UNIT 2  EPIDEMIOLOGY OF MENTAL DISORDERS IN INDIA

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2.0  INTRODUCTION

Over the years it has become apparent that mental health disorders constitute a significant public health problem. The World Health Organisation (WHO) in its World Health Report of 2001 drew attention to the fact that all over the world nearly 10% of total adult population, that is more than 450 million people worldwide, suffer from a mental or a behavioural disorder. Not only are mental health disorders very common, they are also associated with a variety of functional impairments, emotional distress, social disruptions and physical health problems. The same WHO report found that four mental disorders were among the ten leading causes of disability among people all over the world, and that one in four families suffered from the burden of caring for a mentally ill member. Despite the immense size of the problem, resources allocated for treatment and prevention of these disorders are usually inadequate, particularly in low-income countries such as India. With a population of over one billion people, India is confronted with a huge mental health burden. The relative success in the prevention and control of infectious or communicable diseases is slowly changing the nature of health problems of our country. Non-communicable diseases (including mental disorders) are beginning to emerge as the major problems. However, poverty, illiteracy, and the lack of skilled manpower and resources ensure that organising services for the mentally ill remains a daunting task.

Mental or psychiatric disorders constitute a wide spectrum of problems ranging from mild subclinical states to very severe abnormalities of thought, behaviour and emotion. The causes of such disorders are often varied and result from a complex interaction of biological, psychological and social factors. The study of epidemiology of psychiatric disorders provides us many of the answers about the nature and causes of psychiatric
Epimediology

2.1 OBJECTIVES

After studying this Unit, you will be able to:

- Know the basic principles governing psychiatric epidemiology;
- Gain an understanding about the epidemiology of psychiatric disorders in India;
- Explain the prevalence and causes of the common psychiatric disorders in India; and
- Describe the advantages, disadvantages and challenges facing the study of the epidemiology of mental disorders in India.

2.2 EPIDEMIOLOGY OF PSYCHIATRIC DISORDERS – SOME BASIC PRINCIPLES

Epidemiology, derived from two Greek words, *epi* - among and *demos* - people, started out as a medical branch dealing with epidemics or mass phenomenon of any disease among the people. Accordingly, an early definition of the term considered epidemiology to be the study of the patterns of occurrence of disease in human populations and of the factors that influence these patterns. However, the ultimate goal of epidemiological research is not only to understand the distribution and determinants of disease, but also to prevent its occurrence. Epidemiological research focuses on population rather than individual. Indeed, epidemiology is thought to be the backbone of public health. It yields important information required for public health decisions about prevention, treatment and social costs of illness. Moreover, epidemiology relies on statistical methods to estimate the differences between different groups of populations in their risk for developing different disorders. Therefore, a more appropriate definition of epidemiology is that it is the quantitative study of the distribution and determinants of health-related states or events in specified populations, and the application of this study to the prevention and control of health problems. Epidemiology provides a description of how often the disease occurs in the population, of how the rates change over time, and of the factors that explain its occurrence. It provides a picture of the illness in terms of its defining features, associated morbidity and mortality, and the natural history of the disorder. It can, thus, help in identifying many new disorders and complete the clinical picture of some of the existing disorders. One of the major goals of epidemiological research is to elucidate the causes of disorders by assessing the risks or likelihood of developing the disorder. Once the causes of disorders can be determined, targeted treatment and preventive measures can help reduce the burden of disorder in the community. Epidemiological studies aid this process by providing valuable information on the treatment-needs of populations, and whether the health services are able to meet these needs. These different uses of epidemiology are traditionally grouped under three different types of epidemiological research:

- *Descriptive epidemiology* – studies that estimate the rates of a disorder in a population, or its subgroups.
- *Analytical epidemiology* – studies that explore variations in rates of disorders in different populations in order to identify the risk factors that contribute to the development of the disorder.
- **Experimental epidemiology** – studies that aim to reduce the occurrence of disorders by prevention or treatment.

To achieve these aims, epidemiological research employs several different types of study designs broadly grouped as experimental, quasi-experimental, and non-experimental, or observational studies.

