affect the clinical outcome, Age at onset was the first risk factor as poor clinical outcome correlates with younger age and the next factor is symptom severity at Index episode as the higher total PANSS score at Index episode the poorer the clinical outcome. The results of the study showed that the socio-demographic characteristics of the sample pointed at a male preponderance, mean age of 43 years, with the majority of subjects having never married, being college graduates and coming from social class I. There were no gender differences as regards socio-demographic data except for a preponderance of never married men. The clinical description of the sample showed a mean age of onset of 25 years, with a mean of 6 for the number of episodes and 7 for the number of hospitalizations. There were no gender differences as regards the clinical description of the subjects. **(Abdel Messih, 2002)**

Owaida and his colleagues studied the outcome of Egyptian schizophrenic patients before the era of neuroleptics and other recent medications, who have been admitted for the first time and as near as possible from the time of onset i.e. natural course and outcome and clarifying changes that might happen in the outcome of those patients after 5 and 30-years of the time of their first admission to a mental hospital. All case notes of all patients admitted during the period from 1930 to 1934. They were 1887 case notes, with the exclusion of case notes of those who were admitted for medico-legal reasons, patients having a diagnosis other than schizophrenia (877 case notes), non-Egyptian patients (59 case notes), patients who have been previously and repeatedly admitted before 1930 (238 case notes) and patients who were improved (on the basis of amelioration of their initial symptoms) but their relatives refused to accept them, and since then, they stayed in the hospital indefinitely (10 case notes). Where the rest (703 case notes) represented the sample of the current work. Operational criteria for clinical assessment of the outcome at two intervals five and thirty years. 703 case notes of Egyptian schizophrenic patients firstly admitted to Abassya Mental Hospital during the period from 1930 to 1934, were examined to identify their clinical outcome after 5 and 30 years of their initial admission. The results showed that findings of the

5 -years outcome casted that 13.7% of 37.4% had a good outcome, while 22.9% and 39.770 exhibited fair and bad outcomes respectively. The 30- years outcome results differed remarkably. 27% died during their admission and only 15% of the living subjects denoted a good outcome, while 60% and 25% had fair and bad outcomes respectively. In conclusion, inspire of differences in simple characteristics and treatment modalities, these findings were similar to western studies and these figures coincide with similar results of studies done in other developing countries, but were of more favorable outcome than those carried out in the developed countries, which were keeping with the results of the International Pilot Study of Schizophrenia. Despite the great scientific advancement in researches characterizing the era in which we do live, schizophrenia did not disclose its secrets. It remained of unknown etiology up till now and specific treatment is limited to empirical palliative measures. The contradiction between short and long-term outcome emerged by the present study needs further researches. Relying on data of the western 5 years outcome studies determining treatment strategies for Egyptian schizophrenic patients, especially the long - term policies, may be misleading. **(Owaida et al, 1990).**

Table (5-1) Summary of Egyptian studies on outcome of schizophrenia

Study	Author	Site	Results
Outcome of schizophrenia	Abdel Messih (2002)	Ain Shams University	25.3 % were self-supportive (favorable outcome) with regards to functional outcome, whereas 23.6 % were "improved". There were no significant differences between male and female subjects with regard to current functional outcome. Age at onset was the first risk factor as poor clinical outcome correlates with younger age and the next factor is symptom severity.
	Owaida et al (1990)	Abassia mental hospital. Cairo	The results showed that findings of the 5 -years outcome casted that 13.7% of 37.4% had a good outcome, while 22.9% and 39.770 exhibited fair and bad outcomes respectively. The 30-years outcome results differed remarkably. 27% died during their

admission and only 15% of the living subjects denoted a good outcome, while 60% and 25% had fair and bad outcomes respectively

Discussion

Discussion

Schizophrenia is the commonest chronic variety of psychosis in Egypt and represents the bulk of in-patients in mental hospitals.

Epidemiology

Different cultures do not give rise to different psychiatric disorders but only modify their phenomenology. Epidemiological research in Egypt has demonstrated that males have a higher prevalence than females due to the earlier age at onset and also the poor outcome than females. This results is not representative

of gender differences as it may indicate that families of female schizophrenic patients not seek help because of the stigma of schizophrenia.

Inspite of the importance of epidemiology in understanding any disease, no epidemiological studies was done on schizophrenia in Egypt.

Comorbidity

Research work in Egypt shows that schizophrenic patients are at high for many medical disorders contributable to both their psychiatric illness and to the medications they received.

Biological aspects of schizophrenia

Research work in Egypt showed that various abnormalities were recorded in alpha globulin fraction protein and immunoglobulins in the sera of Egyptian schizophrenic patients without sufficient explanation. Also, issues related to diagnostic criteria and choice of DNA markers were highlighted in genetic linkage studies aimed to localize a candidate gene that may be segregating in consanguineous families containing a high density of schizophrenic patients.

The brain morphology of a group of Egyptian chronic schizophrenics showed central atrophy and significant frontal

lobe atrophy. Egyptian schizophrenic patients showed various degrees of hypoperfusion in their SPECT.

Life Events

The most important precipitating factors in Egyptian patients were frustration, deprivation, separation, and stress imposed by examination.

Familial factors

Egyptian researches showed that schizophrenics were exposed to multiple delirious family experiences and both parents showed a high incidence of mental illness, abnormal personality traits and disturbed interaction with their children and with themselves.

The most prominent feature of emotional interaction in Egyptian schizophrenics' families was a symbiotic relationship between the preschizophrenic child and the parent of the opposite sex.

The siblings of the schizophrenics showed a high incidence of mental illness. It also showed that there is a significant correlation between family structure and the patient's childhood, his premorbid personality, the clinical manifestations and the course of the patients' illness. Recently, different family

dynamics was detected between the hebephrenic and paranoid subgroups of schizophrenia.

Manifestations of Schizophrenia

Differences in the symptomatology of schizophrenia in Egypt have been a subject of many investigations with interesting results.

A number of important differences in the diagnosis of schizophrenia in Egypt compared to USA and UK. Clinical analyses have shown differences in the clinical presentations of schizophrenia as a result of cultural pathoplastic influences.

Studies to investigate Egyptian schizophrenic patients as regards the positive and negative symptoms revealed that schizophrenic patients could be classified into two groups: Patients with positive symptoms, characterized by more delusions and hallucinations, and patients with negative symptoms characterized by more disorganization, blunted affect, social withdrawal, concrete stereotyped thinking, lack of spontaneity, poor attention, and disturbance of volition. Negative symptoms showed weak negative correlation with positive symptoms and depression

Affective Phenomena in Schizophrenia

The importance of affective phenomenon in schizophrenia has been recognized since the early evolutionary stages of Psychiatry. Fear is the most prominent affect followed by tension, anger and hostility in Egyptian patients with schizophrenia.

Prodromal phase

It is generally believed that onset and recurrence of psychotic symptoms in schizophrenia are often preceded by prodromal symptoms.

Research work in Egypt proved that somatic concern, feeling of tiredness, anxiety and depressive symptoms were frequently encountered in patients with schizophrenia four weeks prior to relapse. Hostility and criticism were considered the most important indicators for relapse in Egypt.

Treatment of Schizophrenia

About 80% of state mental hospitals in Egypt are for treatment of schizophrenia compared to 25% of psychiatric beds in general hospitals and 43% in private psychiatric hospitals. Psychiatric beds in Egypt are neither sufficient nor easily accessible, and not usually affordable.

Researches on treatment of schizophrenia in Egypt included studies on the side effect of neuroleptics, the excretion of these

drugs and the value of use of atypical antipsychotics. It includes also researches on the current use of E.C.T.

Researches on treatment of schizophrenia in Egypt proved that there is a significant improvement with use of novel antipsychotics (clozapine, olanzapine and risperidone) in different stages and severity of schizophrenia. There is a very low liability to cause extra pyramidal side effects

Non-compliance in Egyptian schizophrenic patients was associated with older age of onset of illness, larger doses of antipsychotics, oral medication, previous non-compliance, boredom from taking treatment, financial burden of drug therapy, EPS, negative symptoms in general and inability to work in particular were significantly associated with noncompliance. The presence of any side effect and the severity of positive and negative symptoms were associated with non-compliance

Stigma

Research work in Egypt showed that schizophrenia is associated with a significant amount of stigma and discrimination, which further increase the burden on patients and their families. A variety of studies in Egypt have illustrated the general negative and rejecting attitudes towards patients with schizophrenia. TV (37.5%) and physicians (37.5%) were the main source of

knowledge about mental illness, and knowledge about patient's diagnosis was significantly associated with the educational level of relatives.

Course and outcome

The influence of family support in the course of schizophrenia in Egypt is important and remains a significant area for research and for psychosocial interventions.

Research work on outcome of schizophrenia in Egypt showed that 25.3 % were self-supportive (favorable outcome) with regards to functional outcome, whereas 23.6 % were "improved". The 5-years outcome casted that 13.7% of 37.4% had a good outcome, while 22.9% and 39.770 exhibited fair and bad outcomes respectively. The 30-years outcome results differed remarkably. 27% died during their admission and only 15% of the living subjects denoted a good outcome, while 60% and 25% had fair and bad outcomes respectively

Critical Appraisal

Critical appraisal

1- A Study of the Chromosomes in Egyptian Schizophrenics (Kamel, 1965)

The study was conducted with the aim of evaluating the Chromosomal anomaly that can be demonstrated on the cytological level in schizophrenic patients. The aim of the study was clearly stated. Moreover the researchers explained the importance of carrying out such study in Egypt. Cross-sectional survey which has been used in the research was not appropriate to the aim, Case- control study is the more preferred study design. Measurements used in the research were identified &

referenced, however the reliability and validity of the measurements needed to be discussed in details.

The results were presented in tables and figures, which help for better understanding. Consistency with other results was also discussed; this gives more weight to the results.

The suspected implications of the study on our practice weren't discussed, yet the study opened the door for the researches in the same subject.

2- Drug-induced Extrapyramidal Side-effects in Egyptian Schizophrenic Patients. (Okasha et al, 1979)

The aim of the study was clearly stated giving an explanation for the purpose of the study. Cross-sectional design used by the study was appropriate to the aim. The size of the sample needed to be justified how it was calculated to meet the study aim. The validity and reliability of measures were described in the work and the statistical methods were well described.

In presenting the results, the sociodemographic characteristics of the sample under the study were described & presented in tables. In discussing the results, both the consistent and the inconsistent results of the previous researches were

discussed, and the differences were attributed to the cultural differences between the study sample and their samples. Finally, the suspected implications of the study on our practice were presented at the end of the work.

3- Protein Electrophoresis in Schizophrenia. (Gawad&Abdel Gawad, 1979)

The aim of the study was to study the fractions of serum proteins schizophrenic patients and to find out the underlying biological correlation of schizophrenia with fractions of serum proteins. This aim wasn't sharply defined & needed to be specified. The design used was cohort study which has been used in the research was not appropriate to the aim, Case- control study is the more preferred study design. The criteria of selection of cases needed to be described in details. The size of sample needed to be justified, how it was calculated to meet the study aim. Although the measurements were described, there was a need for discussing their validity and reliability. The statistical methods used needed to be described in details.

Also results were presented in tables and figures, which help for, better understanding. Consistency with other results was also discussed; this gives more weight to the results.

4- Clinical Presentation of Schizophrenia among Alexandria University Students. (Ramadan, 1979)

The aim of the study was clearly stated giving an explanation for the purposes of the study cross-sectional design was appropriate to the aim. The sample was not designed to represent the whole Egyptian schizophrenic patients; the study chose a sample from Alexandria University Students which is a specific age group with specific educational level. Although the measurements were described, there was a need for discussing their validity and reliability. The statistical methods used needed to be described in more details.

The results were presented in tables which help for better understanding; they were discussed, compared with other researches. Consistency with other results was also discussed; this gives more weight to the results.

5- Histamine and Schizophrenia: A Validation Study for Skin Response to Intradermally Injected Histamine in Schizophrenia. (Al-Mahallawy et al, 1980)

The aim of the study was clearly stated giving an explanation for the purpose of the study. Cross-sectional design used by the study was appropriate to the aim. The size of the sample needed to be large enough to meet the study aim. The

cases were clearly defined according diagnostic criteria; also the source of the cases was clearly justified. The measurements used in this work were described with discussing their validity and reliability. The statistical methods were needed to be described in details.

The results were presented in tables which help for better understanding; they were compared with other researches. Consistency with other results was discussed this gives more weight to the results. The implications of the study on our practice were discussed.

6- Life Events and Schizophrenia: A Case-Control Study. (Ashour et al, 1980)

The aim of the study was clearly stated giving an explanation for the purpose of the study. Case-control design used by the study was appropriate to the aim. The size of the sample needed to be justified how it was calculated to meet the study aim. The cases were clearly defined according diagnostic criteria; also the source of the cases was clearly justified. The source of control group was mentioned by the researchers also it was matched with the case group for age, gender and other demographic variables. The measurements used in this work were described in details with discussing their validity and

reliability. The statistical methods were well described and P-value was used to assess the statistical significance.

Also results were presented in tables and figures, which help for better understanding. In discussing the results, both the consistent and the inconsistent results of the previous researches were discussed.

Finally, the suspected implications of the study on our practice were presented at the end of the work.

7- Electrophoresis in Psychiatry: Autoimmune Hypothesis for Schizophrenias (Gawad&Abdel Gawad, 1980)

The aim of the work was clearly stated and specified in the research hypothesis. The design used was cohort study which has been used in the research was not appropriate to the aim, Case-control study is the more preferred study design. The size of sample was small to meet study aim. The measurements and tools needed to be described in more details, discussing their validity and reliability.

Also results were presented in tables and figures, which help for, better understanding. Consistency with other results was also discussed; this gives more weight to the results.

The researchers didn't give attention to other factors that might be related, which is known as confounding.

8- Cortical and Central Atrophy in Chronic Schizophrenic: A Controlled Study. (Okasha et al, 1981)

The aim of the study was clearly stated giving an explanation for the purpose of the study. Case-control design used by the study was appropriate to the aim. The size of the sample needed to be justified how it was calculated to meet the study aim. The characteristics of the cases were well described and presented in tables, also the control group was matched with the patient group as regard size and demographic characteristics. The validity and reliability of measures were described in details. The statistical methods were well described.

The results were presented in tables and figures, which help for better understanding. In discussing the results, both the consistent and the inconsistent results of the previous researches were discussed.

9- Relative Symptom Importance in the Diagnosis of Schizophrenia. (Gawad et al, 1981)

The aim of the work was clearly stated and specified in the research hypothesis. Cross-sectional design used by the study was appropriate to the aim. Measurements used in the research were identified and described in details and were referenced. It was

also preferable to mention how it was standardized, especially if it was done by more than one rater.

The results were presented in tables and figures, which help for better understanding. The researchers had compared the findings in his study with other Western studies identifying the differences between them; moreover he tried to explain the differences.

10- Psychiatric Disturbances in Children of Chronic Schizophrenic Patients. (El-Morsi, 1982)

The aim of the study was clearly stated giving an explanation for the purpose of the study. Case-control design used by the study was appropriate to the aim. The size of the sample needed to be justified how it was calculated to meet the study aim. The cases were clearly defined according diagnostic criteria; also the source of the cases was clearly justified. The measurements used in this work were needed to be described in details with discussing their validity and reliability. The statistical methods were needed to be described in details.

The results were presented in tables which help for better understanding; they were compared with other researches.

Consistency with other results was discussed this gives more weight to the results.

11- Schizophrenia and its Relation to Blood Groups. (Youssef, 1982)

The aim of the study was clearly stated giving an explanation for the purpose of the study. Case-control design used by the study was appropriate to the aim. The size of the sample needed to be justified how it was calculated to meet the study aim.

The cases were clearly defined according diagnostic criteria; also the source of the cases was clearly justified. The source of control group wasn't mentioned by the researcher however it was matched with the case group for age, gender and other demographic variables.

The measurements used in this work were needed to be described in details with discussing their validity and reliability. The statistical methods were needed to be described in details.

The basic characteristics of the sample were described in tables which represented the demographic distribution as well as the different subgroups supplemented the study. Also results were presented in tables and figures, which help for better

understanding. Consistency with other results was discussed this gives more weight to the results.

12- Ego Function in Schizophrenia. (Rakhawy et al, 1983)

The study was conducted with the aim of evaluating the extent and the manner of impairment of ego functions in schizophrenic patients, cross sectional cohort design was appropriate to the aim.

The research had clearly identified how the cases were obtained and followed diagnostic criteria for cases selection, however source of cases wasn't mentioned. The basic characteristics of the sample were described in tables which represented the demographic distribution. The size of sample needed to be justified, how it was calculated to meet the study aim. A larger sample size is required

The results were presented in tables which help for better understanding. Consistency with other results was also discussed; this gives more weight to the results.

13- Levels of Some Blood Enzymes in Schizophrenia. (Hussien, 1983)

The aim of the work was clearly stated and specified in the research hypothesis, cross-sectional design was appropriate to the aim

The size of the sample needed to be justified, how it was calculated to meet the study aim. The tools used were clearly defined and referenced with discussing of their reliability & validity.

The results were presented in tables which help for better understanding; they were compared with other researches.

14- Excretion of Three Preparations of Phenothiazine in Urine of Schizophrenic Patients Tested By Forrest's Test. (Abd ElGilil, 1984)

The aim of the work was clearly stated and specified in the research hypothesis. Randomized controlled design was appropriate to the aim. The measurements used were needed to be described in details with discussing their validity & reliability. The point that needed to be described in more details was the statistical methods used. The researcher only refereed to using "the appropriate statistical method".

The results were presented in tables which help for better understanding; they were compared with other researches.

Consistency with other results was also discussed; this gives more weight to the results. The implications of the study on our practice were discussed.

15- Affective Symptoms in Schizophrenia (Shohdy, 1985)

The aim of the work was to study affective symptoms in schizophrenia; it was clearly stated, giving an explanation for why the study was carried out. Case- control study which has been used in the research was not appropriate to the aim; cross-sectional survey is the more preferred study design. The way by which the size of the sample was calculated and how it was justified was not described. The criteria of selection of cases were described in details. The measurements used in this work were described with discussing their validity and reliability. The researcher didn't describe the details of his statistical methods, however consistency with other results was discussed this gives more weight to the results.

16- Schizophrenia: Possible Characteristics of Affective Patterns. (Rakhawy et al, 1985)

The aim of the work was clearly stated and specified in the research hypothesis. Cross-sectional design used by the study was appropriate to the aim. The studied sample included 20

schizophrenic patients, the sample needed to be larger enough to meet the aim of the study. The research had clearly identified how the cases were obtained and followed diagnostic criteria for cases selection however, source of cases wasn't mentioned.

Measurements used in the research were identified, described in details and were referenced. It was also preferable to mention how it was standardized, especially if it was done by more than one rater. Also, the statistical methods used were needed to be described in more details. The statistical methods were described.

In presenting the results, the sociodemographic characteristics of the sample under the study were described & presented in tables. Also results were presented in tables and figures, which help for better understanding. In discussing the results, both the consistent and the inconsistent results of the previous researches were discussed, and the differences were attributed to the cultural differences between the study sample and their samples. Finally, the suspected implications of the study on our practice were presented at the end of the work.

17- Short versus Long Stay Psychiatric Hospitalization (Results for Schizophrenic inpatients). (Abdel Malik, 1985)

The aim of the study was clearly stated giving an explanation for the purpose of the study. Case-control design used by the study was appropriate to the aim. The size of the sample needed to be justified how it was calculated to meet the study aim. The research had clearly identified how the cases and control were obtained and followed diagnostic criteria for cases and control selection. Also source of cases and control was identified clearly. The basic characteristics of the sample were described & represented in tables. All cases and control were subjected to a battery of assessment procedures. The validity and reliability of these procedures were described in the work. The point that needed to be described in more details was the statistical methods used. In discussing the results, both the consistent and the inconsistent results of the previous researches were discussed, and the differences were attributed to the cultural differences between the study sample and their samples.

18- Study the Incidence of Extra pyramidal Manifestations in Neuroleptic Administration without Antiparkinsonian Medication. (El Sayed, 1985)

The aim of the work was clearly stated and specified in the research hypothesis, cross-sectional design was appropriate to the aim.

The size of the sample needed to be justified, how it was calculated to meet the study aim. The criteria of selection of cases were not described in details. Although the measurements were described, there was a need for discussing their validity and reliability.

The researcher didn't describe the details of his statistical methods. The results were presented in tables which help for better understanding. Finally the work represented both the clinical importance of the findings and how we could make benefit from it.

19- Tardive Dyskinesia in Psychosis: A Study of its Prevalence, Psychodemographic, and Clinical Aspects among Neuroleptic-treated Egyptian in-patients. (Al-Fiky, 1985)

The aim of the study was clearly stated giving an explanation for the purpose of the study. Cross-sectional design used by the study was appropriate to the aim. Although the sample size was identified, yet it was not clearly presented how this size was determined. The way of selection of cases was covered in details. The cases were clearly defined according to diagnostic criteria and the basic characteristics of the subjects were described. The sample might not be representative of schizophrenic as it is a clinical sample of patients who are

currently in an inpatient treatment program. They tend, therefore, to be the more severe cases with a worse prognosis, thus limiting the generalizability of the results. The tools used were clearly defined and referenced with discussing of their reliability & validity. The statistical methods used were needed to be described in details.

