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# Prevalence of Psychotic Disorders of Males and Females at Different Stages of Life Span

Biswas, Tanmay Prakash

University of Rajshahi

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# **Prevalence of Psychotic Disorders of Males and Females at Different Stages of Life Span**

**This thesis is submitted to the faculty of Biological Science,  
University of Rajshahi, Rajshahi, in partial fulfillment of the  
requirement for the degree of Doctor Philosophy (Ph.D) during  
the session 2005-2006.**

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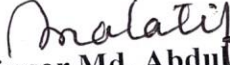
By

**Dr. Tanmay Prakash Biswas**  
Under the Supervision of

**Professor Md. Abdul Latif**  
Department of Psychology  
University of Rajshahi  
Rajshahi

## CERTIFICATE

Certified that, this research work entitled **Prevalence of psychotic disorders of males and females at different stages of life span** has been carried out by Dr. Tanmay Prakash Biswas as partial fulfillment of the requirements for the degree of Doctor of Philosophy under my supervision. I recommend this thesis for evaluation.

  
(Professor Md. Abdul Latif) 29.66.2013  
Department of Psychology  
University of Rajshahi.  
Rajshahi  
Bangladesh

## DECLARATION

I humbly declare that this thesis is based exclusively on the research work carried out by me. No part of it has presented previously for any higher degree. The research was carried out at both the Outpatient Department (OPD) and Inpatient Department (IPD) of Pabna Mental Hospital, Pabna under the proper supervision of Professor Md. Abdul Latif, Department of Psychology, University of Rajshahi, RAJSHAHI.

*Tanmay Prakash Biswas*  
29-6-2013

**Dr. Tanmay Prakash Biswas**  
Department of Psychology  
University of Rajshahi.  
RAJSHAHI.

## ACKNOWLEDGEMENT

With great pleasure and admiration, I would like to express my heartfelt gratitude to all the teachers, fellows and office stuffs of the department of Psychology, University of Rajshahi for their very pleasant, encouraging and favourable behaviour and cooperation towards me during the period of my staying in the said department .

With my deep hearted respect, I like to express my most sincere appreciation and gratitude to the supervisor of my research work Professor Md. Abdul Latif of the said department for his perfect and very skilful guidance, constant supervision, valuable suggestions, constructive criticisms and whole hearted encouragement throughout the study period. Without his positive and considerate attitude towards this research work I am sure that it would not at all be possible on my part to complete it.

I must pay my gratefulness to Professor C.R. Mishra of department of History, University of Rajshahi for his extreme eagerness to carryout this research work by me. Actually, it would not be possible for me to reach my supervisor without his cooperation.

My special gratitude to Professor Dr. Ahsanul Habib for his cordial cooperation and giving permission to carryout my research work in Mental Hospital, Pabna as he was the Director of the said institute when I started this study.

I also pay my thanks to my colleagues, the Nursing staff and MLSS who was in duty during the collection of data at both OPD and inpatient units of Pabna Mental Hospital for their whole hearted and enthusiastic cooperation.

Dr. Fakhrul Islam, Assistant Professor of Community Medicine, Pabna Medical College, a very knowledgeable person in medical research, helped me a lot when I was getting no way how to start the analysis. I must not forget Mr. Burhan Uddin Haider, psychiatric social worker, Mental Hospital Pabna in this context. Because, he helped in getting the way to analysis. Mr. Rakibul Islam, Senior Officer (computer

- a) Schizophrenia (F20)
- i) thought echo, thought insertion or withdrawal, thought broadcasting.
  - ii) delusions of control, influence or passivity, delusional perception.
  - iii) Hallucinatory voices giving a running commentary on the patient's behavior or discussing the patient among themselves.
  - iv) Persistent delusions of other kinds that are culturally inappropriate.
  - v) Persistent hallucinations in any modality.
  - vi) Breaks or interpolations in the train of thought, resulting in incoherence or irrelevant speech or neologisms.
  - vii) Catatonic behaviour, such as excitement, posturing or waxy flexibility, negativism, mutism and stupor.
  - viii) 'Negative' symptoms such as apathy, paucity of speech and blunting or incongruity of emotional responses, usually resulting in social withdrawal and lowering of social performance(it must be clear that these are not due to depression or due to neuroleptic medication).
  - ix) Loss of interest, aimlessness, idleness, a self-absorbed attitude, and social withdrawal.

*Diagnostic guidelines-* a minimum of one very clear symptom( usually two or more if less clear-cut) belonging to any one of the groups listed as i to iv above, or symptoms from at least two of the groups referred to as v to viii, should have been clearly present for most of the time during a period of one month or more. Duration less than one month (whether treated or not) should be diagnosed as 'acute schizophrenia-like disorder (F-23).<sup>11</sup>

- b) Acute Schizophrenia like Episode-(ASE)-(F23)
- c) Schizoaffective Disorder (SAD)-(F25)

- i) These are episodic disorders in which both affective and schizophrenic symptoms are prominent within same episode of illness, preferably simultaneously.
- ii) Symptoms are of manic rather than depressive type, usually make a full recovery and rarely develop a defect state.

*Diagnostic guidelines* – A diagnosis of schizoaffective disorder should be made only when both definite schizophrenic and definite affective

section), Sonali Bank, Pabna Branch, a younger brother-like person to me but actually my master in computer handling. He always at my service tirelessly in any problem I faced during writing the thesis in my computer. I cannot help expressing my gratefulness for him.

Another person whose name I should not ignore as without his cooperation I would have to face a great difficulty in getting the rough and final printout of this thesis. He is Mr. Angshupati Biswas, statistician, Pabna Mental Hospital. Also, I must be grateful to Dutch-Bangla Bank foundation authority who honoured me by selecting me as a fellow for this research work.

Date  
Department of Psychology  
University of Rajshahi

*Tanmay Prakash Biswas*  
29-6-2013  
Dr. Tanmay Prakash Biswas

## ABSTRACT

In order to investigate the prevalence of psychotic disorder of males and females at different stages of life span the study was conducted on new patients attended the outpatients department (OPD) of Pabna Mental Hospital, Pabna, Bangladesh during January to July 2006. Information was collected from the patients and their caregivers through interview method. Three hypotheses were formulated to test in this study. The first hypothesis states that Psychotic disorders are more prevalent in males than in females. The second hypothesis states that Schizophrenia is more frequent than other types of psychotic disorders. The third hypothesis states that Psychotic disorders are more prevalent at Early Adulthood stage of life span. The results were analyzed employing chi square test.

A total of 2227 (two thousand two hundred and twenty seven) patients were interviewed during the study period. Among them, 1398 (one thousand three hundred and ninety eight) were psychotic and 829 (eight hundred and twenty nine) were neurotic patients. In order to calculate the frequency of psychotic disorders in males and females the psychotic patients were divided into two groups – males and females and comparison were made between the two groups employing chi square test. The result shows that the frequency of psychotic disorders were significantly higher ( $p < 0.01$ ) in males than in females.

The psychotic patients were again classified into different types. There were patients of five types psychotic disorders namely Schizophrenia, Schizoaffective disorder (SAD), Acute schizophrenia like Episode (ASE), Psychoactive Substance related (psychotic) disorder (SRD) and Bipolar affective disorder (BAD) available during the study. Comparison were made among the frequencies of the five types of psychotic disorders. The results shows that, frequency of schizophrenia was significantly highest among the five types of psychotic disorders.

In order to analyze the presence of psychotic disorder at different stages of life span, frequency of psychotic disorders at different stages of life span was compiled and comparisons was made among them employing chi square test. The results suggest that, psychotic disorder is significantly more ( $p < 0.01$ ) prevalent at early adulthood stage of life span.

Thus, the results of the study confirm all the hypotheses of the study.



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# CHAPTER - I

## INTRODUCTION

### MENTAL DISORDER

According to World Health Organization (WHO) Health has been defined as a "State of complete Physical, Mental, Social and Spiritual well being and not merely an absence of disease or infirmity"<sup>1</sup>. From this definition we can see here that absence of disease is not the only point to be considered in case defining Health. The thing to be considered is the "Well Being". Also, physical well being occupies a small portion of total health. The greater portion occupies the other components mental, social & spiritual well being.

Here we can see that Mental health occupies the second position. The other components have got a close position with the mental component. From this observation we can conclude that to achieve total health we must have mental well being. A healthy Psychological state should prevail within us if we want to remain mentally healthy. And Psychology is "the science of human and animal behavior; it includes the application of this science to human problems."<sup>2</sup> Studying Psychology is important before starting to study Psychiatry because psychology is the basis of Psychiatry. As psychology deals with the normal state mind and psychiatry deals with abnormal state of mind it lies within the domain of Abnormal Psychology with clinical implications. Persons who show abnormal clinical features for a definite period of time may be considered as having mental illness.

Mental illness is not easy to define. Mental illness can be defined in terms of Psychopathology. Lewis (1953b) suggested that illness could be characterized by "evident disturbance of part functions as well as general efficiency". In psychiatry part functions refer to perception, memory, learning, emotion, and such psychological functions.<sup>1</sup> The law in England and Wales requires psychiatrists to diagnose 'mental illness' in relation to compulsory admission to hospital and certain court procedures. Faced with the task, psychiatrists begin by separating mental handicap and personality disorder from mental illness.

The concept of mental illness is exceedingly complicated. In general medicine a distinction is made between disease and illness. A further distinction can be made between illness and sickness (Susser 1990). **Disease** refers to objective pathology, **Illness** is subjective awareness of distress, **Sickness** refers to a loss of capacity to feel normal social roles.<sup>3</sup>

In *Mental Health: A Report of the Surgeon General*, mental health is defined as “the successful performance of mental functions, in terms of thought, mood, and behavior that results in activities, fulfilling relationships with others and the ability to adapt to change and to cope with adversity.” A mental disorder is a behavioral or psychological syndrome or pattern associated with distress or with a significantly increased risk of suffering, death, pain, disability or an important loss of freedom. In addition, the syndrome or pattern must not be merely an expected and culturally sanctioned response to a particular event, such as the death of a loved one.<sup>4</sup>

Again, according to WHO, mental health is a state of well being in which people realize their own potential, can cope with normal life stresses, can work productively, and can contribute to their community.<sup>5</sup>

## **CLASSIFICATION OF MENTAL DISORDERS**

In Psychiatry, as in rest of medicine, classification is needed for two main purposes. The first purpose is to enable clinicians to communicate with one another about their patients' symptoms, prognosis, and treatment. The second purpose is to ensure that research can be conducted with comparable groups of patients.<sup>3</sup>

### ***The history of classification***

The early Greek medical writings contained descriptions of different manifestations of mental disorder, for example excitement, depression, confusion, and memory loss. This simple classification of mental disorders was adopted by Roman medicine and developed by Greek physician Galen, whose system of classification remained in use until the eighteenth century. Thus, in a widely read textbook of medicine published in 1583, Barrough divided mental disorders into frenzy (fever, madness, and disturbed sleep), mania, melancholia, fatuities (loss of both memory and reasoning - dementia

in modern terminology), and memory loss (amnesia with intact reasoning – the amnesic syndrome in modern usage) (Hunter and MacAlpine 1963, pp. 24-8).

Interest in the classification of natural phenomena developed in the eighteenth century, partly as a result of publication of a classification of plants by Linnaeus, a medically qualified professor of botany. Linnaeus also devised a less well known classification of diseases in which one major class was mental disorders. These disorders were divided into three groups: 1. Ideals-deerium, amentia, mania, vesania (or madness), and melancholia; 2. Imaginariii- hypochondriasis, phobia, somnambulism, and vertigo; 3. Pathetici- bulimia, polydipsia, satyriasis, and erotomania (Thompson 1814, pp.188).<sup>6</sup> Thus Linnaeus's classification of mental disorder was more comprehensive than that of Galen. Linnaeus's three categories have some resemblance to the present-day rubrics of psychosis, neurosis, and behaviour disorders. A particularly well-known classification was published in 1772 by William Cullen, a Scottish physician. In his scheme, mental disorders were part of a broad class of 'neurosis', a term he used to denote diseases affecting the nervous system. Cullen defined neuroses as 'preternatural affections of sense and motion which are without pyrexia as part of the primary disease and do not depend on a topical affection of the organs' (Hunter and McAlpine 1963, p.495).

In Cullen's classification the neuroses were divided into four Orders: comata-apoplexy and paralysis; adynamiae-including hypochondriasis and syncope; spasmi-including tetanus, chorea, epilepsy, hysteria, and palpitation; vesaniae-insanity. The last group, vasaniae, had three subgroups: amentia-which could be congenital, acquired, or senile; melancholia; oneirodynia-a term used to describe excessive imaginings during sleep. Therefore Cullen's classification contained an aetiological principle-that mental illness were disorders of the nervous system.

In the early years of 19<sup>th</sup> century, several French writers published influential classification of major disorders. Phillipe Pinel's Treatise on insanity, which appeared in an English edition in 1806, divided mental disorders into mania with delirium, mania without delirium, melancholia, dementia, and idiocy.

In the past the concepts of psychosis and neurosis were included in most systems of classification. But neither of these terms is used as an organizing principle in ICD-10

or DSM IV. In practice, however, these terms are still used widely; hence it is of practical importance to understand their history and usage.

The term neurosis was introduced by Cullen to denote diseases of the nervous system.

The term psychosis was suggested by Feuchterleben, who published a book entitled 'Principles of medical psychology' in 1845. This author proposed psychosis as a term for severe mental disorders. He wrote, 'every psychosis is at the same time a neurosis but not every neurosis is a psychosis (Hunter and MacAlpine 1963, p.950).<sup>7</sup>

In modern usage, the term **psychosis** refers broadly to severe forms of mental disorder such as organic mental disorders, schizophrenia, and affective disorders. Numerous criteria have been proposed to achieve a more precise definition. Greater severity of illness is a common criterion, but the conditions in this group can occur in mild or severe forms. Lack of insight is often suggested as a criterion for psychosis, but the term insight is itself difficult to define. A more straightforward criterion is the patient's inability to distinguish between subjective experience and reality as evidenced by hallucinations and delusions. Since none of these three criteria is easy to apply, the term psychosis is unsatisfactory. However, it is not only difficulty of definition that makes the term psychosis unsatisfactory. There are two other reasons: first the conditions embraced by the term have little in common, and second it is less informative to classify a disorder as psychosis (for example schizophrenia). It is for these reasons that the distinction between neurosis and psychosis, which was a fundamental classificatory principle in ICD 9, was abandoned in DSM III and subsequently in ICD 10.

The term neurosis refers to mental disorders that are generally less severe than the psychoses and characterized by symptoms closer to normal experience (for example anxiety).

### ***Types of classification***

#### **Categorical classification**

Traditionally, psychiatric disorders have been classified by dividing them into categories which are supposed to represent discrete entities. Categories have been defined in terms of symptom patterns and of the course and outcome of different



disorders. Such categories have proved useful in both clinical work and research. However, three objections are often raised against them: (i) there is uncertainty about the validity of categories as representing distinct entities; (ii) many systems of classification do not provide adequate definitions and rules of application, and so categories cannot be used reliably; (iii) many psychiatric disorders do not fall neatly within the boundaries of a category but are intermediate between two categories (for example cases intermediate between schizophrenia and affective disorder).<sup>7</sup>

### **Dimensional classification**

Dimensional classification rejects the use of separate categories. In the past it was advocated by Kretschmer and other psychiatrists. It has also been strongly promoted by the psychologist Eysenck, who argues that there is no evidence to support the traditional grouping into discrete entities. Instead, Eysenck (1970b) proposed a system of three dimensions: psychoticism, neuroticism, and introversion-extroversion. The dimension of 'psychoticism' bears little relation to the concept of psychosis as generally used. For example, artists and prisoners score particularly highly on this dimension. The dimensions of neuroticism and introversion-extroversion have been useful in research with groups of patients, but they are difficult to apply to the individual patient in clinical practice.<sup>7</sup>

### **The multi axial approach**

In one sense, the term multi-axial can be applied to the three dimensions just described. However, the term is usually applied to schemes of classifications in which two or more separate sets of information (such as symptoms and aetiology) are coded. In 1947 Essen-Møller proposed that clinical syndrome and aetiology should be coded separately. It would then be possible to identify cases with a similar clinical picture on the one hand, and those with a similar aetiology on the other (Essen-Møller 1971). Multi-axial systems are attractive, but there is an obvious danger that they will be so comprehensive and complicated as to be difficult for everyday use (Williams 1985).<sup>7</sup>

There are five axes included in the DSM-IV multi-axial classification;

- Axis I Clinical Disorders, Other Conditions that may be a focus of clinical attention
- Axis II Personality Disorders, Mental Retardation
- Axis III General Medical Conditions

Axis IV Psychosocial and Environmental Problems  
 Axis V Global assessment of Functioning.<sup>8</sup>

**The basic categories for classification in psychiatry:**

Several categorical systems of classification have been used in psychiatry, but they all contain same basic categories. They are as follows;

- Mental Retardation
- Personality Disorder
- Mental Disorder
- Adjustment Disorder (reaction to stress)
- Other Disorders
- Developmental and learning Disorders
- Disorders with onset in Childhood or Adolescence.<sup>9</sup>

**Classification in developing countries:**

Classification developed in Europe and North America have not proved entirely satisfactory in developing countries where behavioural disturbances can be different. In developing countries acute psychotic symptoms may present particular difficulties of diagnosis; they are often atypical and raise doubt as to whether they represent separate entities or merely variations of symptoms seen in developed countries. Investigation of these issues is difficult for outsiders who may not appreciate important cultural factors or the varying use of language to describe emotions and behaviour.<sup>10</sup>

**ICD (International Classification of Diseases):**

Mental disorders were not included in the ICD until its sixth edition produced by the WHO in 1948. This first scheme for mental disorders was widely criticized.

The eighth edition (ICD 8) was published in 1968. It made some progress towards solving the earlier problems but was still unsatisfactory in several ways.

Major changes in the mental health section of ICD10 have resulted from several initiatives, including continuing WHO research programme on diagnosis and classification, collaborative studies, and innovations by national organizations, especially the American Psychiatric Association.

## List of Categories

F00-F09

Organic, including symptomatic mental disorders

F00 Dementia in Alzheimer's disease

F01 Vascular dementia

F02 Dementia in other diseases classified elsewhere

F03 Unspecified dementia

F04 Organic amnesic syndrome, not induced by alcohol and other psychoactive substances

F05 Delirium, not induced by alcohol and other psychoactive substances

F06 Other mental disorders due to brain damage and dysfunction and physical disease

F07 Personality and behavioural disorders due to brain disease, damage and dysfunction

F08 Unspecified organic or symptomatic mental disorder

F10-F19 Mental and behavioural disorders due to psychoactive substance use

F10 Mental and behavioural disorders due to use of alcohol

F11 Mental and behavioural disorders due to use of opioids

F12 Mental and behavioural disorders due to use of cannabinoids

F13 Mental and behavioural disorders due to use of sedatives or hypnotics

F14 Mental and behavioural disorders due to use of cocaine

F15 Mental and behavioural disorders due to use of other stimulants, including caffeine

F16 Mental and behavioural disorders due to use of hallucinogens

F17 Mental and behavioural disorders due to use of tobacco

F18 Mental and behavioural disorders due to use of volatile solvents

F19 Mental and behavioural disorders due to use of multiple drug use and use of other psychoactive substances.