Psychiatric epidemiology is the application of the principles of epidemiological research to the study of psychiatric disorders. Since mental disorders usually follow a chronic course, the techniques used in psychiatric epidemiology resemble those used in other, chronic and non-communicable illnesses. Psychiatric epidemiology has been a bit of a new kid in the block and has lagged behind other branches of epidemiology, because of several difficulties involved in conceptualising and measuring mental disorders. Nevertheless, psychiatric epidemiology is a rapidly expanding field with a long tradition of research, which has evolved over several phases, extending as far back as the nineteenth century. The first-generation studies took place for the most part before World War II. These studies were characterised by their reliance on known instances of people with mental disorders, usually those residing in mental hospitals. Compared with findings from later studies, the first-generation studies underestimated the true prevalence of mental disorders. Following World War II, several landmark studies of epidemiology of psychiatric disorders were conducted, particularly in North America. The common denominator of these second-generation studies was the direct interview of all participants with supplementation of data from other sources, such as medical or community records. These studies highlighted the fact that mental illness was a significant public health problem and that most people with psychiatric problems never received treatment. The third—generation studies, which began in the 1970s, represented a significant improvement, because of their use of structured methods of diagnosis and their focus on people residing in the community. Some authors consider the current studies of clinical epidemiology and genetic epidemiology as representing the fourth generation of psychiatric epidemiological studies. Whereas traditional epidemiology has a population focus, and is largely been concerned with the occurrence and causes of disease, clinical epidemiology has emerged as a closely related discipline which seeks to identify the occurrence and determinants of clinical outcomes from illnesses. Clinical epidemiologic studies employ the same principles and methods of population-based epidemiology, but are usually conducted among clinical samples.

### Check Your Progress 1

**Note:**

- a) Read the following questions carefully and answer in the space provided below.
- b) Check your answers provided at the end of this unit.

1) What is the best way to define epidemiology?

2) What are the different uses of epidemiological research?
2.3 PSYCHIATRIC EPIDEMIOLOGY IN INDIA OVER THE YEARS

In a seminal article in the Indian Journal of Psychiatry in 1974, Professors Wig and Akthar pointed out two distinct phases of psychiatric research in India. Psychiatric research during the first phase, from 1947 to 1960, was mostly focused on psychological interpretations of individual dysfunction. Research on epidemiology of mental disorders was conspicuous by its absence during this phase, and this was a major handicap in planning of mental health services. However, even at this stage the enormous burden of psychiatric disorders and the lack of mental health resources were noted by some committees set up by the government, which also suggested measures to remedy the situation. The second phase of psychiatric research in India from 1960 to 1972 was characterised by a broader public health perspective. Some of the major epidemiological studies were conducted during this period, beginning with the first such study in 1961 from Agra by Professor Dube. The period between 1960 and 1980 was marked by a series of descriptive population-based studies of psychiatric disorders in several parts of India. The late 1980s witnessed further proliferation of psychiatric epidemiological studies, which focused on specific disorders in specific populations, and in specific settings. Several large-scale epidemiological studies were carried out during this period. Techniques were refined and evaluation of interventions in mental health care began to attract research attention. Since the 1990s epidemiological studies
have further improved their methodologies, and have begun to focus both on new and emerging problems, as well as the organisation of mental health services. Thus, from the 1960s onwards there has been a tremendous growth of psychiatric epidemiological studies in India. The methodology of such studies has also improved and new areas have been explored. These efforts have yielded a clearer picture of the burden of mental disorders in India. However, the majority of studies are still descriptive in nature and there are very few properly designed analytical or experimental studies.

### 2.4 RATES OF MENTAL DISORDERS IN INDIA – DESCRIPTIVE EPIDEMIOLOGICAL STUDIES

At this juncture, we will find it useful to learn about two indices commonly employed in epidemiological studies to describe rates of different disorders. The first is prevalence (or prevalence rate), which can be simply defined as the proportion of individuals in the total population who have a psychiatric disorder at a specified point of time, or over a specific period of time. Prevalence rates include all new, recurrent, or chronic patients with mental disorder. The point prevalence rate is the proportion of a population affected by a disease at a given point in time. Period prevalence refers to the proportion of a population affected by a disease during a specified time period, such as 6 months, a year, or a lifetime. The other term is incidence, or the incidence rate. This refers to new cases that arise in a healthy population during a specified period of time. The most common such period is one year; thus, annual incidence rates are usually reported.