The results were presented in tables which help for better understanding; they were compared with other researches. Consistency with other results was also discussed; this gives more weight to the results.

20- CAT Findings in Schizophrenia: Relationship to Subtypes, Personality, and Psychodemographic Data. (Okasha et al, 1986a)

The aim of the study was clearly stated giving an explanation for the purpose of the study. Case-control design was appropriate to the aim. The size of the sample needed to be justified, how it was calculated to meet the study aim. The research had clearly identified how the cases were obtained and followed diagnostic criteria for cases selection. Also source of cases was identified clearly. Moreover the different subgroup of the cases was identified. The source of control group wasn't

mentioned by the researcher however, it was matched with the case group for age, gender and other demographic variables.

Both case and control groups were subjected to the same schedule for data collection. The tools used were clearly defined and referenced with discussing of their reliability & validity. The statistical methods used were needed to be described in details.

The results were adequately described and presented in the tables. The researcher had compared the findings in his study with other Western studies identifying the differences between them; moreover he tried to explain the differences.

21- The P. S. E. & Social Skills of Chronic Schizophrenia: Description & Correlations. (Ashour et al, 1986)

The aim of the study was clearly stated giving an explanation for the purpose of the study. Cross-sectional design used by the study was appropriate to the aim. Although the sample size was identified, yet it was not clearly presented how this size was determined.

The characteristics of the cases were stated in the form of both inclusion and exclusion criteria. The measurements used in this work were described with discussing their validity and reliability. The statistical methods used were needed to be described in details.

The results were presented in tables which help for better understanding; they were compared with other researches.

22- Clinical Ocular Manifestations in Schizophrenia. (Rakhawy et al, 1986)

The aim of the study was clearly stated giving an explanation for the purpose of the study. Case-control design used by the study wasn't appropriate to the aim. Cross-sectional design is the appropriate design. The size of the sample needed to be justified how it was calculated to meet the study aim. All cases were subjected to a battery of assessment procedures. The validity and reliability of these procedures were described in the work. The statistical methods were well described and P-value was used to assess the statistical significance.

In presenting the results, the sociodemographic characteristics of the sample under the study were described & presented in tables. In discussing the results, both the consistent and the inconsistent results of the previous researches were discussed, and the differences were attributed to the cultural differences and study design used.

23- Characteristics of Thought Disorder in Schizophrenia: A Comparative Study. (Rakhawy et al, 1987a)

The aim of the work was clearly stated and specified in the research hypothesis. Case-control design used by the study wasn't appropriate to the aim. Cross-sectional design is the appropriate design.

The studied sample included 20 schizophrenic patients, the sample needed to be larger enough to meet the aim of the study. The measures used in the research were adequately described and referenced; also their validity and reliability were discussed in the research method. Both case and control groups were subjected to the same schedule for data collection. Although the method used in data collection was not mentioned either being by the same collector or not and whether or not there was blinding to the case control status.

In presenting the results, the sociodemographic characteristics of the sample under the study were described & presented in tables. In discussing the results, both the consistent and the inconsistent results of the previous researches were discussed, and the differences were attributed to the cultural differences between the study sample and their samples. Finally, the suspected implications of the study on our practice were presented at the end of the work.

24- Disorder of Thought Content in Schizophrenia and Manic Depressive Illness. (Rakhawy et al, 1987b)

The aim of the work was clearly stated and specified in the research hypothesis. Cross-sectional design used by the study was appropriate to the aim. The studied sample included 20 schizophrenic patients, the sample needed to be larger enough to meet the aim of the study. Measurements used in the research were identified, described in details and were referenced. It was also preferable to mention how it was standardized, especially if it was done by more than one rater. Also, the statistical methods used were needed to be described in more details. The statistical methods were well described and P-value was used to assess the statistical significance.

The characteristics of the sample were described & presented in tables. Also results were presented in tables and figures, which help for better understanding. In discussing the results, both the consistent and the inconsistent results of the previous researches were discussed.

Finally, the suspected implications of the study on our practice were presented at the end of the work.

25- Psychiatric Disorders in Egyptian Immigrants. (Mahfouz et al, 1988)

The aim of the study was to explore some demographic and clinical characteristics of psychiatric disorders among Egyptian immigrants. This aim wasn't sharply defined & needed to be specified.

The size of the sample needed to be justified how it was calculated to meet the study aim. The study identified the cases, which were obtained according to specific criteria however the source of the cases wasn't mentioned in the study.

The retrospective design may cause recall bias, these bias were not discussed in this study. Also the sample was a case notes and records which may cause bias. The researchers hadn't defined what they meant by immigration, so the criteria of selection of cases wasn't clearly identified. Also the source of the cases wasn't mentioned in the study. The measurements used in this work were needed to be described in details with discussing their validity and reliability, however the statistical methods were well described and the statistical significance was assessed using the P-value.

The basic characteristics of the sample were described in tables which represented the demographic distribution as well as the different subgroups supplemented the study. Also, results were presented in tables and figures, which help for better

understanding. Consistency with other results was also discussed; this gives more weight to the results.

26- Parents of Paranoid and Hebephrenic Schizophrenics "A Comparative Study". (Mikhael, 1989)

The aim of the study was clearly stated giving an explanation for the purpose of the study. Case-control design used by the study was appropriate to the aim. The size of the sample needed to be justified how it was calculated to meet the study aim.

The research had clearly identified how the cases and control were obtained and followed diagnostic criteria for cases and control selection. Also source of cases and control was identified clearly.

The basic characteristics of the sample weren't described.

All cases and control were subjected to a battery of assessment procedures. The statistical methods needed to be described in details.

However, there seems to be some methodological difficulties concerning the assessment of the parental personalities and interactions. A more comprehensive personality assessments could have been used e.g. MMPI, other measures of psychopathology such as observation, scales or direct interviews

should have been implemented, and the control group could have included siblings of patients or at least some of their reports about parents to validate the obtained results. This work could have been a major work in the area of families of psychiatric (or schizophrenic) patients if it attempted to validate a semi structured interview or assessment of parents of Egyptian psychiatric patients. No mention, in this work of the contemporary pioneers of family dynamics, therapy or assessments in other countries or Egypt. There was also no mention of work done on Egyptian psychotic patients and their families.

Finally the work represented both the clinical importance of the findings and how we could make benefit from it as well as the recommendation for further research construction.

27- A Study of 13 Diagnostic Systems (Criteria) for Schizophrenia on an Egyptian Sample: Frequencies, Agreements and validity. (Okasha, et al, 1990a)

The study was conducted with the aim of comparing the frequencies and agreements of 13 systems for the diagnosis of schizophrenia, the aim of the work was clearly stated and specified in the research hypothesis. Cross-sectional survey which has been used in the research was appropriate to the aim.

The cases were selected from the inpatient four psychiatric hospitals according to DMP-I. (EPA, 1979). The characteristics of the cases were stated in the form of both inclusion and exclusion criteria. The size of the sample needed to be justified, how it was calculated to meet the study aim.

The researchers had described the details of their statistical methods. Statistical analysis was conducted through importing data to software computer program. A P-value less than 0.05 were required for all tests of statistical significance. Although the measurements were described, there was a need for discussing their validity and reliability.

The results were presented in tables which help for better understanding. Finally the work represented both the clinical importance of the findings and how we could make benefit from it.

28- Assessment of Psychosis in Schizophrenia and Affective Disorders by a Locally Constructed Rating Scale. (Okasha et al, 1990b)

The aim of the study was clearly stated giving an explanation for the purposes of the study cross-sectional design was appropriate to the aim. All cases were subjected to a battery of assessment procedures.

Initially, a pilot study was designed to prove the reliability and validity of rating scales and to fit the cultural and educational levels of the subjects under study. The validity and reliability of these procedures were described in the work. The point that needed to be described in more details was the statistical methods used.

The results were presented in tables which help for better understanding; they were compared with other researches. Consistency with other results was discussed this gives more weight to the results. The implications of the study on our practice were discussed

29- The Concept of Self among Psychotic Patients. (Loutfi et al, 1990)

The aim of the study was clearly stated giving an explanation for the purpose of the study. Cross-sectional design used by the study was appropriate to the aim. The size of the sample needed to be justified how it was calculated to meet the study aim. The cases were clearly defined according diagnostic criteria; also the source of the cases was clearly justified. The measurements used in this work were needed to be described in details with discussing their validity and reliability.

The statistical methods were needed to be described in details.

The results were presented in tables which help for better understanding; they were compared with other researches. Consistency with other results was discussed this gives more weight to the results. The implications of the study on our practice were discussed.

30- Admission Outcome of Egyptian Schizophrenic Patients: A Retrospective Study after Five and Thirty Years. (Owida et al, 1990)

The aim of the study was clearly stated giving an explanation for the purpose of the study. Cross-sectional design used by the study was appropriate to the aim. The retrospective design may cause recall bias, these bias were not discussed in this study. Also, the inevitable high mortality rate may impair the value of very long-term retrospective follow-up. Although the measurements were described, there was a need for discussing their validity and reliability. The statistical methods used were needed to be described in more details.

The cases were derived from hospital admission to a psychiatric hospital depends however, not only on the actual morbidity, but upon other factors at the same time. Namely, the beliefs of a particular community concerning mental disorders, the support itself offer to the mentally ill. And to what extent,

these figures would change if it were done to clarify outcome in schizophrenic patients living outside the mental hospital, we cannot also tell. Especially those outdoor patients represent the majority; 568 patients in the community for every patient in Abbassia Mental Hospital.

The results were adequately described and presented in the tables. The researcher had compared the findings in his study with other Western studies identifying the differences between them; moreover he tried to explain the differences.

31- A Preliminary Trial of Dietary Manipulation in Schizophrenia (Saleh, 1990)

The aim of the study was clearly stated and gave a detailed explanation for the tested hypothesis. Cohort study which has been used in the research was not appropriate to the aim; randomized controlled trial is the more preferred study design. The size of sample needed to be justified, how it was calculated to meet the study aim. The studied sample included 10 schizophrenic patients only, the sample needed to be larger enough to meet the aim of the study. The criteria of selection of cases were not described in details. Also, the researcher didn't describe the details of his statistical methods.

Consistency with other results was also not discussed, also this method of using diet poor in YE and Type as supplement to the pharmacological regimen is very difficult to be applied in practice.

32- Types of Schizophrenia. A Clinical Criteria – Oriented Approach. (Abdel Aziz, 1992)

The aim of the study was clearly stated giving an explanation for the purpose of the study. Cross-sectional design used by the study was appropriate to the aim. The size of the sample needed to be justified how it was calculated to meet the study aim. The research had clearly identified how the cases were obtained and followed diagnostic criteria for cases selection. Also source of cases was identified clearly.

Measurements used in the research were identified, described in details and were referenced. It was also preferable to mention how it was standardized, especially if it was done by more than one rater. Also, the statistical methods used were needed to be described in more details.

Results were described in details and presented in tables. Lacking of adequate number of similar researches in our country carried for the same purpose had prevented the researchers from examining the consistency of his work with others.

33- Negative Symptoms of Schizophrenia Clinical, Biochemical, Radiological and Therapeutic Study (El-Hamrawy, (1992)

The aim of the study was clearly stated giving an explanation for the purpose of the study. Case-control design used by the study was appropriate to the aim. The characteristics of the cases were well described; however the control group wasn't matched with the patient group as regard size and demographic characteristics. The size of the sample needed to be justified how it was calculated to meet the study aim. The measures that were used in the research were adequately described and were referenced. The work described the statistical methods which have been used

In presenting the results, the work presented well the characteristics of the subjects. Sample analysis was done as regard demographic variables of both groups and was well presented in tables, this gives the reader full clear idea about the characteristics of the samples and allows an assessment of the extent to which the findings can be generalized.

34- A Culturally Derived Proverb Test Differentiating Thought Process Disorder in Schizophrenic Patients. (Hamdi, 1992)

The aim of the work was clearly stated and specified in the research hypothesis. Case- control study which has been used in the research is often used to investigate possible causes and effects and so the method here was not appropriate to the aim. Preferred study design is cross-sectional survey. The way by which the size of the sample was calculated and how it was justified was not described.

The research had clearly identified how the cases were obtained and followed diagnostic criteria for cases selection. Also source of cases was identified clearly they were obtained from Dar El-Mokattam and Kasr El-Aini hospitals.

The source of the control group wasn't mentioned by the researchers however, it was matched with the case group for age, gender and other demographic variables. All cases and controls were subjected to a battery of assessment procedures. The validity and reliability of these procedures were described in the work

The researchers had described the details of the statistical methods and the statistical significance was assessed using the P-value. Consistency with other results was also discussed; this gives more weight to the results.

35- Thought Processes in Paranoid and Nonparanoid Schizophrenia. (Hamdi and El-Nahrawi, 1992)

The aim of the study was clearly stated giving an explanation for the purpose of the study. Case-control cohort design used by the study was appropriate to the aim. A larger sample was needed to meet the study aim. The research had clearly identified how the cases and control were obtained and followed diagnostic criteria for cases and control selection. Also source of cases and control was identified clearly. The validity and reliability of measures were described in the work and the statistical methods were needed to be described in more details. Also, results were presented in tables and figures, which help for better understanding. In discussing the results, both the consistent and the inconsistent results of the previous researches were discussed.

36- A Study of a Sample of Children of Schizophrenic Parents. (Mahfouz, 1992)

The aim of the study was clearly stated giving an explanation for the purpose of the study. Case-control design used by the study was appropriate to the aim. The size of the sample needed to be justified how it was calculated to meet the study aim. The cases were clearly defined according diagnostic

criteria; also the source of the cases was clearly justified. The source of control group wasn't mentioned by the researcher however, it was matched with the case group for age, gender and other demographic variables. The measurements used in this work were needed to be described in details with discussing their validity and reliability. The statistical methods were needed to be described in details.

The basic characteristics of the sample were described in tables which represented the demographic distribution as well as the different subgroups supplemented the study. Also results were presented in tables and figures, which help for better understanding.

The researcher didn't give attention to other factors that might be related, which is known as confounding.

37- The Effect of an Activity Therapy Program for Chronic Patients within a Therapeutic Milieu. (Mahfouz, et al, 1992)

The aim of the study was clearly stated giving an explanation for the purpose of the study. Cross-sectional design used by the study wasn't appropriate to the aim. Randomized controlled trial is the appropriate design._The studied sample included 12 schizophrenic patients, the sample needed to be larger enough to meet the aim of the study. The research had

clearly identified how the cases were obtained and followed diagnostic criteria for cases selection. Also source of cases was identified clearly.

The validity and reliability of measures were described in the work. The statistical methods were well described and P-value was used to assess the statistical significance.

In presenting the results, the sociodemographic characteristics of the sample under the study were described & presented in tables. In discussing the results, both the consistent and the inconsistent results of the previous researches were discussed, and the differences were attributed to the cultural differences between the study sample and their samples. Finally, the suspected implications of the study on our practice were presented at the end of the work.

38- Negative Symptoms in Chronic Schizophrenic Inpatients; Comorbidity with Depressive Symptoms, Late Involuntary Movements, and Cognitive Deficits. (Abd El Reheem, 1993)

The aim of the study was clearly stated giving an explanation for the purpose of the study. Cross-sectional design used by the study was appropriate to the aim. Although the sample size was identified, yet it was not clearly presented how this size was determined. The research had clearly identified how

the cases were obtained and followed diagnostic criteria for cases selection. Also source of cases was identified clearly. Although the measurements were described, there was a need for discussing their validity and reliability. The statistical methods used needed to be described in details. The researcher discussed the problems, which faced the study, most of which were the lack of cooperation of the patients especially those with depression and the difficulty in application of the questionnaires.

The results were described and presented in tables. The results of the study were compared with those of other studies done outside Egypt.

39- Schizophrenia and Parkinsonism (A Comparative Study) **(Mostafa, 1993)**

The aim of the study was clearly stated giving an explanation for the purpose of the study. Case-control design was appropriate to the aim. Case control studies are more susceptible to bias in sample selection or in data collection. The size of the sample needed to be justified, how it was calculated to meet the study aim.

The tools used were clearly defined and referenced with discussing of their reliability & validity.

The results were presented in tables which help for better understanding; they were compared with other researches.

For judging whether an association is causal, not only the consistency with other knowledge is important, but also testing temporal relationship is one of the important guidelines, this may need to investigate potential patients before the onset of the disorder.

40- Cognitive Dysfunction in Tardive Dyskinesia. (Rashed et al, 1993)

The aim of the study was clearly stated giving an explanation for the purpose of the study. The method of cross-sectional survey used by the study was appropriate to the aim. The size of the sample needed to be justified, how it was calculated to meet the study aim.

Data collection was obtained from cases through a specific scale; also the method of data collection was clearly identified. The tools used were clearly defined and referenced with discussing of their reliability & validity.

The results were presented in tables which help for better understanding; they were compared with other researches. Consistency with other results was also discussed; this gives more weight to the results.

41- Life Experiences and the Onset of Schizophrenia. (El-Khouly et al, 1993)

The aim of the work was clearly stated and was tightly focused. It was preferable if it gave more details about the specific data that had been measured already in the research which is the tested hypothesis; this gives the reader more accurate idea about the well planning of the study. As the aim of the work was to examine the presence of stressful life events prior to the onset of schizophrenia, so cross-sectional design as a research method wasn't appropriate to the aim. Case control study is the appropriate method.

The research had clearly identified how the cases were obtained and followed diagnostic criteria for cases selection. Also source of cases was identified clearly. Moreover the different subgroup of the cases was identified. Although the sample size was identified, yet it was not clearly presented how this size was determined.

Measurements used in the research were identified, described in details and were referenced. It was also preferable to mention how it was standardized, especially if it was done by more than one rater. Also the reliability and validity of the measurement needed to be discussed. Also, the statistical

methods used were needed to be described in details. The retrospective design may cause recall bias, these bias were not discussed in this study.

In presenting the results, the basic characteristics of the subjects were not described by the researchers. Results of the research were well represented in tables; statistical significance was assessed using the P value. Consistency with other results was also discussed; this gives more weight to the results.

42- Assessment of Insight in Egyptian Schizophrenic Patients: A Pilot Study. (Askar, 1994)

The aim of the study was clearly stated giving an explanation for the purpose of the study. Pilot study which has been used in the research was not appropriate to the aim; preferred study design is cross-sectional design. The studied sample included 20 schizophrenic patients, the sample needed to be larger enough to meet the aim of the study. The criteria of selection of cases were needed to be described in more details. Although the measurements were described, there was a need for discussing their validity and reliability. The statistical methods used needed to be described in details.

The results were presented in tables which help for better understanding; they were compared with other researches. Consistency with other results was discussed this gives more weight to the results.

43- Speech Perception in Schizophrenia. (El-Rashidi et al, 1994)

The aim of the study was clearly stated giving an explanation for the purpose of the study.

Case-control cohort design used by the study was appropriate to the aim. The size of the sample needed to be justified how it was calculated to meet the study aim. The research had clearly identified how the cases and control were obtained and followed a diagnostic criteria for cases and control selection. Also source of cases and control was identified clearly. The measurements used in this work were needed to be described in details with discussing their validity and reliability; also the statistical methods were needed to be described in details. The basic characteristics of the sample were described in tables which represented the demographic distribution as well as the different subgroups supplemented the study.

The results were presented in tables and figures, which help for better understanding. In discussing the results, both the

consistent and the inconsistent results of the previous researches were discussed.

44- Positive and negative symptoms in schizophrenia.
(ELSheshai et al, 1994)

The aim of the work was clearly stated and specified in the research hypothesis. The method of cross-sectional survey used by the study was appropriate to the aim. The basic characteristics of cases weren't described. The size of the sample needed to be justified how it was calculated to meet the study aim.

Although the measurements were described, there was a need for discussing their validity and reliability. The statistical methods used needed to be described in details.

In presenting the results, the sociodemographic characteristics of the sample under the study were described & presented in tables. In discussing the results, both the consistent and the inconsistent results of the previous researches were discussed, and the differences were attributed to the cultural differences between the study sample and their samples.

45- Smooth Pursuit Eye Movement Dysfunction in Chronic Schizophrenics and Their First Degree Relatives. (Raslan and Shabana, 1994)

The aim of the study was clearly stated giving an explanation for the purpose of the study. Case- control study which has been used in the research was not appropriate to the aim; preferred study design is cross-sectional design. The studied sample included 15 chronic schizophrenic patients, the sample needed to be larger enough to meet the aim of the study. The criteria of selection of cases were needed to be described in more details. Measurements used in the research were identified, described in details and were referenced. It was also preferable to mention how it was standardized, especially if it was done by more than one rater. Also the reliability and validity of the measurement needed to be discussed. The statistical methods were well described and P-value was used to assess the statistical significance. The results were adequately described and presented in the tables & figures.

The researchers had compared the findings in his study with other Western studies identifying the differences between them; moreover he tried to explain the differences.

46- SPECT in Positive versus Negative Schizophrenia. (Khalil, 1996)

The aim of the study was clearly stated giving an explanation for the purpose of the study. Case-control design was

appropriate to the aim. The studied sample included 10 schizophrenic patients, the sample needed to be larger enough to meet the aim of the study.

The criteria of selection of cases were needed to be described in more details. Although the measurements were described, there was a need for discussing their validity and reliability. The statistical methods used needed to be described in details.