F20-F29 Schizophrenia, schizotypal and delusional disorders

F20 Schizophrenia

F20.0 Paranoid schizophrenia

F20.1 Hebephrenic schizophrenia

F20.2 Catatonic schizophrenia

F20.3 Undifferentiated schizophrenia

F20.4 Post-schizophrenic depression

F20.5 Residual schizophrenia

F20.6 Simple schizophrenia

F20.8 Other schizophrenia

F20.9 Schizophrenia, unspecified

F21 Schizotypal disorder

F22 Persistent delusional disorder

- F23 Acute and transient psychotic disorders
- F24 Induced delusional disorder
- F25 Schizoaffective disorder
- F28 Other non organic psychotic disorders
- F29 Unspecified non organic psychosis
- F30-39 Mood [affective] disorder
  - F30 Manic episode
  - F31 Bipolar affective disorder
  - F32 Depressive episode
  - F33 Recurrent depressive disorder
  - F34 Persistent mood [affective] disorders
  - F38 Other mood [affective] disorders
  - F39 Unspecified mood [affective] disorders
- F40-48 Neurotic, stress-related and somatoform disorder
  - F40 Phobic anxiety disorders
  - F41 Other anxiety disorders
  - F42 Obsessive –compulsive disorder
  - F43 Reaction to severe stress, and adjustment disorders
  - F44 Dissociative [conversion] disorders
  - F45 Somatoform disorders
  - F48 Other neurotic disorders
- F50-59 Behavioural syndromes associated with physiological disturbances and physical factors
  - F50 Eating disorders
  - F51 Non organic sleep disorders
  - F52 Sexual dysfunction, not caused by organic disorder or disease
  - F53 Mental and behavioural disorders associated with the puerperium , not elsewhere classified
  - F54 Psychological and behavioural factors associated with disorders or diseases classified elsewhere
  - F55 Abuse of non-dependence producing substances
  - F59 Unspecified behavioural syndromes
- F60-69 Disorders of adult personality and behaviour
  - F60 Specific personality disorders
  - F61 Mixed and personality disorders
  - F62 Enduring personality changes
  - F63 Habit and impulse disorders
  - F64 Gender identity disorders
  - F65 Disorders of sexual preferences

- F66 Psychological and behavioural disorders associated with sexual development and orientation
- F68 Other disorders of adult personality and behaviour
- F69 Unspecified disorder of adult personality and behaviour
- F70-79 Mental retardation
  - F70 Mild mental retardation
  - F71 Moderate mental retardation
  - F72 Severe mental retardation
  - F73 Profound mental retardation
  - F78 Other mental retardation
  - F79 Unspecified mental retardation
- F80-89 Disorders of psychological development
  - F80 Specific developmental disorders of speech and language
  - F81 Specific developmental disorders of scholastic skills
  - F82 Specific developmental disorders of motor function
  - F83 Mixed specific developmental disorders
  - F84 Pervasive developmental disorders
  - F88 Other disorders of psychological development
  - F89 Unspecified disorder of psychological development
- F90-98 Behavioural and emotional disorders with onset usually occurring in childhood and adolescence
  - F90 Hyperkinetic disorders
  - F91 Conduct disorders
  - F92 Mixed disorders of conduct and emotions
  - F93 Emotional disorders with onset specific to childhood
  - F94 Disorders of social functioning with onset specific to childhood and adolescence
  - F95 Tic disorders
  - F98 Other behavioural and emotional disorders with onset usually occurring in childhood and adolescence.<sup>11</sup>

### **The Diagnostic and Statistical Manual (DSM)**

In 1952 the American Psychiatric Association published the first edition of the Diagnostic and Statistical Manual (DSM) as an alternative to ICD 6 which, as mentioned above, had been widely criticized.

In 1988 a meeting of the American Psychiatric Association considered how the United States could best fulfill its treaty obligation with the WHO to maintain coding and technological consistency with ICD. The conclusion was that work on DSM IV

and ICD10 should be closely coordinated. As a result, DSM IV is technically compatible with ICD, although there are a number of specific differences.<sup>10</sup>

### **Comparison of ICD10 and DSMIV**

ICD10 and DSMIV are closely similar because they are derived from a common base of knowledge and research, and because their authors collaborated closely. The two classifications are complementary rather than competing. Thus DSM has designed for use in a single country-it is a national classification-whereas ICD has been designed for use in all countries with their varied cultures and needs.<sup>10</sup>

### **Classification in everyday practice**

A diagnosis is made after the history and examination of mental state have been completed. The first step is to review the pattern of the symptoms occurring in the past month(as reported by the patient and any other informants) and the pattern of symptoms and signs elicited by mental state examination. An attempt is then made to match this pattern to one or more of the diagnostic categories in the system of classification used.

In practice, only a few categories need to be considered; the rest are obviously inapplicable. If only a single incongruous symptom is found among many that are congruous, generally the diagnostic category remains unchanged.

This kind of problem can sometimes be resolved by looking at the diagnostic category longitudinally. The process described so far is cross-sectional, i.e. allocation to a category is based on present mental state and the history of symptoms in the past few weeks. The longitudinal approach deals with the nature and course of a disorder since it first began..<sup>10</sup>

### **PSYCHOTIC DISORDERS**

The term **psychosis** refers to pervasive loss of contact with reality.<sup>12</sup>

Psychosis is defined as grossly impaired reality testing. With gross impairment in reality testing, persons incorrectly evaluate the accuracy of their perceptions and thoughts and make incorrect inferences about external reality, even in the face of contrary evidence. The term psychotic does not apply to minor distortions of reality that involve matters of relative judgment.<sup>13</sup>

The term **psychosis** was suggested by Feuchterlebens who published a book entitled *Principles of medical psychology in 1845*. He also accepted the term neurosis for mental disorders as a whole; thus he wrote, 'every psychosis is at the same time a neurosis but not every neurosis is a psychosis'. In modern usage, the term psychosis refers broadly to severe forms of mental disorders such as organic mental disorders, schizophrenia, and affective disorders. Lack of insight is often suggested as a criterion for psychosis. A more straightforward criterion is the patient's inability to distinguish between subjective experience and reality, as evidenced by hallucinations and delusions. The term neurosis refers to mental disorders that are generally less severe than the psychoses and characterized by symptoms closer to normal experience.<sup>7</sup>

Onset of Psychosis typically between late teens and early 30s. The onset may or may not be preceded by major stress, such as death in the family. The lifetime prevalence averages 01%. Intrauterine damage, perhaps due to viral infection may also be a factor. Concordance rises from 10% for first-degree relatives to 50% for MZ (monozygotic) twins.<sup>14</sup>

Although the traditional meaning of the term *psychotic* emphasized loss of reality testing and impairment of mental functioning – manifested by delusions, hallucinations, confusion, and impaired memory. Two other meanings have evolved during the past 50 years. In the most common psychiatric use of the term, *psychotic* became synonymous with severe impairment of social and personal functioning characterized by social withdrawal and inability to perform the usual household and occupational roles. The other use of the term specifies the degree of ego regression as the criterion of psychotic illness. As a consequence of these multiple meanings, the term has lost its precision in current clinical and research practice.

According to the glossary of the American Psychiatric Association, the term *psychotic* means grossly impaired in reality testing. The term may be used to describe the behaviour of person at a given time or a mental disorder in which at some time during its course all people with the disorder have grossly impaired reality testing. With gross impairment of reality testing, people incorrectly evaluate the accuracy of their perceptions and thoughts and make incorrect inferences about external reality, even in the face of contrary evidence. The term *psychotic* does not apply to minor distortions

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of reality that involve matters of relative judgment. For example, depressed people who underestimate their achievements are not described as psychotic, whereas those who believe that they have caused natural catastrophes are so described.

Direct evidence of psychotic behaviour is the presence of either delusions or hallucinations without insight into their pathological nature. The term psychotic is sometimes appropriate when behaviour is so grossly disorganized that it is reasonable to infer that reality testing is disturbed. Examples include markedly incoherent speech without apparent awareness by the person that the speech is not understandable and the agitated, inattentive, and disoriented behaviour seen in alcohol intoxication delirium. A person with a non psychotic mental disorder may exhibit psychotic behaviour, although rarely. For example, a person with obsessive-compulsive disorder may at times come to believe in the reality of the danger of being contaminated by shaking hands with strangers.<sup>15</sup>

We have got the term 'insight' in the above lines. It is difficult to define. Actually, patients' understanding of illness is insight. Patients should be asked what they think their symptoms are due to, and whether they warrant treatment. Lack of insight is a failure to accept that one is ill and/or in need of treatment, and is characteristic of acute psychosis.<sup>16</sup> It may be said as one's own idea about his/her mental condition.

From the above discussion it may be clear that psychotic illnesses are those where the sufferer of the illness will not accept that he/she is mentally ill. Also the symptoms of psychotic illnesses are: Hallucination, Delusion, Thought disorder etc. Actually the term psychosis refers broadly to severe forms of mental disorders like Organic mental disorders, Schizophrenia, Mood disorders etc.

### **Classification of Psychotic Disorders**

We have seen in the previous sections that psychotic illnesses are those that have a grossly impaired reality testing.<sup>13</sup>

Before going to see the causes of the psychotic illnesses, we may have a short look over the Psychotic illnesses.

The Psychotic illnesses are (with 'ICD-10' diagnostic criteria and code of each):



symptoms are prominent simultaneously, or within a few days of each other, within the same episode of illness. The term should not be applied to patients who exhibit schizophrenic symptoms and affective symptoms only in different episodes of illness.<sup>11</sup>

- d) Delusional Disorder (F22.0)
  - i) Development of either of a single delusion or of a set of related related delusions which are usually persistent and sometimes lifelong.
  - ii) The delusions are highly variable in content.
  - iii) Often they are persecutory, hypochondriacal, or grandiose, but they may be concerned with litigation or jealousy.
  - iv) Apart from actions and attitudes directly related to the delusion or delusional system, affect, speech and behaviour are normal.

*Diagnostic guidelines* – Delusions constitute the most conspicuous or the only clinical characteristic. They must be present for at least three months and be clearly personal rather than subcultural. There must be no evidence of brain disease, no or only occasional auditory hallucination.<sup>11</sup>

- e) Induced delusional disorder(Shared psychotic disorder-DSM IV)
  - i) A delusion develops in an individual in the context of a close relationship with another person who has an already-established delusions.
  - ii) The delusion is similar in content to that of the person who already has the established delusion.
- f) Unspecified non organic psychosis(F29)-(Psychotic disorders not otherwise specified-DSM IV)-
  - i) This category includes psychotic symptomatology (delusions, hallucinations, disorganized speech, grossly disorganized or catatonic behavior) about which there is inadequate information to make a specific diagnosis or with psychotic symptoms that do not meet the criteria for any specific psychotic disorder.

- g) Culture-Bound Syndromes.
- i) The term demotes specific arrays of behavioral and experiential phenomena that tend to present themselves preferentially in particular socio cultural contexts and that are readily recognized as by most participants in that culture.
- ii) Syndromes are commonly assigned culturally sanctioned explanations and interpretations that, in turn generate a set of culturally congruent remedies, usually in the form of healing rituals performed by someone to whom the community assigns a therapeutic role.
- h) Mood Disorder –i) Manic episode(F30)-Elation is accompanied by increased energy, resulting in over activity, pressure of speech and decreased need for sleep. Normal social inhibitions are lost, attention cannot be sustained, often marked distractability, self esteem is inflated and grandiose or over-optimistic ideas are freely expressed.

*Diagnostic guidelines-* The episode should last for at least one week and should be severe enough to disrupt ordinary work and social activities more or less completely.<sup>11</sup>

ii) Hypomanic episode(F30.0)-

iii) Bipolar Affective disorder (BAD)-(F-31) – The disorder is characterized by repeated( at least two) episodes of elated mood and activity levels are significantly disturbed. Recovery is usually complete between episodes and the incidence in the two sexes is more nearly equal than in other mood disorders.

Manic episodes usually begin abruptly and last for between two weeks and 4-5 months. Depressions tend to last longer. Episodes of both kinds often follow stressful life events or other mental trauma, but the presence of such stress is not essential for the diagnosis.

i) Postpartum Psychosis(sometimes called *puerperal psychosis*)(F53)-

i) Occurs in women who have recently delivered baby.

ii) Often characterized by mother's depression, delusions and thoughts of harming self or her infant, complain of fatigue, insomnia, restlessness, and may have episodes of tearfulness and emotional lability. Later, suspiciousness,

confusion, incoherence, irrational statements obsessive concerns about baby's health and welfare may be present. Delusional material may involve the idea that the baby is dead or defective.

iii) The symptoms can often begin within days of the delivery, although the mean time to onset is within 2 to 3 weeks and almost always within 8 weeks of the delivery.

j) Organic delusional disorder(F06.1)(Psychosis Due General Medical Condition)-

i) Prominent Hallucinations or delusions

ii) There evidence from the history, physical examination or laboratory findings that the disturbance is the direct physiological consequence of a general medical condition.

iii) The disturbance does not better accounted for by another mental disorder.

iv) The disturbance does not occur exclusively during the course of a delirium.

k) Substance Related (psychotic) Disorder-(F10-19).

i) Prominent hallucinations or delusions.(Do not include hallucinations if the person has insight that they are substance induced).

ii) There evidence from the history, physical examination, or laboratory findings of either 1 or 2:

(1) the symptoms in criterion (i) developed during or within a month of substance intoxication or withdrawal.

(2) Medication use is etiologically related to the disturbance.

iii) The disturbance is not better accounted for by a psychotic disorder that is not substance induced.

iii) The disturbance does not occur exclusively during the course of a delirium.<sup>13</sup>

Among these above Psychotic illnesses, the following types of cases were available at the outpatient department(OPD) of Pabna Mental Hospital during the study period. Cases available at the OPD are grouped broadly into the following categories to simplify and to make easy understandable to the non medical persons. These group is:

- a) Schizophrenia- (F-20)
- b) Bipolar Affective Disorder (BAD)-(F-31)
- c) Schizoaffective Disorder (SAD)-(F25)
- e) Acute Schizophrenia like Disorder (ASE)-(F-23)
- f) Substance Related (Psychotic) Disorder (SRD)-(F10-19).

All the available cases mentioned above are included in the study.

### **Causes of Psychotic Disorders**

The causes of psychotic disorder do not differ from that of neurotic disorder. Actually, neurotic disorders and psychotic disorders are similar so far the causes are concerned. The difference is only the severity and presentation. The neurotic disorders are milder form of mental disorders where the patient does not lose the touch with the reality. But in case of psychotic disorders the patient loses the touch with the reality and never accepts the illness.

In psychiatry the study of causation is complicated by two problems. The first problem is that causes are often remote in time from the effects that they produce. For example it is widely believed that childhood experiences partly determine the occurrence of neuroses in adult life. The second problem is that a single cause may lead to several effects. Conversely, a single effect may arise from several causes.

A single psychiatric disorder may result from several causes. A useful approach is to divide causes chronologically into predisposing, precipitating, and perpetuating.

### **Predisposing factors**

There are factors, many of them operating from early life, that determine a person's vulnerability to causes acting close to the time of the illness. They include genetic endowment and the environment *in utero*, as well as physical, psychological, and social factors in infancy and childhood. The term **constitution** is often used to describe the mental and physical make-up of a person at any point in his life. This make-up changes as life goes on under the influence of further physical, psychological, and social influences. From the standpoint of psychiatric aetiology, one of the important parts of the constitution is the personality.

### **Precipitating factors**

These are events that occur shortly before the onset of a disorder and appear to have induced it. They also may be physical, psychological, or social. Whether they produce a disorder at all, and what kind of disorder, depends partly on constitutional factors in the patient. Physical precipitants include cerebral tumours or drugs. Psychological and social precipitants include personal misfortunes such as loss of a job, changes in the routine of life etc.

### **Perpetuating factors**

These factors prolong the course of a disorder after it has been provoked. When planning treatment, it is particularly important to pay attention to these factors. The original predisposing and precipitating factors may have ceased to act by the time that the patient is seen, but the perpetuating factors may well be treatable.

### **The concept of stress**

Discussions about stress are often confusing because the term is used in two ways. First, it is applied to events or situations which may have an adverse effect on someone. Second, it is applied to the adverse effects that are induced which may be psychological or physiological change.

The first set of factors can usefully be called **stressors**.

The effect on the person can usually be called the **stress reaction** to distinguish it from the provoking events.

### **The concept of a psychological reaction**

Psychological distress can arise as a reaction to unpleasant events. Jaspers (1963, p.392) suggested three criteria for deciding whether a psychological state is a reaction to a particular set of events. First, there must be events that seem adequate in severity and closely related in time to the onset of the psychological state. Second, there must be a clear connection between the nature of the events and the content of the psychological disorder. Third, the psychological state should begin to disappear when the events have ceased.

### **Reductionist and Non-reductionist models**

Two broad explanatory models can be recognized. Reductionist models seek to understand causation by tracking back to simpler and simpler early stages. This type of model can be exemplified by the statement that the cause of schizophrenia lies in a disordered neurotransmission in a specific area of the brain.

Non-reductionist models try to relate problems to wider rather than narrower issues. In psychiatry, this type of model can be exemplified by the statement that the cause of a patient's schizophrenia lies in his family.

It is unlikely that psychiatric aetiology can be understood by using either of these models exclusively. Different types of disorder are likely to require different kinds of explanation.

### **The medical model**

Several models are used in psychiatric aetiology, but the so called medical model is the most prominent. It represents a general strategy of research that has proved useful in medicine, particularly in studying infectious diseases.

This medical model has been useful in psychiatry, though not for all conditions. It is most relevant to organic syndromes, with the best example being general paralysis of the insane (GPI) which is caused by syphilitic infection of the brain. It is least appropriate to the neuroses, which seem more like an exaggeration of normal psychological reactions to events.

### **The behavioural model**

Amongst the disorders that psychiatrists treat, some do not fit into the medical model. These later include hysteria, sexual deviations, deliberate self-harm, the abuse of drugs and alcohol, and repeated acts of delinquency. The behavioural model is an alternative way of comprehending these disorders. In this model the disorders are explained in terms of factors that determine normal behaviour: drives, reinforcements, social and cultural influences, and internal psychological processes such as attitudes, beliefs, and expectations. The behavioural model predicts that there will not be a sharp distinction between the normal and abnormal but a continuous gradation. This model can be a useful way of considering many conditions seen by psychiatrists.

Although the behavioural model is mainly concerned with psychological and social causes, it does not exclude genetic, physiological, or biochemical causes. This is because normal patterns of behaviour are determined by genetic factors, and because psychological factors such as reinforcement have a basis in physiological and biochemical mechanisms. Also, the behavioural model employs both reductionist and non-reductionist explanations.

### **Developmental models**

Medical and behavioural models incorporate the idea of predisposing as well as precipitating causes, i.e. the idea that past events may determine whether or not a current cause gives rise to a disorder. Some models place even more emphasis on past events in the form of a sequence of experiences leading to the present disorder. This approach has been called the 'life story' approach to aetiology. One example is Freud's psychoanalysis; another is Meyer's psychobiology.

Psychobiology is valuable as an approach to the aetiology of the individual patient rather than as a method of discovering general causes of mental disorder.

### ***The historical development of ideas of aetiology***

From the earliest times, theories of the causation of mental disorder have recognized both somatic and psychological influences. Greek medical literature referred to the causes of mental disorders, mainly in the Hippocratic writings (fourth century BC). Serious mental illness was ascribed mainly to physical causes, which were represented in the theory that health depended on a correct balance of the four body 'humours' (blood, phlegm, yellow bile and black bile). Galen accepted that melancholia was caused by an excess of black bile. Phrenities, the name given to an acute febrile condition with delirium, was thought to result from an excess of yellow bile. The English physician Thomas Willis attributed melancholia to 'passions of the heart', but considered madness was due to a 'fault of the brain'. Most of the less severe psychiatric disorders were thought to have supernatural causes and to require religious healing. An exception was hysteria, which was thought to be physically caused by the displacement of the uterus from its normal position. Nowadays hysteria is attributed mainly to psychological causes. Willis also pointed out that hysteria could not be caused by a displacement of the womb because the organ is firmly

secured in the pelvis. Another seventeenth century English physician, Thomas Sydenham, rejected the alternative theory that hysteria was caused by a functional disorder of the womb because he had observed it in men.