There are several reviews of psychiatric epidemiological studies in India, which give us a fairly accurate picture of the overall rates of mental disorders. Some of these have been carried out in a systematic fashion, and one is a meta-analytic review, which is a sophisticated statistical method of aggregating research-data from several different studies. The results of these reviews are summarised in Table-1

**Table 1: Some reviews of psychiatric epidemiological studies in India**

<table>
<thead>
<tr>
<th>Authors</th>
<th>Type of review</th>
<th>Number of studies included</th>
<th>Overall prevalence rates of mental disorders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reddy &amp; Chandrasekhar, 1998</td>
<td>Meta-analytic</td>
<td>13</td>
<td>58.2 per 1000 population</td>
</tr>
<tr>
<td>Ganguli, 2000</td>
<td>Open, non-systematic</td>
<td>15</td>
<td>73 per 1000 population</td>
</tr>
<tr>
<td>Madhav, 2001</td>
<td>Open, non-systematic</td>
<td>10</td>
<td>65.4 per 1000 population</td>
</tr>
<tr>
<td>Gururaj &amp; Isaac, 2004</td>
<td>Open, non-systematic</td>
<td>20</td>
<td>9.5-370 per 1000 population</td>
</tr>
<tr>
<td>Gururaj et al., 2005</td>
<td>Based on studies &amp; reviews</td>
<td>21</td>
<td>65 per 1000 population</td>
</tr>
<tr>
<td>Math et al, 2007; Math &amp; Srinivasraju, 2010</td>
<td>Systematic review</td>
<td>16</td>
<td>9.5-102.8 per 1000 population</td>
</tr>
</tbody>
</table>

A glance at Table 1 will tell you that out of every thousand people staying in any part of India, about 65 to 100 are suffering from a mental illness at any point of time. This roughly works out to about 10% of the total population of our country. Of these about
1 to 2% suffers from very serious illnesses, while the rest have less severe disorders, which still require psychiatric treatment.

Rates are generally higher among women, though certain disorders such as drug and alcohol are clearly more common among men. Whether rates of psychiatric disorders are more among urban populations is not very clear. Some of the reviews listed above have noted an excess of psychiatric disorders in urban populations; others believe that the differences are marginal. The bulk of our people reside in rural areas and access to psychiatric treatment is relatively limited for them. This makes the problem of psychiatric disorders in rural India a major area of concern, though the psychiatric problems of the urban poor cannot be ignored. One longitudinal study, which followed up people in two villages in West Bengal for a period of 20 years, found that though some disorders had become more common and others had become less so; however, overall rates of mental disorders had not changed much even over this long period. Rates obtained by Indian studies are much lower than those found in Western countries. This is usually ascribed to under estimation due to methodological reasons, though the possibility of rates being genuinely lower in India cannot be ruled out.

Despite numerous psychiatric epidemiological studies in India and several comprehensive reviews of the subject, these estimates of mental disorder are to be treated with some caution. Firstly, they are mostly based on point-prevalence studies. There are very few studies of incidence rates, probably because incidence studies are much more difficult to conduct. Most of studies have relatively small samples and are from different parts of India. Unlike the West, there has been no single, large, multicentre, national epidemiological study in India. There are also wide variations in the rates obtained by individual studies. However, these discrepancies are more likely to be due to methodological differences between studies, rather than an actual difference in rates. Factors such as the choice of the population studied and the methods used are thought to contribute to the variation in rates. Finally, many believe (with good reasons, too) that these studies may have underestimated the burden of mental disorders in India.

Check Your Progress 2

Note: a) Read the following questions carefully and answer in the space provided below.

b) Check your answers provided at the end of this unit.

1) When did psychiatric epidemiological research begin in India?
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   ....................................................................................................................
   ....................................................................................................................

2) How are incidence and prevalence of a disorder estimated?
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   ....................................................................................................................
   ....................................................................................................................
   ....................................................................................................................