The results were presented in tables which help for better understanding; they were compared with other researches. Consistency with other results was discussed this gives more weight to the results.

47- Prodromal Symptoms as Valid Predictors of Relapse in Schizophrenic Disorders (Haroun El-Rasheed, 1996)

The aim of the work was clearly stated and specified in the research hypothesis. Case- control study which has been used in the research is often used to investigate possible causes and effects and so the method here was appropriate to the aim. Although the sample size was identified, yet it was not clearly presented how this size was determined. The research had clearly identified how the cases were obtained and followed a diagnostic criteria for cases selection. Also source of cases was identified

clearly. The control group was matching the case group for its demographic variables. The basic characteristics of the subjects were mentioned & presented in tables.

The measurements used were needed to be described in details with discussing their validity & reliability. The point that needed to be described in more details was the statistical methods used.

The results were adequately described and presented in the tables. The researcher had compared the findings in his study with other Western studies identifying the differences between them; moreover he tried to explain the differences.

48- Assessment of Affective Blunting versus other Schizophrenic Symptomatology. (EL-Hadidi, 1996)

The aim of the work was clearly stated and specified in the research hypothesis. The design of cross sectional survey was appropriate to the aim. The way by which the size of the sample was calculated and how it was justified was not described.

The research had clearly identified how the cases were obtained and followed a diagnostic criteria for cases selection.

The problems faced the researchers or limitations of the study were needed to be described in details. Although the measurements were described, there was a need for discussing

their validity and reliability in more details. Also, the statistical methods used were needed to be described in details. Also, results were presented in tables which help for better understanding. Consistency with other results was also discussed; this gives more weight to the results.

49- Brain Electrical Activity Mapping in Schizophrenic Patients.
(Khashaba et al, 1996).

The aim of the study was clearly stated giving an explanation for the purpose of the study. Case control design which has been used in the research was not appropriate to the aim; preferred study design is cross-sectional design.

The studied sample included 10 acute schizophrenic patients, 10 chronic schizophrenic patients, the sample needed to be larger enough to meet the aim of the study. The criteria of selection of cases were needed to be described in more details.

All cases were subjected to a battery of assessment procedures. The validity and reliability of these procedures were described in the work. The point that needed to be described in more details was the statistical methods used.

The results were presented in tables which help for better understanding; they were compared with other researches. Consistency with other results was discussed this gives more weight to the results.

50- Attempted Suicide in Schizophrenia (Al-Mahallawy, 1997)

The aim of the study was clearly stated and gave a detailed explanation for the tested hypothesis. Cross-sectional survey used in the research was appropriate to the aim, although wasn't mentioned by the researcher. The research had clearly identified how the cases were obtained and followed a diagnostic criteria for cases selection. Also source of cases was identified clearly. They were obtained from inpatient service of institute of psychiatry, Ain Shams Hospital, so they may differ in the severity & symptomatology. The size of sample needed to be justified, how it was calculated to meet the study aim.

Although the measurements were described, there was a need for discussing their validity and reliability in more details. The statistical methods used needed to be described in details. Also results were presented in tables and figures which help for, better understanding.

Consistency with other results was also discussed; this gives more weight to the results.

51- The Concept of Schizophrenogenic Parents in Hebephrenic Schizophrenia. (Gad et al, 1997)

The aim of the study was clearly stated giving an explanation for the purpose of the study. Case-control design used by the study was appropriate to the aim. The size of the sample needed to be justified how it was calculated to meet the study aim.

The research had clearly identified how the cases and control were obtained and followed a diagnostic criteria for cases and control selection. Also source of cases and control was identified clearly.

The basic characteristics of the sample weren't described.

All cases and control were subjected to a battery of assessment procedures. The reliability of positive family history of cases was not discussed. Also validity and reliability of measures used in the work wasn't described and the statistical methods needed to be described in details. However, there seems to be some methodological difficulties concerning the assessment of the parental personalities and interactions. A more comprehensive personality assessments could have been used e.g. Eysenk Personality Questionnaire (EPQ), other measures of psychopathology such as observation, scales or direct interviews

should have been implemented, and the control group could have included siblings of patients or at least some of their reports about parents to validate the obtained results. This work could have been a major work in the area of families of psychiatric (or schizophrenic) patients if it attempted to validate a semistructured interview or assessment of parents of Egyptian psychiatric patients. No mention, in this work of the contemporary pioneers of family dynamics, therapy or assessments in other countries or Egypt. There was also no mention of work done on Egyptian psychotic patients and their families. Future studies in this area should adopt on international modified family, diagnostic and assessment procedures to be added to the continuously developing structured techniques in Arabic that will help researchers, clinicians and investigators in the understanding and care of our psychiatric population.

Finally the work represented both the clinical importance of the findings and how we could make benefit from it as well as the recommendation for further research construction.

52- Prodromal Phase of Relapse in Schizophrenia. (Mahfouz et al, 1997)

The aim of the study was clearly stated giving an explanation for the purpose of the study. Cross-sectional cohort

design used by the study was appropriate to the aim. The size of the sample needed to be justified how it was calculated to meet the study aim. The characteristics of the cases were stated in the form of both inclusion and exclusion criteria. The measurements used in this work were described with discussing their validity and reliability. The statistical methods were well described and P-value was used to assess the statistical significance. The retrospective design may cause recall bias, these bias were not discussed in this study. The basic characteristics of the sample were described in tables which represented the demographic distribution as well as the different subgroups supplemented the study.

Also results were presented in tables and figures, which help for, better understanding. In discussing the results, both the consistent and the inconsistent results of the previous researches were discussed, and the differences were attributed to the cultural differences and study design used. Finally the work represented both the clinical importance of the findings and how we could make benefit from it as well as the recommendation for further research construction.

53- Concreteness in Schizophrenia and Normal Subjects: A Psychophysiological Approach. (Soliman and Ibrahim, 1997)

The aim of the work was clearly stated and specified in the research hypothesis.

The design used was case- control study, it is appropriate for the aim. The criteria of selection of cases were described in details. The source of control group wasn't mentioned by the researcher however, it was matched with the case group for age, gender and other demographic variables. Although the sample size was identified, yet it was not clearly presented how this size was determined. Although the measurements were described, there was a need for discussing their validity and reliability. The statistical methods used were needed to be described in more details.

The results were compared with other studies, both consistent and inconsistent results were mentioned and the difference in the results was attributed to the different patient sample and design

54- Descriptive Evaluation of the Schizophrenic Symptomatological Changes in Schizophrenic Patients from the Sixties to the Nineties. (Badr, 1998)

The aim of the study was clearly stated giving an explanation for the purpose of the study. Cross-sectional design used by the study was appropriate to the aim. The size of the

sample needed to be large enough to meet the study aim. The cases were clearly defined according diagnostic criteria; also the source of the cases was clearly justified. The measurements used in this work were needed to be described in details with discussing their validity and reliability. The statistical methods were needed to be described in details.

The basic characteristics of the sample were described in tables which represented the demographic distribution as well as the different subgroups supplemented the study. Also results were presented in tables and figures, which help for better understanding. The implications of the study on our practice were discussed.

55- Positive and Negative Symptoms in Cross-Sectional Diagnosis of Schizophrenia and Schizoaffective Disorders.
(Farid et al, 1998)

The aim of the study was clearly stated giving an explanation for the purpose of the study. Cross-sectional design used by the study was appropriate to the aim. The size of the sample needed to be justified how it was calculated to meet the study aim. The measurements used in this work were needed to be described in details with discussing their validity and

reliability. The statistical methods were well described and P-value was used to assess the statistical significance.

The basic characteristics of the sample were described in tables which represented the demographic distribution as well as the different subgroups supplemented the study. In discussing the results, both the consistent and the inconsistent results of the previous researches were discussed, and the differences were attributed to the cultural differences between the study sample and their samples.

Finally, the suspected implications of the study on our practice were presented at the end of the work.

56- A Study of Symptom Complexes/ Syndromes in an out-patient Sample of Patients with Schizophrenia. (Haggag et al, 1998)

The aim of the study was clearly stated giving an explanation for the purpose of the study. The method of cross-sectional survey used by the study was appropriate to the aim. The size of the sample needed to be justified, how it was calculated to meet the study aim. Although the measurements were described, there was a need for discussing their validity and reliability. The statistical methods used needed to be described in details.

The results were presented in tables which help for better understanding; they were compared with other researches. Consistency with other results was also discussed; this gives more weight to the results.

57- Study of the Role of Atypical Antipsychotic Drugs on the Different Stages and Severity of Schizophrenia. (Awad, 1999)

The aim of the work was clearly stated and specified in the research hypothesis. Randomized controlled trial design used by the study was appropriate to the aim. The size of the sample needed to be justified how it was calculated to meet the study aim. The measurements used in this work were needed to be described in details with discussing their validity and reliability. The statistical methods were well described and P-value was used to assess the statistical significance. The basic characteristics of the sample were described in tables which represented the demographic distribution as well as the different subgroups supplemented the study.

In presenting the results, the sociodemographic characteristics of the sample under the study were described & presented in tables. In discussing the results, both the consistent and the inconsistent results of the previous researches were discussed, and the differences were attributed to the cultural

differences between the study sample and their samples. Finally, the suspected implications of the study on our practice were presented at the end of the work.

58- Clinical Assessment of Positive & Negative Symptoms, Age of Onset and Gender in a Sample of Egyptian Patients Having Schizophrenia for More than Two Years (Owaida ,et al ,1999)

The aim of the work was clearly stated and specified in the research hypothesis. The method of cross-sectional survey used by the study was appropriate to the aim however it was not mentioned. The size of the sample needed to be justified, how it was calculated to meet the study aim. Data collection was obtained from cases through a specific scale; also the method of data collection was clearly identified. The tools used were clearly defined and referenced with discussing of their reliability & validity.

The results were presented in tables which help for better understanding; they were compared with other researches. The study was conducted in a small chronically ill patients treated with relatively high doses of antipsychotics. It is not clear that the results obtained here would be applicable to an acute patient population.

59- Memory and Social Behavior Changes before and after Electroconvulsive Therapy in Patients with Major Depression and Schizophrenia. (Rashed et al, 1999)

The aim of the study was clearly stated giving an explanation for the purpose of the study. Cross-sectional cohort design used by the study was appropriate to the aim. The size of the sample needed to be justified how it was calculated to meet the study aim.

The research had clearly identified how the cases and control were obtained and followed a diagnostic criteria for cases and control selection. Also source of cases and control was identified clearly. The basic characteristics of the sample were well described. The validity and reliability of measures were described in the work. The statistical methods were well described and P-value was used to assess the statistical significance.

Also results were presented in tables and figures, which help for better understanding. In discussing the results, both the consistent and the inconsistent results of the previous researches were discussed

60- Knowledge and Attitude of Bedouins' of Saint Catherine towards Mental Disorders (El-Shatoury et al, 1999)

The aim of the study was clearly stated giving an explanation for the purpose of the study. Cross-sectional design used by the study was appropriate to the aim. The size of the sample needed to be justified how it was calculated to meet the study aim.

The measurements used in this work were needed to be described in details with discussing their validity and reliability. The statistical methods were needed to be described in details.

In discussing the results, both the consistent and the inconsistent results of the previous researches were discussed, and the differences were attributed to the cultural differences between the study sample and their samples.

Finally, the suspected implications of the study on our practice were presented at the end of the work

61- Fertility in Schizophrenia in Comparison with Other Psychiatric Disorders. (Abd El-Latif, 2000)

The aim of the study was clearly stated giving an explanation for the purpose of the study. Case-control cohort design used by the study was appropriate to the aim. The size of the sample needed to be justified how it was calculated to meet the study aim. The validity and reliability of measures were described in the work.

The statistical methods were well described and P-value was used to assess the statistical significance. The basic characteristics of the sample were described in tables which represented the demographic distribution as well as the different subgroups supplemented the study.

Also results were presented in tables and figures, which help for, better understanding. The researcher didn't give attention to other factors that might be related, such as, age of patients, severity of illness, inclusions of false positive, contraceptive usage and educational attainment, which is known as confounding.

62- Assessment of the Negative Symptoms in a Sample of Egyptian Schizophrenic Patients: Association with Poor Premorbid Social Functioning and Cognitive Impairment. (Raslan, 2000)

The aim of the work was clearly stated and specified in the research hypothesis. The method of cross-sectional survey used by the study was appropriate to the aim. The size of the sample needed to be justified how it was calculated to meet the study aim. The tools used were clearly defined and referenced with discussing of their reliability & validity. In presenting the results, the sociodemographic characteristics of the sample under the

study were described & presented in tables. The results were presented in tables which help for better understanding; they were compared with other researches. Consistency with other results was also discussed; this gives more weight to the results.

63- An Association Study for Candidate Genes Using the Haplotype Relative Risk (HRR) Design in a Sample of Egyptian Schizophrenic Patients (Sadek, 2001)

The aim of the study was to find out whether schizophrenia is related to mutations in one of the receptor genes of the neurotransmitters hypothesized to be involved in the pathogenesis of schizophrenia.

Case -control study used in the research was appropriate to the aim. The research had clearly identified how the cases were obtained and followed a diagnostic criteria for cases selection. Also source of cases and controls was identified clearly. The size of sample needed to be justified, how it was calculated to meet the study aim. The measurements used were needed to be described in more details

The researcher had described the details of his statistical methods and the statistical significance was assessed using the P-value.

The basic characteristics of the subjects were mentioned & presented in tables. The results were presented in tables which help for better understanding; they were compared with other researches.

Consistency with other results was also discussed; this gives more weight to the results.

64- Regional Cerebral Blood Flow in Egyptian Schizophrenic Patients. (Mostafa, 2001)

The aim of the study was clearly stated giving an explanation for the purpose of the study. Case-control design was appropriate to the aim. The size of the sample needed to be justified, how it was calculated to meet the study aim. The tools used were clearly defined and referenced with discussing of their reliability & validity.

The statistical methods used were needed to be described in details. The results were presented in tables which help for better understanding; they were compared with other researches. . Consistency with other results was also discussed; this gives more weight to the results.

65- Assessment of Changes in Immune Response in Schizophrenic Patients. (Soliman, 2001)

The aim of the work was clearly stated and specified in the research hypothesis. Case- control study which has been used in the research is often used to investigate possible causes and effects and so the method here was appropriate to the aim.

The studied sample needed to be larger enough to meet the aim of the study. Measurements used in the research were identified & referenced, however the reliability and validity of the measurements namely estimation of serum ANA antinuclear antibody and IL-6 interleukin-6 levels needed to be discussed in details.

The point that needed to be described in more details was the statistical methods used. The results were discussed, compared with other researches.

Consistency with other results was also discussed; this gives more weight to the results. The implications of the study on our practice were discussed

66- Quality of Services Offered to Schizophrenic Patients in an Egyptian Hospital. (Khalil et al, 2001)

The aim of the study was clearly stated giving an explanation for the purpose of the study. The size of the sample needed to be justified how it was calculated to meet the study aim. The research had clearly identified how the cases were

obtained and followed a diagnostic criteria for cases selection. Measurements used in the research were identified & referenced, however the reliability and validity of the measurements needed to be discussed in details.

The study also suffered the limitations of the retrospective design, which is subject to recall bias. The results were presented in tables which help for better understanding; they were compared with other researches done outside Egypt.

67- Factors Affecting Drug Compliance in an Egyptian Sample of Relapsing Schizophrenic and Bipolar Affective Patients.
(Haroun El Rasheed et al, 2001)

The aim of the study was clearly stated giving an explanation for the purpose of the study. Cross-sectional design used by the study was appropriate to the aim. The size of the sample was relatively small. Also, the sample might not be representative of schizophrenic as it is a clinical sample of patients who are currently in an inpatient treatment program in a university hospital. They tend, therefore, to be the more severe cases with a worse prognosis, thus limiting the generalizability of the results. The study also suffered the limitations of the retrospective design, which is subject to recall bias. So, the researchers recommended further prospective studies done on a

wider scale to include a larger number of patients as well as other diagnoses are required. Also, further studies are required to assess compliance to typical versus atypical antipsychotic medications.

The results were presented in tables which help for better understanding; they were compared with other researches. Consistency with other results was also discussed; this gives more weight to the results. The implications of the study on our practice were discussed.

68- Quality of Life in a Sample of Egyptian Patients with Schizophrenia. (Abdel Razek et al, 2001)

The aim of the work was clearly stated and specified in the research hypothesis. Cross-sectional design was appropriate to the aim.

The size of the sample was relatively small, a larger size was needed. The measurements used were needed to be described in details with discussing their validity & reliability. Also, the statistical methods used were needed to be described in details. The results were presented in tables which help for better understanding.

Finally the work represented both the clinical importance of the findings and how we could make benefit from it.

69- Expressed Emotions and Relapse in Schizophrenia: A Replication in an Egyptian Culture. (Abdel Ghany et al, 2001)

The aim of the study was clearly stated giving an explanation for the purpose of the study. Cross-sectional design used by the study was appropriate to the aim. The size of the sample was relatively small. Also, the sample might not be representative of schizophrenic as it is a clinical sample of patients who are currently in an inpatient treatment program. The study also suffered the limitations of the retrospective design, which is subject to recall bias. The cases were clearly defined according to diagnostic criteria. The basic characteristics of the subjects were not described by the researchers. The measurements used were needed to be described in details with discussing their validity & reliability. Also, the statistical methods used were needed to be described in details.

The results were compared with other studies, both consistent and inconsistent results were mentioned and the difference in the results was attributed to the different patient sample, cultural differences and design.

70- Knowledge and Attitude of Adolescents towards Patients with Schizophrenia. (El-Sheikh and El-Defrawi, 2001)

The aim of the study was clearly stated giving an explanation for the purpose of the study. Cross-sectional design used by the study was appropriate to the aim. Although the sample size was identified, yet it was not clearly presented how this size was determined. The measurements used were needed to be described in details with discussing their validity & reliability. The point that needed to be described in more details was the statistical methods used.

The researcher had compared the findings in his study with other Western studies identifying the differences between them; moreover he tried to explain the differences. Finally the work represented both the clinical importance of the findings.

71- Assessment of Satisfaction with Life among Long Stay Patients in Psychiatric Hospitals. (Shama, (2001))

The aim of the study was clearly stated giving an explanation for the purpose of the study. Cross-sectional design used by the study was appropriate to the aim. The size of the sample needed to be justified how it was calculated to meet the study aim. All cases were subjected to a battery of assessment procedures. The validity and reliability of measures used in the work wasn't described and the statistical methods needed to be

described in details. The basic characteristics of the sample were described, presented in tables.

In discussing the results, both the consistent and the inconsistent results of the previous researches were discussed, and the differences were attributed to the cultural differences between the study sample and their samples.

72- Assessment of Knowledge and Attitudes of Families of Psychotic Patients toward Mental Illness in Ismailia. (El-Defrawi et al, 2001)

The aim of the work was clearly stated and specified in the research hypothesis Cross-sectional design used by the study was appropriate to the aim. The size of the sample needed to be justified how it was calculated to meet the study aim. The measurements used in this work were needed to be described in details with discussing their validity and reliability. The statistical methods were needed to be described in details.

The results were presented in tables and figures, which help for better understanding. Consistency with other results was discussed this gives more weight to the results.

73- Assessment of Social Functioning and Social Behavior of Schizophrenic Patients: A Step towards Community Reintegration. (Ahmed, (2002)

The aim of the work was clearly stated and specified in the research hypothesis. Case-control design used by the study was appropriate to the aim. The size of the sample needed to be justified how it was calculated to meet the study aim. The research had clearly identified how the cases and control were obtained and followed a diagnostic criteria for cases and control selection. Also source of cases and control was identified clearly.

The basic characteristics of the sample were described & represented in tables. All cases and control were subjected to a battery of assessment procedures. The validity and reliability of these procedures were described in the work.

The researcher had described the details of his statistical methods and the statistical significance was assessed using the P-value.

The researchers had examined the consistency of this work with others trying to explain the differences. Finally, the suspected implications of the study on our practice were presented at the end of the work.

74- A Ten Years Outcome Study of Schizophrenia in a Sample of Egyptian Patients. (Abdel Messih, 2002)

The aim of the work was clearly stated and specified in the research hypothesis. Longitudinal cohort study which has been

used in the research is often used to investigate prognosis and outcome and so the method here was appropriate to the aim. The study was preceded by a pilot study performed for five months prior to the study proper which was carried in a private hospital for psychological medicine in Cairo aiming for testing the application of the instruments & tools. The size of the sample needed to be justified, how it was calculated to meet the study aim. The validity and reliability of measures were described in the work. The statistical methods were well described and P-value was used to assess the statistical significance. The basic characteristics of the sample were described in tables which represented the demographic distribution as well as the different subgroups supplemented the study.

Also results were presented in tables and figures, which help for, better understanding. Consistency with other results was also discussed; this gives more weight to the results.

75- An Educational Program for Knowledge and Attitude Change in Families of Patients with Schizophrenia (El-Shafei, 2002)

The aim of the study was clearly stated giving an explanation for the purpose of the study. The research was concerned with studying of the importance of integration of

family psychoeducation in the regular psychiatric practice for a more comprehensive management of schizophrenia. Cohort design isn't the best to achieve the aim; randomized controlled trial is more appropriate method. The basic characteristics of the subjects were mentioned. The cases were clearly defined according to diagnostic criteria. The way by which the size of the sample was calculated and how it was justified was not described.