It had long been observed that serious mental illness ran in families, but in the nineteenth century this idea took a new form. In 1809 Morel, a French psychiatrist, put forward ideas that became known as the 'theory of degeneration'. He proposed not only that some mental illnesses were inherited, but also that environmental influences (such as poor living condition and the abuse of alcohol) could lead to physical changes that could be transmitted to the next generation. Morel also proposed that, as a result of the successive effect of environmental agents in each generation, illnesses appeared in increasingly severe forms in successive generations. It was inherent in these ideas that mental disorders did not differ in kind but only in severity – neurosis, psychosis, and mental handicap were increasingly severe manifestations of the same inherited process.

Mid-nineteenth century views of the causation of mental illness can be judged from the widely acclaimed textbooks of Esquirol, a French psychiatrist, and of Griesinger, a German psychiatrist. Esquirol (1845) focused on the causes of illness in the individual patient and was less concerned with general theories of aetiology. He recorded psychological and physical factors which he believed to be significant in individual cases, and he distinguished between predisposing and precipitating causes. He regarded heredity as the most important of the predisposing causes, but he also stressed that predisposition was acted on by psychological causes and by social (at that time called 'moral') causes such as domestic troubles, 'disappointed love', and reverses of fortune. Important physical causes of mental disorder included epilepsy, alcohol abuse, excessive masturbation, childbirth and lactation, and suppression of menstruation. Esquirol also observed that age influenced the type of illness; thus dementia was not observed among the young, but mania was uncommon in old age. He recognized that personality was often a predisposing factor.

British views on aetiology in the late nineteenth century can be judged from A manual of psychological medicine by Bucknill and Tuke (1858), and from The pathology of mind by Henry Maudsley (1879). Maudsley described the causes of mental disorder in



terms similar to those of Greisinger; thus causes were multiple, whilst predisposing causes (including heredity and early upbringing) were as important as the more obvious proximal causes. Maudsley held that mistakes in determining causes were often due to 'some single prominent event, which was perhaps one in the chain of events, being selected as fitted by itself to explain the catastrophe. The truth is that in the great majority of cases there has been a concurrence of steadily operating conditions within and without, not a single effective cause' (Maudsley 1879, p.83). Although these nineteenth-century writers and teachers of psychiatry emphasized the multiplicity of causes, many practitioners focused narrowly on the findings of genetic and pathological investigations, and adopted a pessimistic approach to treatment. A strong reaction to these attitudes was led by Adolf Meyer, a Swiss psychiatrist working in the United States, who emphasized the long sequence of events leading up to a mental illness.

In Austria another neurologist, Sigmund Freud, tried to develop a more comprehensive explanation of nervous diseases, first of hysteria and then of other conditions. After an initial interest in physiological causes, Freud proposed that the causes were psychological, but hidden from the patient because they were in the unconscious part of the mind.

Interest in psychological explanations of mental disorders grew as neuropathological and genetic studies failed to yield new insights. Freud and his followers attempted to extend their theory of the neuroses to explain the psychoses. Psychoanalysis became increasingly influential, particularly in American psychiatry where it predominated until the 1970s. Freud originated psychoanalytic theory, but many other workers contributed to it or developed alternative theories.

Psychoanalytic theories are mainly derived from data obtained in the course of psychoanalytic treatment. These data relate to the patient's thoughts, fantasies, and dreams, together with his memories of childhood experiences. By adopting a passive role, Freud tried to ensure that the material consisted of the patient's free associations and not of Freud's own preconceptions. However, Freud also made interpretations of the patient's reports, and in some of Freud's writings it is difficult to distinguish clearly between the patient's statements and Freud's interpretations.

### **The structure of the healthy mind**

Many of the ideas in the theory were current before Freud began his psychological studies, for example the idea of an unconscious part of the mind. A central feature was his elaborate concept of the unconscious mind. He supposed that all mental processes originated there. Some of these processes were allowed to enter the conscious mind freely, some not at all, and some occasionally. According to Freud, the unconscious mind had three characteristics that were important in the genesis of neurosis: it was divorced from reality, it was dynamic, in that it contained powerful forces, and it was in conflict with the conscious mind.

The unconscious mind was held to be divorced from reality in several ways. It contained flagrant contradictions and paradoxes, and it tended to telescope situations and fantasies that were widely separated in time. In Freud's view, these features were well illustrated by dream analysis. Freud believed that the 'manifest content' of a dream could be traced back through analysis to a 'latent content' which was an infantile wish. The sleeper was thought to perform 'dream work' to translate the latent to the 'manifest content'. This translation was effected by a series of mechanisms, such as 'condensation', 'displacement', 'secondary elaboration'.

Secondly, the unconscious mind was 'dynamic', i.e. it contained impulses that were kept in equilibrium by a series of checks and balances. In Freud's early writings, these impulses were regarded as entirely sexual. Later, he placed more emphasis on aggressive impulses. Sexual impulses were supposed to be active even in infancy, receding by about the age of four and then remaining latent until re-emergence at puberty. In Freud's view, psychosexual development not only began early but was long and complicated. The first stage of organization was oral, i.e. the sexual drive was activated by stimulation of the mouth by sucking and touching with the lips. The second stage was anal, i.e. the drive was activated by expelling or retaining faeces. Only in the third stage did the genital organs become the primary source of sexual energy. Sometimes these stages were not passed through smoothly. The libido (the energy of sexual instincts) could become fixated (partially arrested) at one of the early stages. When this happened, the person would engage in infantile patterns of behaviour or regress to such patterns under stress. In this way the point of fixation determined the nature of any neurosis that developed later in life.

As libido developed, not only was it activated these three successive ways but its object was supposed to change. Self-love came first, to be followed in both boys and girls by love of the mother. Next, still in infancy, boys focused their sexual wishes more intensely upon the mother while developing hostile feelings towards the father (the Oedipus complex). Girls developed the reverse attachments. These attachments came to an end through repression of sexual impulses. As a result the capacity to feel shame and disgust developed, and the child passed into the latency period. Finally, the sexual impulses emerged again at puberty and were directed into relationships with other adults (Genital phase).

The third aspect of the unconscious mind was its struggle against conscious mind. This conflict was regarded as giving to anxiety that could persist throughout life and generate neurotic symptoms. One of Freud's lasting contributions was his idea that anxiety could be reduced by a variety of defense mechanisms, which could be discerned at times in the behaviour of healthy people.<sup>17</sup>

### **Vulnerability and protective factors**

People may differ in their response to life events for three reasons. First, the same event may have different meanings for different people, according to their previous experience. The other reasons are that certain contemporary factors may increase vulnerability to life events or protect against them.

A confiding marriage has been treated as a protective factor, but divorce as a stressor. At present the notions of protective and vulnerability factors are attractive but still controversial (e.g. Tennant and Bebbington 1978; Henderson et al. 1982; Paykel 1982).

### **Causes in the family**

It has been suggested that some mental disorders are an expression of emotional disorders within a whole family, not just a disorder in the person seeking treatment.

### ***Migration and psychiatric disorder***

Moving to another country, or even to an unfamiliar part of the same country, is a life change that has been suggested as a cause of mental disorder. Immigrants have been shown to have higher rates of mental disorder than similar people who remained in

their own country. For example in a well-known study Odegaard (1932) found higher rates of schizophrenia among Norwegian-born immigrants who lived in the United States than among the population of Norway. This finding may indicate that migration is a cause of mental disorder. A higher rate among migrants might not reflect migration itself, but a fall in their social class due to difficulty in finding work for example.<sup>17</sup>

Schizophrenia and Mood disorders are the psychotic disorders. The causes are not much different. Most of the causes are common.

### **I Genetic-**

There is strong evidence for genetic aetiology for both Schizophrenia and Mood disorder.

Family and twin studies of hebephrenic paranoid subtypes have shown that there is some tendency for these subtypes to 'breed true' in families, although this is by no means clear cut (McGuffin 1988). Paranoid schizophrenia is a less genetic form of schizophrenia. Hebephrenic and Catatonic subtypes of schizophrenia are more severe forms of the illness and carry a greater genetic loading (McGuffin 1988).

### **Mode of inheritance**

The genetic evidence does not permit definite conclusions about the mode of inheritance. There are three main theories (Kendler 1986; McGuffin 1988).

Monogenic theory (single-gene models) : As the ratios of the frequencies of schizophrenia among people with different degrees of relationship with the proband do not fit any simple Mendelian pattern, it is necessary to propose modifying factors. Slater (1958) suggested a dominant gene of variable penetrance. Penetrance depends on the definition of the phenotype. There is no evidence that schizophrenia, broadly or narrowly defined, is linked to a single major gene.

Polygenic theory: This theory proposes a cumulative effect of several genes (Gottesman and Shields 1967). It is proposed that the liability to schizophrenia lies on a continuum in the population and is expressed when a certain threshold of susceptibility is exceeded. In the polygenic model this liability is composed of

predominantly additive effects of genes at different loci, together with additional environmental effects (McGuffin 1988).

Genetic heterogeneity theory: Monogenic and polygenic theories assume that schizophrenia is a single disease. Heterogeneity theories explain the observed patterns of inheritance by proposing that schizophrenia is a group of disorders of different genetic make-up or perhaps with genetic and non-genetic forms.

#### A: **Schizophrenia-**

a) Family studies- the prevalence rates of schizophrenia in relatives of schizophrenic patients are as follows:

- i) If both parents schizophrenic, the prevalence rate is 46%.
- ii) If one parent is schizophrenic, the prevalence rate is 14%.
- iii) The sibling of a schizophrenic has the prevalence rate 10%.
- iv) The parent of schizophrenic has the prevalence rate 5%.

The prevalence rate in general population is 1%

b) Twin studies-concordance rate in MZ(monozygotic) twins is 45% and 10% in case of DZ (dizygotic) twins (Gottesmann and Shields, 1972).

c) Adoption studies- Heston (1966) studied 47 children whose mothers were schizophrenic, but who were adopted shortly after birth, these children were compared with similarly adopted children, whose mothers were non-schizophrenic. 14% of the group developed schizophrenia in contrast with 0% of the controls.<sup>18</sup>

#### B: **Mood disorders-**

a) Family studies: i) prevalence rate in first degree relatives of patients with bipolar affective disorder is 15-20%.

ii) Prevalence rate in general population is 7%.

b) Twin studies: i) The concordance rate in case of Bipolar affective disorder in MZ twins reared together is 69%, and 67% of those reared apart, where 13% in case of DZ twins(Rush et al,1991).

c) Adoption studies : Mendlewicz and Rainer(1977) found psychiatric disorder in 31% of their biological parents(mainly but not exclusively mood disorders) compared

with only 12% of adoptive parents. In a study of 71 Danish adoptees previously treated for a major affective disorder Wender et al (1986) found a significantly increased frequency of similar disorders among the biological relatives but not among the adoptive relatives (comparing each group of relatives with the corresponding relative of healthy adoptees).

## II. Biochemical Theories-

### A : **Schizophrenia-**

a) The dopamine hypothesis of schizophrenia : Schizophrenia results from over activity of dopamine within the mesolimbic and mesocortical pathway of the brain.

#### 1. Evidence for:

- i. Amphetamines increase dopamine release and can produce a paranoid psychosis similar to schizophrenia.
- ii. Disulfiram inhibits dopamine-beta-hydroxylase and can exacerbate schizophrenia.
- iii. All effective neuroleptics block dopamine receptors. Antipsychotic potency is related to the degree of anti dopaminergic activity.
- iv. Monoamine reuptake inhibitors can exacerbate schizophrenia.
- v. Post-mortem studies indicate increased dopamine levels in mesolimbic areas of schizophrenic brains.

#### 2. Evidence against:

- i. CSF studies fail to show increased metabolites of dopamine in schizophrenia: i.e. the levels of homovanillic acid (HVA) are reduced.
- ii. Antipsychotics may raise HVA levels.
- iii. Low dose apomorphine, a dopamine stimulator, can lead to improvement in chronic schizophrenia.
- iv. L-dopa can reduce the negative symptoms of schizophrenia.

b) The transmethylation theory of Schizophrenia: abnormal methylated metabolites are formed in the brain due to aberrant methylation of monoamines, and produce the

psychological symptoms of schizophrenia. This theory is based on the observation that mescaline, a hallucinogen, is an orthomethylated derivative of dopamine.

1. Evidence for: the methyl donor methionine, when given in conjunction with an MAOI (monoamine oxidase inhibitor), exacerbates schizophrenic symptoms.
2. Evidence against : the supposed methyl acceptors nicotinamide and nicotinic acid are without therapeutic effect in the treatment of schizophrenia.

**B: Mood disorder –**

a) The monoamine hypothesis of mood disorders – depressive disorders are due to depletion, and mania to excessive provision, of a monoamine neurotransmitter at one or more sites in the brain. Three monoamine transmitters have been implicated : 5-hydroxytryptamine(5-HT), noradrenaline, and dopamine. The hypothesis has been tested by observing three kinds of phenomenon: metabolism of neurotransmitters in patients with mood disorders, the effects of selective drugs on measurable indices of the function of monoamine systems, and the pharmacological properties shared by antidepressant drugs.

**Evidence for this hypothesis:**

1. Reserpine depletes presynaptic vesicles of monoamine stores and can result in depression.
  - i) Amphetamines cause the release of monoamines into the synaptic cleft and can result in euphoria.
  - ii) Monoamine oxidase inhibitors (MAOIs) and monoamine reuptake inhibitors increase the availability of monoamines to postsynaptic receptors and can elevate mood.
  - ii) Post-mortem studies indicate decreased serotonin turnover in depression.
  - iii) CSF and urinary studies indicate decreased levels of the breakdown products of noradrenaline and serotonin in some depressed patients.<sup>18</sup>

b) Endocrine abnormalities:

1. About half of patients with Cushing's syndrome suffer from major depression, which usually remits when the cortisol hypersecretion is corrected (Checkley 1992). Depression also occurs in Addison's disease, hypothyroidism, and hyperthyroidism.<sup>19</sup>

c) Electrolyte disturbances-

- i) Intracellular (residual) sodium increased in depression, further increased in mania.
- ii) Changes in electrolyte membrane sodium-potassium ATP ase – active transport of sodium and potassium increase on recovery from mania and depressive disorders.<sup>25</sup>

III. Psychological theories:

**A) Schizophrenia:**

- a) Arousal – Some schizophrenics are overaroused. This abnormality is more frequent among the more socially withdrawn chronic patients.
- b) Attention and perception – Schizophrenics cannot concentrate selectively on the important aspects of sensory input. An overwhelming input of stimuli may provide a basis for some of the perceptual abnormalities described by the patients.
- c) Thought disorder –
  - i) Concrete thinking (Goldstein) - inability to think in abstract terms; concrete concepts are substituted.
  - ii) Over inclusiveness (Cameron) – inability to conserve conceptual boundaries, with the result that there is an incorporation of irrelevant ideas.
  - iii) personal construct theory (Kelly, Bannister) – Schizophrenics have an abnormally loose personal construct system , which can be measured with the repertory grid. Abnormal constructs might have developed through repeated invalidations of the patients previous attempts to make sense of the world, perhaps as a result of disordered family communication experienced in childhood.<sup>18</sup>

**d) Psychoanalytic theory -**

- i) Freud – According to Freud, in the first stage libido was withdrawn from external objects and attached to the ego. The result was exaggerated self-importance. Since the withdrawal of libido make the external world meaningless, the patient attempted to restore meaning by developing abnormal beliefs. Because of libidinal withdrawal, the patient could not form a transference and therefore could not be treated by psychoanalysis.
- ii) Melaine Klein believed that the origins of schizophrenia were in infancy. In the ‘paranoid-schizoid position’ the infant was thought to deal with innate aggressive



impulses by splitting both his ego and his representation of his mother into two incompatible parts, one wholly bad and the other wholly good. Failure to pass through this stage adequately was the basis for the later development of schizophrenia.<sup>22</sup>

iii) Sullivan – Schizophrenia is explained in terms of interpersonal difficulties.

d) Premorbid personality – Schizophrenia is associated with schizoid personality traits in a minority of people.<sup>18</sup>

#### B) **Mood disorder :**

a) Maternal deprivation – Deprivation of maternal affection through separation or loss (before 11 years of age) predispose to depressive disorders in adult life.

b) Relationship with parents – Patients with mild depressive disorders remember their parents as having been less caring and more over-protective.<sup>18</sup>

c) Psychoanalytic theory –

i) Freud - Freud suggested that, just as mourning results from loss by death, so melancholia results from loss of other kinds.

Freud pointed out that depressed patients often appear critical of themselves, and he proposed that this self-accusation was really a disguised accusation of someone else for whom the patient 'felt affection'. In other words, depression was thought to occur when feelings of love and hostility were present at the same time (ambivalence). When a loved person is lost the patient feels despair; at the same time any hostile feelings attached to this 'object' are redirected against the patient himself as self-reproach.

Freud also put forward predisposing factors. He proposed that the depressed patient regresses to an early stage of development, the oral stage, at which sadistic feelings are powerful.

ii) Klein(1934) – At the early stage of development, the infant gradually acquires confidence that, when his mother leaves him, she will return even when he has been angry. This proposed stage of learning is called the 'depressive position'. Klein suggested that, if this stage is not passed through successfully,

the child will be more likely to develop depression when faced with loss in adult life.

iii) Psychoanalytic theory explains mania as a defence against depression.

d) Learned helplessness -

When animals are exposed to experimental situations in which they cannot control punishing stimuli, they develop a behavioural syndrome known as 'learned helplessness'. This syndrome bears some resemblance to depressive disorders in humans, notably reduced voluntary activity and reduced intake of food. Seligman's original hypothesis was later broadened by stating that depression results when 'highly desired outcomes are believed improbable or highly aversive outcomes are believed probable and the individual expects that no response (of his) will change their likelihood' (Abrahamson et al. 1978, p.68).<sup>19</sup>

e) Cognitive theory – Beck (1967) has proposed that depressive cognitions consists of 'automatic thoughts' that reveal negative views of 'the self', 'the world', and 'the future'. These automatic thoughts appear to be sustained by cognitive distortions.

It includes: i) Arbitrary inference – drawing a conclusion when there is no evidence for it and even some against it.

ii) Selective abstraction – focusing on a detail and ignoring more important feature of a situation.

iii) Overgeneralization – drawing a general conclusion on the basis of a single incident.

iv) Personalization – relating external events to oneself in an unwarranted way.

v) Minimization and magnification – performance is underestimated and errors are overestimated.

f) Separation experiments in animals – arise from the suggestion that the loss of a loved person may be a cause of depressive disorders.<sup>18</sup>

#### IV. Social process –

##### A) **Schizophrenia** -

a) Place of residence - Farris and Dunham (1939) studied the place of residence of mentally ill people in Chicago, and found that schizophrenics were over-represented in the inner-city areas. This distribution has been confirmed in

other cities including Bristol (Hare 1956a) and Mannheim (Hafner and Reimann 1970). Farris and Dunham suggested that unsatisfactory living conditions caused schizophrenia.

- b) Occupation and social class - Goldberg and Morrison (1963) found that schizophrenia were of lower social status than their fathers and that the change had usually occurred after the illness began. This gave rise to the social drift hypothesis – schizophrenia results in the individual's slide down the social scale. But more recent evidence suggests that they could be a consequence of schizophrenia.
- c) Migration – High rates of schizophrenia have been reported among migrants (Malzberg and Lee 1956). In a study of Norwegians who had migrated to Minnesota, Odegaard (1932) found that the inception rate for schizophrenia was twice that of Norwegian in Norway.

This raised the debate between :

- i) Social causation – environmental factors associated with migration lead to mental illness.
- ii) Social selection – individuals prone to or suffering from mental illness tend to migrate.

Odegaard favoured social selection for schizophrenia.