2.5 EPIDEMIOLOGY OF INDIVIDUAL PSYCHIATRIC DISORDERS IN INDIA

Rates of schizophrenia in India range from 2 to 3 per thousand population. Two large-scale studies by the WHO, the International Pilot Study of Schizophrenia (IPSS) and the Study of Determinants of Outcome of Severe Mental Disorders (DOSMED) examined rates of schizophrenia in many different developing and developed countries. They showed that schizophrenic illness, at least in its more ‘pure’ form, occurred with comparable frequency in all countries and cultures. Differences arose when the condition was broadly defined and included patients with other psychotic disorders. These studies also demonstrated that patients with schizophrenia from developing countries like India had a much better outcome than those from the more developed nations. Several studies of schizophrenia from different parts of India provided further support for these differences in outcome between developed and developing countries. However, recent reinterpretation of the results of these studies has indicated that the differences in outcome were less obvious than previously believed. Despite the supposedly better outcome of schizophrenia in India, a study from Chennai found that nearly a-third of patients with this disorder had never received any psychiatric treatment. This ‘treatment-gap’ is a matter of huge concern.

Mood disorders include major depressive disorder and bipolar disorder. The rates of these disorders vary a great deal from study to study, from as low as 0.5 per thousand population, to as high as 78 per thousand population, in different studies. They also vary from and from region to region, with the highest rates being obtained in studies from eastern parts of India. According to some authors, the best estimate for the prevalence of mood disorders would be about 16 per thousand population. The rates of mood disorders are usually higher in urban areas compared to rural areas. All over
the world depression is about twice as common in women than in men, and this appears to be true even for India. For women, depression following childbirth is very common; a study from Goa found that about a-fifth of the women developed depression in the postpartum period.

Common mental disorders (also referred to as neurotic, or minor psychiatric disorders) include depression, anxiety, somatoform and dissociative disorders. As the name implies they are highly prevalent, particularly in primary-care settings. Some studies have reported that up to 50% of the patients attending primary health centres or seeking treatment from a general practitioner have a common mental disorder. These patients report physical symptoms like pains and aches, or fatigue, more often than sad mood or anxiety. Consequently, doctors fail to detect the presence of psychiatric problems in a large proportion of such patients and do not treat them appropriately. The problem is further compounded the fact that these disorders occur more frequently among women, the poor, unemployed and the illiterate. The illnesses in turn cause significant disability, hamper the ability of the sufferers to work and cause further financial losses.

Drug and alcohol use are increasing all over the world. India’s geographical location has made it a part of the international trade in illicit drugs and contributed further to the problem. A joint report of the United Nations and the Government of India estimated that among every thousand persons, 60 abuse alcohol, eight are cannabis users, while two per thousand persons use hard drugs such as opium, heroin and other opiates. Though drug and alcohol abuse is predominantly a problem of men, the consequences of such abuse are often borne by the families of the afflicted and the society as a whole.

There was a time when psychiatrists in India used to believe that suicide was uncommon in India. This was based on government statistics, which yielded low rates. However, carefully conducted studied from various parts of the country have shown that these official figures had grossly underestimated the rates of suicide. Official rates of suicide are about 10.5 per lakh population, while studies from the south have indicated that actual rates could be as high as 95 per lakh population, or even higher. Indeed, the suicide rates in certain parts of south India are among the highest in the world. The rates of suicide have risen by 43% in the last three decades. Compared to Western countries, suicide is relatively more common among women and young adults, and is usually a result of family conflicts, domestic violence and financial difficulties. Suicide among adolescents and debt-ridden farmers appear to be on the rise and have attracted considerable media attention.

Mental retardation is defined as the sub-average general intellectual functioning, which originates during the developmental period, and is associated with impairment in adaptive behaviour. It is a common problem in all ages and genders. About 5 to 7 per thousand population in India suffer from mental retardation. Many of the causes of mental retardation such as iodine deficiency are readily preventable.

Children constitute nearly 40% of our country’s population. Although health-care for children is improving, many problems such as malnutrition, illiteracy, poverty, child labour and discrimination against female children are, unfortunately, far too common. However, in terms of prevalence rates of psychiatric disorders and their clinical presentation, Indian children seem to be no different from children in the rest of the world. The prevalence of psychiatric disorders among Indian children also appears to be equally high, if not higher, than adults.