The measures used in the research were adequately described and referenced; also their validity and reliability were discussed in the research method. The statistical methods were well described and P-value was used to assess the statistical significance.

The results were adequately described and presented in the tables & figures. Finally the work represented both the clinical importance of the findings and how we could make benefit from it as well as the recommendation for further research construction.

76- Study of the General Health State of Schizophrenic Patients.
(Abo Elwafa, 2002)

The aim of the work was clearly stated and specified in the research hypothesis, cross-sectional design was appropriate to the aim

The cases were selected from the outpatient clinic of Alexandria main university, the researcher didn't explain on what bases cases were selected. The validity and reliability of measures were described in the work. The size of sample needed to be justified, how it was calculated to meet the study aim. The statistical methods were well described and P-value was used to assess the statistical significance.

The results were presented in tables and figures, which help for, better understanding. Consistency with other results was discussed this gives more weight to the results. The implications of the study on our practice were discussed

77- Risk Factors for Negative Drug Attitude in Schizophrenia (Haggag et al, 2002)

The aim of the study was clearly stated giving an explanation for the purpose of the study. The size of the sample was relatively small. Also, the sample might not be representative of schizophrenic as it is a clinical sample of patients who are currently in an inpatient treatment program. The study also suffered the limitations of the retrospective design,

which is subject to recall bias. All cases and controls were subjected to a battery of assessment procedures. The validity and reliability of these procedures were described in the work. The researchers had described the details of their statistical methods. Data entry and analysis was done using Epi-info computer and SPSS system. The results were presented in tables which help for better understanding; they were compared with other researches. Consistency with other results was also discussed; this gives more weight to the results. The implications of the study on our practice were discussed.

78- The Prevalence of Suicidality among Schizophrenic Patients with and without Co-morbid Personality Disorder. (Omar, 2002).

The aim of the study was clearly stated giving an explanation for the purpose of the study. Cross-sectional design was appropriate to the aim. The way of selection of cases was covered in details. The cases were clearly defined according to diagnostic criteria and the basic characteristics of the subjects were described. Measurements used in the research were identified & referenced, however the reliability and validity of the measurements needed to be discussed in details. Also, the statistical methods used were needed to be described in details.

The research was able to detect complete suicide among patient diagnosed as schizophrenia due to the real lack of information about patient after discharge and insufficient information written in their follow up. Reliance on patient and family interviews to assess suicidal behaviour is an additional limitation of this study. The results were presented in tables which help for better understanding; they were compared with other researches. Consistency with other results was also discussed; this gives more weight to the results.

79- Effects of Positive and Negative Symptoms of Schizophrenic Fathers on their Children in an Egyptian Sample. (Rakhawy et al, 2002)

The aim of the study was clearly stated giving an explanation for the purpose of the study. Case-control design used by the study was appropriate to the aim. The size of the sample needed to be justified how it was calculated to meet the study aim.

The cases were clearly defined according diagnostic criteria; also the source of the cases was clearly justified. The source of control group wasn't mentioned by the researchers however, it was matched with the case group for age, gender and other demographic variables.

Measurements used in the research were identified, described in details and were referenced. It was also preferable to mention how it was standardized, especially if it was done by more than one rater. Also, the statistical methods used were needed to be described in more details. The statistical methods were well described and P-value was used to assess the statistical significance.

The characteristics of the sample were described & presented in tables. Also results were presented in tables and figures, which help for better understanding. In discussing the results, both the consistent and the inconsistent results of the previous researches were discussed.

80- Negative Symptoms in First Episode Schizophrenia. (Soliman, 2002).

The aim of the study was clearly stated giving an explanation for the purpose of the study. Cross-sectional design used by the study was appropriate to the aim. The size of the sample needed to be justified how it was calculated to meet the study aim. The tools used were clearly defined and referenced with discussing of their reliability & validity.

The results were presented in tables which help for better understanding; they were compared with other researches.

Consistency with other results was also discussed; this gives more weight to the results.

81- Obsessive Compulsive Symptoms in Schizophrenia.
(Abolmagd et al, 2002)

The aim of the study was clearly stated giving an explanation for the purpose of the study. The research was concerned with studying of the impact of obsessive compulsive symptoms on the performance of schizophrenic patients in different neuropsychological tests, Case- control design which has been used in the research is often used to investigate possible causes and effects and so the method here was appropriate to the aim. The size of the sample needed to be justified how it was calculated to meet the study aim. Measurements used in the research were identified & referenced, however the reliability and validity of the measurements needed to be discussed in details. Also, the statistical methods used were needed to be described in details.

The results were presented in tables which help for better understanding; they were compared with other researches done outside Egypt. Consistency with other results was also discussed; this gives more weight to the results.

82- Long Term Treatment of Schizophrenia with Resperidal.
(Okasha and Okasha, 2003)

The aim of the study was clearly stated giving an explanation for the purpose of the study. Cross-sectional design used by the study wasn't appropriate to the aim. Randomized controlled trial is the appropriate design. The size of the sample needed to be justified how it was calculated to meet the study aim. The research had clearly identified how the cases were obtained and followed a diagnostic criteria for cases selection. Also source of cases was identified clearly.

The validity and reliability of measures were described in details. The statistical methods were well described and P-value was used to assess the statistical significance. The basic characteristics of the sample were described, presented in tables. Also results were presented in tables and figures, which help for better understanding. In discussing the results, both the

consistent and the inconsistent results of the previous researches were discussed.

Finally, the suspected implications of the study on our practice were presented at the end of the work.

83- Quality of Life of Schizophrenic and Mood Disorder Patients, Role of Day Center. (Abdou, 2003)

The aim of the work was clearly stated and specified in the research hypothesis. Case-control design used by the study wasn't appropriate to the aim. Randomized controlled trial is the appropriate design.

The size of the sample needed to be justified how it was calculated to meet the study aim. The research had clearly identified how the cases and control were obtained and followed a diagnostic criteria for cases and control selection. Also source of cases and control was identified clearly. The basic characteristics of the sample were described & represented in tables.

All cases and control were subjected to a battery of assessment procedures. The validity and reliability of these procedures were described in the work.

In presenting the results, the sociodemographic characteristics of the sample under the study were described & presented in tables.

In discussing the results, both the consistent and the inconsistent results of the previous researches were discussed, and the differences were attributed to the cultural differences between the study sample and their samples. Finally, the suspected implications of the study on our practice were presented at the end of the work.

84- A Program of Social Skills Training in Chronic Schizophrenic Patients. (Abdel-Hameed et al, 2003)

The aim of the work was clearly stated and specified in the research hypothesis. Cross-sectional design used by the study wasn't appropriate to the aim. Randomized controlled trial is the more preferred study design. The size of the sample needed to be justified how it was calculated to meet the study aim. The research had clearly identified how the cases were obtained and followed a diagnostic criteria for cases selection. However the source of cases wasn't mentioned in the study. The validity and reliability of measures were described in details. The statistical methods were well described and P-value was used to assess the

statistical significance. The basic characteristics of the sample were described, presented in tables.

In discussing the results, both the consistent and the inconsistent results of the previous researches were discussed, and the differences were attributed to the cultural differences between the study sample and their samples. Finally, the suspected implications of the study on our practice were presented at the end of the work.

85- Psycho-Socio-Demographic Characteristics of an Egyptian Sample of Long-stay Schizophrenic Patients. (Ata, 2004)

The aim of the study was clearly stated giving an explanation for the purpose of the study. Cross-sectional design used by the study was appropriate to the aim. Although the sample size was identified, yet it was not clearly presented how this size was determined. The way of selection of cases was covered in details. The cases were clearly defined according to diagnostic criteria and the basic characteristics of the subjects were described. The tools used were clearly defined and referenced with discussing of their reliability & validity. The statistical methods used were needed to be described in details.

The results were presented in tables which help for better understanding; they were compared with other researches.

Consistency with other results was also discussed; this gives more weight to the results.

86- Linguistic Disturbances in Schizophrenia. (ELShahawi et al, 2004)

The aim of the study was clearly stated giving an explanation for the purpose of the study. Cross-sectional design used by the study was appropriate to the aim. The size of the sample needed to be justified how it was calculated to meet the study aim. The cases were clearly defined according to inclusion and exclusion criteria; also the source of the cases was clearly justified.

The measurements used in this work were described in details with discussing their validity and reliability. The statistical methods were well described and P-value was used to assess the statistical significance. The use of CLANG was not compared with other assessment instruments of language disturbances, such as the Scale for the Assessment of Thought, Language and Communication; therefore it is not possible to conclude that it represents any real advantage compared with other instruments.

The results were presented in tables which help for better understanding; they were compared with other researches.

Consistency with other results was discussed this gives more weight to the results. The implications of the study on our practice were discussed.

Recommendations

Recommendations

Clinical

- It is hoped that clinicians and researchers will be well informed in different classificatory systems and accumulate clinical and research data to help modify and enrich the present classification of psychiatric disorders in the cultural context.
- Increase family involvement in treatment of the patients
- Family psychoeducational program designed by El-Shafei (2002) should be widely used in practice in the management of schizophrenia.
- Increase use of day hospital in addition to full hospitalization.

- Factors associated with compliance should be pre-empted and specifically addressed in a comprehensive treatment program in order to improve the overall outcome of psychiatric patients.
- All psychiatric hospitals should be interested in and use activity therapy and group psychotherapy as a pattern of treatment to complement medication in chronic schizophrenic patients, and before discharge of patients from hospital, we must learn their families should be thought to practice the social skills and activity therapy with them after discharge.

Research

- More work is obviously needed in the area of epidemiology of schizophrenia.
- A national pilot study of schizophrenia to estimate the incidence and prevalence of schizophrenia in different cultural subgroups in Egypt is thus needed to understand the distribution of schizophrenia in the general population and variables that determine that distribution and identification of risk factors which increase the probability of developing schizophrenia.
- The influence of family support in the course of schizophrenia in Egypt is important and remains a significant area for research and for psychosocial interventions.

- A transcultural study on symptom complexes and syndromes of schizophrenia should be done to estimate various differences in symptoms of schizophrenia between different culture subgroups in Egypt.
- Basic researches on treatment settings and mental health policy in Egypt is thus needed if we understand the social course of mental illnesses and design more effective systems for promoting recovery taking into consideration the economic resources and the sociocultural perspectives
- More work is obviously needed in the area of classification of psychiatric disorders in Egypt.
- Systematic review of Arabic studies on schizophrenia is highly recommended in future research. (Appendix 3)

Social

- Psycho-educational approach to the patient and his family may be mandatory to reduce the financial burden imposed by a schizophrenic relapse.
- In order to reduce the stigma and discrimination because of schizophrenia, it is necessary to change people's attitude to increase the knowledge of mental illness and appropriate

treatments through educational and outreach programs. Also it is helpful to collaborate with local social advocacy groups.

- Anti-stigma program used by El-Defrawi et al (2001) in Ismailia should be widely used in all governorates of Egypt
- Improving the quality of life of persons with chronic mental illness is becoming an important treatment goal.

Summary

Summary

Epidemiology

Inspite of the importance of epidemiology in understanding any disease, no epidemiological studies was done on schizophrenia in Egypt.

Etiology

Many researches were done in Egypt on various aspects of the etiological hypotheses of schizophrenia including chromosomal anomalies and candidate genes that may be segregating in consanguineous families containing a high density

of schizophrenic patients. The brain morphology of a group of Egyptian chronic schizophrenics showed central atrophy and significant frontal lobe atrophy. Egyptian schizophrenic patients showed various degrees of hypoperfusion in their SPECT.

Also, life events and family dynamics play an important role in unfolding schizophrenic disorder.

Clinical description

Differences in the symptomatology of schizophrenia in Egypt have been a subject of many investigations despite there was scanty researches on transcultural symptom complexes and syndromes of schizophrenia between different culture subgroups in Egypt. A number of important differences in the diagnosis of schizophrenia in Egypt compared to USA and UK.

Studies to investigate Egyptian schizophrenic patients as regards the positive and negative symptoms revealed that schizophrenic patients could be classified into two groups: Patients with predominant positive symptoms and patients with predominant negative symptoms. Negative symptoms showed weak negative correlation with positive symptoms and depression.

Treatment of Schizophrenia

About 80% of state mental hospitals in Egypt are for treatment of schizophrenia compared to 25% of psychiatric beds in general hospitals and 43% in private psychiatric hospitals. Psychiatric beds in Egypt are neither sufficient nor easily accessible, and not usually affordable.

Researches on treatment of schizophrenia in Egypt included studies on the side effect of neuroleptics, the excretion of these drugs and the value of use of atypical antipsychotics. It includes also researches on the current use of E.C.T.

Course and outcome

Research work on outcome of schizophrenia in Egypt showed that 25.3 % were self-supportive (favorable outcome) with regards to functional outcome, whereas 23.6 % were "improved". The 5-years outcome casted that 13.7% of 37.4% had a good outcome, while 22.9% and 39.770 exhibited fair and bad outcomes respectively. The 30-years outcome results differed remarkably. 27% died during their admission and only 15% of the living subjects denoted a good outcome, while 60% and 25% had fair and bad outcomes respectively

Stigma

Research work in Egypt showed that schizophrenia is associated with a significant amount of stigma and discrimination, which further increase the burden on patients and their families. A variety of studies in Egypt have illustrated the general negative and rejecting attitudes towards patients with schizophrenia.

Anti-stigma program used by **El-Defrawi et al (2001)** in Ismailia should be widely used in all governorates of Egypt aiming to change people's attitude to increase the knowledge of mental illness and appropriate treatments through educational and outreach programs. Also it is helpful to collaborate with local social advocacy groups.

Appendix 1

***Summary of Clinical Doctorate
Degree Thesis and Master Degree
Thesis on Schizophrenia at the***

***Institute of Psychiatry, Ain-Shams
University***

Appendix 1

**1-Subject: A Study of the Chromosomes in Egyptian
Schizophrenics**

Author: M. Kamel

Document: M.D. Thesis.

Site: Institute of psychiatry. Ain Shams Hospitals. Cairo. Egypt

Year: 1965

Background: Several attempts have been made to find out an anomaly that can be demonstrated on the cytological level of schizophrenics.

Aim: To find out an anomaly that can be demonstrated on the cytological level.

Design, type of study: Cross-sectional cohort study

Methods: 40 selected cases of schizophrenia, unmixed with any other mental or physical disorder subjected to chromosomal

counts obtained by short term leukocyte culture and chromosome karyotyping

Results: Chromosome karyotyping submitted a strong evidence of trisomy in the group 13-15 in association with monosomy of group 16-18. Abnormally enlarged satellites could be observed among all the acrocentric autosomes of groups 13-15 as well as those of group 21-22

Conclusion: Possible means for anomalies in chromosome mapping, without an accompanying change in the modal number of the chromosomes of these patients.

2-Subject: Drug-induced Extrapyrimalidal Side-effects in Egyptian Schizophrenic Patients.

Authors: A. Okasha; H. El-Okbi; A. Sadek; F. Lotaif and A.M. Ashour

Document: Egypt. J. Psychiatry, volume 2 (2) 191-197, 1979

Site: Institute of psychiatry. Ain Shams Hospitals. Cairo. Egypt.

Year: 1979

Background: The neuroleptic drugs may produce extrapyramidal side-effects with a prevalence of 24-74 %

Aim: Verify quantitatively and qualitatively the prevalence of the manifestations of extrapyramidal side-effects in a sample of Egyptian schizophrenic patients treated with oral doses of neuroleptics.

Design, type of study: Cross-sectional cohort study.

Methods: 55 schizophrenic patients according to ICD-8 taking oral phenothiazines observed for appearance of EPS

Results: 36.4% of cases developed EPS with moderate doses of oral phenothiazines

Conclusion: 60% of schizophrenic patients are receiving antiparkinsonian drugs unnecessarily and risk of return of EPS after discontinuation of antiparkinsonian drugs is small i.e. 30%.

3-Subject: Histamine and Schizophrenia: A Validation Study for Skin Response to Intradermally Injected Histamine in Schizophrenia.

Authors: N. Al-Mahallawy.; A. Okasha; A. Ashour. and Z. Bishry.

Document: Egypt. J.Psychiat.3 :(1):117-126.1980

Site: Ain-Shams University Hospital, psychiatric wards. Cairo. Egypt.

Year: 1979

Background: There is a significant difference in skin response to intradermal histamine between different groups of schizophrenics and between them and normal control.

Aim: Reexamine the question of the value of the skin response to intradermal histamine in the diagnosis of schizophrenias.

Design, type of study: Case-Control Study

Methods: 30 schizophrenics according to DMPI (1976) divided into two sub-group named Schneider +ve and Schneider –ve. A control group of 15 subjects. Intradermal histamine test administered on admission before any treatment, 4 weeks after being on phenothiazine and/or ECT therapy, then after another 4 weeks of the same treatment. The size of skin wheal that arises 15 minutes after the intradermal injection of 0.05 ml of 1: 1000 histamine in normal saline is measured by a special template and stencil.

Results: The results showed that schizophrenics produce a smaller wheal than normal in relation to intradermal injection of histamine which showed a tendency to return to normal following a therapeutic response to phenothiazines and that schizophrenics have a raised blood histamine level. In Schneider +ve schizophrenics under phenothiazines and/or ECT therapy, the clinical improvement was associated with improved histamine reactivity after 8 weeks. No similar changes were shown by Schneider –ve schizophrenics.

Conclusion: The test could significantly differentiate between normal (N=15) and schizophrenics (N=30). The schizophrenics showing smaller wheals. It failed to differentiate between Schneider +ve and Schneider -ve schizophrenics.

4-Subject: Life Events and Schizophrenia: A Case-Control Study

Authors: Ashour, A.; Nassef, A.; Sadek, A.; Bishry, Z. and Lotaif, F

Document: Egypt. J.Psychiat.3 :(2):237-249. 1980

Site: Psychiatric out-patient clinic in Ain Shams University Hospitals. Cairo. Egypt.

Years: 1977-78.

Background: Stressful life events have demonstrated association with schizophrenia, but it may not always be necessary or direct. Questions often arise concerning whether stress has different effects on disease onset and recurrence and whether a stressful event precedes illness or represents a product of symptom exacerbation

Aim: To study the role of life events in the causation or precipitation of Schizophrenia

Design, type of study: Cross-sectional cohort study.

Methods: 40 schizophrenic patients, 20 males and 20 females selected from the patients attending the diagnosed according to ICD 9 and matched with 40 controls. The concentrated on two periods in the life of the patients, the first ten years and the 3 years prior to the illness short of the last 6 months. All assessed by a semistructured interview and check-list.

Results: An excess of number of events in schizophrenic patients than normal control group prior to the development of the illness e.g. father's loss death of spouse, moving to another house, troubles at work, divorce, entering military service and major physical illness.

Conclusion: Work trends in the life events higher in the schizophrenic subjects compared to the controls mainly in association with recent parental loss.

5-Subject: Cortical and Central Atrophy in Chronic Schizophrenic "A Controlled Study"

Authors: A. Okasha; O. Madkour; A. Sadek.; F. Magd and F. Lotaif

Document: Egypt. J. Psychiat.:4 :(2):153-162

Site: Institute of psychiatry. Ain Shams Hospitals. Cairo. Egypt.

Year: 1981

Background: Subtle manifestations of brain atrophy, specifically enlargement and dilatation of cortical sulci have been observed of CT findings in chronic schizophrenic patients.

Aim: To investigate the presence or absence of ventricular enlargement and cortical atrophy in chronic schizophrenic.

Design, type of study: Case-Control Study.

Methods: CT of the brain was carried out in 43 chronic schizophrenics of more than 5 years duration and less than 60 years of age, and normal controls matched for age, sex and education.

Results: Highly significant differences were found regarding central atrophy. Third ventricle measurements were normal in 9.3%, slight enlargement in 37.2%, moderate enlargement in 48.8% and extreme enlargement in 4.7%. The cella media index denoting lateral ventricle dilatation showed moderate changes in 46.5%, slight in 9.3% and the remaining 44.2% were normal.

Conclusion: A large number of chronic schizophrenics have an associated central atrophy. CT of the brain show central atrophy, enlargement of third ventricle. The cella media index denoting lateral ventricle dilatation

6-Subject: Psychiatric Disturbances in Children of Chronic Schizophrenic Patients

Author: El-Morsi, M.M

Document: M.Sc. Supervised by: Abdel Monaim, S. and Bishry, Z.

Site: Abassya Mental Hospital and Ain Shams Outpatients .Cairo. Egypt.

Year: from December 1981 till April 1982

Background: The children of schizophrenic parents show high incidence of psychiatric disturbances than the children of normal parents.

Aim: To try to know the incidence and the characters of behavioral, emotional and psychiatric disturbances in children of chronic schizophrenic parents.

Design, type of study: Case-Control Study

Methods: Thirty chronic schizophrenic patients, who have been married and have children and a matched control group. All assessed by PSE, Global scholastic achievement, EPQ and Child Attitude Questionnaire.