- d) Social isolation – Schizophrenics often live alone, unmarried, and with few friends (Hare 1956b). Clausen and Kohn (1959) suggested that the pattern of isolation began before the illness, sometimes in early childhood. Schizophrenics who were not isolated in early life were not isolated as adults.
- e) Psychological stress - life stress have often been put forward as precipitants of schizophrenia. Paykel (1978) calculated that experiencing a life event doubles the risk of developing schizophrenia over the subsequent six months.<sup>19</sup>

## **B) Mood disorder**

- a) Parental deprivation – Psychoanalysts suggested that childhood deprivation of maternal affection through separation or loss predispose to depressive disorders in adult life. Depressive disorder in later life is associated with parental separation, the main factor here appears to be parental discord.

- b) Relationship with parents – Patients with mild depressive disorders remember their parents as having been less caring and over-protective (Parker 1979).

V. Family as a cause of schizophrenia

A) **Schizophrenia** –

- a) Deviant role relationships -

i) Fromm – Richmann (1948) – The concept of the ‘schizophrenogenic’ mother was suggested by these analyst. They found that the mother of schizophrenics showed an excess of psychological abnormalities than normal controls.

ii) Two types abnormal family pattern were reported by Lidz and Lidz 1949).

1. Marital skew – in which one parent yielded to the other’s (usually the mother) eccentricities, which dominated the family.

2. Marital schism – in which the parents maintained contrary views so that the child has divided loyalties. The inconsistencies, contradictions and lack of role models were said to lead to schizophrenia.

- b) Disordered family communication –

i) Bateson et al (1956) – Research on disordered communication in families originated from the idea of the double blind.

1. A double bind is said to occur when an instruction is given overtly, contradicted by a second more covert instruction i.e. a parent conveys two conflicting and incompatible messages to their child at the same time.

2. There is no escape from the situation in which the contradictory instructions are received.

3. The double bind leaves the child able to make only ambiguous or meaningless responses and schizophrenia develops only when this process persists.

ii) Wynne and Singer (1958) suggested that different patterns of disordered communication occurred among the parents of schizophrenics. These investigators first gave projective tests to such parents, and identified ‘amorphous communications’ (vague, indefinite, and loose) and ‘fragmented communications’ (easily disrupted, poorly integrated, and lacking closure’).<sup>19</sup>

VI. Neurological abnormalities –

**A. Schizophrenia -**

- i) Non-localizing (soft) neurological signs -
  - a) Astereognosis
  - b) Dysgraphaesthesia.
  - c) Gait abnormalities
  - d) Clumsiness.

These abnormalities reflect defects in the integration of proprioceptive and other sensory information.

ii) Thickening of the corpus callosum – Some suggestion of impairment of inter hemispheric transfer in schizophrenics.

iii) Ventricular enlargement –

- a) Widening of sulci, atrophy of cerebellar vermis.
- b) Some evidence that patients with ventricular enlargement have more negative symptoms of schizophrenia.
- c) Some evidence that such patients perform poorly on tests of intellectual function.

iv) Changes in the EEG -

- a) Increased theta activity.
- b) Fast activity.
- c) Paroxysmal activity

v) Virus-like material – isolated from the CSF of schizophrenics. Virus infection may be a major cause of schizophrenia.

VII. Life events –

**A. Schizophrenia -** Schizophrenics experience more life events over normal controls in three weeks prior to the onset of acute symptoms of schizophrenia (Brown and Birley, 1968).

**B. Mood Disorders** – Patients with affective symptoms experience more life events (e.g. bereavement, separation) over normal controls in the six months prior to the onset of the disorder (Paykel, 1969).

VIII. Body Build (Kretschmer) –

A. **Schizophrenia** - Persons of asthenic (lean and narrow) body build are particularly prone to develop schizophrenia.

B. **Mood disorders** – Persons of pyknic (stocky and rounded) build are particularly prone to affective disorders.<sup>7</sup>

**STAGES OF LIFE SPAN**

The length of life span varies from individual to individual, from culture to culture, and from time to time in the history of the world.

Regardless of how short or long the total life span may be, it falls into stages or periods.

The life span, when divided according to the forms of development and patterns of behavior characteristically found at these predictable ages, falls into eleven periods.

The periods and their approximate ages are:

1. Prenatal –Conception to Birth
2. Infancy –Birth to 2<sup>nd</sup> week
3. Babyhood – 2<sup>nd</sup> week to 2<sup>nd</sup> year
4. Early Childhood – 2 to 6year
5. Late Childhood – 6 to12year
6. Puberty or Preadolescence - 12 to14 year
7. Early Adolescence – 14 to 17 year
8. Late Adolescence – 17 to 21 rears
9. Early Adulthood – 21to 40 years
10. Middle Age – 40 to 60 year
11. Old Age -60+ years.<sup>20</sup>

### DEVELOPMENTAL CHANGES (at different stages of life span):

'Development' means a progressive series of changes in an orderly, coherent pattern (Gesell, A.: *Developmental pediatrics*, *Nerv. Child.* 1952, 9, 225-227). It is a 'process in which the internal physiological changes and the psychological changes and the psychological processes stimulated by them are integrated in a way which enables the individual to master further, and anew, environmental stimulations. There are two periods in life when changes of the organism put the individual's capacity to master these changes to test—puberty and the climacteric'.

1. Prenatal: The first major developmental period in the life span is next to the shortest of all, but it in many respects, the most important. This period which begins at the time of birth is approximately 280 days long or nine calendar months. The prenatal period in spite of its relatively short length, is important.
  2. Infancy: Infancy, or the period of the newborn, is the shortest of all the developmental periods. It begins at birth and ends when the infant is approximately two weeks old. This is the time when the fetus must adjust to life outside the uterine walls of the mother where he has lived for approximately nine months.
  3. Babyhood: Babyhood extends from the end of the period of infancy, two weeks after birth, until the end of the year of life. By that time, the average baby is relatively independent of adult aid and can do many things for himself which formerly had to be done for him.
  4. Childhood: Childhood begins when the helplessness of babyhood is over, at approximately the ages of two years, and extends to the time when the child becomes sexually mature, at approximately thirteen years for the average girl and at fourteen years for the average boy. After the child has become sexually mature, he is known as an 'adolescent'. During this long period of time—roughly eleven years for girls and twelve years for boys—there are marked changes taking place in the child both physically and psychologically. Some of these changes come from maturation but most come from learning.
- Late childhood extends from the age of six years to the time when the individual becomes sexually mature. He is then called an 'adolescent,' It is marked at the

beginning, by the child's entrance into school. This is a milestone in his life and is responsible for many of the changes that take place in his attitudes and behavior. During the last year or two of childhood, there are marked physical changes taking place. These, like the environmental change which occurs when the child enters school, are responsible for changes in attitudes and behavior.

5. Puberty: Puberty is the period in the developmental span when the individual changes from an asexual to a sexual being. The name of this period comes from the Latin word 'pubertas' meaning 'age of manhood'. It is the time when sexual maturity is reached and when the individual is capable of producing offspring.

As the child changes from an asexual to a sexual person, physical and psychological changes take place. As Dunbar (Dunbar, F.: Homeostasis during puberty. Amer. J. Psychiat., 1958, 114, 673-682) has explained: 'During this period the developing child experiences changes in body, changes in status including appearance and cloths, possessions and range of choice, and changes in attitude toward sex and the opposite sex, all of which by necessity involve a changed child-parent relationship and changes in the rules and regulations to which the youngster is subjected.

6. Adolescence: The term 'adolescence' comes from the Latin word 'adolescere' which means 'to grow' or 'to grow to maturity'. Among primitive peoples and in earlier civilizations, puberty and adolescence coincided. The child was considered an adult when he was capable to reproduction. As the term 'adolescence' is used today, it has a broader meaning and includes mental, emotional, and social as well as physical maturity. Legally, in American society, maturity is reached when the individual is twenty-one years old.

Adolescence is a time when the individual is expected to prepare for adulthood by replacing childish attitudes and behavior patterns with those of an adult type. This point of view was emphasized by the Hechingers (Hechinger, G., and F. M. Hechinger: Teen-age tyranny. New York: Morrow, 1963.) when they said: "The task now is to make it clearly understood that adolescence is a stage of human development, not an empire or even a colony. The mission of the adult world is to help teen-agers become adults by raising their standards and values to maturity rather



than by lowering adulthood to their insecure maturity. The task for the adult world is to make adolescence a step toward growing up, not a privilege to be exploited."

7. Early Adolescence: Early adolescence is usually referred to as the 'teens,' sometimes even the 'terrible teens' Although many people use the 'teens' or 'teen-age' to refer to that part of late adolescence which falls within the span of the teen years, more correctly the latter teens should be called 'youth' and the older teen-ager a 'young man' or 'young woman.' The differences in attitudes and behavior in early and late adolescence make this distinction justifiable.

8. Late Adolescence: Late adolescence, like early adolescence, is a transitional period. The adjustments to a mature status and to mature levels of behavior, begun during early adolescence, are normally gradually completed at this time. As Sorenson has pointed out, this is an 'intermission between earlier freedoms....and subsequent responsibilities and commitments.....a last hesitation before... serious commitments concerning work and love' (Sorenson, R.: Youth's need for challenge and place in society. *Children*, 1962, 9, 131-138.).

9. Adult: The term 'adult' comes from the same Latin verb as 'adolescence'-*adolescere*- which means to grow to maturity. However, it comes from the past participle of that verb—*adultus*—which means 'grown to full size and strength' or 'matured.' An adult, therefore, is an individual who has completed his growth and is ready for his status in society with other adults.

Adulthood is legally achieved in the American culture today at the age of twenty-one years and extends to the end of life. With the gradual lengthening of the life span, adulthood is by far the longest period in the life span.

During the long span of years, from the time when the individual is recognized as an 'adult' until he dies, certain physical and psychological changes occur at predictable times.

10. Middle age: Middle age traditionally extends from age forty to sixty. The onset is marked by physical and mental changes, as is the end. At sixty, a decline in physical vigor and mental alertness marked the end of middle age and the beginning of 'senescence', or old age. The adult between forty and sixty years of age is designated

'middle-aged.' As Brozek has pointed out, "Humans vary, as apples do, some ripen in July, others in October.

11. Old Age: Old age is the closing period in the life span. It is a 'period of moving away from some previous and more desirable period—the prime of life' or 'the years of usefulness'. In 'moving away' from the earlier periods of the life span, the individual looks back on his earlier life, often regretfully, and tends to live in the present, ignoring as much as possible in future.<sup>20</sup>

In this study, no patients were available at the Outpatient department of Pabna Mental Hospital that belongs to the age groups of Prenatal, Infancy and Babyhood as the symptoms of Psychotic illness are very seldom to express and understandable during these age groups.

### **REVIEW OF RELEVANT LITERATURE**

The study on mental disorders is not recent origin. Mental disorders have been studied by psychologists, psychiatrists and researchers of other discipline extensively since the beginning of medical research. The purpose different studies are different. Some studies have been conducted to classify mental disorders, some studies have been conducted to find out the causes of mental disorders, some studies have been conducted to find out the prevalence and frequency of different types of mental disorders, some studies have been conducted to find out the relationship of different mental disorders with different genetic and demographic factors.

In this study, attempts have been made to investigate the relationship of psychotic disorders with different gender and stages of life span.

The idea of carrying out this type study has been evolved on the way while studying research articles on mental disorders from home and abroad, as well as during the period of clinical practice of the researcher. On this way, statistical data concerning basic population information and some research article concerning mental health especially on epidemiological study and existing mental health service opportunities on mental health published in the scientific journals, locally as well as internationally have been reviewed. The results of these studies have been compared with the present study. Some of these are:

In Bangladesh, the male female ratio is 105 : 100. More than 75% of the population lives in rural areas. Urbanaization has, however, been rapid in the last few decades.<sup>21</sup>

**Mental health services:** There are 50 outpatient mental health facilities available in the country, of which 4% are for children and adolescents only. These facilities treat about 26 users per 100,000 general population. Of all users treated in mental outpatient facilities, 44% are female and 7% are children or adolescents. The users treated in outpatient facilities are primarily diagnosed with Schizophrenia (30%), Mood disorders(20%), and Neurotic disorders(20%).

There are 31 community-based psychiatric inpatient units available in the country for a total of 0.58 bed per 100,000 population. Two percent of these beds in community-based inpatients units are reserved for children and adolescents only. Forty-two percent of patients are female and 12% are children/adolescents. The rate of admissions in these facilities is 4 per 100,000 population. The diagnosis of admissions to community-based psychiatric inpatient were primarily from the following two diagnostic groups: Schizophrenia (42%) and Mood disorders (37%).

There are 11 community residential facilities available in the country for a total of 0.92 beds/places per 100,000 population . These facilities treat 0.85 patients per 100,000 population. Fifty-five percent of these beds in community residential facilities are reserved for children and adolescents. Eighty-one percent of patients are female and 73% are children.

**Mental Hospital :** There is one mental hospital in the country for a total of 0.4 beds per 100,000 population and this facility (100%) is organizationally integrated with mental health outpatient facilities. There is no bed (0%) in mental hospital reserved for children and adolescents. The patients admitted to the mental hospital belong primarily to the following two diagnostic groups: Schizophrenia (70%), and Mood disorders(30%). On average patients spend 137 days in mental hospital. Sixty-three percent of patients spend less than one year, 21% of patients spend 1-4 years, 11% of patients spend 5-10 years, and 5% of patients spend more than 10 years in mental hospital.

**Number of human resources in mental health care:** The total number of human resources working in mental health facilities or private practice per 100,000 population is 0.49. The breakdown according to profession is as follows: 0.072857143 psychiatrist, 0.182142857 other medical doctors (not specialized in psychiatry), 0.196428571 nurses, 0.007142857 psychologists, 0.002142857 social workers, 0.002142857 occupational therapists, 0.028571429 other health or mental health workers.

Majority of psychiatrists (54%) work for both government administered mental health facilities and for profit mental health facilities/private practice and 46% work for NGOs/for profit mental health facilities/private practice.<sup>22</sup>

### ***Psychiatric thought in ancient India***

Geologists tell us that the earth is 4,500 million years old and earliest forms of life (Praetozoic) appeared 2,700 million years ago, we were not yet man which we became just over a million years ago. Recorded history is available only for 5,000 years. With these handicaps, even an imaginative reconstruction of the growth of ideas on man's mind becomes at once delicate and difficult. The Paleolithic man was a gatherer of food by hunting and fishing and sought protection against the predators and dwelling in caves and huts. The Vedas rightly called him 'dvipad' (biped) and the 'king of animals'. Spiritual man in him was already awake since he began to bury the dead.

Neolithic man with his foresight and imagination began to grow food and brought agricultural revolution in the fertile crescent – the valleys of the Euphrates and Tigris and Lower Nile and the Indus, where the earliest civilization sprang. Man domesticated animals too. The impulsive behaviour of the Magdalenian hunter was sublimated by his patience to wait for food to grow, thus raising the frustration tolerance.

### **Prehistory (Pre Vedic – Prior to 1500 B.C.)**

Pre – Vedic thoughts in India prior to 1500 B.C. were those of the Indus valley (Harappa) period. It is possible that an exchange of ideas occurred between the contemporary civilization of Mesopotamia, Egypt, Crete, and India. Attributing

illness to demons and treating them by magic, divination and temple healing were to some extent imported from these cultures. The role of heavenly bodies in pathogenesis was a Mesopotamian concept.

The study of prehistoric medicine embedded as it was in an animistic religion and magic is essentially a study of psychological medicine. Psychotherapeutic effects were inherent in all forms of primitive treatment. Psychotherapy came under the influence of scientific principles in the eighteenth century. Zilboorgh and Henry, in 1941 remarked that psychiatry itself came to be recognized as a distinct scientific discipline only half a century before. Prehistoric man had to contend with an environment, which to him was a myriad of gods and spirits who could be both benevolent and malignant. The disease meant a descent of wrath from an indignant god, the design of an evil spirit or sorcery by inimical men. These were met by acts of appeasing and propitiating the gods, charms and incantations against the demons and counter sorcery against men. Men evolved into "praying animal" to sue the words of Proclus. Paleopathology was in the main demonology and paleopathology magic, which is its essence, was psychotherapy.

Medical historian recognizes that primitive theories of causation of diseases have a uniform pattern all over the world. Basically these are : loss of vital substance from the body (soul loss) : intrusion of spirit or other harmful or foreign substance, violation of taboo and witchcraft (Clements, 1932). Psychological concepts in prehistoric India shared these. In ancient India, "when a man falls ill, magician and not the physician is sent for. The wizard is greater than gods. His herbs and amulets are sovereign remedies" (Radhakrishnan, 1923).

#### ***Alliance with Philosophical Schools***

The period between the 6<sup>th</sup> century B.C. and 2<sup>nd</sup> century A.D. was the golden era in the field of Indian medicine. The 6<sup>th</sup> century especially was the most remarkable the world over. This period in the history of the world was lavish with its meteoric shower of men of high thinking. An entire basketful of them was dropped on to the lap of humanity – great contemporaries they really were : Pythagoras, Zoroaster, Confucius, and the Buddha. Each of those "superior children of human race" contributed a considerable deal toward emancipating the human mind from the

shackles of ignorance. The major religions of India, Buddhism and Jainism were established. The most important development of India was the emergence of major philosophical systems: Nyaya, Vaiseshika, Samkhya, Yoga, Mimamsa and Vedanta. It was at this time that medicine parted company from religion and magic and entered into an alliance with these philosophical systems. The outcome was that medicine and psychiatry stood on a rational footing. Supernatural theories became natural theories and magic gave place to rationalism. Medicine in general and psychiatry in particular borrowed extensively from Vaiseshika, Nyaya, Samkhya and Yoga. Philosophy then was truly the queen of the Sciences – ‘Regina Scientiarum’.

### ***Rise of Medical Schools (Ayurveda)***

Medicine occupied an important place among the physical sciences in ancient India. The classical medical schools of India were established in the Sixth century B.C., one at Taxila and the other at Kasi. The Taxila school was led by Bharadwaja and Atreya and the Kasi school was led by Dhanvantri and Susruta. The former specialized in medicine and the later in surgery. Charaka was the descendent of the Bharadwaja Atreya school. Charaka, Susruta and Vagbhata form the ancient Indian medical trinity – Vrddha trayi.

Life is divided into four kinds by Charaka: Sukha(happy), Dukha(unhappy), Hita(good), and Ahita(bad) (Das Gupta, 1952).

It was round the sixth century B.C. that Ayurveda was subdivided into eight specialities, viz., Surgery(salya), treatment of disease of the head (salakya), treatment of ordinary diseases(kaya chikitsa), the process of counteracting the influence of evil spirits(bhuta vidya), treatment of children's disease(kaumara bhrya), toxicology(agada tantra), science of rejuvenation with elixirs(rasayana) and the science to acquire sex strength(vajikarana). It can be seen that bhutavidya became a component of Ayurveda while this was the sole method of treatment in the pre-Vedic and the Vedic period. Bhutavidya deals with with psychiatry.

### ***Psychiatry***

Ayurveda recognized the importance of mental diseases when it classified the human maladies into three categories: exogenous, endogenous and psychic. The doctrine of Tridosha (three humors described as Vata, Pitta and Kapha) plays a pivotal role in the

consideration of etiology, pathology, diagnosis and therapeutics in Ayurveda. Mental illnesses were among the hereditary ones (Kshetriya). Caraka recognized psychophysical parallelism in the functioning of the human system. "The mind corresponds to the body and the body to the mind. The impairment of the dhatu system is the result of foolish action."<sup>23</sup>

**Incidence** tells how often an event occurs in a population over a period of time such as a week, a month, a year, etc, e.g. malaria or typhoid or any other illness. Accordingly, WHO Expert committee on Health Statistics, has recommended that the term incidence rate be used to measure frequency of illness that commenced during a definite period.