The United Nations defines a country as having an ‘ageing’ population when the proportion of people over 60 years is 7% or more of the total population. India had crossed this
threshold by 2001. The problems of the elderly are manifold, the commonest being mood disorders such as depression and “organic disorders” such as dementia. However, the elderly in India (like their counterparts elsewhere) appear to have a somewhat lower prevalence of psychiatric disorders than younger adults, with estimates ranging from 22 to 33 per thousand population. Depression appears to be the commonest disorder, though the actual prevalence varies widely across different studies. The prevalence of dementia is about 2-3% in those over 65 years of age, which is quite similar to the rates obtained elsewhere in the world.

**Table 2** summarises what is known about the rates of the individual psychiatric disorders in India.

### Table 2: Approximate rates of individual psychiatric disorders in India

<table>
<thead>
<tr>
<th>Disorders</th>
<th>Prevalence rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schizophrenia</td>
<td>2-3 per 1000 population</td>
</tr>
<tr>
<td>Mood disorders</td>
<td>12 – 34 per 1000 population</td>
</tr>
<tr>
<td>Common mental disorders</td>
<td>13%-50% of patients attending primary health centres, or being treated by general practitioners</td>
</tr>
<tr>
<td>Drug &amp; Alcohol abuse</td>
<td></td>
</tr>
<tr>
<td>Alcohol abuse</td>
<td>60 per 1000 population</td>
</tr>
<tr>
<td>Cannabis abuse</td>
<td>8 per 1000 population</td>
</tr>
<tr>
<td>Opiate abusers</td>
<td>2 per 1000 population</td>
</tr>
<tr>
<td>Suicide</td>
<td>Official suicide rate is about 10.5 per lakh population; actual rates could be 95 per lakh, or even higher</td>
</tr>
<tr>
<td>Mental retardation</td>
<td>5-7 per 1000 population</td>
</tr>
<tr>
<td>Childhood psychiatric disorders</td>
<td>128 per 1000 population for children aged 1-6 years; 43 per 1000 population for children of all ages</td>
</tr>
<tr>
<td>Psychiatric disorders in the elderly</td>
<td>22-31 per 1000 population</td>
</tr>
</tbody>
</table>

Apart from the children and the elderly, researchers in India have also studied other population groups thought to be at especially high risk for developing psychiatric disorders. These have included deprived and marginalised communities such as urban slum dwellers, uprooted communities, industrial workers, urbanised tribal communities and migrants. Expectedly, a higher prevalence of psychiatric disorders has been found among these people as well. **Table 3** gives you a better idea about the groups of people who are thought to be at higher risk for developing psychiatric disorders.
Table 3: Population groups at higher risk for developing psychiatric disorders

<table>
<thead>
<tr>
<th>Group</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Women</strong></td>
<td>especially in the childbearing age (about 30-45 years), more during the postpartum period, but also elderly women and women belonging to the lower socioeconomic strata.</td>
</tr>
<tr>
<td><strong>Children and adolescents</strong></td>
<td>especially younger children and adolescent students.</td>
</tr>
<tr>
<td><strong>Elderly people</strong></td>
<td>especially those living alone, or those with physically illnesses.</td>
</tr>
<tr>
<td><strong>People with chronic physical illnesses or disabilities</strong></td>
<td>such as heart conditions, diabetes, arthritis and those with AIDS; also physically challenged people.</td>
</tr>
<tr>
<td><strong>Marginalised and deprived populations</strong></td>
<td>such as tribal communities, urban slum dwellers and factory workers; in general the poor, the illiterate, the unemployed and the socially disadvantaged.</td>
</tr>
<tr>
<td><strong>Refugees and migrants</strong></td>
<td>migrants to cities from villages, or migrants from neighbouring countries.</td>
</tr>
<tr>
<td><strong>People in custodial care</strong></td>
<td>such as prisons, orphanages, old age homes and shelters for women.</td>
</tr>
<tr>
<td><strong>People afflicted by natural disasters</strong></td>
<td>such as tsunamis, earthquakes and floods.</td>
</tr>
</tbody>
</table>