Results: The attitude of diseased parents was of significant differences in rejecting attitude (12/46). Sleep disturbance recorded a high incidence of significance in both night terrors and night mares among the studied cases. Present mental state examination revealed both depressed and indifferent mood of statistical significance in the studied cases. Obsessional symptoms and hysterical reaction appeared in the studied cases especially hysterical fits in female cases. Five children reported diagnostic criteria of schizophrenic syndrome, ten of their sibs also were schizophrenics, Female groups reported low scores on E scale statistically of significant, also they obtained a higher incidence of significance on I scale comparing with the control group although girls in general used to obtain higher scores on this scale.

Conclusion: The children of schizophrenic parents showed behavior disturbance more than the children of normal parents. The children of schizophrenic parents are more

vulnerable to schizophrenia than the children of normal parents.

7-Subject: Cat Findings in Schizophrenia: Relationship to Subtypes, Personality, and Psychodemographic Data

Authors: OKasha, A.; Madkour, O.; Ghanem, M. and Khalil, A.H.

Document: Egypt. J. Psychiat. : 9: 147-160 (1986).

Site: Institute of psychiatry. Ain Shams Hospitals. Cairo. Egypt

Year: 1984

Background: Since the advent of computerized axial tomography, there is new evidence for altered CNS morphology in psychiatric patients

Aim: To give a clue to the possible radiological presentations in CAT scanning of the schizophrenic population, and to search for the different factors that may be associated with them.

Design, type of study: Case-Control Study

Methods: 60 schizophrenic patients according to DSM-III criteria were assessed by clinical and radiological CAT scanning. The density of different brain regions was measured.

Results: Patients had a significant central atrophy, increased mean density of both hemispheres, and non significant higher incidence of mild, moderate cortical and cerebellar atrophy than did the controls. 45% of patients had ventricular enlargement as equivalent to having a VBR more than 2 SD larger than that of control group mean. Patients with larger ventricles have a significant higher incidence of negative symptoms, but they could not be differentiated from those with small ventricles regarding personality and psychodemographic variables.

Conclusion: Schizophrenic illness may start frontally. The disease may be the result of loss of asymmetry which coincides with the hypothesis of thickening of corpus callosum in schizophrenia .The lesion spreads posteriorly to

involve the central and the occipital regions with the severity and the chronicity of the disorder.

8-Subject: A Study of Psychopathology and Social Skills in Egyptian Chronic Schizophrenic Patients

Authors: Ashour, A.; Okasha, A.; Hussein, M.; Sobhy, M. and Khalil, A.

Document: E.J.Psychiatry. Vol.9 No. 1, 2 (18-30), 1986

Site: Institute of psychiatry. Ain Shams Hospitals. Cairo. Egypt.

Year: 1984

Background: Schizophrenics suffer from every possible kind of social skills deficit.

Aim: To make a psychopathological profile for the Egyptian Chronic Schizophrenic patient, evaluation of the social skills for the same patient and to study the correlation between psychopathology and social skills.

Design, type of study: Cross-sectional cohort study.

Methods : 32 Egyptian chronic schizophrenic patients of age less than 40 years and have illness from 3-10 years according to DSM III (1980).assessed by : PSE, Argyle's Relationships Rules and Susan Spence's behavioral analysis.

Results: The results as regards social skills of Argyle's Rules were 60 %. i.e. patients had deficient in social skills. There is a correlation between the psychopathology of patients and their social skills. The results showed that the major disability of these patients is the social incompetence.

Conclusion: The results of social skills by using the two tools showed that schizophrenic patients had deficient in social skills which are correlated with the psychopathology of patients.

9-Subject: Affective Symptoms in Schizophrenia

Author: M.A. Shohdy

Document: M.D. Thesis supervised by Okasha, A.; Sadek, A. and Ashour, A.

Site: Institute of Psychiatry, Ain Shams University, Cairo, Egypt
Year: 1985

Background: Schizophrenics had depressive symptoms

Aim: Evaluate the prevalence of affective symptoms in acute and chronic schizophrenia and whether those cases with manifest affective symptoms can be delineated from other types of schizophrenia.

Design, type of study: Case-Control Study.

Methods: 27 untreated first-illness acute schizophrenic patients (duration more than 6 months), 51 chronic schizophrenic patients (duration more than two years) maintained on medication, 41 Chronic schizophrenic patients (duration more than two years) without medication according to I C D- 9 criteria and 40 normal control to evaluate clinically and objectively the prevalence of affective symptoms in normal population. Depression was assessed clinically and by Hamilton rating scale to evaluate the prevalence and intensity of objective affective symptom

Results: High prevalence of depressive symptoms in untreated acute schizophrenic patients (62.9%) compared with chronic schizophrenic patients, whether they were on treatment or not, (27.4%) and (36.5%), respectively.

Conclusion: The cluster of depressive symptoms cannot be categorized under the heading of major depression or dysthymic disorders in the DSM-9, but can be categorized under atypical depression. The depressed schizophrenic patients were characterized generally by more prevalent psychotic and anxiety symptoms compared with the nondepressed schizophrenic patients who suggest that the severity of psychosis might play a role in inducing depression.

10-Subjects: Short versus Long Stay Psychiatric Hospitalization (Results for Schizophrenic inpatients)

Author: N. Abdel Malik

Document: M.Sc. Supervised By: M. Kamel and A.H. Khalil

Site: Khanka Mental Hospital. Kaliobiah. Egypt.

Year: 1985

Background: Controversy exists concerning the optimal length of hospitalization for psychiatric patients.

Aim: Exploring the possible available factors which could be influential in affecting the period of stay inside Khanka Mental Hospital.

Design, type of study: Case-Control Study.

Methods: 100 schizophrenic patients who stayed less than 90 days, compared with another group of 100 schizophrenic patients who had been in hospital for more than 3 months. Both groups were subjected to a semistructured psychiatric interview, physical and neurological examination They were diagnosed according to the DSM III criteria (1980).

Results: Married patients were found more among those with STH (53%) than among those with LTH (26%). LTH were significantly less educated and younger on admission, they recorded a significantly higher prevalence of disturbed home atmosphere (67%), positive family history of psychiatric disorder (21%) they tended to be of low socioeconomic status and unemployed than STH. Patients with STH show significantly higher rate of voluntary admission (21%). They had a significantly fewer number of previous psychiatric admissions, received a higher number of visits/ month than LTH.

Conclusion: LTH are accompanied with low socioeconomic status and unemployment, single status, disturbed home atmosphere, positive family history of psychiatric disorder and higher number of previous psychiatric admissions, Residual and undifferentiated subtypes of schizophrenia are associated with LTH.

11-Subject: Tardive Dyskinesia in Psychosis: A Study of its Prevalence, Psychodemographic, and Clinical Aspects among Neuroleptic-Treated Egyptian inpatients.

Author: M. R. Al-Fiky

Document: M.D. Thesis. Supervised by Okasha, A. and Sadek, A.

Site: All Subjects were sampled from 3 psychiatric facilities at Cairo and Kaliobiah Governorate. Egypt.

Year: 1985

Background: T.D. is an important and timely topic problem associated with prolonged use of the neuroleptic agents, which represents many clinical, scientific, industrial and medico-legal challenges

Aim: Study the prevalence of T.D. in the Egyptian psychotic inpatients under long-term neuroleptic treatment and to identify its risk factors, degree of severity, and association with other abnormal involuntary movements

Design, type of study: Cross-sectional cohort study.

Methods: The assessment of each subject consisted of an interview for demographic medical, psychiatric, and medication histories, also a systematized, standardized neurological examination for the abnormal movements was carried out. Application of the Neurological Rating scale, the abnormal Involuntary Movement Scale, and the Pockland (Simpson) scale for Dyskinesia

Results: 52 dyskinetic cases were found among 3037 patients surveyed. The prevalence rate was estimated to be 1.1%. Significant associations between T.D. and age at examination (> 40 years), female sex above 50 years. at examination, Christian females, and duration of hospitalization that reflects duration of neuroleptic exposure roughly were detected. T.D. movements in the Egyptian sample were characterized by being mostly central (orofacial). Complications secondary to T.D. were present in only 7.7% of cases and were mainly physical.

Conclusion: Tardive dyskinesia T.D. is a distinct, recognizable syndrome that is attributable to long-term neuroleptic treatment in susceptible individuals.

12-Subject: A Study of 13 Diagnostic Systems (Criteria) for Schizophrenia on an Egyptian Sample: Frequencies, Agreements and Validity

Authors: Okasha, A.; Haggag, W.; Khalil, A.H.; Ghanem, M.H. and Kamel, M.

Document: Egypt. J. Psychiat. : 13: 157-170, 1990

Site: Institute of psychiatry of Ain Shams Hospitals. Abassya Hospital A private psychiatric Hospital. Cairo. Egypt

Year: 1988

Background: Most clinicians and investigators agree that the group of disorders called schizophrenia is heterogeneous; consequently the history of the nosology of schizophrenia provided us with many competing diagnostic formulations.

Aim: Compared the 13 systems' frequencies, documented their agreements and analyzed their differences. Tested also the validity of these systems as their concordance with clinical diagnosis through testing their sensitivity and specificity.

Design, type of study: Cross-sectional cohort study

Methods: 200 newly admitted psychotic patients at four psychiatric hospitals in Egypt assessed by the Arabic version of Landmark's questionnaire.

Results: Showed that the 13 systems varied much in comprehensiveness. The highest agreement was between systems that specify the type of onset and course. The validity study supports the usefulness of DSM-III, WHO-CSB, and Langfeldt's systems for clinical practice. Feighner's criteria were the most specific for biological researches and Schneider's criteria were the least specific as they are unable to exclude other forms of psychoses

Conclusion: Of 13 diagnostic systems for schizophrenia on an Egyptian sample it was found that WHO-CSB, DSM-III,

and Langfeldt's systems for clinical practice, Freighner's Criteria were the most specific for researches

13-Subject: Psychosis: An Objective Study In Schizophrenia And Affective Psychosis By A Locally Constructed Rating Scales

Author: S. M. Effat

Document: M.D. Thesis Supervised by: Okasha, A. and Soueif, M.

Site: Institute of psychiatry. Ain Shams Hospitals. Cairo. Egypt.

Year: 1989

Background: Psychosis is an independent term which should not be equated with schizophrenia, it is a phase of the syndrome, which may be present during the acute attack only or it may persist till chronic stages.

Aim: Reevaluate the concept of psychosis so as to reach an operational definition based on objective methods and to outline the relationship between psychosis and schizophrenia.

Design, type of study: Cross-sectional Cohort Study

Methods: 191 male Egyptian psychiatric patients were studied, 110 of which were schizophrenic, 56 affective psychotic and a control group of 25 neurotic disorder patients diagnosed according to ICD-9 criteria. At the end of the clinical interview, the patients were assessed for the presence of psychosis according to locally designated rating scales.

Results: Psychosis is a cluster of symptoms which could be quantitatively and qualitatively assessed in different psychiatric disorders. Psychotic symptoms can be considered as the presence of either one or all of the following symptoms: loose association, delusions, hallucinations, personality deterioration and passivity experiences.

Conclusion: The use of rating scales permits an objective way of assessing psychotic symptoms.

14-Subject: Admission Outcome of Egyptian Schizophrenic Patients: A Retrospective Study after Five and Thirty Years

Authors: M. A. Owaida, I. Yousef, M. R. El-Fiky, M. R. Abu-Auf, A. El -Madani and N. M. Mehasseb

Document: Egypt. J. Psychiat. : 13: 185-107

Site: Abassya Mental Hospital. Cairo. Egypt.

Year: 1990

Background: There is a more favorable course and outcome in patients of developing countries when compared with developed countries

Aim: Identifying the outcome of Egyptian schizophrenic patients, before the era of neuroleptics and other recent medications, who have been admitted for the first time and as near as possible from the time of onset after 5 and 30-years of the time of their first admission to a mental hospital.

Design, type of study: Cross-sectional cohort study.

Methods: All case notes of all patients admitted during the period from 1930 to 1934. They were 1887 case notes, with the exclusion of case notes the rest was (703 case notes) represented the sample of the current work. Operational criteria for clinical assessment of the outcome at two intervals; 5 and 30 years.

Results: Findings of the five years outcome casted that 13.7% of 37.4% had a good outcome, while 22.9% and 39.77% exhibited fair and bad outcomes respectively. The thirty years outcome results differed remarkably. 27% died during their admission and only 15% of the living subjects denoted a good outcome, while 60% and 25% had fair and bad outcomes respectively

Conclusion: In spite of differences in simple characteristics and treatment modalities, these findings were similar to western studies and these figures coincide with similar results of studies done in other developing countries, but were of more

favorable outcome than those carried out in the developed countries, which were keeping with the results of the International Pilot Study of Schizophrenia.

15-Subject: Schizophrenia and Parkinsonism (A Comparative Study)

Author: M.M. Mostafa

Document: M.D. Thesis. Supervised by: Fadli, E; Abdel-Moneim, S.; Kamel, M. Ain-Shams University

Site: Institute of Psychiatry. Ain Shams Hospitals. Cairo. Egypt

Year: 1993

Background: It is evident that both schizophrenic patients and parkinsonian patients suffered dysfunction of the frontal lobes, temporal lobes and basal ganglia.

Aim: Reducing pathogenesis of schizophrenia and Parkinsonism based on the two neurological principles: Where is the localization of the lesion? What is the nature of the lesion?

Design, type of study: Case-Control Study

Methods: 30 schizophrenics and 30 normal controls were subjected to: Clinical neurological, psychiatric assessment, conventional EEC, BEAM and C.T. scan.

Results: Conventional EEC abnormalities showed that both schizophrenics and parkinsonian patients shared the following abnormalities: Disorganized alpha waves in the background activity, Focal slow waves over the frontal and temporal regions. Schizophrenics differed from parkinsonian patients in the presence of temporal sharp waves. BEAM results showed that: Both schizophrenics and parkinsonian patients had a relative increased delta power over the frontal regions, a relative decrease in alpha power over the occipital regions. C.T. scan showed that schizophrenics suffered third ventricular enlargement while parkinsonian patients suffered enlargement of the left anterior horn of the lateral ventricle.

Conclusion: In schizophrenics as well as in parkinsonian patients there is primary degeneration of the basal ganglia

dopaminergic neurons with a secondary hypofunction of the frontal and temporal lobes due to the imbalance of the cybernetic circuit between the basal ganglia and both lobes. This is evident in schizophrenics with predominantly negative features.

16-Subject: Negative Symptoms in Chronic Schizophrenic Inpatients; Comorbidity With Depressive Symptoms, Late Involuntary Movements, And Cognitive Deficits

Author: S. Abd El Reheem

Document: M.D. Thesis Supervised by: Okasha, A.; Lotaif, F. and Al Fiky, M.R

Site: Institute of Psychiatry. Ain Shams Hospitals. Cairo. Egypt.

Year: 1993

Background: The concept of negative symptoms (NS) has become increasingly important since it was reintroduced into psychiatric thinking several years ago.

Aim: Survey chronic schizophrenic in-patients as regards the negative symptoms and to explore the relationship between these negative symptoms and depressive symptoms, tardive dyskinesia and cognitive deficits.

Design, type of study: Cross Sectional Study

Methods: 2000 schizophrenic patients have been screened. Among them 650 schizophrenic inpatients were found to be chronic according to DSM III-R criteria for schizophrenia-chronic course. 95 patients with predominant negative symptoms were further assessed by SANS.

Results: 46.4% of the sample had severe negative symptoms, 37.7% had moderate degree of negative symptoms and 15.9% had mild degree of negative symptoms. Negative symptoms have been found to be positively significantly correlated with age, duration of hospitalization The prevalence of TD in was 20%. Negative symptoms has been found to be significantly correlated with TD.

Conclusion: Negative symptoms has been found to be correlated with age, duration of hospitalization. high prevalence of TD among a sample of schizophrenic inpatients with predominance of negative symptoms. This TD correlated significantly with negative symptoms. Negative symptoms has been found to be associated with poor cognitive function. And that poor cognitive function becomes severer if negative symptoms is associated with TD. Negative symptoms negatively correlated and to significant degree with depressive symptoms.

17-Subject: SPECT In Positive Versus Negative Schizophrenia

Author: S. H. Khalil

Document: M.Sc. Thesis Supervised by: Kamel, M.; Sadek, A. and El-Banouby, M.

Site: Institute of psychiatry. Ain Shams Hospitals. Cairo. Egypt.

Year: 1996

Background: Some types of cognitive impairment in schizophrenia may be directly referable to abnormalities of brain structures.

Aim: To study regional cerebral blood flow in schizophrenia and its relation to cognitive functions

Design, type of study: Case control Study

Methods: Tc99m-HMPAO-SPECT method was used to assess rCBF in 10 patients with schizophrenia and 10 normal control subjects of comparable age, sex, social background and educational status, while two neuropsychological measures were used to assess cognitive function: WCST and WIS.

Results: Schizophrenic patients had significantly low rCBF of the frontal, parietal and temporal lobes than the control group. Also they performed worse on WCST and had lower total IQ score than the control subjects.

Conclusion: The study confirms the general belief that schizophrenia should not be regarded as a unitary disorder. There are differences among diagnostic subgroups in the degree of neuropsychological deficit and rCBF perfusion. there is clear evidence of cognitive impairment and frontal lobe dysfunction in schizophrenia. Also there is evidence of right hemisphere dysfunction, as well as evidence of dysfunction in more posterior regions of the brain i.e. parietal lobes and those high correlations between symptomatology and cognitive impairment and rCBF were more frequent than those between symptomatology and cognitive impairment.

18-Subject: Prodromal Symptoms As Valid Predictors Of Relapse In Schizophrenic Disorders

Author: A. Haroun El-Rasheed

Document: M.D. Thesis Supervised by: Okasha, A.; Bishry, Z. and Al Fiky, M.R.

Site: Institute of Psychiatry, Ain Shams University. Cairo. Egypt.

Year: 1996

Background: It is generally believed that onset and recurrence of psychotic symptoms in schizophrenia are often preceded by other symptoms and types of behavior, usually referred to as prodromal symptoms.

Aim: Identifying the symptoms clusters of prodromes of schizophrenic disorder relapse.

Design, type of study: Case-Control Study.

Methods: 100 schizophrenic patients who had recently relapsed. A control sample formed of 50 schizophrenic patients who have been in full remission for at least 6 months and another control sample formed of 50 healthy controls. Based on DSM-III-R criteria for diagnosis. All are assessed by; Semi-structured interview, Structured scale for life events assessment.

Results: Highly significant association was found between relapse and greater number of previous hospitalization. A highly significant association was found between non-compliance and relapse. Minor life events were more common than major life events in relapsing patients. The non-psychotic symptoms as: trouble concentrating, depression, being tense and nervous, trouble sleeping, restlessness, enjoying things less, and eating less were the commonest from the patients and their relatives own point of view.

Conclusion: Non-psychotic symptoms were the most commonly reported prodromal symptoms by relapsing patients and their relatives. Minor life events occupied the early ranks for patients both relapsing and non-relapsing. Non-compliance was highly associated with relapse.

19- Subject: Attempted suicide in schizophrenia

Author: N.M. El Mahallawy

Document: Egypt Journal of Neurology, Psychiatry and Neurosurgery. Volume 34 (1).January 1997

Site: Institute of psychiatry. Ain Shams Hospitals. Cairo. Egypt.

Year: August 1996

Background: About 10 to 15 % of schizophrenics commit suicide. The suicide rate in schizophrenia is 20 times higher than that of general population.

Aim: To study the Attempted suicide in schizophrenia and try to determine the risk factors for Attempted suicide in schizophrenia.

Design, type of study: Cross-sectional cohort study.

Methods: All the schizophrenics inpatients according to ICD-10 criteria in the Institute of psychiatry during August 1996 were interviewed and assessed by using the following scales: SANS, SAPS, HDRS and a structured data sheet to investigate the suicidal feelings and attempts.

Results: 17 of 41 schizophrenics (41%) have a history of attempted suicide. Attempted suicides results either from psychotic pictures (60%) or depressed mood (60%). The mean duration of illness was 4.3 ± 1.2 years. Previous psychiatric hospital admission prior to attempted suicide was 70% of cases.

Conclusion: The risk of suicide is high in schizophrenia. Attempted suicide in schizophrenia is secondary to psychotic picture or depressed mood. Psychiatric hospital admission increases the risk of suicide.

20-Subject: Factors Affecting Drug Compliance in an Egyptian Sample of Relapsing Schizophrenic and Bipolar Affective Patients

Authors: Haroun El Rasheed A, Soliman A, Ghanem M and Effat S.

Document: Current Psychiatry, Vol. 8 No.2 July 2001

Site: Institute of Psychiatry, Ain Shams University, Cairo, Egypt

Year: from October 1999 to July 2000.

Background: Objectives: Poor compliance is one of the major determinants of outcome in mental illness.

Aim: Identifying factors associated with non-compliance in relapsing

schizophrenic and bipolar affective disorder in Egyptian patients

Design, type of study: Cross-sectional cohort study.

Methods: A clinically administered interview was used to assess compliance and its potential determining factors in 66 relapsing schizophrenics and 60 relapsing bipolar affective patients consecutively. These factors included sociodemographic variables, ICD-10 diagnosis, factors related to disease and beliefs about illness, medication variables and factors related to patient's environment.

Results: Noncompliance was present in 54 (81.82%) schizophrenics and 48 (80%) bipolar affective patients. Older age at onset of illness, previous non-compliance,

higher doses of antipsychotics, medication side effects, and financial burden of drugs were associated with non-compliance in both groups. Female gender, being employed, frequent hospitalization, sense of boredom from treatment and substance abuse during the month preceding relapse were significantly correlated with non-compliance in schizophrenic patients. Insight into mental illness and need for treatment were not protective against noncompliance.