**Prevalence** indicates how common is an event in a population. It is of two kinds :

- a) **Period prevalence** – it is used to measure the frequency of an illness in existence during a defined period (day, week, month, year etc.). It includes all the cases, in the defined period – old and new cases occurring during the same period.
- b) **Point prevalence** – This term is used to measure the number of cases of illness, new and old, existing at a particular point of time, such as at 2 pm on Monday, the 15<sup>th</sup> July 1983.

**Point prevalence** is often assessed by survey of a defined population but it may not be possible to survey or cover the entire population at a point of time. Hence, the procedure followed is to continue the survey till completed from one house to the last not taking into consideration any occurrence reported in the already surveyed population.<sup>24</sup>

According to National Mental Health Survey in 2003-2005 about 16.05% of the adult population in Bangladesh are suffering from mental disorders. A small portion of patients are reporting to government facilities and they receive some psychotropic medicines from there.

There are 50 outpatient mental health facilities in the country, of which 4% are for children and adolescents only.<sup>22</sup>

The lifetime Prevalence (LTP) of both Schizophrenia and Bipolar I (BP I) disorder is often assumed to be about 1%. However, in a recent systematic review, the median LTP of schizophrenia was only 0.4%. Recent population-based surveys in particular have found considerably lower LTPs of schizophrenia and higher rates of BP I disorder than in many older studies. Potential reasons for this include narrowing of the diagnostic criteria for schizophrenia and parallel broadening of those for affective disorders after introduction of the DSM-III, different diagnostic instruments, and increasing problems at the levels of case finding and ascertainment. Survey response rates have fallen in recent decades, and people with psychotic disorders are less likely than others to participate in mental health surveys. Personal interviews may also generate false-negative findings owing to inadequate probing or denial of previous psychotic symptoms. Consistent with this, prevalence of Schizophrenia have been higher in studies in which registers or case notes have been available compared with studies relying only on interviews. Little population-based research has been conducted on other psychotic disorders. The lifetime prevalence of all psychotic disorders was 3.06% and rose to 3.48% when register diagnoses of the non responder group were included. Lifetime prevalences were as follows: 0.87% for Schizophrenia, 0.32% for Schizoaffective disorder, 0.07% for Schizophreniform disorder, 0.18% for delusional disorder, 0.24% for Bipolar I disorder, 0.35% for major depressive disorder with psychotic features, 0.42% for Psychotic disorders due to general medical condition. <sup>25</sup>

Is the prevalence of schizophrenia constant with respect to time and place? Torrey(1980) has recently proposed that schizophrenia is a disease of industrialized society, thus reviving an argument that in a broader form has been alive for at least 150 years (Morison, 1824; Burrows, 1882; Maudsley, 1879). Torrey, and more recently Hare (1983), have reviewed diverse historical data and concluded that there may have been a real increase in insanity in the nineteenth century. Torrey (1980) has also used contemporary fieldwork studies to examine geographical variations in the prevalence schizophrenia, and has identified a relative failure of schizophrenia to penetrate to the more remote parts of certain developing countries such as Papua New Guinea. Murphy (1984) has also said of schizophrenia that "with some notable



exceptions, such as the rural Irish.... its prevalence is higher in more civilized societies than in more primitive ones...".

It could be hypothesized that people who are genetically predisposed to schizophrenia are more likely to break down when they are subject to the stress of modern industrial society.

On the basis of ICD9, the one-year prevalence of cases of Schizophrenia for the population of the study area aged 15 years or older was 5.3 per 1000 of the population.<sup>26</sup>

Research work in African population has now produced a considerable body of evidence to indicate that mental disorders may be as common here as in the west,(Giel et al, 1968; Giel and Van Lujik, 1969; German, 1972; Harding et al, 1980). Indeed in Ethiopia psychiatric illnesses were more frequently seen in the hospitals than infectious diseases ( Giel and Van Lujik, 1969), and Mbanefo (1971) in a private practice study in Nigeria diagnosed psychiatric disorders as often as malaria.

Using standard methods of case identification and interviews, Orley and Wing (1979) reported that a quarter of the adult population of two small villages in Uganda had psychiatric disorders, and age or sex did not significantly affect this prevalence rate. Other studies, such as those of Smartt (1956) in East Africa, Holmes and Speight (1975) from Tanzania, German and Arya (1969) from Uganda, and McEvoy and McEvoy (1976) and Ndeti and Muhangi (1979) from Kenya, have also highlighted the frequency of psychiatric disorders among different samples using various research methods, the most recent study being that of Harding et al (1980) in four developing countries.

There were several features common to all these studies. Not less than 20 percent of patients seeking medical help had psychiatric morbidity (PM) and almost all of these presented their complaints in terms of somatic pains or vague ill-defined symptoms. Most of the patients were treated for physical illnesses and the local treating clinicians did not always realize the magnitude of psychiatric morbidity or its presentation, so that many patients received only symptomatic treatment or underwent fruitless

investigations frequently reported as normal. Very often PM patients continued to attend medical clinics for long periods, without much benefit to themselves.<sup>27</sup>

The relationship between life events and psychiatric disorder has been studied extensively in the past decade (Dohrenwend and Dohrenwend, 1974). Paykel et al (1969) found that depressed patients reported three times as many life events as a control group in the six months before the onset of a depressive episode; in particular, there were significant increase in life events categorized as exits from the immediate social field of the subject and in events categorized as undesirable. Brown and Harris (1978) also reported a significant increase in life events in depressed women, suggesting that the social environment plays a crucial role in the aetiology of depression.

In contrast to the considerable interest in life events as precipitants of depression, only a few studies have reported on the role of life events as precipitants of mania. Dunner et al (1979) and Patrick et al (1978) reported that 60% of manic patients experienced life events in the three month period preceding onset; men more than women, with work and interpersonal difficulties most often reported. In a controlled study, using the social Readjustment Scale of Holmes and Rahe(1967), Glassner et al (1979) found a significant increase in life events resulting in role loss among working class manic-depressive patients but failed to state whether relapse were manic or depressive. Ambelas (1979) reviewed charts of 67 manic patients. In the four week period preceding admission he reported a significant increase in independent life events for 28 per cent of manic patients compared to 7 per cent of 67 surgical controls. In 36 per cent of the manic patients reporting life events a bereavement was noted.

A study of 20 manic patients, with patient and matched control comparisons, showed a two fold increase in life events during the 4 month period before admission to hospital. Life events, independent of affective illness and having significant objective negative impact (i.e. traumatic) were significantly more common. These findings are considered in relation to social relationships, family history of affective illness and the use of psychotropic medication.<sup>28</sup>

Modern clinical concepts of schizophrenia have acknowledged the importance of environmental stress as a major factor in the aetiology of the schizophrenic process.

For instance, empirical studies have associated favourable prognosis with acute onset and clear precipitating events (Bleuler, 1930; Langfeldt, 1956; Vaillant, 1964). Various theories of schizophrenia, and behavioural theory in particular, have related it to three predisposing factors: pre-schizophrenic high anxiety level, hypersensitivity to anxiety-arousing stimuli, and slow rate of recovery from anxiety (Epstin and Coleman, 1970). In this view, schizophrenia is conceived psycho-physiologically as an avoidance reaction to anxiety producing events, the individual's response being dictated by his ability to cope with these stimulus situations. Schizophrenia may thus be understood as a disturbance of adaptation where accumulated environmental stressors and situational reactions are responsible for the individual's disorganization of personality leading to his admission or readmission to hospital. In this context, Brown and Birley have attempted to demonstrate that schizophrenics are highly sensitive to their social environment and overreact to both positive and negative emotional stimuli in their life changes or crises (Brown, Birley and Wing, 1972). Objective measurement of stress, not only in terms of precipitating factors but also in terms of the amount stress experienced by an individual before his admission to hospital remains an unresolved problem in psychiatry. Although various scales have been created to measure the pressure or intensity of stress (Dohrenwend, 1974; Holmes and Rahe, 1967; Langner and Michel, 1963; Michaux, Katz et al., 1969; Phillips, 1953; Wallis, 1972), they basically measure acute stressful changes in the individual's life leading to his mental illness or admission to hospital. Methodologically, these scales, because of their construction, either measure stress in too general terms or permit the interviewer too much subjectivity in the interpretation of the patient's responses.

Furthermore, any meaningful evaluation of stress in schizophrenics should be based on a comparative study with 'normal' controls in order to appraise realistically the different levels of stress in their daily life. The need for a precise evaluation of stress in schizophrenics becomes particularly significant when we consider that modern therapy or crisis intervention depends on the evaluation of the stressors in the daily life of the patient.<sup>29</sup>

## SIGNIFICANCE OF THE STUDY

This study is a significant one as mental disorders takes a large share in the total human morbidity. Among those, the psychotic disorder i.e. the major mental disorder is the cause of endless suffering to mankind, not only to the patient alone but the whole family suffer as well. So, to realize the magnitude of the problem, the study of prevalence of the disorder is very essential. Though there is a handsome number of study on this mater in the developed countries but the reported study related to the topic of this study is insufficient in our country. Pabna Mental Hospital is the only mental hospital of this country. This hospital has a good reputation among people around the country and they keep faith on the patient management service going on here. Patients who are mostly psychotic come to this hospital for treatment expectedly by getting admitted here as well as from outpatients department from each and every corner of the country. Specially, the chronic and complicated mental cases both minor (or neurotic) and major (or psychotic), come to this hospital for treatment. So, studying the cases at Pabna mental hospital will yield a representative picture of major mental illness (psychotic illness) prevailing in Bangladesh. Most other reported epidemiological studies are general population survey. But, this study is a survey on mental patients. A patient, who is having any type of mental illness suffers for unlimited period of time. The suffering is of various types like personal, familial, social etc. Not only that, the other members of the family also suffer a lot. When the mental patient is the only earning member of the family or when the mental patient is the only offspring of a family or if a house wife become a mental patient, then the suffering to the family become out of description. By studying such type of cases we will be able to get a picture of psychotic illness prevailing in our country which will be helpful in making the proper strategy in the way of prevention of the illness. The causes of the illness and the reasons of repeated relapse of the psychotic illness could also be identified from this type study. A person suffers from psychotic illness become a living cadaver, become a burden to the society, to the family and above all to self. Though physically well and physically capable of doing job, but due to progressive deterioration of higher mental function, the psychotic person cannot engage in any job or work even not as a day labour. It causes a westage of working hour for several years of life of that person.

According to WHO the point prevalence of psychotic illness is 1% in any population at any time. At the same time, according to the National Mental Health Survey in 2003-2005 about 16.05% of the adult population in Bangladesh are suffering from Mental disorders.<sup>22</sup> If so, the total number of persons suffering from psychotic illness at any given time comes to about 1.4 million. The total working hour of all these persons comes approximately to 11.2million hours per day. This unimaginably large number of working hour is being lost every day only due to the illness of these persons having psychotic illness. This is not the end of the reality. If we consider the neurotic cases, then the amount of working hour loss comes to ten times more. But here we will remain confined within psychotic illness only.

From the above calculation, it can be easily gazed about the importance of the loss of working hour per day in our country. By doing this type of study, we may be able to find a way in preventing the onset of psychotic illness or we may also be able to find a way in minimizing the loss of working hour of the psychotic patients by making them fully or partially workable by providing them better management.

### **OBJECTIVES OF THE STUDY**

Objectives of this study has been selected on the basis of the observation of the researcher during the clinical activities in the hospital as well as the problems of the caregivers to manage their patients who are suffering from psychotic illness.

Psychotic illness is so an unfortunate type of illness that not only the sufferer and the caregivers become helpless, the concerned psychiatrist sometimes feel helpless when the chronic and treatment resistant patients do not respond adequately in spite of proper and maximum dose of the proved psychotropic agent for treatment. Moreover, the researcher, in his clinical practice, observed that psychotic illness do not occur equally at all age group, socioeconomic status and other variables.

Depending on these observation the following objectives have been selected so that the result of this study would be helpful in adopting strategies for the minimization of the personal, social, national morbidity and other crisis that happens due to the suffering of psychotic illness at different stages of life span of a person.

The Objectives of this study are –

- i) **General:** To measure the prevalence of psychotic illness of males and females at different stages of life span.
- ii) **Specific**
  - a) To measure the prevalence of psychotic disorders.
  - b) To measure the prevalence of psychotic disorders in males and females.
  - c) To see the prevalence of Schizophrenia and other psychotic illness at different stages of life span.
  - d) To investigate the frequencies of different types of psychotic disorders.

### **HYPOTHESIS**

On the basis of the findings of previous studies and from the clinical experience of the researcher, the following hypotheses are formulated to test in the present study.

Hypothesis 1: Psychotic disorders are more prevalent in Males than in Females.

Hypothesis 2 : Schizophrenia is more frequent than any other type of psychotic illnesses.

Hypothesis 3: Psychotic disorders are more prevalent in the Early Adulthood stage of life span.

## CHAPTER II

### METHODS

#### *Design of the Study*

The study was designed to investigate the prevalence of psychotic disorders of males and females at different stages of life span.

This is a cross sectional study carried out on the new mental patients (the respondents) attended either for admission or for treatment at the outpatient department (OPD) of Mental hospital, Pabna, Bangladesh from January 2006 to July 2006. Information collected personally by interviewing the guardian's and caregivers accompanied the patient as well as from the patient also.

New mental Patients of all age group (both males and females) from different districts of Bangladesh who attended at the outpatient department (OPD) of Mental hospital Pabna during the study period were included in the study.

Information was collected from the respondents on cross-sectional basis by the researcher himself with the help of OPD staffs of the hospital.

In order to investigate the objectives of the study, the respondents would be classified into several groups on the basis of gender, stages of life span, different type of psychotic illness, habitat etc. The result would be calculated by employing  $X^2$  (chi square) test. As the researcher himself is a psychiatrist, diagnosis was done by the researcher himself by clinical interview with every respondent and the accompanied caregiver individually following the ICD-10 (International Classification Diseases 10<sup>th</sup> version) diagnostic criteria. Like other developed countries, ICD-10 disease codes has been used in this study.

Firstly, the respondents would be classified into two basic types of illness namely, Psychosis and Neurosis. Then the respondents would be grouped on the basis of different types psychotic illnesses. Again, the respondents would be divided on the basis of gender into Males and Females in general and next into each type of

psychotic illnesses to test the hypotheses of this study mentioned in the earlier chapter.

Again, the respondents would be grouped on the basis of different stages of life span. After this, the respondents would be grouped again into males and females on the basis of their diagnosis. The Psychotic disorders of various types available during the period of study were: Schizophrenia (F-20), Schizoaffective Disorder(F25), Acute Schizophrenia like Episode(F-23), Substance Related (Psychotic) Disorder(F10-19) and Bipolar Affective Disorder( F-31). The sequence of arrangement is according to the frequency of the cases available in this study. At this stage, the respondents has been grouped on the basis of individual variety of psychotic illness into males and females to investigate the frequency of the cases as mentioned before in the objectives of this study.

### ***Population***

The main objective of this research is to measure the prevalence of psychotic illness. Like selection of the study place, the selection of study population is also justified. Because the patients having psychotic illness(major mental illness) who are attending the OPD(outpatient department) of Pabna Mental Hospital mostly represents a total picture of the country as they come here from almost all of the districts of Bangladesh. The distribution of cases are not even for all districts. It may be due to the lack of communication and inability to reach up to this hospital by the sufferers due to their poor economic condition. as the patients suffer for years together. Also most of these psychotic cases got treatment from several Folk healers, Rural medical practitioners, General practitioners and finally Psychiatrists around their place of residence. And in this long way of treatment in various methods their diagnosis as psychotic was confirmed previously by those specialists excepting a very few. On the other hand, most of the patients having neurotic (minor mental illness) type of illness are coming from nearby districts around the said hospital.

### ***Duration of study period***

The duration of this study period was from January 2006 to July 2006.



### ***Sample***

The number of newly attended cases (both psychotic and neurotic) available during the study period were 2227 (two thousand two hundred and twenty seven). Among those, 829 (eight hundred and twenty nine) were Neurotic type of illness (minor mental illness) and the remaining 1398 (one thousand three hundred ninety eight) were having Psychotic illness. The psychotic patients who finally able to get themselves admitted to the said hospital was 608 (six hundred and eight). Of these, 504 were Males and 104 were Females. The psychotic patients who got only treatment at the OPD after failing to get admitted were 790 (seven hundred and ninety). So Psychotic patients were 62.77 % which is about two-thirds of the total respondents and the remaining 37.23% were Neurotic.

All the 1398 (one thousand three hundred ninety eight) Psychotic patients were selected as sample of this study. The aim of taking all the psychotic patients in this study is to make the study more representative. The aim was to include maximum sample in the study to prove the objectives. In doing this, all the new patients attended the OPD of Mental Hospital Pabna during the study period were included in the study. Among those new cases both neurotic and psychotic patients were there. There were patients having neurotic illness also as mentioned above. Those patients having psychotic illness either got admitted to Mental Hospital Pabna as well as got treatment at the outpatients department (OPD) only, were included in this study.

Considering social class of the respondents, it was clear that, most of the respondents belong to lower socio-economic group. But interestingly, their educational level were Secondary and higher secondary level than illiterate.

### ***Procedure of Data collection***

Informed consent were taken from the guardian and attendants of each patient and relevant ethical issues were maintained as mental patients are not able to take care of themselves as well as they are not able to keep their privacy. The researcher himself with the help of OPD staffs, explained the objectives and methods of the study to the guardians in brief and assured them about the confidentiality regarding the information they provide about their patients. Because, if the information about mental patients is disclosed somehow, it may produce some social embarrassment and

the patient as well as the family of the patient may feel social humiliation. All the Guardians agreed to participate to the interviewed by the researcher himself by filling-up the semi-structured questionnaire used at the outpatient department (OPD) of Mental Hospital Pabna during new patient registration. After that, the MSE (mental state examination) was done by the researcher himself.

### ***Analysis of the Results***

After collecting the data, data entry was done in MS Excel to make the broadsheet. Tables and graphs were done manually.

After data entry was done, collected data were checked, verified and edited in MS Excel. Master sheet was prepared using MS Excel suitably designed as per the objectives of the study. The variables were considered and data analyzed to fulfill the objectives of the study. They were grouped according to the variables to justify the objectives and compared with the responses given by the respondents.

The statistical analysis of the collected data were done by applying Chi square test by the researcher himself.

## CHAPTER III

### RESULTS

As mentioned earlier, the total number of new patients interviewed during the period of study were 2227. This figure includes both Psychotic and Neurotic cases. Psychosis and Neurosis are two major categories of Mental illnesses. Any type of mental illness must be included within any of these two groups. As mentioned previously, 'Psychosis' is the term that denotes a pervasive loss of contact with the reality.<sup>12</sup> Here, the sufferer does not feel any illness and denies any treatment. Rather, he/she considers others as ill who tries to treat him/her. Sometimes, forceful treatment may be mandatory as some psychotic patients are so disturbing that immediate settle down may be necessary to save other people and property around them. On the other hand, Neurotic patients are just opposite to that of the psychotic patients. Neurotic patients feel themselves as patients and mostly feel the need of getting treatment. Most of the time, neurotic patients themselves attend the doctor to get treatment. Among the total of 2227 cases, 1398 (one thousand three hundred ninety eight) were psychotic. Here, 790 (seven hundred ninety) received OPD treatment only and 608 (six hundred and eight) got admitted in the said hospital. Here the figure comes to 62.77% of psychotic patients among the total attended patients at the OPD during the period of study. The remaining 37.23% were neurotic patients.