2.6 TRANS-CULTURAL AND CLINICAL EPIDEMIOLOGICAL STUDIES IN INDIA

India has been very fortunate to be a part of several large-scale studies, which have compared the prevalence, presentation, natural course and treatment of major psychiatric disorders across many countries in the developing and developed world. Two of the studies on schizophrenia, the IPSS and the DOSMED have already been mentioned above. In addition, a third international study has followed up subjects who were part of the IPSS and DOSMED studies. There have other such studies on acute psychosis, on psychiatric disorders in primary-care settings, on suicide and other psychiatric problems. The latest in this series are the “World Mental Health Surveys,” also conducted by the WHO. These studies have shown that the prevalence of very severe disorders such as typical schizophrenia are equally common in India, while the rates of depression and other minor psychiatric disorders are widely variable, and generally lower in India and other developing countries. Trans-cultural research (or research across different countries with their different cultures) has, thus, highlighted the significant impact of cultural factors on psychiatric epidemiology.

The studies conducted in primary-care settings are good examples of clinical epidemiological research. The Indian Council of Medical Research (ICMR) has taken the lead in organising many such studies on different psychiatric disorders.

Check Your Progress 3

Note: a) Read the following questions carefully and answer in the space provided below.

b) Check your answers provided at the end of this unit.


1) Which are the psychiatric disorders that have been commonly studied in India?

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2) Are common mental disorders indeed very common?

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3) Are problems such as drug and alcohol abuse and suicide on the rise in India?

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4) Which population groups are thought to be at high risk for developing psychiatric disorder?

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5) What has trans-cultural research taught us about the epidemiology of psychiatric disorders in India?

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2.7 THE STUDY OF RISK FACTORS – ANALYTICAL EPIDEMIOLOGY

The causes of mental illness are complex. Etiological factors could be biological (e.g. genetic predisposition or brain changes), psychological (e.g. early childhood experiences or personality traits), or social (e.g. age, gender, social class related factors). Well-designed, population-based analytical studies on the causation of mental disorders are lacking in India. However, the results of descriptive studies can provide an idea of (primarily social) risk factors associated with mental disorders.

Psychiatric disorders are more common in the age group of 30 to 45 years, than most other ages. A female preponderance has been noted for most disorders, though certain problems such as drug and alcohol abuse are clearly more common in men, and other disorders such as schizophrenia may be equally prevalent among both males and females. Gender-specific risk factors such as poverty, poor physical health and domestic violence
have a major role in determining the greater vulnerability of women to anxiety and depression in developing countries like India. Unlike Western populations where psychiatric disorders are more common among single people, mental morbidity is higher among married persons, especially married women who do not work outside the home. Marriages in India, for the most part, still follow the traditional pattern of arranged matches and the emphasis on survival despite problems or differences. This probably creates additional stress, particularly for the women. Poverty and illiteracy have been clearly linked to the onset of common mental disorders, though the association with more severe mental disorders is less consistent. People from lower socioeconomic strata and lower castes appear to be at higher risk of developing psychiatric disorders, but certain studies have found a higher prevalence of these disorders among the middle class or higher castes. For centuries, life in India had revolved around the joint family. The pattern has changed a great deal now and nuclear families have become the norm. Although it was believed that the break-up of the joint family would lead to increased rates of psychiatric disorders, the available evidence does not clearly support this notion. The association of mental disorders with other risk factors such as urban or rural residence, type of occupation, or social adversities is far less clear.

Table 4 sums up what is known about the different risk factors associated with psychiatric disorders among studies from India.