Conclusion: Compliance is a multifactorial and complex problem. Factors associated with compliance should be pre-empted and specifically addressed in a comprehensive treatment program in order to improve the overall outcome of psychiatric patients.

21- Subject: Quality of Services Offered to Schizophrenic Patients in an Egyptian Hospital.

Authors: A.H. Khalil, A. Saad, M. Mansour, Y. Abdel Razek, M. Abdel Maksoud

Document: Current Psychiatry. 2001, Vol 8 No.3. 310-325

Site: Institute of psychiatry. Ain Shams Hospitals. Cairo. Egypt.

Year: 2000

Background: Total quality is an attitude, an orientation that permeates an entire organization, and the way that an organization performs internal and external business.

Aim: To monitor the quality of mental health services provided to psychiatric patients suffering from schizophrenia.

Design, type of study: Cross-sectional survey

Methods: Review of the 62 inpatient files discharged during the second quarter of the year 2000. Diagnosed as chronic schizophrenia according to ICD-10. Review of the Out Patient Clinic records and estimation of the degree of patients' compliance. Data and facts about the structure of the hospital. Information about number, categories and qualifications of the working staff by the help of the responsible employee.

Results: Beds for Psychiatric patients are not always available. Services lack the supportive groups for community therapy, psychosocial intervention and extra mural facilities. Conventional drugs are but not usually acceptable. Novel drugs are available and acceptable, but not affordable nor accessible. ECT is available, accessible and affordable but not acceptable.

Conclusion: Tailor the Egyptian Guidelines for the treatment of schizophrenia, to conform to the local needs and resources, and we have to take into consideration our economic resources social and cultural perspectives. It is preferable to increase the number of beds, prepare training courses for social workers, psychologists and G.P.s., and raise the public awareness in a trial to overcome the stigma of psychiatric disorders and to create advocate groups by the help of the Non Governmental Organizations.

22-Subject: An Association Study for Candidate Genes Using the Haplotype Relative Risk (HRR) Design in A Sample of Egyptian Schizophrenic Patients

Author: H.A. Sadek

Document: M.D. Thesis. Supervised by: Bishry, Z.; El Missiry, A.; Asaad, T.; Ramy, H. And Ackenheil, M.M. Ain Shams University

Site: Institute of psychiatry. Ain Shams Hospitals. Cairo. Egypt.

Year: 2001

Background: There is an association between schizophrenia and polymorphisms in either one of the dopamine or serotonin receptor genes as these genes are considered candidate loci for schizophrenia.

Aim: Test the hypothesis that schizophrenia is linked to one of the candidate genes

Design, type of study: Case-control study

Methods: 96 Egyptian schizophrenic patients according to the ICD 10 criteria, with a control group consisted of the two parents of the patients assessed by the following: SCAN, SANS and SAPS. blood was collected for DNA extraction; PCR was performed for associated genes by HHRR, HRR and TDT.

Results: A significant association between the transmission of dopamine receptor D4 (allele 4) and the presence of paranoid and undifferentiated types of schizophrenia, presence of a moderate response to antipsychotic medication and predominance of negative symptoms. Serotonin type 2C receptor gene showed a significant association of genotype ser/ser (SS) and the occurrence of schizophrenia. Also, the CS genotype showed a high significance for association with transmission in schizophrenia.

Conclusion: Transmission of D4 (allele 4), S.S. and C.S. genotypes is associated with schizophrenia

23-Subject: Regional Cerebral Blood Flow In Egyptian Schizophrenic Patients

Author: K.M. Mostafa

Document: M.D. Supervised by: Kamel, M.; Sadek, A.; Matta, L.; Saad, A. and Omar, A.N. Ain Shams University

Site: Institute of psychiatry. Ain Shams Hospitals. Cairo. Egypt

Year: 2001

Background: Schizophrenia is increasingly believed to be based in organic conditions primarily affecting the CNS abnormalities all suggest a link between schizophrenia and CNS pathology.

Aim: Examining regional cerebral blood flow in schizophrenic patients and its relation to pathophysiological picture of Schizophrenia

Design, type of study: Case-Control Study

Methods: Assess the reliability of clinical diagnoses using different tools. The selected cases and controls assessed by single photon emission computed tomography (SPECT), typically examining regional cerebral blood flow (rCBF).

Results: The selected cases showed various degree of hypoperfusion in their SPECT and none of the control showed any abnormality. The Incidence of qualitative abnormal perfusion in different brain areas in patients immediately after admission showed affection for most parts of the brain, both the right temporal and the right parietal showed normal perfusion when compared to control subjects. Following treatment, there were still highly significant differences between the patient and control groups as regard superior frontal lobe, left parietal lobe and bilateral basal ganglia perfusion and metabolism perfusion and metabolism, and highly significant differences between the two groups.

Conclusion: Schizophrenia is a more like to be a heterogonous syndrome rather than a continuum of symptoms, The frontal, left temporal, left parietal lobes and basal ganglia are the most vulnerable areas in demonstrating hypoperfusion, thus supporting the theory of circuits were more than theories suggesting localized and discrete lesions.

24-Subject: A Ten Years Outcome Study of Schizophrenia in a Sample of Egyptian Patients

Author: A.Y. Abdel Messih

Document: M. D. Thesis, 2002

Site: Institute of psychiatry. Ain Shams Hospitals. Cairo. Egypt

Years: Between December 1999 and March 2001

Background: Schizophrenia was conceived as a non-remitting illness characterized by steady deterioration. Recently, however, controversy has arisen about outcome in modern schizophrenia, indicating a relatively optimistic outcome for schizophrenia.

Aim: Describe the long term outcome of schizophrenia in a sample of Egyptian patients and to study the relationship between different dimensions of outcome

Design, type of study: Cross-sectional cohort study

Methods : 75 patients assessed by : The Structured Clinical Interview for DSM III-R (SCID-I) patients version, (PANSS), the Global Assessment of Function (GAP), the PCASEE Quality of Life Scale, the Modified Vocational Status Scale and the Modified Location Code Index

Results: 25.3 % were self-supportive (favorable outcome) with regards to functional outcome, whereas 23.6 % were "improved" with regard to psychopathological outcome. Age at onset was the first risk factor as poor clinical outcome correlates with younger age and the next factor is symptom severity at Index episode as the higher total PANSS score at Index episode the poorer the clinical outcome.

Conclusion: Results were concordant with most of the previous outcome studies on schizophrenia as regards psycho demographic characteristics and outcome measures, with slightly less scores than the studies coming from USA and Western Europe, and thus discordant with the recent observation of some investigators that outcome is consistently better in developing than in developed countries.

25-Subject: Quality of life in a sample of Egyptian Patients with Schizophrenia

Authors: Abdel Razek Y., Saad, A and .Okasha T

Document: Current Psychiatry Vol. 8 No.1

Site: Institute of Psychiatry, Ain Shams University, Cairo, Egypt

Year: 2001

Background: Quality of life is taking account of everything beyond mortality and symptom level. Improving the quality of life of persons with chronic mental illness is becoming an important treatment goal.

Aim: Examine the relationship between quality of life and several clinical factors for which interventions can be implemented.

Design, type of study: Cross-Sectional Survey.

Methods: 40 patients with schizophrenia according to ICD-10 criteria were between the ages of 18 and 55 and both males and females were included. Each patient was subjected to MINI, PANSS, CGI, drug attitude inventory, patient perceived family criticism questionnaire, compliance scale, and the quality of life scale.

Results: Most patients' CGI scores were in the range indicating serious impairment. Subjects generally reported low levels of both depressive and psychotic symptoms and on average, were experiencing two of the four medication side effects. Very few were rated as having poor social skills (20 percent). 60 percent complied poorly with medications. 40% were satisfied with all life domains. It was found significant indirect correlations between global quality-of-life scores and self reported symptoms, patient- perceived family criticism, medication side effects, positive symptoms scoring, depressive and anxiety symptoms, being single, unemployment, and number of hospitalization. Also, significant direct correlations were found between global quality-of-life and daily living skills, age at onset of illness, and medication compliance.

Conclusion: Clinical interventions to improve quality of life in this population should include family psychoeducational

programs and better detection, evaluation, and treatment of both depressive symptoms and side effects of medication

26-Subject: Risk Factors for Negative Drug Attitude in Schizophrenia

Authors: Haggag W. L., Mansour M., Hammady M. and Tantawy A.

Document: Current Psychiatry, Vol. 9 No 3 November 2002

Site: Institute of Psychiatry, Ain Shams University, Cairo, Egypt

Year: 2002

Background: Medication non-compliance, a pervasive problem among persons with chronic mental illness including schizophrenia, has been linked to increased illness costs to patients, families and society.

Aim: Identify personal, phenomenological and medication risk factors that may determine negative attitude towards medication in a group of hospitalized patients with schizophrenia.

Design, type of study: Cross-Sectional Cohort Study

Methods: 48 patients with schizophrenic patients according to DSM-IV criteria assessed by, PANSS, Arabic Version of The Drug Attitude Inventory (DAI-10). Data entry and analysis was done using Epi-info computer and SPSS system. To identify the risk factors for negative drug attitude, multiple logistic regression analysis was applied using drug attitude. Statistical significance was considered at P-value, <0.05.

Results: Gender determines significantly the number and duration of hospitalization, reported side effects to medication, drug attitude and severity of schizophrenia psychopathology. Twenty-two (47.8%) of patients expressed negative drug attitude. The best predictors of negative drug attitude: the presence of any side effect and the severity of positive and negative symptoms (high scores on positive and

negative symptom subscale of (PANSS) and low score on PANSS general psychopathology symptoms.

Conclusion: The final regression model, in this study, after exclusion of age, sex and course of illness identified the following variables as best predictors of negative drug attitude: the presence of any side effect and the severity of positive and negative symptoms and the less severe general psychopathology symptoms. This model explained 58% of the total variance.

27- Subject: The Prevalence of Suicidality among Schizophrenic Patients with and without Co-morbid Personality Disorder

Author: A.M. Omar

Document: Current Psychiatry (2002). Vol 9 No. 3.288-295

Site: Institute Of Psychiatry, Ain Shams University. Cairo

Year: 2002

Background: Schizophrenia is a disease that reduces the life expectancy of those afflicted by approximately 10 years, and suicide accounts for the majority of premature deaths among patients with schizophrenia

Aim: Highlighted the impact of co morbid personality disorders in enhancing suicidality

Design, type of study: Cross-Sectional Survey

Methods: Admitted patients with schizophrenia (128) during one year were assessed with SCID-I and SCID-II for classical sub typing and personality disorder diagnosis. Suicidal attempts and ideation among patients were ascertained by means of beck scale for suicide ideation

Results: 54% reported suicidal ideation (The paranoid schizophrenia subtype was associated with an elevated risk 28 % followed by undifferentiated 13%). 18 % reported suicide attempts. Suicide ideation and behaviors significantly increase among patients with co morbid personality disorder diagnosis especially those of odd cluster

and borderline personality disorder. The frequent relapse rate rather than the chronic course is more associated with increased suicidality.

Conclusion: The impact of co morbid personality disorder diagnosis, together with certain subtypes of schizophrenia and high relapse rates on suicide risk has been significantly reported. Prominent paranoid symptoms, either in schizophrenia or the co morbid personality disorder defines a relatively high-risk group.

28-Subject: An Educational Program for Knowledge and Attitude Change in Families of Patients with Schizophrenia.

Author: A. A. El-Shafei

Document: M.D. Thesis supervised by Kamel, M.; Craig, T.; Effat, S. and Omar, A.

Site: Institute of Psychiatry, Ain Shams University, Cairo, Egypt
Year: 2002

Background: Educating families will improve the knowledge and confidence of relatives in coping with the illness

Aim: highlight the importance of family psychoeducation in management of schizophrenia.

Design, type of study: Randomized Case-control study

Methods: The sample consisted of 90 relatives related to 50 patients with schizophrenia according to the ICD-10 Criteria. Relatives consisted of the main caregivers of patients. Then, an educational program in the Arabic language was designed. The patients assessed by: Checklist for Mental Disorders, PANSS, SFQ. Also, relatives (both cases and controls) were assessed by; CAMI, FAB, KASI and ECI. Following the baseline assessment, the educational program was conducted over 6 days and consisted of 3 sessions. At the end of the program, and at the end of the study (3 months), patients and relatives of both case and

control groups were reassessed using the same baseline scales.

Results: Highly to very highly significant differences were detected over time on all scales in favor of relatives in the case group. Very highly significant differences between baseline and end-of-program scores.

Conclusion: Education resulted in an improvement in attitudes and knowledge in relatives, changes their attitudes towards patients in a positive direction, and decreases their caregiving burden. Educating relatives resulted in some clinical improvement of patients.

29-Subject: Assessment Of Social Functioning And Social Behaviour Of Schizophrenic Patients: A Step Towards Community Reintegration

Author: H. H. Ahmed

Document: M.D. Thesis supervised by Kamel, M.; El Mahallawy.; Criag, T.; Mansour, M. and Omar, A.

Site: Abassya Hospital and Institute of Psychiatry-Ain Shams University. Cairo. Egypt.

Year: 2002

Background: Psychiatric rehabilitation is considered a corner stone of community care, and it serves a major role in maintaining the patient in the available community resources.

Aim: To find out about the characteristics of long stay schizophrenia patients and their needs of support.

Design, type of study: Case-Control Study

Methods: 100 patients with schizophrenia according to ICD-10 criteria, 50 from the inpatients at Abassya Hospital and 50 from those attending the outpatient clinics of the Institute of Psychiatry - Ain Shams University. Cases assessed by: SANS, SAPS, SFQ, SBS and The Community Placement

Results: Outpatients performed better in activities of daily living assessed by SFQ. Autonomy was almost complete for 30%

of outpatients as compared to 14% of inpatients. Outpatients had larger number of significant relations which are mainly kins (68% had kins vs. 10% in inpatients) and less problematic family relations (38% vs. 93.9% in inpatients). Finally only 16% of inpatients were thought capable of living independently as compared to 88% of outpatients. Patient's Social functioning was weakly correlated to positive symptoms of schizophrenia.

Conclusion: A significant number of Long-stay inpatients of Abassya Hospital with schizophrenia could be successfully discharged; and the reason for their prolonged hospitalization is mainly because they are being abandoned by their families; and not related to their clinical condition, level of social functioning or degree of problematic social behaviors.

30-Subject: Long term treatment of schizophrenia with Risperidal.

Authors: Okasha, A. and Okasha, T. :(2003):

Document: Egypt. J. Psychiatry. Vol 26. (61-66)

Site: Egypt, Cyprus, Gulf, Pakistan, Saudi Arabia, Iran, Jordan, Lebanon, Syria and Turkey

Year: 2003

Background: Risperidone was shown to be an effective antipsychotic drug in reducing the severity of both positive and negative symptoms of acute and chronic schizophrenia.

Aim: To investigate the efficacy and safety of risperidone administered once daily during 7 months in subjects with acute exacerbation of chronic or sub-chronic schizophrenia.

Design, type of study: Cross-sectional cohort study.

Methods: 1000 subjects were to be enrolled in this multicenter study. according to DSM-IV criteria, assessed by the PANSS and clinical response was defined as a reduction of >20% on the total PANSS score compared to baseline. Secondary parameters were shift between endpoint and

baseline of the PANSS subscales, total BPRS and the Clinical Global Impression (CGI). Quality of life (QOL) was assessed using the SF-12 questionnaire. Safety evaluation included laboratory analysis, ESR assessments, ECG, and vital signs.

Results: 809 (68.7% of males) out of the 819 subjects admitted to the study were included in the safety analysis and 797 in the ITT efficacy analysis. Clinical response was seen in 86% of the subjects at endpoint. A 58% clinical improvement in total PANSS was observed. Negative and positive PANSS subscales improved by 54% and 64% respectively. Clinical improvement on the total BPRS was 58.7% at endpoint. Based on CGI, 87% of the subjects experienced an improvement of their condition compared to baseline and 9% remained unchanged.

Conclusion: Risperidone administered once daily at a mean dose of 5.9 mg / day for up to 7 months significantly reduced the severity of acute exacerbation in subjects with chronic or sub-chronic schizophrenia, with an overall good safety profile.

31-Subject: Quality of Life of Schizophrenic And Mood Disorder Patients, Role of Day Center

Author: M. E. Abdou

Document: M.D. Thesis supervised by: A. Sadek, Z. Omara and H. Ramy

Site: Institute of psychiatry. Ain Shams Hospitals. Cairo. Egypt.

Year: 2003

Background: Day care is an essential component of community care, providing structured and individualized care close to

the patient's home. It fills the gap between the inpatient setting and the outpatient clinic.

Aim: Test our main hypothesis that psychosocial day center program will improve outcome and quality of life of patients suffering from schizophrenia, bipolar I disorder, or major depression. Moreover, he attempted to detect the psychodemographic data that mediate the effect of day center program on the outcome.

Design, type of study: Case-control Study

Methods: 58 patients attending outpatient clinic related to 59 patients attending day center of Abu Dhabi New Psychiatry Hospital. They were diagnosed according to DSM IV criteria using SCID I and assessed by: PCASEE, SCIDI, Beck Depression Inventory, Beck Rafaelsen mania scale, Brief Psychiatric Rating Scale and GAP scale. Then the patients were subjected to same scales after three months and again after six months.

Results: There was significant improvement in the study group compared to control group in cognitive problems, and social dysfunction. Also there was significant improvement in GAP scores and BPRS Scale in schizophrenic patients. Significant improvement in affective problems, cognitive problems, ego problems, physical problems, social dysfunction, and total quality of life score

Conclusion: The day center has a role in improving the quality of life of the chronic mental patients both subjectively and objectively.

32-Subject: Linguistic Disturbances in Schizophrenia.

Authors: H. ELShahawi, A. Soliman, A. Abdel Samee and N. Zaki

Document: Current Psych., 2004. vol.11 No.1 (8-20)

Site: Institute Of Psychiatry, Ain Shams University. Cairo

Year: 2004

Background: Formal thought disorder and language abnormalities have been regarded as one of the cardinal symptoms of schizophrenia.

Aim: To examine the relationship between linguistic deviations and symptoms in patients with acute psychosis and to elucidate the possibility that language disturbance can distinguish schizophrenia from other psychosis.

Design, type of study: Cross-sectional survey

Methods: Assessment of language disturbance was done in 40 consecutive cases of acute psychosis, using the clinical language disorder rating scale (CLANG). Twenty patients were diagnosed with schneiderian first rank symptoms, another 10 were diagnosed as psychosis with schneiderian first rank symptoms but not fulfilling the criteria of schizophrenia and the remaining 10 were diagnosed as depression with psychotic features without first rank symptoms. All subjects were assessed by CLANG, ICD 10, Global assessment of function scale, SFRS, PANSS.

Results: Linguistic disturbance in the form of semantic disorder, poverty of speech, and total severity score of the CLANG, were more evident in the schizophrenia group more than the other psychosis. The total score of the clinical language assessment scale was positively correlated with the increased number of the episodes in patients with schizophrenia and the total score of the positive and negative symptom scale.

Conclusion: Language disturbances in schizophrenia may be related to the severity of the disorder and might distinguish schizophrenia from other forms of psychosis.

33-Subject: Psycho-Socio-Demographic Characteristics of an Egyptian Sample of Long-Stay Schizophrenic Patients

Author: N.M. Ata

Document: M.Sc. Thesis Supervised by El Mahallawy, N.; Soliman, A. and Zarif, N.

Site: El-Abassya Hospital. Cairo. Egypt.

Year: 2004

Background: Most schizophrenic patients end up chronically needing sheltered living in mental hospitals. The sheltered patients in relative isolation for many years will lose social skills and work capabilities even if their symptoms improve.

Aim: Define the characteristics of the long-stay schizophrenic patients in an Egyptian sample. Search for factors interfering with their discharge.

Design, type of study: Cross-sectional cohort study.

Methods: 100 patients (50 males and 50 females) of different types of schizophrenia for more than five years diagnosed according to ICD-10 Criteria assessed by modified FACE Profile and The Socio-Economic Status Scale of The Family.

Results: 73% of our patients were within the very low social class. The single status was more prevalent in males while the divorced status was more in females. There was a significant difference in education between sexes. The families' represent the corner stone of the community psychiatric services in our culture because 96% of our patients were referred to the hospital by their families. 18% had current actual risk to self or others. 19% had no desire for discharge, and it was found that the negative symptoms followed by the regularity of visits were the most important predictors of desire for discharge.

Conclusion: There were many factors interfering with the discharge of patients, including clinical factors (positive symptoms, risk to others and self), social factors (mainly related to the family and regularity of visits), and demographic characteristics (marital status, social class, and level of education).