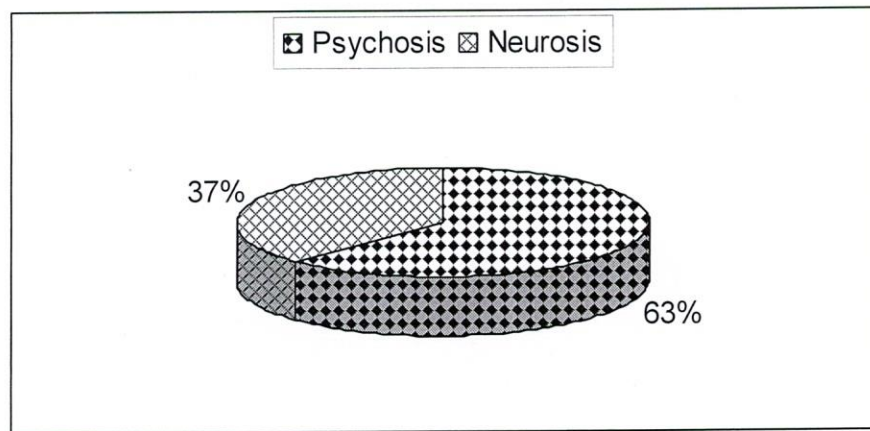
The results were statistically analyzed by employing Chi square test.<sup>30</sup>

In order to analyze the frequency of Psychotic and Neurotic disorders, the respondents were divided into two groups – Psychotic and Neurotic. Table 3.1 represents the frequency of psychotic and neurotic disorders and the results of chi square test.

Table – 3.1 Distribution of respondents having Psychotic and Neurotic type of illnesses

| Types of Illness | Frequency | X <sup>2</sup> | df | P     |
|------------------|-----------|----------------|----|-------|
| Psychosis        | 1398      | 145.38         | 1  | <0.01 |
| Neurosis         | 829       |                |    |       |
| Total            | 2227      |                |    |       |

The table (3.1) shows that, the frequency of psychotic disorders are significantly higher ( $p < 0.01$ ) than that of neurotic disorders.



**Picture 3.1:** Distribution of respondents having psychotic and neurotic type of disorders.

Then the respondents were classified into different types of psychotic disorders. The results have been presented in table 3.2.1. Different types of Psychotic illnesses available during the study period are Schizophrenia, BAD, SAD, ASE and SRD.

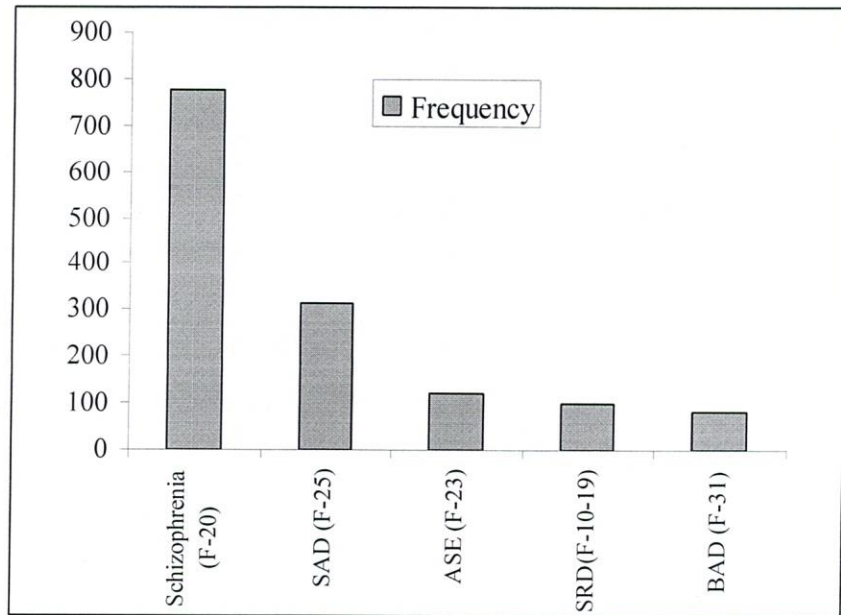
Frequency of each type of psychotic illnesses were computed and chi square test was Table- 3.2.1, frequency of different types of psychotic illnesses and results of chi square.

| Types of Psychotic illness | Frequency | $X^2$   | df | P     |
|----------------------------|-----------|---------|----|-------|
| Schizophrenia (F-20)       | 779       | 1067.68 | 4  | <0.01 |
| SAD (F-25)                 | 313       |         |    |       |
| ASE (F-23)                 | 122       |         |    |       |
| SRD(F-10-19)               | 100       |         |    |       |
| BAD (F-31)                 | 84        |         |    |       |
| Total                      | 1398      |         |    |       |

applied to test the significance of difference between them.

The table (3.2.1) indicates that the frequency of Schizophrenia was significantly higher (  $p < 0.01$ ) than any other variety of psychotic illness. On the other hand, frequency of Bipolar Affective Disorder (BAD) was found to be lowest among the psychotic illnesses.

The percentage of each type of psychotic illness was also computed. The results have been presented in table 3.2.2



**Picture 3.2:** Frequency of different types of psychotic illnesses.

Table – 3.2.2, percentage of different types of psychotic illnesses.

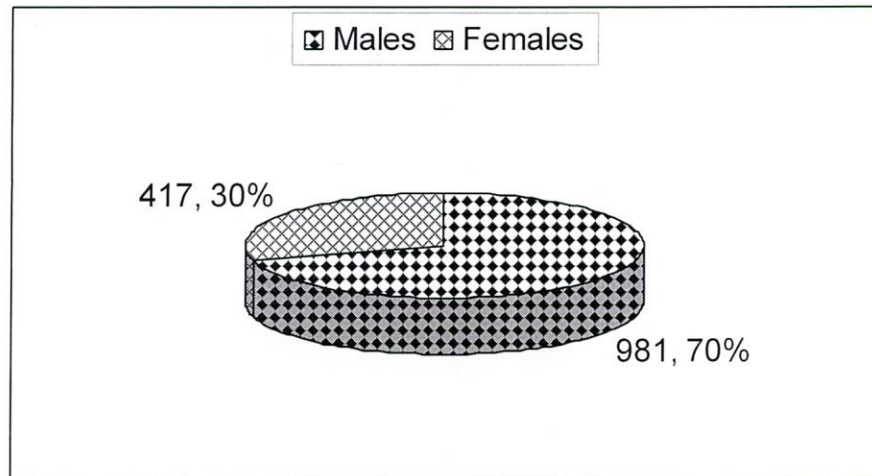
| Psychotic illnesses  | Males       | Females     | Total       |
|----------------------|-------------|-------------|-------------|
| Schizophrenia (F-20) | 526(53.62%) | 253(60.67%) | 779(55.72%) |
| SAD (F-25)           | 238(24.26%) | 75(17.98%)  | 313(22.39%) |
| ASE (F-23)           | 56(5.71%)   | 66(15.83%)  | 122(8.73%)  |
| SRD (F-10-19)        | 100(10.19%) | 00(00%)     | 100(7.15%)  |
| BAD (F-31)           | 61(6.22%)   | 23(5.52%)   | 84(6.01%)   |
| Total                | 981(100%)   | 417(100%)   | 1398 (100%) |

In order to investigate the prevalence of Psychotic disorders in Males and Females, the frequency of male and female respondents were computed separately and the results have been presented in the table 3.3. It can be seen from the table (3.3) that, the frequency of Psychotic disorders are significantly higher ( $p < 0.01$ ) in males than in females.

Table – 3.3: distribution of the respondents according to gender-

| Gender  | Frequency | $X^2$  | df | P     |
|---------|-----------|--------|----|-------|
| Males   | 981       | 227.54 | 1  | <0.01 |
| Females | 417       |        |    |       |
| Total   | 1398      |        |    |       |

The patients of each type of psychotic disorder were divided on the basis of their gender into male and female and comparison were made between the groups employing chi square test. The results have been presented in tables 3.4.1 to 3.4.5

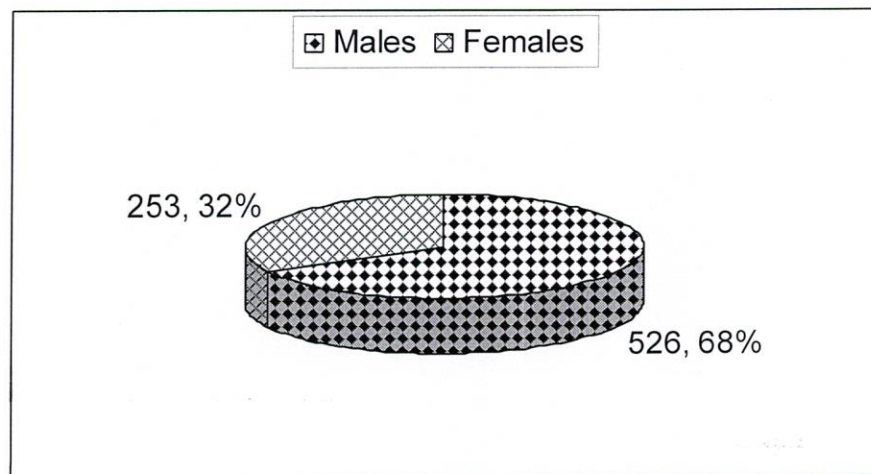


**Picture 3.3:** Frequency of respondents according to gender.

Table 3.4.1: Frequency of Schizophrenia in Males and Females and the results of chi square test.

| Gender  | Frequency | $X^2$ | df | P     |
|---------|-----------|-------|----|-------|
| Males   | 526       | 95.68 | 1  | <0.01 |
| Females | 253       |       |    |       |
| Total   | 779       |       |    |       |

The findings presented in table 3.4.1 show that the frequency of Schizophrenia was significantly higher ( $p < 0.01$ ) in Males than in Females.



**Picture 3.4:** Frequency of Schizophrenia in males and females.

Table 3.4.2: Frequency of Schizoaffective disorder (SAD) in Males and Females and the results of chi square test.

The frequency of Schizoaffective disorder in males and females have also been computed

| Gender  | Frequency | $X^2$ | df | P     |
|---------|-----------|-------|----|-------|
| Males   | 238       | 84.88 | 1  | <0.01 |
| Females | 75        |       |    |       |
| Total   | 313       |       |    |       |

and the results have been presented in table 3.4.2. The table shows a significantly higher ( $p < 0.01$ ) prevalence of Schizoaffective disorder (SAD) in Males than in Females.

Table – 3.4.3: Acute Schizophrenia like Episode (ASE) in Males and Females and the results of chi square test.

Prevalence of Acute Schizophrenia like Episode (ASE) in males and females have been

| Gender  | Frequency | $X^2$ | df | P     |
|---------|-----------|-------|----|-------|
| Males   | 56        | 0.82  | 1  | <0.01 |
| Females | 66        |       |    |       |
| Total   | 122       |       |    |       |

calculated and the results have been presented in table – 3.4 3. The said table shows a that the prevalence of ASE was significantly higher ( $p < 0.01$ ) in Females than in Males. One interesting finding is evident here. The females outnumbered male respondents in case of prevalence of ASE.

Table – 3.4.4: Substance Related (Psychotic) Disorder (SRD) in Males and Females and the results of chi square test.

| Gender | Frequency | $X^2$ | df | p    |
|--------|-----------|-------|----|------|
| Male   | 100       | 100   | 1  | 0.01 |
| Female | 00        |       |    |      |
| Total  | 100       |       |    |      |

The result of chi square test in this table is similar to that in tables 3.4.1 and 3.4.2. Here, prevalence of SRD cases were significantly higher ( $p < 0.01$ ) in Males than in Females.

Table shows no females, only male respondents were available so far the SRD cases are concerned. This result does not mean that females are not involved in psychoactive substance use. It is simply the negative attitude of our society towards the psychoactive substance abusers. Our society is very much stigmatized and critical to these persons. For this reason, the guardians and relatives of psychoactive substance abusers try to conceal these cases to be exposed in public. Females are much more vulnerable to be criticized in this context. There are handsome number of female SRD cases are available who seek treatment personally and for private consultation.

Table – 3.4.5: Bipolar Affective Disorder (BAD) in Males and Females and the results of chi square test.

The prevalence of Bipolar Affective Disorder has also been calculated by employing chi square test and the results have been presented in table 3.4.5.

| Gender  | Frequency | X <sup>2</sup> | df | P     |
|---------|-----------|----------------|----|-------|
| Males   | 61        | 17.19          | 1  | <0.01 |
| Females | 23        |                |    |       |
| Total   | 84        |                |    |       |

Table 3.4.5 shows a similar, significantly higher ( $p < 0.01$ ) prevalence of BAD in Males than in Females. This finding shows a similar significant differences as in tables 3.4.1, 3.4.2 and 3.4.4. Only table 3.4.3 shows a higher prevalence in females than in males.

In the tables of the next group, the respondents have been classified on the basis of Stages of Life Span (tables 3.5.1 to 3.5.6)

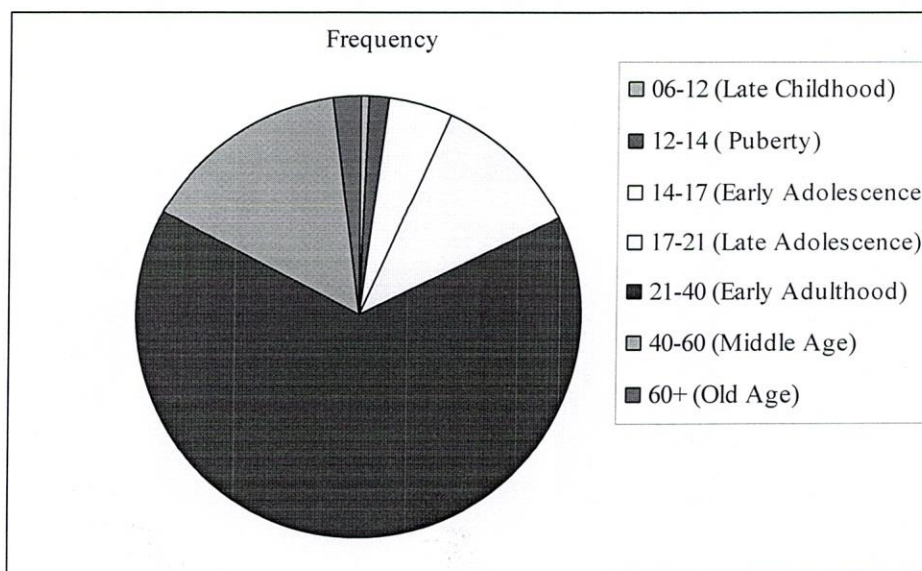
Group-3.5.1: Distribution of the respondents according to the Stages of Life Span and the results of chi square test -

Prevalence of psychotic illnesses between different stages of life span has been computed by applying chi square test and the results presented in table 3.5.1. The table shows the prevalence of psychotic illnesses were significantly higher ( $p < 0.01$ ) in Early Adulthood (21 to 40 year) age group among different stages of life span.



| Stages of Life Span (in years) | Frequency       | X <sup>2</sup> | Df | P     |
|--------------------------------|-----------------|----------------|----|-------|
| 06-12<br>(Late Childhood)      | 06<br>(0.43%)   | 3109.144       | 6  | <0.01 |
| 12-14<br>( Puberty)            | 22<br>(1.57%)   |                |    |       |
| 14-17<br>(Early Adolescence)   | 64<br>(4.57%)   |                |    |       |
| 17-21<br>(Late Adolescence)    | 158<br>(11.30%) |                |    |       |
| 21-40<br>(Early Adulthood)     | 908<br>(64.95%) |                |    |       |
| 40-60<br>(Middle Age)          | 213<br>(15.24%) |                |    |       |
| 60+<br>(Old Age)               | 27<br>(1.93%)   |                |    |       |
| Total                          | 1398            |                |    |       |

In addition, table – 3.5.1 shows that, majority of the psychotic cases (64.95%) belongs to the ‘Early Adulthood’ age group. Distribution of patients in the other age groups belongs to 15.24% Middle age, 11.30% Late Adolescence, 04.58% Early Adolescence, 01.93% Old age, 01.57% Puberty and 0.43% Late Childhood respectively when percentage of the respondents were concerned.



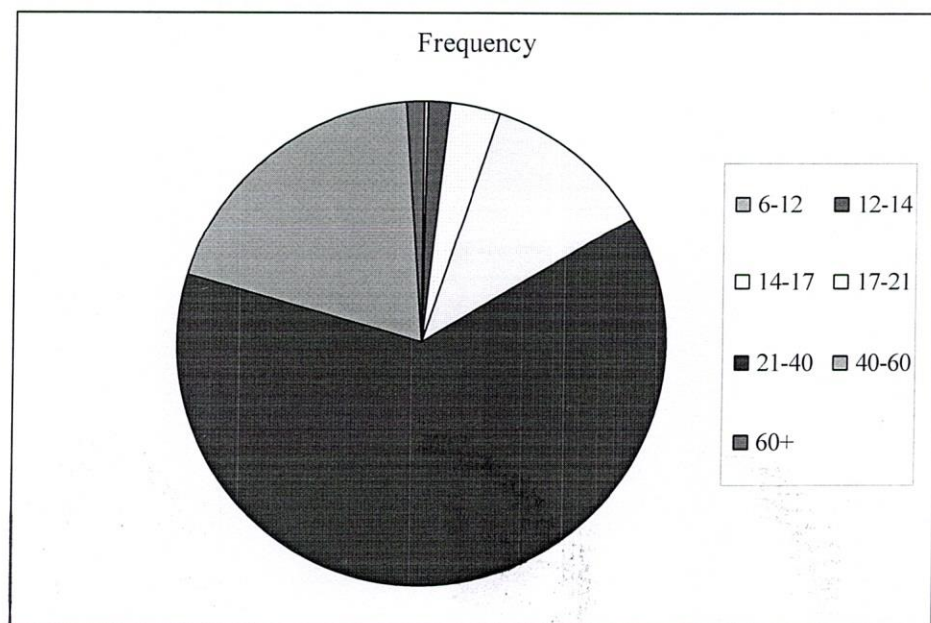
**Picture 3.5:** Frequency of respondents according to stages of life span.

Prevalence of each type of psychotic illness has also been analyzed by applying chi square test. The results have been presented in the following few tables-

Table – 3.5.2: Distribution of Respondents having Schizophrenia in relation to stages of life span with the results of chi square test-

| Stages of life span (in year) | Frequency | $X^2$    | df | p     |
|-------------------------------|-----------|----------|----|-------|
| 6-12                          | 2         | 1682.254 | 6  | <0.01 |
| 12-14                         | 11        |          |    |       |
| 14-17                         | 25        |          |    |       |
| 17-21                         | 89        |          |    |       |
| 21-40                         | 492       |          |    |       |
| 40-60                         | 152       |          |    |       |
| 60+                           | 8         |          |    |       |
| Total                         | 779       |          |    |       |

Table 3.5.2 shows the prevalence of Schizophrenia is significantly higher ( $p < 0.01$ ) in Early Adulthood age group of the stages of life span.



**Picture 3.6:** Frequency of respondents having schizophrenia in relation to stages of life span.

Table – 3.5.3: Distribution of respondents having Schizoaffective Disorder (SAD) in relation to the stages of life span with the results of chi square test:

| Age (in years) | Frequency | $X^2$   | df | P     |
|----------------|-----------|---------|----|-------|
| 6-12           | 1         | 832.764 | 6  | <0.01 |
| 12-14          | 6         |         |    |       |
| 14-17          | 14        |         |    |       |
| 17-21          | 39        |         |    |       |
| 21-40          | 223       |         |    |       |
| 40-60          | 26        |         |    |       |
| 60+            | 4         |         |    |       |
| Total          | 313       |         |    |       |

The above table (3.5.3) shows a highly significant difference in prevalence of Schizoaffective Disorder among the different stages of life span. This table shows a similarly higher ( $p < 0.01$ ) prevalence belongs to the Early Adulthood age group.

Table – 3.5.4: Distribution of respondents suffering from Acute Schizophrenia like Episode (ASE) in relation to the stages of life span with the results of chi square test-

| Age (in years) | Frequency | $X^2$   | df | p     |
|----------------|-----------|---------|----|-------|
| 6-12           | 3         | 135.721 | 6  | <0.01 |
| 12-14          | 5         |         |    |       |
| 14-17          | 17        |         |    |       |
| 17-21          | 20        |         |    |       |
| 21-40          | 60        |         |    |       |
| 40-60          | 12        |         |    |       |
| 60+            | 5         |         |    |       |
| Total          | 122       |         |    |       |

From table – 3.5.4, it is being evident that, the prevalence of ASE is significantly higher ( $p < 0.01$ ) in Early Adulthood age group of the stages of life span of the respondents.