**Table 4: Risk factors for psychiatric disorders identified by Indian studies**

<table>
<thead>
<tr>
<th>Risk factor</th>
<th>Association with psychiatric disorders</th>
<th>Likely explanations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>Highest prevalence in those aged 30-45 years</td>
<td>Most productive age group; hence likely to seek treatment more often, though rising rates among the children and elderly should be noted</td>
</tr>
<tr>
<td>Gender</td>
<td>Higher prevalence in adult females, especially for common mental disorders</td>
<td>Gender-specific risk factors such as poverty, poor physical health, domestic violence, illiteracy, lack of work outside home</td>
</tr>
<tr>
<td>Marital status</td>
<td>Increased prevalence in the married, particularly housewives</td>
<td>Marriages can become sources of stress, and of additional responsibilities, especially for women</td>
</tr>
<tr>
<td>Urban-rural residence</td>
<td>Unclear; urban prevalence probably higher</td>
<td>Stress of urban living, particularly for the socially deprived</td>
</tr>
<tr>
<td>Family</td>
<td>Not clearly increased in nuclear families</td>
<td>Joint families were felt to be buffers against stress; the association is probably a complex one</td>
</tr>
<tr>
<td>Poverty</td>
<td>Stronger association with increased rates of common mental disorders</td>
<td>Stress, poor living conditions, lack of access to medical care, social deprivation</td>
</tr>
<tr>
<td>Migration</td>
<td>Increased prevalence in migrants</td>
<td>Possibly due to stress of migration</td>
</tr>
<tr>
<td>Social class, caste, occupation</td>
<td>No consistent trends</td>
<td>Other risk factors are probably more important</td>
</tr>
</tbody>
</table>
India is among the few developing countries to recognise the need to integrate mental health services with general health services at the primary care level. The National Mental Health Programme (NMHP), launched in 1982, aimed at the treatment of mental disorders within the community, using the existing staff at primary health centres and other levels. The success of this approach in detecting and treating certain mental disorders was demonstrated in two innovative research projects in Chandigarh and Bangalore. An elaborate system of referral, from the primary health centres to district hospitals and tertiary care hospitals, was set up under the NMHP. Though the NMHP could not be implemented properly in its initial years because of various problems, the district mental health programmes and a re-strategised version of the NMHP has been successfully put into action in large parts of the country over the last few years. The integrated model of the community care has been tested in several studies by the original research teams, the ICMR and the WHO. These investigations are good examples of experimental epidemiology in India. They have been supplemented by other evaluations of community-based treatments for schizophrenia and common mental disorders. However, this important area of epidemiological research needs to be developed further.

Check Your Progress 4

Note: a) Read the following questions carefully and answer in the space provided below.
   b) Check your answers provided at the end of this unit.

1) What could be the biological, psychological and social causes of psychiatric disorders?

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2) Why are the likely reasons for the higher prevalence of psychiatric disorders among Indian women?

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3) Which kind of mental disorders are strongly associated with female gender and poverty?

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4) What is the National Mental Health Programme?

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5) What kind of model appears to be the most appropriate and efficient way of organising mental health services in India?

2.9 LET US SUM UP

This brief account of psychiatric epidemiology in India clearly shows that this is a rapidly expanding field of research. We have a much better idea of the extent of psychiatric disorders in India, though many more methodologically sound studies will be needed to arrive at precise estimates of the problem. Certain risk factors and populations at risk for developing psychiatric disorders appear to have been identified, but studies that test the association of various likely risk factors with different mental illnesses using proper analytical methods are also required. The few experimental epidemiological studies have indicated that an integrated, community-based system of mental health-care is the best way to organise mental health services. Nevertheless, several issues, such as deploying manpower and resources in the most appropriate and efficient manner, need to be worked out. Psychiatric epidemiology in India is at an exciting phase of growth and development. If the progress continues it will not only improve our understanding of mental disorders in India, but will also create opportunities for improving the quality of life of those with mental illnesses and their families. Only then, by helping those unfortunate enough to be afflicted by mental disorders, will psychiatric epidemiological research in India have fulfilled its true purpose.

2.10 UNIT END QUESTIONS

1) How common are mental disorders all over the world? Why are they considered a serious public health problem?

2) Define epidemiology. What are its purposes?

3) What are the different types of epidemiological studies? Is psychiatric epidemiology any different from the other branches of epidemiology?

4) What is the approximate prevalence of psychiatric disorders in India? How does it compare with the prevalence of psychiatric disorders in other countries?

5) Who are at higher risk of developing psychiatric disorders in India?

6) What are the factors associated with an increased prevalence of mental disorders in India?

7) How can psychiatric epidemiological research in India improve the plight of the mentally ill and their families?

2.11 ANSWERS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress Exercise 1

1) The best way to define epidemiology is that it is a quantitative study of the distribution
and determinants of health related states or events in specified populations and it is applied for prevention and control of health problems.

2) The different uses of epidemiological research are as follows:
   i) It provides a detailed description of disease occurrence in a population, any changes occurring thereby, and explains the factors of occurrence.
   ii) It provides the defining features, associated morbidity and mortality, as well as the natural history of the disorder.
   iii) It also helps in identifying new disorders and gives a clinical picture of the existing disorders.
   iv) It assesses the risks and likelihood of developing a disorder.
   v) It sets a path for treatment and preventive measures that help in reducing the burden of disorder in a community.