Appendix 2

List of Available Egyptian Studies on Schizophrenia

List of Available Egyptian Studies on Schizophrenia

No	Author	Article Title	Year	Source
1	Kamel, M.	A Study of the Chromosomes in Egyptian Schizophrenics	1965	M.D. Ain Shams university
2	El-Okbi, H.: Supervised by: Okasha, A.; Sadek, A.	Drug-induced Extrapyramidal Signs in Egyptian Schizophrenic Patients	1978	M.Sc. Ain Shams university
3	Nassef, M.A.	Life Events in Egyptian	1978	M.Sc. Ain

		Schizophrenics		Shams university
4	Okasha.; El- Okbi,H.; Sadek,A.; Lotiaf,F. and Ashour,A.	Drug-induced Extrapyramidal Side-effects in Egyptian Schizophrenic Patients.	1979	Egypt.J. Psychiatry, volume 2 (2) 191- 197.
5	Al-Mahallawy, N.: Supervised by: Okasha, A. and Bishry, Z	A study of Histamine Intradermal Test in Egyptian Schizophrenic Patients	1979	M.Sc. Ain Shams university
6	Gawwad, M.S. ; AbdelGawad,Z	Protein Electrophoresis in Schizophrenia.	1979	Egypt. J. Psychiat. :2: 52-62
7	Ramadan,M.A. supervised by, Mansuor,S. and El-Fataty, M.	Clinical Presentation of Schizophrenia among Alexandria University Students.	1979	M.Sc. Alexandria University
8	Al-Mahallawy, N.; Okasha, A.; Ashour, A. and Bishry, Z	Histamine and Schizophrenia: A Validation Study for Skin Response to Intradermally Injected Histamine in Schizophrenia.	1980	Egypt. J.Psychiat.: 3: (1):117- 126.
9	Ashour, A.; Nassef, A.; Sadek, A.; Bishry, Z. and Lotaif, F.	Life Events and Schizophrenia: A Case- Control Study	1980	Egypt. J.Psychiat.: 3: (2): 237-249.
10	Gawwad ,M.S. ; AbdelGawad,Z	Electrophoresis in Psychiatry: Autoimmune Hypothesis for Schizophrenias.	1980	Egyptian J.Psychiat. :3:(1): 94-104
11	Okasha,A.; Madkour,O. ; Sadek,A.;Magd,F. A. and Lotaif,F.	Cortical and Central Atrophy in Chronic Schizophrenic: A Controlled Study	1981	Egypt. J. Psychiat.: 4: (2): 153-162
12	Gawwad M, Rakhawy Y, Mahfouz R and owaida M.	Relative symptom importance in the diagnosis of schizophrenia.	1981	Egyptian J. Psychiatry, vol.4 No.1: 39-56.
13	El-Morsi, M.M.	Psychiatric Disturbances in	1982	M.Sc. Ain

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| | Supervised by;
Abdel Monaim, S.
and Bishry,Z. | Children of Chronic
Schizophrenic Patients | | Shams
University |
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Supervised by,
Mansour,S.;
Rashed, S. and
Talaat, F. | Schizophrenia and Its
Relation to Blood Groups | 1982 | M.Sc.
Alexandria
University |
| 15 | Rahkawy,Y.;
Mahfouz,R.; EL-
Sherbiny,O.;
Owaidi,M.;
Hamdi,E. And
Amin,Y. | Ego Function in
Schizophrenia : Clinical
Assessment | 1983 | Egyptian
J.Psychiat.
.:6:239-261 |
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supervised by:
Mansour,S.;
Rashed,S.and
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Enzymes In Schizophrenia | 1983 | M.Sc.
Alexandria
University |
| 17 | Ghanem,M.:
Supervised
by:.Okasha,A.;
Kamel, M.and
Madkour,O. | The correlation of
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Ain Shams
University. |
| 18 | Abdel Gilil, A.A.:
Supervised by:
Mansour, S. ;
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Preparations of
Phenothiazine In Urine
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| 19 | Sobhy,M.A
Supervised by,
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patients. | 1984 | M.Sc. Ain
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University |
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Ain Shams
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Arafa, M.;
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Dawoud, F. | Schizophrenia: possible
characteristics of affective
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Kamel, M. And
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| 23 | El Sayed,A.A.
supervised by :
Mansour,S.and
ELSheshai,A. | Study The Incidence Of
Extrapyramidal
Manifestations In
Neuroleptic Administration
Without Antiparkinsonian
Medication. | 1985 | M.Sc.
Alexandria
University |
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Supervised by:
Okasha, A. and
Sadek, A. | Tardive Dyskinesia in
Psychosis: A Study of its
Prevalence,
Psychodemographic, and
Clinical Aspects among
Neuroleptic-Treated
Egyptian in-Patients. | 1985 | M.D. Ain
Shams
university |
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Madkour,O. ;
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Schizophrenia :
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Psychodemographic Data | 1986 | Egypt. J.
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,Y. and Arafa,M. | Clinical Ocular
Manifestations In
Schizophrenia | 1986 | Egypt. J.
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Appendix 3

Schizophrenia across Arab Culture

by

Professor Dr. Afaf Hamed Khalil

In: Images in Psychiatry.

An Arab Perspective

(Eds) Okasha, A. and Maj, M.

Schizophrenia: A cross Arab Culture

Afaf H. Khalil

Introduction

One of the main purposes of cross-cultural psychiatry is to scrutinize the sociocultural influences on the phenomenology of psychiatric disorders. On the other hand, it is possible to lay bare a nucleus of symptoms, common to all cultures, which, independently of all influences, occupies a central position for the understanding of the disease considered (1).

The acceptance of the universality of schizophrenia and related psychotic conditions, and even the assumption of the supremacy of the biological etiology in causing these problems does not preclude -the possibility that cultural factors play an important role in the pathogenesis as well as in the symptom expression of these conditions (2).

Schizophrenia appears relatively similar across a range of cultures; however, variability has been noted in symptom presentation and development (3). The WHO international study of schizophrenia found that schizophrenia was a fairly ubiquitous disorder with an almost similar picture over many cultures. However, the way in which the particular types of symptoms appear

may vary from individual to individual and culture to culture (4). Furthermore, owing to differences in social customs and expectations, cultures differ in their assessment of the importance of different symptoms (5,6).

Manifestations of Schizophrenia

Historically, there are a number of studies comparing the manifestations of schizophrenia across cultures (7). Differences in the symptomatology of schizophrenia in Arab cultures have been a subject of many investigations with interesting results. While Taleb et al. found few clinical differences in his comparative study between schizophrenic patients from Morocco and France (8), Gawad et al. showed a number of important differences in the diagnosis of schizophrenia in Egypt compared to USA and UK (9). Gawad and his colleagues studied the cross-national differences in symptom importance in the diagnosis of schizophrenia among the three countries. They found that restriction and incongruity of affect ranked first in the Egyptian study compared to the British and American ones. Their results are in agreement with other studies who stated that what is normal emotional expression in an Anglo Saxon culture may suggest a schizoid reduction of emotional response in a Mediterranean culture (10). The top ten symptoms in the Egyptian hierarchy for diagnosis of schizophrenia were incongruity and restricted affect, formal thought disorder, thought block, thought withdrawal, incoherence, passivity feeling, neologism, hallucination, delusions and ideas of reference. While in the British study, formal thought disorder ranked first followed by incongruity of affect, neologism, thought block, passivity of feeling, paranoid delusions, stereotype of other delusions, thought withdrawal and ideas of references (11). The Americans ranked symptoms of importance for diagnosis of schizophrenia as follows: formal thought disorder, delusions, paranoid delusions, incongruity of affect, hallucinations, ideas of reference, neologism, depersonalization and thought block (12).

There was a striking difference in ranking neologism, while it is the third in the Anglo American study; it was the seventh in Egyptian study because neologism is perhaps among the commonest symptom in hysterical dissociation particularly occurring in religious pseudomystic ceremonies (13). The same finding was reported in Libya (14). The cultural and religious heritage absorbs many features, which would otherwise be considered symptomatic of a psychiatric disorder (15, 16, 17). It was noticed that the difference between Egyptian hierarchy and British hierarchy are less than those between the Egyptian and American ones. This observation might be explained by the fact that higher qualification and training of Egyptian psychiatrists is predominantly British (9,18). Moreover, at that time, the most common popular textbooks of psychiatry in Egypt were British. Nowadays

Egyptian psychiatrists are more acquainted with the American classification and American textbooks, in spite of the fact that DSM-IV includes a number of features designed to enhance its cross cultural applicability, yet it seems that it is not sensitive to cross cultural differences (19, 20)

More work is obviously needed in the area of classification of psychiatric disorders in Arab countries. It is hoped that clinicians and researchers will be well informed in different classificatory systems and accumulate clinical and research data to help modify and enrich the present classification of psychiatric disorders in the cultural context.

Clinical Presentations

Clinical analyses have shown differences in the clinical presentations of schizophrenia as a result of cultural pathoplastic influences (21,22,23). Findings highlighting these influences are summarized in the following sections.

Delusions

The themes of delusions are affected by the individual characteristics of the patients in relation to their culture. The most frequent themes of delusions in Egypt are religious, political, and social and delusions related to health while autistic delusions are less common (21). Religious delusions are more common among Muslims and Christians (22). Religious delusions are frequent due to highly religious standards in Egypt. Sexual delusions are commoner in groups in whom sexual behavior is severely suppressed e.g. delusions of sex are frequent in the masturbators in the younger, single and the students group (23, 24). Political delusions are positively correlated to the level of political sanctions and pressure. Fear of political persecution is a reality of life for people living under totalitarian regimens. Such fears may contribute to a higher prevalence of paranoid delusions (25).

The content of the patient's delusions varies directly in relation to his social class and education. For most of the lower class men and women, the delusional symptoms are fantasized in terms of the cultural religious institutions. Middle and upper class patients, however, far more frequently "secularized" their restitutive narcissistic and self-esteem delusions in terms of science and class conception of power (26).

El-Islam and Malas in Kuwait assessed the likelihood of supernatural centered delusions in the patients who have been subjected to secular western influences. They concluded that exposure to western cultures had not diminished the likelihood of patients seeking cultural supernatural explanations for their delusional experiences (27).

The fate of delusions in schizophrenia in an Arabian population was studied by El-Islam (15), who found that the involution of delusion may be effected through their disappearance into the system of socially shared delusory cultural beliefs or their metamorphosis into less sinister symptoms (e.g.: dreams, fantasies). The culturally shared belief system provides a container for delusions that lose their pathological quality and content.

Hallucinations

A study from a cultural angle suggests that the theory and treatment of hallucinations requires a broad biopsychosocial approach which is not limited to the consideration of biological and psychological factors only, but takes into account the sociocultural context (28).

There are cultural variations in the frequency of different kinds of hallucinations within and between cultures (29, 30).

In a study of schizophrenic symptoms in selected regions in the world found that whereas visual hallucinations are the least frequently reported in Urban Euro-Americans, they are the most frequently reported in Africa and the Near East (31)

Many investigators in the Arab countries studied the phenomenology and frequency of visual, kinesthetic and haptic hallucinations. It is concluded that these types of hallucinations in schizophrenia are of common occurrence in these countries. However, the part played by cultural and other factors needs further investigations (32, 33).

The cross cultural study of the content of auditory hallucinations in schizophrenics living in Saudi Arabia compared to those living in UK showed striking differences. Much of the content of the hallucinations of Saudi Arabian schizophrenics were religious and superstitious in nature, whereas instructional themes and running commentary were common in the UK schizophrenic patients (34). Patients from both cultures had several coping mechanisms with auditory hallucinations, but these varied between cultures. The majority of Saudi patients used strategies associated with their religion whereas UK patients were more likely to use distraction or physiologically based approaches. This study suggests that clinicians, when they attempt to facilitate the use of coping strategies, may find greater patient acceptance and efficacy if they are familiar with cultural specific factors (35).

Attitudes toward hallucinations tend to affect the emotional reaction to and the degree of control of these experiences. Awareness of these attitudes may help the diagnostician to distinguish between pathological and culturally sanctioned hallucinations. It is important that therapists consider the functional - significance and meaning of hallucinations as well as the social context and the stimuli associated with them (28).

The cross cultural differences in the attitudes of mental health professionals towards auditory hallucinations were studied by Wahass and Kent and their results suggest that the cultural view of the causes and treatment of auditory hallucinations could affect attitudes (36).

Behavior

Behavioral problems in schizophrenia are traditionally attributed to acts of possession by spirits (jinn), sorcery or envy by the evil eye. Families who entertain these beliefs take their patients to native healers who are endowed with powers of exorcising evil spirits, undoing sorcery or ending the harm of envy. When efforts along these lines are judged to have failed, and this may take months or years, the patient is finally brought under medical care (15).

Positive and Negative Symptoms

Studies to evaluate the pathoplastic influences of ethnicity and culture on the symptom of schizophrenia revealed that the core symptoms remained basically the same between different cultures. In the meanwhile, the content of positive symptoms was found to be more influenced by culture than negative symptoms (37,38).

Clinical assessment of schizophrenia in Egypt denoted that negative symptoms had a greater diagnostic and prognostic value than positive symptoms (39, 40, 41)

Affective Phenomena in Schizophrenia

The importance of affective phenomenon in schizophrenia has been recognized since the early evolutionary stages of Psychiatry. Fear is the most prominent affect followed by tension, anger and hostility in Egyptian patients with schizophrenia (42).

Elevated mood in general is considered to be uncommon in schizophrenia while symptoms of depression were found to be an integral part of the schizophrenic process whether patients are maintained on treatment or not (43,44).

Criminality and schizophrenia

The public perception, supported by the media, that mental illness is strongly linked to violence is a subject of controversy. Some authors believed that persons with mental illness in general are not more dangerous than healthy individuals; others proved that patients with schizophrenia are more dangerous, as they show an elevated rate for crimes and violence but such acts are only likely to be committed by those who are not receiving treatment and with high clinical anxiety (45,46,47).

An interesting study in Algeria evaluated 3984 reports to investigate the association between criminality and schizophrenia over a period of 23 years. It found that 20% of cases of homicide or attempted homicide, the diagnosis of schizophrenia were made (48).

The more likely victims of violence in patients with schizophrenia are intimate partners, family members, followed by figures in authority such as politicians, physicians and judges (49).

Mode of Onset

There is a dramatic difference between developing and developed countries for the mode of onset of schizophrenic symptoms being acute in presentation in developing countries (50). However, many investigators in Arab countries reported that the acute presentation of schizophrenic symptoms could be attributed to acute self-limiting psychoses being mislabeled schizophrenia. These acute transient non-affective remitting psychoses conform neither to schizophrenia of brief duration nor to atypical affective psychosis, and thus require separate classification as proposed in the ICD-10 (51,52,53,54).

Prodromal phase

It is generally believed that onset and recurrence of psychotic symptoms in schizophrenia are often preceded by prodromal symptoms. Henmi in Japan and El Rasheed in Egypt proved that somatic concern, feeling of tiredness, anxiety and depressive symptoms were frequently encountered in patients with schizophrenia four weeks prior to relapse (55, 56).

It is important for developing countries like ours to educate the patients' families about prodromal symptoms of relapse of schizophrenia since most patients live within their families and not many of them are housed in custodial institutions. Mahfouz et al. concluded that 69% of the family members of patients with schizophrenia could become aware of the prodromal period preceding the full relapse. The duration of this period is sufficient to allow for therapeutic intervention to prevent the development of full-blown schizophrenic relapse (57). Thus, the psycho-educational approach to the patient and his family may be mandatory to reduce the financial burden imposed by a schizophrenic • relapse. Such educational programs are not available in Arab countries.

Subtypes of schizophrenia

Okasha studied the subtypes of schizophrenia in Egypt (58). He reported that hebephrenic schizophrenia constitutes 24.8% of cases, paranoid schizophrenia comes next in frequency 18.9 %, and catatonic forms were

relatively common compared to other variants. The main symptoms were retardation, withdrawal, mutism, and stupor. These may be interrupted by outbursts of excitement. A large group of patients presented an undifferentiated type of schizophrenia (19.6%) exhibiting a wide variety of symptoms such as confusion of thinking and turmoil of emotion manifested by perplexity, ideas of reference, fear, dream states, and dissociative phenomenon. This is in contrast to the same study done in Libya by the same authors in whom the commonest variety of schizophrenia was chronic undifferentiated, followed by acute undifferentiated, hebephrenic, and catatonic, the last being of simple type. These figures for presentation of schizophrenia are fairly similar to those in European studies except that Egypt may have a commoner incidence of the catatonic and undifferentiated forms.

Substantial changes in the relative prevalence of different subtypes of Schizophrenia have been well-documented in Western societies; the catatonic and hebephrenic subtypes have progressively declined (59). At the same time, the undifferentiated and the paranoid subtypes have become more prevalent. In India and Japan the hebephrenic subtypes remain a common diagnostic category (60).

Comorbidity

Comorbidity of schizophrenia and substance related disorders are common. Such Comorbidity is an indication of poor prognosis in schizophrenia (61). It has been estimated that about 30% of schizophrenic patients may meet the diagnostic criteria for substance abuse disorder and this leads to the worsening of positive symptoms (62, 63). The most common abused substances by Egyptian schizophrenics are cigarettes and cannabis, followed by antiparkinsonians and others. Khalil et al. suggested the importance of search of substance abuse as an important step in the evaluation of patients with schizophrenia due to high rates of Comorbidity (63).

Tools for assessment

It is important to provide useful tools for the evaluation and assessment of schizophrenia in the Arab culture. The colloquial proverb test, which is a culturally derived test, is useful for Egyptian patients with schizophrenia to evaluate thought processes (64, 65).

Mawggoud and Al Khorazaty designed a self-rating scale (Bahrain Schizophrenia Screening Scale BSSS) to screen possible schizophrenic patients in the community with an acceptable degree of sensitivity and specificity (66).

Okasha et al. studied 13 diagnostic systems for schizophrenia on an Egyptian sample and found that WHO-CSB, DSM-III, and Langfeldt's systems for clinical practice, Freighner's Criteria were the most specific for researches (67,68).

Many diagnostic and assessment instruments were translated to Arabic and are widely used in clinical and epidemiological settings. Aboraya translated the Schedules for Clinical Assessment in Neuropsychiatry (SCAN) (69), Karam translated the Composite International Diagnostic interview (CIDI) (70). The Positive and Negative Syndrome Scale (PANNS) was translated by the Institute of Psychiatry, Ain Shams University in 1995 and the Mini International Neuropsychiatric Interview (MINI) was translated by Sadek et al. (71).

Epidemiology

Different cultures do not give rise to different psychiatric disorders but only modify their phenomenology. Epidemiological research has demonstrated that schizophrenia occurs in all countries and in all cultures with a relatively comparable frequency (72).

Schizophrenia is the commonest chronic variety of psychosis in Egypt and represents the bulk of in-patients in mental hospitals. 7.44 to 15.3 % of the total newly examined cases in university hospitals in Egypt were labeled with the diagnosis of schizophrenia (23,58,73,74). Findings were similar in the Sudan (75).

Abdel Karim and Al Haddad studied the annual rates of hospital incidence of schizophrenia per 100,000 populations, in Bahrain during the period 1988-1996. They found that the incidence of schizophrenia at first admission ranged between 0.89 to 1.33 for all ages and 1.90 to 2.59 for age 15-54 years and is higher for males than females (76).

Socio-demographic factors

Empirical scientists have attempted to relate the variations in thought disorders in schizophrenia to a number of sociodemographic variables (77,78). Paranoid schizophrenia was more common in urban than rural men because they are more prone to stressful reactions such as loss of sympathizing relations with neighbors, friends and relatives, as well as loosening of family ties. These factors start to threaten the psychic stability and make one loses trust in others (79).

Life Events

Previous studies from the Asian subcontinent had suggested that the onset of schizophrenia is linked to social stressors (80).

A plethora of findings suggests that life change and crisis frequently precipitated the acute onset, relapse or exacerbation of Schizophrenia (81). In an Egyptian study by Ashour and co-workers, it was observed that the impact of life events was limited to four weeks before the onset. Moreover the nature of life experiences may also influence the severity of the illness. However the role played by stressful events in precipitation of relapse was less pronounced (82). Migration is considered a significant life event, which is associated with increased rates of mental illness. The term "cultural shock*" has been coined to describe the stressful process which immigrants generally go through in their adaptation to the new events (83, 84, 85, 86). Paranoid schizophrenia was the most frequent diagnosis in Egyptian immigrants (87) also in Algerian Moslems who chose French nationality (88). Mahfouz and his co-workers suggest a social support system to provide people who wish to migrate with realistic information and establishing effective support structure in the countries of resettlement (87)

Expressed Emotion and Schizophrenia

Family climate plays an important role in the prognosis of schizophrenic patients (89). In this respect, the concept of expressed emotions has gained respectable ground in the field of Psychiatry. It includes five components: criticism, hostility, emotional over-involvement, warmth and positive remarks.

A series of studies have demonstrated that family EE predicts a patient's symptomatic relapse, both in Anglo and American settings (89, 90, 91,92). Abol Magd and Kamal, unexpectedly reported that there is no association between emotional over-involvement and relapse in Egyptian schizophrenic patients (93,94). Moreover they proved that family expressed emotions, mainly criticism and hostility, seem to be an independent risk factor for relapse of their patients. Their results seem to be similar to those found by Maosheng in Chinese culture (95)

The presence of high warmth appeared to be associated with lower admission rate and better psychosocial adjustment (93, 96). Leff has suggested that high values of warmth may have an opposite effect to that of high EE, enhancing patient's psychosocial adjustment (97).

Biological aspects of schizophrenia in Arab Culture

There is marked paucity of studies of the biology of schizophrenia outside the developed world with a general conception that whilst there is culture variation in the phenomenology and outcome of this illness, its biology is universal.