Table – 3.5.5: Distribution of the respondents with Substance abuse Related (psychotic) Disorder (SRD) in relation to the stages of life span with the results of chi square test-

| Age (in years) | Frequency | X <sup>2</sup> | df | P     |
|----------------|-----------|----------------|----|-------|
| 6-12           | 00        | 240.08         | 3  | <0.01 |
| 12-14          | 00        |                |    |       |
| 14-17          | 1         |                |    |       |
| 17-21          | 1         |                |    |       |
| 21-40          | 92        |                |    |       |
| 40-60          | 6         |                |    |       |
| 60+            | 00        |                |    |       |
| Total          | 100       |                |    |       |

The above table (3.5.5) shows a similar significantly higher ( $p < 0.01$ ) prevalence of Substance induced psychosis in Early Adulthood age group of the different stages of life span. Another additional finding is derived from this table that, respondents from only four age groups in the life span were available having substance induced psychosis.

Table – 3.5.6: Distribution of the respondents having Bipolar Affective Disorder (BAD) in relation to the stages of life span and the results of chi square test –

| Age (in years) | Frequency | X <sup>2</sup> | df | P     |
|----------------|-----------|----------------|----|-------|
| 6-12           | X         | 44.134         | 4  | <0.30 |
| 12-14          | X         |                |    |       |
| 14-17          | 7         |                |    |       |
| 17-21          | 9         |                |    |       |
| 21-40          | 41        |                |    |       |
| 40-60          | 17        |                |    |       |
| 60+            | 10        |                |    |       |
| Total          | 84        |                |    |       |

Prevalence of Bipolar Affective Disorder (BAD) has been presented in table 3.5.6. The table shows similarly, the prevalence of BAD is significantly higher ( $p < 0.01$ ) in Early Adulthood age group. This table also shows that, BAD was available in only five of the other stages of life span.

Prevalence of psychotic illnesses between the stages of life span in relation to their gender have also analyzed by applying chi square test and the results have been presented in the tables 3.6.1 to 3.6.6.

Table – 3.6.1: Distribution of respondents according to Stages of life span in relation to the Gender -

| Stages of Life Span (in years) | Male | Female | Total           | X <sup>2</sup> | df | P     |
|--------------------------------|------|--------|-----------------|----------------|----|-------|
| 06-12<br>(Late Childhood)      | 03   | 03     | 06<br>(0.43%)   | 50.4244        | 6  | <0.01 |
| 12-14<br>( Puberty)            | 10   | 12     | 22<br>(1.57%)   |                |    |       |
| 14-17<br>(Early Adolescence)   | 35   | 29     | 64<br>(4.57%)   |                |    |       |
| 17-21<br>(Late Adolescence)    | 102  | 56     | 158<br>(11.30%) |                |    |       |
| 21-40<br>(Early Adulthood)     | 692  | 216    | 908<br>(64.95%) |                |    |       |
| 40-60<br>(Middle Age)          | 124  | 89     | 213<br>(15.24%) |                |    |       |
| 60+<br>(Old Age)               | 15   | 12     | 27<br>(1.93%)   |                |    |       |
| Total                          | 981  | 417    | 1398            |                |    |       |

The prevalence of psychotic illnesses were significantly higher ( $p < 0.01$ ) in Early Adulthood age group among different stages of life span.

From this table (3.6.1) it is being seen that, age of the respondents attended during the study period ranges from 07 to 90years. So, a wide range of the life span, from late childhood (6-12year) to old age (60+ year) were covered in this study. No patient were available that belongs to the stages of life span before late childhood (before six year of age). The table also shows that, a higher prevalence is evident from 'Early Adulthood' age group population either jointly or separately between males and females.

The following tables shows the distribution of respondents according to each type of psychotic illness in relation to the Stages of life Span and the results of chi square test -

Table – 3.6.2: Distribution of Respondents having Schizophrenia in relation to stages of life span and the results of chi square test-

| Age (in year) | Male | Female | Total | X <sup>2</sup> | df | p     |
|---------------|------|--------|-------|----------------|----|-------|
| 6-12          | 1    | 1      | 2     | 20.4498        | 6  | <0.01 |
| 12-14         | 6    | 5      | 11    |                |    |       |
| 14-17         | 15   | 10     | 25    |                |    |       |
| 17-21         | 57   | 32     | 89    |                |    |       |
| 21-40         | 359  | 133    | 492   |                |    |       |
| 40-60         | 84   | 68     | 152   |                |    |       |
| 60+           | 4    | 4      | 8     |                |    |       |
| Total         | 526  | 253    | 779   |                |    |       |

The prevalence of Schizophrenia was significantly higher ( $p < 0.01$ ) in Early Adulthood age group of the stages of life span (table- 3.6.2). A similar result is also evident in table 3.5.2.

Table – 3.6.3: Distribution of respondents having Schizoaffective Disorder (SAD) in relation to the stages of life span with the results chi square test-

| Age (in years) | Male | Female | Total | X <sup>2</sup> | df | P     |
|----------------|------|--------|-------|----------------|----|-------|
| 6-12           | 0    | 1      | 1     | 26.8732        | 6  | <0.01 |
| 12-14          | 2    | 4      | 6     |                |    |       |
| 14-17          | 6    | 8      | 14    |                |    |       |
| 17-21          | 28   | 11     | 39    |                |    |       |
| 21-40          | 182  | 41     | 223   |                |    |       |
| 40-60          | 19   | 7      | 26    |                |    |       |
| 60+            | 1    | 3      | 4     |                |    |       |
| Total          | 238  | 75     | 313   |                |    |       |

The above table (3.6.3) shows that the prevalence of Schizoaffective Disorder was significantly higher ( $p < 0.01$ ) in Early Adulthood age group among the different stages of life span. This finding is similar to that of table 3.5.3.

Table – 3.6.4: Distribution of respondents suffering from Acute Schizophrenia like Episode (ASE) in relation to the stages of life span and the results of chi square test.

| Age (in years) | Male | Female | Total | X <sup>2</sup> | df | P     |
|----------------|------|--------|-------|----------------|----|-------|
| 6-12           | 2    | 1      | 3     | 9.7604         | 6  | <0.20 |
| 12-14          | 2    | 3      | 5     |                |    |       |
| 14-17          | 10   | 7      | 17    |                |    |       |
| 17-21          | 11   | 9      | 20    |                |    |       |
| 21-40          | 27   | 33     | 60    |                |    |       |
| 40-60          | 1    | 11     | 12    |                |    |       |
| 60+            | 3    | 2      | 5     |                |    |       |
| Total          | 56   | 67     | 122   |                |    |       |

From Table – 3.6.4 it is being evident that, the prevalence of ASE was significantly higher ( $p < 0.01$ ) in Early Adulthood age group among different age groups of the stages of life span of the respondents.

Table – 3.6.5: Distribution of the respondents with Substance abuse Related (psychotic) Disorder in relation to the stages of life span with the results of chi square test-

| Age (in years) | Male | Female | Total | X <sup>2</sup> | df | p  |
|----------------|------|--------|-------|----------------|----|----|
| 6-12           | X    | X      | X     | 00             | 3  | ?? |
| 12-14          | X    | X      | X     |                |    |    |
| 14-17          | 1    | X      | 1     |                |    |    |
| 17-21          | 1    | X      | 1     |                |    |    |
| 21-40          | 92   | X      | 92    |                |    |    |
| 40-60          | 6    | X      | 6     |                |    |    |
| 60+            | X    | X      | X     |                |    |    |
| Total          | 100  | X      | 100   |                |    |    |

Table – 3.6.6: Distribution of the respondents having Bipolar Affective Disorder (BAD) in relation to the stages of life span with results of chi square test –

| Age (in years) | Male | Female | Total | X <sup>2</sup> | df | P     |
|----------------|------|--------|-------|----------------|----|-------|
| 6-12           | X    | X      | X     | 5.8884         | 4  | <0.30 |
| 12-14          | X    | X      | X     |                |    |       |
| 14-17          | 3    | 4      | 7     |                |    |       |
| 17-21          | 5    | 4      | 9     |                |    |       |
| 21-40          | 32   | 9      | 41    |                |    |       |
| 40-60          | 14   | 3      | 17    |                |    |       |
| 60+            | 7    | 3      | 10    |                |    |       |
| Total          | 61   | 23     | 84    |                |    |       |

Like other tables of this group, this table (3.6.6) also shows a significantly higher ( $p < 0.01$ ) prevalence of Bipolar Affective Disorder (BAD) in Early Adulthood age group among other age group of the Stages of Life Span.

The results has also been plotted on the basis of Age and Gender of the respondents in relation to the stages life span and the results have been presented in table 3.7.

Table- 3.7: Distribution of respondents according to different types of psychotic illnesses in relation to the stages of life span:

| Stages of life span | Gender | Schizo (F-20) | SAD (F-25) | ASE (F-23) | SRD (F10-19) | BAD (F31) | Total | Grand Total |
|---------------------|--------|---------------|------------|------------|--------------|-----------|-------|-------------|
| 6-12                | Male   | 1             | x          | 2          | x            | x         | 3     | 6           |
|                     | Female | 1             | 1          | 1          | x            | x         | 3     |             |
| 12-14               | Male   | 6             | 2          | 2          | x            | x         | 10    | 22          |
|                     | Female | 5             | 4          | 3          | x            | x         | 12    |             |
| 14-17               | Male   | 15            | 6          | 10         | 1            | 3         | 35    | 64          |
|                     | Female | 10            | 8          | 7          | x            | 4         | 29    |             |
| 17-21               | Male   | 57            | 28         | 11         | 1            | 5         | 102   | 158         |
|                     | Female | 32            | 11         | 9          | x            | 4         | 56    |             |
| 21-40               | Male   | 359           | 182        | 27         | 92           | 32        | 692   | 908         |
|                     | Female | 133           | 41         | 33         | x            | 9         | 216   |             |
| 40-60               | Male   | 84            | 19         | 1          | 6            | 14        | 124   | 213         |
|                     | Female | 68            | 7          | 11         | x            | 3         | 89    |             |
| 60+                 | Male   | 4             | 1          | 3          | x            | 7         | 15    | 27          |
|                     | Female | 4             | 3          | 2          | x            | 3         | 12    |             |
| Total               |        | 779           | 313        | 122        | 100          | 84        |       | 1398        |

Age-wise distribution in table 3.7 shows that, a total of 64.95% and 70.54% of total males and 51.80% of total females belongs to Early Adulthood age group (21-40years). Considering other types of psychotic illnesses, Schizoaffective Disorder, Acute Schizophrenic Episode, Substance Related (psychotic) Disorder and Bipolar Affective Disorders were 71.25%, 49.18%, 92%, 48.81% belongs to Early Adulthood age group of life span respectively. Schizophrenia occupies 63.16%. So this can be very clearly concluded from this finding that, not only the majority of psychotic illness (as a whole), majority of all types of psychotic illnesses separately belongs to the Early Adulthood age group also.

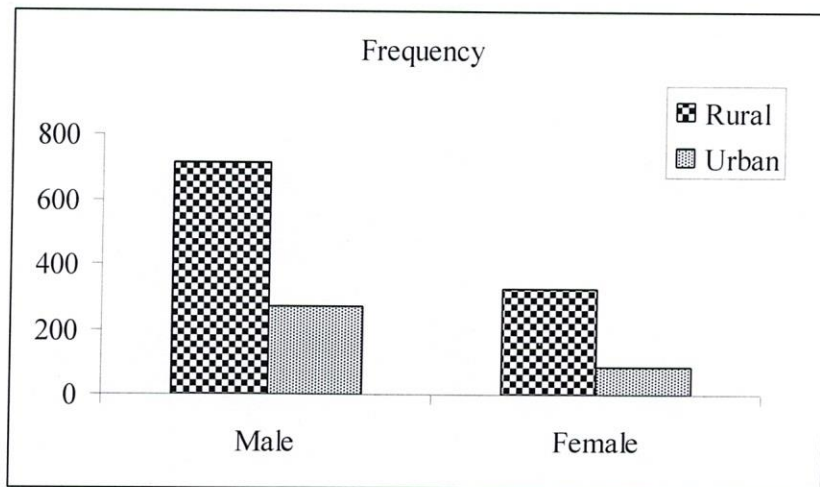
The respondents has also been grouped on the basis of their place of residence and the results of chi square have been presented in table 3.8. The table-shows that psychotic disorder is significantly higher( $p < 0.02$ ) among the rural group than urban group of the respondents.



Table – 3.8: Distribution of respondents according to their place of residence (Habitat) -

|       | Male        | Female      | Total        | X <sup>2</sup> | df | P     |
|-------|-------------|-------------|--------------|----------------|----|-------|
| Rural | 712(72.58%) | 328(78.66%) | 1040(74.39%) | 5.6743         | 1  | <0.02 |
| Urban | 269(27.42%) | 89(21.34%)  | 358(25.61%)  |                |    |       |
| Total | 981(100%)   | 417(100%)   | 1398(100%)   |                |    |       |

Table 3.8 shows, about three quarter of the cases (74.39%) were from rural background and the remaining quarter (25.61%) belongs to urban background. 21.34% of the female population were from urban and the rest 78.66% were from rural background. Male population are more from urban background (27.42%) and less from rural background (72.58%) in comparison to the female population.



**Picture 3.7:** Distribution of respondents according to their place of residence (Habitat)

## CHAPTER - IV

### DISCUSSION and CONCLUSION

The study was designed to investigate the prevalence of psychotic disorders of males and females at different stages of life span. It was carried out on the new mental patients attended at the OPD (Out-Patients Department) of Pabna Mental Hospital, Pabna, Bangladesh during January 2006 to July 2006. Only the new patients who attended this hospital for the first time during the study period were included in the study. As mentioned previously, 2227 (two thousand two hundred and twenty seven) patients were interviewed during the study period.

Three Hypotheses were formulated to test in this study.

The first hypothesis states that the frequency of psychotic illness would be significantly higher in Males than Females. In order to test the hypothesis, all the psychotic patients were classified into males and females and comparison was made between the two groups by employing chi square test. The results of the study suggests that the frequency of psychotic illnesses were significantly higher ( $p < 0.01$ ) in males than females (table 3.3). This finding conforms the first hypothesis of this study.

Similar findings have been found from a couple of studies from home and abroad. A point prevalence study from Nigerian Psychiatric Outpatients clinic yields 94% of their patients were diagnosed as having psychotic illness. Point prevalence of this study is much more than that of this study. Not only that, Schizophrenia is 36.5%, and Affective disorders are 28.7% reported in that study.<sup>34</sup> Comparing the result with the present one shows, Schizophrenia and Affective disorders (SAD & BAD combined) are 55.72% and 28.40% respectively. Another finding where a miraculously similar female preponderance is evident when considering the gender of respondents. The finding of the Nigerian clinic<sup>34</sup> shows that Ninety-three (51.38%) of their 181 patients were females and 88 (48.62%) were male. Similarly, the female patients (with both neurotic and psychotic) attended were 5565 (50.72%) and the male patients were

5408 (49.28%) during the period of this study from January to July 2006. The admitted patients were 608 (six hundred and eight) during the said period of study where 504 (five hundred and four i.e. 82.89%) were Males and only 104 (one hundred and four 17.11%) were Females. This finding shows a similarity to another previous study carried out at the same hospital in the year 1961. Where there were 196 males (61 per cent) and 124 females (39 per cent) of the total of 320 admissions in that said year.<sup>35</sup> The reason behind this similar less female admission in this hospital at present and half a century before, are not that much different. This is not due to the non-availability of female patients. Actually, number of female patients require to get admitted in the hospital is much more. The first reason for the few admitted female patients are the less availability of hospital bed in female wards. The next reason may be the intention of the guardians of the female patients, as some of them do not want their patients to be exposed in public. This is due to some social stigma about mental illness of the unmarried females as well as the young house wives. Also some of the guardians apprehend that they may have to face some social problem during the marriage of their unmarried female patient after release from mental hospital. Also a passive position of women in our society in comparison with the male who in fact, essential to the family economy, seek treatment earlier. Possibly, the lower incidence of violent behaviour in females, suggested by Hoenig; (1959) as a factor in Mysore, may account also for the lower admission rate.<sup>35</sup> At the same time, male persons are mainly the earning member of a family of our society. Any illness of a male family member make the family to suffer too much and the family must try to keep the only earning member workable. For this reason, male patients are more likely to attend hospital for treatment. There were 1398 (one thousand three hundred ninety eight) psychotic and 829 (eight hundred twenty nine) neurotic patients (table 3.1). The table also indicates that the frequency of psychotic patients were significantly higher than neurotic patients. Considering the total cases attended this hospital for treatment, the number of psychotic cases were 1398 (one thousand three thousand and ninety eight). Among them, Males were 981 (nine hundred and eighty one) and Females were 417 (four hundred and seventeen). The percentage is 70.17% and 29.83% Males and Females respectively. This male and female ratio supports the result of the study published in the year 1978 by M.N.Alam, where 68% and 32% of the cases were

males and females respectively.<sup>36</sup> Table – 3.3 shows a significant difference between males and females regarding prevalence of psychotic illnesses. The frequency of psychotic disorder was significantly higher in males than in females (Table -3.3).<sup>21</sup> This finding proves the hypothesis no.1 of this study.

The second hypothesis of this study was that Schizophrenia is more frequent among the other types of psychotic illnesses. In the results, the frequency of Schizophrenia was significantly higher than that of any other types of psychotic illness ( tables 3.2.2 and 3.4.1).The above findings prove the second hypothesis of this study.

A similar finding is evident from the Nigerian study mentioned previously where, Schizophrenia was said to be higher (36.5%) than any other types of psychotic illnesses mentioned in their study. This result supports the second hypothesis of the present study.

The third hypothesis of this study was “Psychotic disorders are more prevalent in ‘Early Adulthood’ age group people”.

The results of this study shows similar findings that will also support this hypothesis. Results of this study shows that psychotic disorders are significantly higher ( $p < 0.01$ ) in ‘Early Adulthood’ age group of people.

A good number of some other studies from home and abroad also have findings very close to the findings of the present study. The result of this study is very close to another similar study carried out on psychiatric patients of a private clinic at San Diego county, California in 1979. Fifty eight per cent (58%) of their patients belongs to 21-40 year age group.<sup>37</sup> This age group is exactly similar to the age group (early adulthood) of the stages life span used in this study.<sup>20</sup> Finding of the current (table-3.5.1) study is very close to the above finding. One other study also shows a very close correlation to this study where 61.9% of their patients belongs to the age group 21-40years.<sup>34</sup> In the same study, percentage of patients in the Middle age group is almost exactly same (15.47%) to the present study. Another epidemiological study carried out at the department of Psychiatry, Medical College, Chittagong in 1978 shows, 56% of their patients belongs to 20-39 year age group.<sup>38</sup> This result is not much different to the result of the present study on the same variable mentioned above

in this paragraph. A five year retrospective study by Prof. H. Islam shows a similar result comparing the present study. That study yields 66.3% the patients belongs to the age group 20-39 years.<sup>39</sup> The findings of all these study shows a very close similarity to the finding of the present study mentioned above (tables 3.5.1. and 3.6.1). So, from the above findings, the third hypothesis of this study can be said accepted.

At Early Adulthood stage of life span, most of the person starts life with some responsibility on several sector of life like, personal, social, at workplace and so on. During this variety of responsibilities, a person may have to face various type unwanted or unexpected experiences. At these adverse situations, the person try to combat the situations as per their capability. As the coping ability is different in person to person, the ability to keep balance on these adverse is also different person to person. A person who has a less ability to solve these problems, is more prone to suffer mentally. On repeated failing to face adverse situations and continuous psychological pressure may at some time can develop a mental illness at this stage of life span.

As previously mentioned, 62.77% were Psychotic and 37.23% were Neurotic patients yielded from this study. This difference is statistically highly significant (table –3.1). A nearly similar type of report from a similar type of study is seen from Suanprung Psychiatric hospital at Chiang Mai province, Thailand in the year 2010. Where psychotic patients are 48% and Substance abuse Related Disorder (SRD) patients are 14% at the OPD and 57% psychotic patients and 31% SRD patients at the IPD (inpatients department).<sup>32</sup> Another general population survey report shows that, about 10-20 per thousand of the population are affected by serious mental disorder (Psychosis) at any given point of time. Prevalence of minor mental illness (Neurotic) will be its 10 fold. A quite different picture is seen from a private clinic at New Delhi where Neurotic patients were 70% and Psychotic patients were only 30% .<sup>33</sup> The reason of the increased number of neurotic cases may be that the data is from a highly urbanized group of people of a city like New Delhi who are more aware about their mental well being than the rural and less educated group of any other area. The finding of the private clinic at New Delhi is just opposite to the finding of the present

study. Another reason of this opposite finding between the two similar type of study in a highly urbanized area like New Delhi and a small district town like Pabna may be the nature of treatment setting. This is at government level and that is at private level. The location of study may not be a factor. Because, at government setting, the result of this study correlates to that of Suanprung, Thailand.<sup>32</sup> Considering patients with psychosis due to SRD, the high rate in both OPD & IPD in Thailand may be due to their social practice of taking addiction producing substance in an increased frequency. This type of practice is not encouraged in our society. This may be the cause of reduced number of Psychosis secondary to SRD cases found in this study (table- 3.2.1). One other point must be mentioned here that, in this study all of the patients who attended this hospital with complaints of SRD was associated with the co-morbidity of psychotic illness. But the finding of Suanprung hospital Thailand consists of only the pure SRD cases who do not have any psychosis. In our country, the purely substance abuse cases may be close to that of above mentioned study in Thailand. This field of problem deserves another study to be carried out. Developing psychosis in the Substance abusers occurs after a long time use of psychoactive substances. In this study the respondents are repeated relapse cases and they do not have any specific item of choice. Actually, the respondents use the psychoactive substances on availability and affordability basis. This Substance Related psychotic Disorder (SRD) may either be the cause or effect of Psychotic illness. In this connection, it can be said that, another reason of this low percentage of SRD cases may be escaping tendency of the said patients to attend this hospital as well as the tendency of the guardians to keep their patients away from revealing before the society. Because, this type habit is very much criticized rather hated by our society. Another interesting result is being evident from this study that, no female respondents given the history of taking psychoactive substances (table-3.2.1). This does not mean the non availability of female persons taking psychoactive substance. Actually, as a conservative society, the female persons are more restricted to exposed as so. In actuality, a good number of female persons attend the private service providing point with the problem of taking psychoactive substances. But, possibly, they try to avoid exposing publicly with this complaints.

A higher preponderance of Schizophrenia than other category of psychotic illness is evident from the results (table 3.2.1). The prevalence of Schizophrenia was significantly higher among different psychotic illnesses ( $p < 0.01$ ). This finding supports hypothesis no. 2 of this study.

Regarding the stages of life span (table-3.5), the majority belongs to the early adulthood age group (21-40years) which is 64.95%. The next highest age group Middle age (40-60years) group which is 15.24%. The result is statistically highly significant as  $p$  value is  $< 0.01$  at  $df$  6. Here, hypothesis no.- 3 can be said accepted as the 21-40 year age group is the early adulthood age group of a person.<sup>20</sup> The age range of the study population was between 06 – 90 years. No patients available those belongs to the Early childhood (2-6 years) or more younger age group. The result of this study is very close to another similar study carried out on psychiatric patients of a private clinic at San Diego county, California 1979. Fifty eight per cent of their patients belongs to 21-40 year age group.<sup>37</sup> This age group is exactly similar to the age group (early adulthood) of the stages life span used in this study.<sup>20</sup> One other study also shows a very close correlation to this study where 61.9% of their patients belongs to the age group 21-40years.<sup>34</sup> In the same study, percentage of patients in the Middle age group is almost exactly same (15.47%) to the present study. Another epidemiological study carried out at the department of Psychiatry, Medical College, Chittagong in 1978 shows, 56% of their patients belongs to 20-39 year age group.<sup>38</sup> This result is not much different to the result of the present study on the same variable mentioned above in this paragraph. A five year retrospective study by Prof. H. Islam shows a similar result comparing the present study. That study yields 66.3% the patients belongs to the age group 20-39 years.<sup>39</sup> This finding is very much close to the finding of the present study mentioned above.

In case of the different Psychotic disorders available during the study period (table-3.2.1), Schizophrenia occupies the major portion (55.72%). The 2<sup>nd</sup> position occupied by SAD (Schizo-Affective Disorder ) and 3<sup>rd</sup> position occupied by ASE (Acute Schizophrenia-like Episode) which are 22.39% and 8.73% respectively. Bipolar Mood Disorder is 06.01% and Substance Related Disorder (with Psychosis) is 07.15%. Here,  $p$  value is  $< 0.01$  at  $df$  4. So, this observation is statistically highly significant.

This result also correspond to the Nigerian study mentioned above.<sup>34</sup> Schizophrenia and Affective disorders are 36.5% and 28.7% respectively in that study.

Another important observation can be noted when Psychosis secondary to Substance Related Disorder (or vice versa) is considered (Table- 3.2.1). A good number (7.15%) of patients attended who developed psychosis after having the habit of taking addiction producing substance like Cannabis, Heroin, Phensidyl, Tab. Yaba, Fumes of Rubber solution etc. Substance abuse is not only the cause of developing psychotic illness but also the effect of psychotic illness. Almost all of the SRD patients given the history of having the habit of poly substance abuse. Because, the substance abusers in our country cannot maintain a single item for their use. None of them given the history of remaining confined within a single substance. This may be due to several reasons like availability of the preferred item, financial condition etc.

When considering the place of residence (table-3.8) of the respondents, 74.39% cases are from Rural and the remaining 25.61% are from Urban background. The prevalence of psychotic illness in the Rural population is significantly higher ( $p < 0.02$ ) than Urban group of people. Similar result is found from the study of Islam H, where 92.3% from rural and the rest 7.6% from Urban areas.<sup>38</sup> This result corresponds the population distribution of our country. The higher percentage of patients from rural areas may have another reason. After mid-eighties when upazilla system established in our country, the said upazilla areas (previously Thana Headquarters) become urbanized. When prof. Islam carried out his study, it was long before urbanization of upazilla. So, at that time people outside a town used to treat as from rural areas. But after urbanization of the upazilla and similarly in this present study, people who came from villages and union levels were considered as rural. This may be the reason of a little low percentage of respondents from rural and some more from urban areas. Study of Ahmed S U a little more cases from Urban areas.<sup>37</sup> Here, the more cases from Urban areas may be due increased awareness of the urban people about mental illness as well as a easy accessibility of the patients from urban areas and increased scientific mindedness of the urban people regarding treatment of mental illness. Not only that, a good number of rural as well as urban people moves from various types of treatment form like, Homoeopathic, Kaviraji, Hekimi, Faith healers etc before coming



to a psychiatrist. Simply loss of time and money occurs during this migration and in addition the disease become more and more complex. Some goes beyond the treatment capacity. Another study carried out in the year 1982 by Muhammad Nurullah, Assistant Professor, Department of Psychology, Rajshahi University. Where, 87.80% cases were from rural background and the remaining 12.20% were from urban area.<sup>40</sup> This result is similar to the findings of present study.

A similar higher prevalence among rural population is evident in the study carried out in the community by a group of researchers of BSMMU (Bangabandhu Sheikh Mujib Medical University).<sup>41</sup>

Considering the stages of life span (Table- 3.2 and 3.2.1), the result of this study regarding prevalence of psychotic disorders, a positive correlation was found when comparing other available studies which supports the Hypothesis no. 3 of this study.<sup>35,37,38,39</sup>

When each type of psychotic illness separately calculated in relation to the stages of life span Table – 3.5 shows majority of both combined as well as separately each type of psychotic illness belongs to the Early Adulthood age group. Again, a similar result is evident from the study carried out at the same hospital in the year 1977 by Prof. H. Islam. Psychotic illnesses were grouped here into only Schizophrenia and Affective Disorders. More than seventy one percent (71.2%) schizophrenics and 57.2% affective disorders belongs to the same age group.<sup>39</sup> None of the other types of psychotic illnesses were grouped in that study. Psychotic illness available during the present study period were included in this study, although some other psychotic illnesses have also mentioned in previous chapter.

Some additional finding have also been yielded from this study which may contribute in making future planning to provide a good mental service to the people.

Mental Hospital Pabna was established in the year 1957 as a 60(sixty) bedded specialized hospital for the treatment of only mentally ill patients. In course of time the bed capacity is 500(five hundred) now.<sup>31</sup> But still it appears that this bed strength is not enough to serve the need of the country at present. Now-a-days, community based psychiatric service is encouraged globally by WHO (World Health

Organization). But while working at Pabna Mental Hospital, we cannot help feeling that our people of all levels are not at all aware of this new type of idea for the management of mentally ill patients. Because, the hospital authority have to face regular requests from high ranking government and non-government persons as well as from political and social leaders for admitting couples of patients each and every day under non-paying bed.. The reason behind this regular request for admission of mental patients in this hospital and request for keeping them in the said hospital for long time may be due to lack of social as well as financial support system in both the public and private sector to manage this type of patients in the community level . Also a sense of helplessness prevail within the guardians and caregivers and their financial hardship due to long term treatment expenditure and on the other hand the long time unemployment or away from all type of work by the patients may be an additional reason. Some patients become violent and aggressive and the guardians and caregivers become fail to prevent their patients from doing destructive activities sometimes murdering people even closest ones. This also become an additive factor in favour of admitting the mental patients in an hospital. Another reason may be the type of structure now-a-days. Some of the guardians state that they don't have anybody at their home to look after the patient. There are innumerable non-government organizations are working in the country especially in rural areas. Most of them do not have any activities on health related field especially on mental health related field. Mental health may be too far from their planning. Moreover, the poor economic condition of the family of the mentally ill persons may contribute in thinking the admission of their patients in the hospital. The reason for rushing by the caregivers of mental patients to Pabna Mental Hospital with their patients from almost all corner of the country is the system of service of this hospital. The most of the caregivers feel relieved after admitting their patients in this hospital. Because no attendant is required to stay with the patient in this hospital and it is the total responsibility of the hospital to take care of the admitted patients. This type of service system possibly does not exist in any other government hospitals in this country. This is a well reputed hospital in the country in the field of treatment of mental patients. All types of mental patients both major and minor mental illness from almost all corners of the country are coming everyday to get treated from this hospital. Among them, Neurotic (minor) type of

patients are coming mostly from close distances. On the other hand, patients who are coming from distant places mostly having Psychotic (major) type of illness . Almost all of these psychotic patients are coming mainly for getting admitted into this hospital. Most of the Psychotic patients are chronic type of patients who are suffering for not only couple of years but some suffers for couple of decades even. The guardians and caregivers become fade-up in giving time, money and patience to keep these patients disease free. And some patients become sometimes non co-operative in taking medications and food, setting fires to the property, become violent and destructive not only to the caregivers but also to other family members and to the neighbours. Our society at the same time keep some stigma regarding the cause of mental illness. In this situation the guardians intend to get their patients admitted to this Mental Hospital for several reasons. Firstly, the admitted patients get all type of medication totally free of cost from this hospital. Secondly, none of the caregivers or guardians required to stay with the patients in the hospital after admission of their patients. Thirdly, some of the guardians like to feel free of being criticized by the society by keeping their patients to elsewhere (mental hospital) for few days. So, unlike other hospitals where inpatient facility for mental patients are available, the guardians need not to engage an attendant for their admitted patients in this hospital. On the other hand all the medical colleges where psychiatric inpatient service is available and the inpatient departments of NIMH(National Institute of Mental Health) at Dhaka require an attendant with every patient when admission is considered.

For these benefits, the guardians are more interested to bring their patients to Pabna Mental Hospital from almost all corners of the country. Not only this, as the oldest mental hospital of this country it has a good reputation among people regarding the service of this hospital. Accordingly, in this study, patients are available from almost all the 64(sixty four) districts of the country during the period of study

## CONCLUSION

As stated in the discussion, this is a prospective type of study carried out at both OPD and IPD of Mental Hospital Pabna, Bangladesh on all the available new patients attended to get treatment during the period from January 2006 to July 2006. Patients of all age group from different corners of the country who attended the hospital for the first time were included in the study. Information was collected from the study population by the researcher himself with the help of staffs of the said hospital.

The study place was selected by the joint opinion of the supervisor and the researcher of this study. Patients suffering from mental illness of both minor and major type throughout the country come to this hospital. Because, this is the oldest specialized hospital in the country on mental health and people keep faith on the service of this hospital.

A statistically highly significant difference in prevalence of Psychotic and Neurotic cases ( $p < 0.01$ ) was found in this study. The psychotic patients were 62.77% and the remaining 37.23% were neurotic (Table-3.1). Male patients were 70.17% and Females were 29.83%. This result (Table- 3.3) is also statistically significant ( $p < 0.01$ ). The duration of illness ranges from a minimum of two months to more than 25 (twenty five) years. It is known that, psychotic illnesses are mostly relapsing and remitting type of illness. In this study, some cases are continuous type of illness, some are episodic. The number of episode varies from single episode to relapsing each year or more. Most of the cause of relapse is the non-compliance e.g. failure of taking regular medication as per advice of the psychiatrist. As well as most of the cases got treatment by the folk healers before attending to a psychiatrist for the first time. In this course, simply time passes out and the condition become deteriorated and suffering increases both for the patients and the caregivers.

Almost all of the respondents had a profession some day. But, after being a psychotic patient, they don't have any capability to do a regular job or even household activities or day labourer. Practically almost all become jobless and ultimately they become a burden to the family and to the society. Another point must be taken into

consideration that the number of cases developed psychosis due to intake of Cannabis, Heroin and other addiction producing substances and vice versa are not negligible. The consequence of which is mostly similar, rather worse in comparison to other psychotic illnesses. During their course of taking addiction producing items they used to spend a bulk amount money to meet the cost of those items. They compelled their family to arrange this cost. As a result, the economic condition of the family become poorer day by day than that of a family having a psychotic patient only.

Also some neighbour misguide the guardians in seeking proper treatment of their patients. Some folk healers and relatives may insist the guardian to got them married. Because, they think marriage may alleviate the morbidity of a mental patient. These people may not do this in any bad intention. But the reality is just opposite. Almost all of their disease condition become complicated and the suffering increases up-to many fold. The wife or husband of the newly married patient left the house after few days or months. It results in developing their emotional deprivation. Which is an additional stressful condition sufficient to complicate the condition. The society become more and more critical to them. They are not accepted by their friends and relatives who, few days back, accepted that person (patient) before the occasion of the so called 'therapeutic marriage'.

To the researcher, religious belief contradicts to be a scientific minded and superstition free mind. A scientific mind must think logically on the basis of evidence. But a religious mind stands fully on religious sayings which are simply speculations though it is strongly held by the believers and sometimes helpful to get relieved from the stress and suffering of some social and personal matters.

## CHAPTER V

# RECOMMENDATIONS

Mental health is a primary requisite for the improvement of quality of life.<sup>42</sup> Without sound mental health the quality life cannot be ensured. A slogan of the Royal college of Psychiatrists London can be remembered here-‘No Health Without Mental Health’. To attain a sound mental health, some recommendations can be summarized as follows.

From the above observations it is being seen that people of Early Adulthood (21-40years) age group of life span are suffering more from psychotic disorders of any type than other stages of life span. As previously mentioned, psychosis is such a type of major mental illness where the concerned person losses the touch with the reality.<sup>12</sup> When a person got this type of illness, all the activities, thought process and other cognitive faculties of that person become disorganized. The person suffering from this type of illness losses the ability to do any purposeful work that can produce some positive impact like earning on the patient or on the society. In course of time, he/she become a burden to the society. Only early intervention and proper treatment can reduce the morbidity. So, some measures can be taken by the health care providers on both government and non-government level to reduce the prevalence rate of psychotic illness as well as to minimize the suffering of this dreadful disease.

Actually, awareness and scientific mindedness of the society is the primary requirement (religious mindedness to some extent, also required). This role should be played by the family, social leaders, religious leaders and community healthcare providers. A superstition free mind, stigma free society is necessary. A person with abnormal behaviour should be sent first to the psychologist for primary assessment of the clinical condition, then to the psychiatrist for proper treatment when necessary.

Community psychiatric service comprising of Psychiatrist, Psychologist, Psychiatric nurse, Psychiatric social worker and Health volunteers is emphasizing by the World Health Organization (WHO) in recent years. Hospital and other institutional service is

discouraging now a days. In addition to the First world, some of the third world countries have already started implementing this modern concept of treatment pattern. But in our country this modern concept is yet to start in its full motion. The reason is multiple. Shortage of adequate trained manpower is the first consideration to the researcher. So, availability of trained and sincere mental health professional must be ensured. Some other reasons are also prevailing. But as a health professional and researcher in the same field it appears to the researcher that the primary need is to make a start from somewhere. A very small level work has been initiated by the National Institute of Mental Health (NIMH) few years back. But their activities are confined within three Upazilla Health Complex around Dhaka on periodic basis. This type of service is limited mostly on clinical service only. The priority should be Awareness and Motivation of the guardian and caregivers of mental patients on a periodic basis.

Opening of new, smaller and easy to manage and short stay mental hospital to be encouraged, so as the rehabilitation units.<sup>42</sup> Psychiatry units must be established in every district level hospital with a group of health service provider including trained manpower and other adequate paramedical staffs. Group of medical and paramedical personnel consisting of Psychiatrist, Psychologist, Psychiatric nurse, Psychiatric social worker, health volunteers to be formed to work in the community level to serve the mental patients. The primary aim of this group is to develop awareness about mental illness with proper treatment plan and motivation in taking the treatment from proper place. The role of Psychologists, Psychiatric social workers and health Volunteers are much more vital in this group. Because early detection and proper treatment can reduce the morbidity to large extent. This community level working group could help the guardian to develop awareness about mental illness, provide information regarding the place where proper treatment facility is available. They also can train up the guardians and caregivers of the mentally ill patients about how to behave properly with their patients. This is very much important for keeping a recovered patient in a stable condition and good compliance. This type of community level working group can help in preventing development of mental illness to a large extent by making the society more positive in dealing with the stress and crisis.

By keeping the mental patients symptom free and workable, a huge amount of working hour can be added to the national level and the mental patients can contribute to total national production and to contribute to their family and themselves.

Mental health service should begin at the periphery at our existing health service providing setup e.g. Union sub center, Upa-Zilla and District level.<sup>43</sup>

This service up to the district level should mainly be consisted of Counseling and Diagnostic service at first as enough Psychiatrists are not yet available to be posted at this level. Counseling service should be leaded by a counseling psychologist with some psychiatric social worker and other staffs. Counseling should be done mainly on the guardians and the caregivers of the psychotic as well as the neurotic patients. Screening procedure should be leaded by a trained Graduate doctor working at that place.

Finally, a good rehabilitation service must be established at primary healthcare provider level. This service will take the responsibility to engage the fully or partially recovered mental patients in their suitable work. This service would be supervised by a trained occupational therapist. The aim of this will be to train the recovering patients to make them workable in their suitable and choice able work that the recovered patient can keep themselves engaged on returning to their society.

Following these above few recommendations can help to attain a good mental health in the society.

The researcher welcome any other constructive suggestion in this regard.



## CHAPTER VI

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