Abou Saleh et al, have recently studied a number of metabolic variables in schizophrenic patients in the United Arab Emirates (98). These variables comprised plasma amino acids, folate, hormones and vitamin B 12 and urinary pterins. His results were consistent with those obtained in Western populations and thus support the notion of a universal biological substrate for schizophrenia.

Various abnormalities were recorded in alpha globulin fraction protein and immunoglobulins in the sera of Egyptian schizophrenic patients without sufficient explanation (99, 100).

Issues related to diagnostic criteria and choice of DNA markers were highlighted in genetic linkage studies (101) aimed to localize a candidate gene that may be segregating in consanguineous families ascertained in Saudi Arabia compared to extended pedigrees ascertained in Ireland containing a high density of schizophrenic patients.

An interesting study done by Meloni et al. investigated the frequency of a rare variant of a common micro satellite tetra repeat allele in the tyrosine hydroxylase gene in two dependant ethnic groups of schizophrenic patients and their matched controls. In a French population they found the rare variant allele in 5 of 94 (5%) unrelated chronic schizophrenic patients and in none of 145 unaffected controls, thus yielding a significant association between schizophrenia and the tyrosine hydroxylase gene (102). Similarly, in a replication study, they found the rare allele in 4 of 44 (9%) unrelated chronic schizophrenic patients and in none of 44 unaffected controls in a Tunisian population. Albeit the reason of this association is at the moment unknown, it is possible that this polymorphism in the tyrosine hydroxylase gene may be involved in the regulation of its activity.

Okasha and his co-investigators studied the brain morphology of a group of Egyptian chronic schizophrenics and they found that a large number of them have an associated central atrophy (103, 104).

Egyptian schizophrenic patients, particularly those with predominately positive symptoms, showed abnormalities in Brain Stem Evoked Potential which reflect impairment of the very early stage of auditory information processing (105).

Soliman and Ibrahim proved that impairment in abstraction ability in Egyptian schizophrenic patients is correlated with attentional impairment as proved by low amplitude and prolonged latency in P300 (106).

Treatment of Schizophrenia

As in the majority of developing countries, mentally ill patients in Arab countries tend to pass through different health care providing filters. In all Arab countries traditional healers form part of the informal and sometimes unofficial health care sector, particularly where access to mental health is limited (107).

Schizophrenic patients from a rural background in Saudi Arabia who are less educated are seeking cephalic cautery treatment for their psychotic symptoms (108), while in Sudan psychotic patients resorted to Zar attendance (109). Zar is an ancient healing practice based on folk belief in possession by alien spirits as a cause of disease.

Treatment Settings and mental health facilities for schizophrenia:

In Egypt there are about 15 beds/100000 members of the population distributed between state, university and private sector hospitals. The number of psychiatric beds in Egypt represents less than 10% of the total hospital beds. In Saudi Arabia, psychiatric beds are distributed between six psychiatric hospitals, while in Lebanon, they are distributed between three hospitals and two acute intervention units. In Libya, psychiatric beds are located in psychiatric departments in two university hospitals, and in Jordan, psychiatric beds are located in general hospitals and military hospitals, and there are no psychiatric beds in university hospitals. The same applies to Yemen, with a number of beds located in: prison health institutions. Bahrain and the United Arab Emirates each have one psychiatric hospital, and in Palestine, there are two psychiatric hospitals, one in Bethlehem serving 1450 000 members of the population on the west bank and the other in Gaza, serving a population of 800000(110).

About 80% of state mental hospitals in Arab countries are for treatment of schizophrenia compared to 25% of psychiatric beds in general hospitals and 43% in private psychiatric hospitals (111). Psychiatric beds in Arab countries are neither sufficient nor easily accessible, and not usually affordable. The government, free of charge, provides the costs of the majority of beds in state hospitals, but because the expenditure on mental health services as a whole is very limited and most of the free services are gradually replaced by low price services; insurance umbrella is limited only to employees, and most of patients have to pay for their treatment by themselves. Thirty five per cent of state hospital beds are for schizophrenic patients who stay for less than six months while 23% for those who stay for about one year, and the rest of beds for hospitalization for longer than one year. Psychiatric beds in both private

and general hospitals are usually confined for short term hospitalization (107).

Extensive experiences has demonstrated that prolonged hospitalization in the under staffed large institutions interact with the schizophrenic disease process to produce social deterioration no less devastating than the disease itself.

Kamel et al. studied short versus long term hospitalization in Egyptian State hospitals. They found that the length of hospitalization is governed by different sociodemographic variables as unemployment prior to admission, illiteracy, unhappy families particularly loaded with the presence of positive family history of psychiatric disorders, patients from distant governorates and the number of visits received (112). Kamel and his colleges proved that clinical and functional recovery is better in schizophrenic patients who stay for a short period in the mental hospital. Day hospitals as supporting houses for treatment of schizophrenia are not available in Arab countries and they are not considered an easy solution especially in crowded cities like Cairo because of the difficulties in transportation.

Inspite of the fact that community and extramural services could be a magical solution for mental patients in western societies, however, this model is not suitable in Arab countries. Family cohesion and extended families especially in rural areas could be utilized instead of community care.

Basic researches on treatment settings and mental health policy in Arab countries is thus needed if we understand the social course of mental illnesses and design more effective systems for promoting recovery taking into consideration the economic resources and the sociocultural perspectives.

Treatment Modalities

Electric convulsive therapies are extensively used in Arab countries such as Egypt. Psychotherapeutic interventions such as individual, family, group therapies and group ward meetings were found to be an effective approach in helping to achieve the goals of psychiatric treatment in schizophrenic patients (113,114).

Pharmacotherapy

Conventional and novel antipsychotics are available in the market of most of the Arab countries.

Psychopharmacology, ethnicity, gender and culture interact with the effects of psychotropic drugs in a rich and complex manner. Cultural

forces exert powerful influences on biological substances. There are many reports about the differences comparing Asians and Caucasians and most of the reports suggest that Asians required significantly smaller doses of neuroleptics (115,. 116). Libians appear to be tolerant to higher doses of phenothiazines than Egyptians (117)

Little is known about ethnic differences with regards to novel antipsychotics, however, because they are metabolized through CYP 2D6 pathway, it is reasonable to expect that such differences will likely exist (118). Clozapine induced agranulocytosis has been reported to be highly associated with a special cluster of human lymphocyte antigen typing which is present among Ashkenazi Jews (119). Such findings are not present in the Egyptian schizophrenic patients. Transcultural studies of tardive dyskinesia yielded a lower prevalence in Turkey (120), Hungary (121), Nigeria (122). Egypt (44, 123, 124), and Morocco (125) and Fenn et al. (126) compared to western countries and North America (127).

It was suggested that ethnic variation in metabolic factors probably plays a role in the differences between the various cultures (116). Several Egyptian researchers attributed the lower incidence of tardive dyskinesia in Egypt to the limited economic resources in Egypt which may contribute to the inability of the patients and their families to afford the expenses for maintenance therapy and the extensive use of ECT (128, 129,130).

El Sheikh and his colleagues investigated iron abnormalities in neuroleptic induced extra pyramidal syndrome in a group of Egyptian schizophrenic patients and they found that low serum iron produced specific D2 hypofunction which increases the susceptibility to EPS in patients with schizophrenia (131).

Course and outcome

The World Health Organization international pilot study in schizophrenia (IPSS), and subsequent determinants of the outcome of severe mental disorders (DOSMD) and other researchers have consistently shown that patients in developing countries have more favorable outcome and course and higher recovery rates than patients in developed countries (7,132,133,134,135).

The reason for the better outcome in the developing world is not completely understood. It may be due to the fact that many people with mental illnesses in villages in the developing world are better accepted, less stigmatized, and more likely to find work in the subsistence agricultural economy or to engage in meaningful labor (136,137,138). This observation is supported by findings that strategies that reduce criticism and hostility from family members improve outcome (139). A

striking difference is that in Arab Countries, individuals with schizophrenia are more likely to remain in the community with their families which help protect them from becoming socially isolated (140). There are many evidences of the better psychosocial adaptation and outcome of schizophrenia in Saudi Arabia, Algeria and Egypt (141, 142, 143).

The influence of family support in the course of schizophrenia in Arab cultures is important and remains a significant area for research and for psychosocial interventions.

Higher mortality rate for schizophrenics in the developed countries than that for the general population has been noted in USA, Sweden, Norway and UK (144, 145). Data from the developing countries are conflicting. Waxier (146) in Sir-Lanka, and Murphy and Rarman (147) in Mauritius, reported less mortality rates, while Wintrob (148) in West Africa, and Owaida et al. (149) in Egypt found the reverse.

Stigma

Schizophrenia is associated with a significant amount of stigma and discrimination, which further increase the burden on patients and their families. A variety of studies in Arab countries have illustrated the general negative and rejecting attitudes towards patients with schizophrenia (150,151)

In 1996, the World Psychiatric Association (WPA) embarked on an international program to fight the stigma and discrimination of schizophrenia. The program aimed at establishing an international network to facilitate exchange of experience and learning from each other, this will also become instrumental in the wide distribution of knowledge and in advocacy of the interests of people with schizophrenia.

Conclusion

The future policy of the Arab countries for the management or schizophrenia should allocate more resources, both human and financial, to the provision of mental health services addressed to schizophrenic patients. There is a need for the development of a practical guide specifically tailored for Arab countries to conform to local needs, resources and sociocultural perspectives. A comprehensive management of-the problem of schizophrenia in the Arab region calls for the design of an integrated program by policy makers to develop comprehensive mental health policies and legislation which reflect local cultural situations and which respect and protect the human rights of patients with schizophrenia.

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Arabic Summary

الملخص العربي

يعتبر أول من أطلق مصطلح الفصام هو عالم الطب النفسي السويسري يوجين بلولر مشيراً به إلى تشقق أو انقسام الوظائف النفسية للمخ، وهو الانقسام بين الفكر و الوجدان. معتقداً بأنه الصفة المميزة لكل الأعراض.

يعتبر مرض الفصام اختلالاً عقلياً غير معلوم الأسباب ويتميز بأعراض إيجابية مثل الضلالات والهلاوس، و أعراض سلبية مثل العزلة والانسحاب عن أفراد المجتمع و تبدل المشاعر اللامبالاة و العدمية و فقر الأفكار.

لقد تم افتراض العديد من أنواع مرض الفصام وذلك حتى قبل أن يتم وضع تصنيف موحد لمرض الفصام. و حالياً معروفة جيداً في نظام التشخيص و الإحصاء للاضطرابات العقلية الخاص بجمعية الأطباء النفسيين الأمريكية و نظام التقسيم العالمي للأمراض النفسية. و لقد تم وصف مرض الفصام علي أساس المميزات العديدة المستديمة و ذلك بناءاً علي الأعراض المستخلصة من عوامل التحليل. و هذا التصنيف به نماذج تحتوي علي ثلاثة أو أربعة أو خمسة أو أكثر من العوامل. و قد وجد أن الأكثر بروزاً فيها هي الأعراض الإيجابية و السلبية و التفسخية.

تكتشف حالات مرض الفصام بنسبة سنوية تتراوح بين ٤,٤ و ٤,٦ لكل ١٠٠٠ و بمعدل انتشار يتراوح بين ١٦ و ٤٢ لكل ١٠٠٠٠٠ من مجموع السكان.

وبالرغم من أن معدل الانتشار يتنوع بين الأقطار بمعامل أقل من ٣, فإن هناك تنوع واسع بين التجمعات السكانية المختلفة في القطر الواحد.

يقدر معدل انتشار مرض الفصام على مستوى العالم بأقل قليلاً من ١٪ من مجموع السكان و لا يوجد دليل على أن معدل حدوث و انتشار المرض و الإضطرابات الذهانية الأخرى في مصر سوف يختلف عن أي مكان آخر في العالم. ولو كان هذا الافتراض صحيحاً, فمن الممكن تقدير عدد مرضى الفصام في مصر بأنه يتراوح بين ٠,٥ و ١,٥ مليون, بالإضافة إلي حوالي ١٠٠٠٠ - ٢٥٠٠٠ حالة جديدة تظهر سنوياً في المجتمع المصري.

و وفقاً لمقولة العالم كيومبى: فإن الشفاء التام من مرض الفصام يحدث بنسبة ٢٠-٢٦٪ من الحالات كما أن ٤٣٪ تشفى مع وجود بعض الأعراض المتبقية البسيطة و التي لا تؤثر في طريقة تعايش المريض مع المجتمع. كذلك فإن ٤٤٪ من المصابين يظلون داخل المستشفى. و وجد أن حوالي ١٤ - ٢٤٪ من المرضى يتحولون إلى حالات مزمنة شديدة, كما وجد أن حوالي ٥٠ - ٧٥٪ من الحالات تصل إلى الاستقرار الإكلينيكي بعد ٥ سنوات من بداية المرض دون حدوث تدهور واضح, كما أن ٢٢٪ من المرضى يعانون من انتكاسات متكررة تنتهي بالشفاء, و للأسف فإن مسار المرض قد يكون مفاجئاً أو فظيئاً في ١-٤٪. وقد لوحظ أن معدل الانتحار بين مرضى الفصام خلال ٢٠ سنة كان ١٤-٢٢٪.

يعتبر الفصام اضطراباً مزمنًا و يسبب عجز المريض و الأسرة. و بالرغم من أن القابلية لحدوث الفصام من المحتمل أن تكون مرتبطة بعوامل جينية أو بيئية, تؤثر علي النمو المبكر للمخ, فإن المرض لا تظهر أعراضه حتى سن المراهقة أو الشباب. و بالرغم من التشاؤم قديماً حول التكهن بمستقبل المرض, فإن الدراسات الحديثة تقترح أن التدخل المبكر يستطيع تحسين الحصلة النهائية للمرض.

يشابه علاج مرض الفصام في طرق عديدة علاج الأمراض الأخرى مثل مرض البول السكري و مرض الصرع. كما أن التطور الطبي في مجال علاج الأمراض النفسية قد زاد من فرص الشفاء و جعل من الممكن لمرضى الفصام أن يعيشوا حياة مستقلة و منتجة.

يشكل مرض الفصام مشكلة كبيرة للصحة العامة. و طوال السنوات الماضية تم عمل دراسات مصرية كثيرة حول هذا الموضوع. و عليه فإنه يجب مراجعة هذه الدراسات, و ذلك بنية إيجاد نتائجها مع النقد الموضوعي لهذه النتائج, و بهذا سوف نتمكن من معرفة أين تقف الدراسات المصرية عن مرض الفصام, و ما نحتاج لعمله في المستقبل.

هدف البحث

يهدف هذا البحث العلمي إلى:-

١ - المراجعة النمطية لمرض الفصام مع النقد للدراسات المصرية التي تم عملها عن مرض الفصام.

٢ - تقديم التوصيات المطلوبة من أجل دراسات إضافية.

٣ - تزويدنا بملخص لرسائل الماجستير و الدكتوراه التي تم عملها عن الفصام في قسم الطب النفسي بجامعة عين شمس*.

* (هذه الأبحاث سوف يتم حصرها وتقديمها كملحق)

خطوات تنفيذ البحث

من أجل تحقيق هذه الأهداف سوف يتم الآتي:-

- ١) عمل مراجعة نمطية لكل الأبحاث المصرية المتوافرة عن الفصام. من خلال الاستعانة بأنظمة المعلومات الآتية:-
 - ١ - مكتبة كلية الطب جامعة عين شمس.
 - ٢ - مكتبة كلية الطب جامعة القاهرة.
 - ٣ - مكتبة كلية الطب جامعة الأزهر.
 - ٤ - مكتبات كليات الطب بالجامعات الأخرى.
 - ٥ - المعلومات و البيانات المنشورة في مجلات الطب النفسي المصري ومواقع الدراسات المصرية على شبكة الإنترنت.

٢) تصنيف الدراسات المصرية التي تم الحصول عليها من هذه المصادر كالاتي:-

- ١ - الدراسات التي تتناول معدل انتشار مرض الفصام
- ٢ - الدراسات التي تتناول أسباب مرض الفصام
- ٣ - الدراسات التي تتناول الوصف الإكلينيكي لمرض الفصام.
- ٤ - الدراسات التي تتناول محصلة ونتائج مرض الفصام.
- ٥ - الدراسات التي تتناول كيفية التعامل مع مرض الفصام.

٣) تقديم نقد موضوعي لهذه الدراسات ومناقشة نتائجها المهمة.

٤) تقديم التوصيات المطلوبة من أجل عمل أبحاث إضافية.

في الفصل الأول عرضنا الدراسات التي تتناول معدل انتشار

مرض الفصام في مصر و وجد أن مرض الفصام ينتشر في الذكور بمعدل أعلي من الإناث, كما وجد أن مرضي الفصام يتعرضون إلي مضاعفات طبية كثيرة بسبب المرض النفسي و العقاقير التي يتناولونها.

في الفصل الثاني عرضنا الدراسات التي تتناول أسباب مرض

الفصام في مصر و وجد أن هناك أسباب جينية و أسباب أسرية و أسباب بيوكيميائية و أسباب مناعية و أسباب باثولوجية و أسباب اجتماعية.

تمثلت الأسباب الجينية في وجود بعض العيوب في كر وموسومات بعض المرضى المصريين, كما وجد أن هناك بعض الجينات مرتبطة بحدوث مرض الفصام.

أما الأسباب المتعلقة بديناميات الأسرة المصرية في مرضي الفصام وجد أنها تختلف طبقاً لنوع الفصام و جنس المريض, كما وجد أن مرض الفصام أكثر شيوعاً في أطفال مرضي الفصام مما يؤكد وجود عوامل وراثية مرتبطة بالمرض.

بالنسبة إلي الأسباب الاجتماعية وجد أن العوامل المرسبة للمرض في مصر هي الإحباط و الانفصال و الحرمان و ضغوط الامتحانات و وفاة أحد الوالدين.

في الفصل الثالث عرضنا الدراسات المصرية التي تتناول

الوصف الإكلينيكي لمرض الفصام وقد وجد أن البيئة تؤثر بشكل علي حدوث أعراض مرض الفصام, كما وجد أن هناك اختلاف بين ترتيب هذه الأعراض من حيث الأهمية بين البيئة المصرية و البيئات الأخرى.

في الفصل الرابع عرضنا الدراسات المصرية التي تتناول كيفية

التعامل مع مرض الفصام وقد وجد أن ٨٠ ٪ من المستشفيات النفسية في مصر تقوم بعلاج مرض الفصام.

كما وجد أن معظم الدراسات المصرية اهتمت بدراسة الآثار الجانبية للعقاقير المستخدمة في علاج مرض الفصام. كما وجد أن العقاقير الحديثة لها تأثير فعال في علاج مختلف حالات مرض الفصام.

في الفصل الخامس عرضنا الدراسات التي تتناول محصلة

ونتائج مرض الفصام في مصر وقد وجد أن ٢٥,٣ ٪ من مرضي الفصام يستطيعون الاعتماد علي أنفسهم بشكل جيد, كما أن ٢٣,٦ ٪ من مرضي الفصام يتحسنون بشكل جيد.

كما وجد أن معدل الوفاة خلال ٣٠ سنة كان 27٪ وقد لوحظ أن معدل الانتحار بين مرضي الفصام في مصر كان ١٨-٤١ ٪.

ثم قمنا بمناقشة النتائج المهمة التي خلصت إليها الدراسات المصرية عن مرض الفصام.

وأخيراً قمنا بعمل نقد موضوعي لكل الدراسات المصرية المتاحة من حيث هدف البحث والطريقة المناسبة لهذا البحث, والأدوات والقياسات المستخدمة في البحث, وأيضاً طريقة الإحصاء.

كما قمنا بتقييم هذه الأبحاث من حيث مناسبة عدد المرضى الذين تمت دراستهم لهدف البحث, وطرق اختيارهم. وأيضاً طرق عرض نتائج هذه الأبحاث.

وقد قدمت الرسالة التوصيات المطلوبة من أجل عمل أبحاث إضافية عن مرض الفصام وكان أهمها:

- **ضرورة عمل أبحاث عن معدل انتشار مرض الفصام في البيئات المصرية المختلفة.**
- **عمل برنامج تثقيفي للأسر المصرية عن مرض الفصام يتضمن أعراض الانتكاسة وطبيعة المرض وطرق العلاج المتاحة.**
- **ضرورة عمل أبحاث عن الأعراض المختلفة للمرض في البيئات المصرية المختلفة.**

● ضرورة عمل أبحاث لتصنيف الأمراض النفسية- وخصوصاً الفصام في مصر.

● ضرورة عمل أبحاث عن طرق العلاج في مصر مع الأخذ في الاعتبار الموارد الاقتصادية و البعد الاجتماعي و الثقافي في البيئات المصرية المختلفة.

● ضرورة العمل بالدليل العملي لعلاج مرضي الفصام المصريين.

● ضرورة تقليل الوصمة و التمييز الناتج عن مرض الفصام وذلك من خلال عمل برامج توعية لتغيير موقف الناس من مرض الفصام ومدىهم بكافة المعلومات اللازمة عن مرض الفصام مع تعميم برنامج محاربة وصمة المرض النفسي المطبق في محافظة الإسماعيلية.

● ضرورة عمل مراجعة نمطية للدراسات العربية عن مرض الفصام.