3) The different types of epidemiological studies are:
   i) Descriptive epidemiology: It estimates the rate of disorder in a population
   ii) Analytical epidemiology: It explores the variation in rates of disorder in different population in order to identify the risk factors that contribute to the development of the disorder.
   iii) Experimental epidemiology: It aims to reduce the occurrence of disorders by prevention or treatment.
   iv) The first-generation psychiatric epidemiological studies were mostly conducted before World War II and were concentrated on known instances of people with mental disorders. The second-generation psychiatric studies focused on direct interview of all participants with supplementation of other sources, like medical or community records. The third-generation studies were conducted in 1970s. These studies used more structured methods of diagnosis and their focus was on people residing in the community.
   v) Clinical epidemiology tries to identify the occurrence and determinants of clinical outcomes from illnesses and is usually conducted on clinical samples.

Check Your Progress Exercise 2

1) Psychiatric epidemiological research in India started in 1960s with the first study in 1961 in Agra by Professor Dube.

2) Prevalence rate is estimated as the proportion of individuals in the total population who have a psychiatric disorder at a specified point of time, or over a specific period of time. The incidence rate refers to new cases that arise in a healthy population during a specified period of time. Incidence rate is calculated for a one-year period.

3) The approximate prevalence of psychiatric illness in India is 10% of the total population at any point of time. And of this, about 1-2% suffers from very serious illnesses while the rest have less severe disorder but may still require treatment.

4) The rates of psychiatric disorders vary between different Indian States because of methodological differences between studies. The differences may also stem because of relatively small sample of the studies and they are being conducted in different parts of India.

5) There are mixed-reviews of psychiatric illness when location is taken into account. There are studies that have shown high rates of psychiatric illness in urban population
vis-à-vis rural population. Others believe that the differences are marginal. Since majority of people reside in rural areas and access to mental health services is negligible, the problem may be under reported as well. As far as gender is concerned, rates are generally higher among women, though certain disorders, such as drug and alcohol abuse is more common among men.

Check Your Progress Exercise 3

1) The psychiatric disorders have been commonly studied in India are schizophrenia, mood disorders, common mental disorders, drug and alcohol abuse, suicide, mental retardation childhood psychiatric disorders, and psychiatric disorders in the elderly.

2) Yes, the ‘common mental disorders’ are indeed common and prevalent in primary care-settings. Some studies have reported that up to 50% of the patients attending primary health centres or who are taking treatment from a general practitioner have a common mental disorder.

3) The problem of drug and alcohol use is increasing in India. Suicide rate has also increased in India. It has raised by 43% in the last three decades. As a matter of fact, the suicide rates in certain parts of South India are among the highest in the world.

4) The population groups that are at a higher risk for developing psychiatric illnesses are women, children and adolescents, elderly, people with disabilities, marginalized and deprived population refugees and migrants, people in custodial care, and people afflicted by natural disasters.

5) Trans-cultural research has highlighted the impact of cultural factors on psychiatric epidemiology in India.

Check Your Progress Exercise 4

1) The biological causes could be genetic predisposition or brain damages. Psychological causes may include early childhood experiences or personality traits and social causes maybe related to gender, social class and related factors.

2) The likely reasons for higher prevalence of psychiatric disorders in women are poverty, poor physical health and domestic violence.

3) Common mental disorders, anxiety and depression are strongly associated with female gender and poverty.

4) The National Mental Health Programme was launched in 1982 with the purpose to treat mental disorders within the community using the existing staff at primary health centres and other levels.

5) The integrated model of community care has been found to be efficient for organizing mental health services in India.

2.12 GLOSSARY

**Epidemiology** – the quantitative study of the distribution and determinants of health-related states or events in specified populations, and the application of this study to the prevention and control of health problems

**Clinical epidemiology** – studies, which employ the same principles and methods of population-based epidemiology, but are usually conducted among clinical samples

**Trans-cultural epidemiology** – epidemiological studies carried out simultaneously in several countries (with different cultures) using identical methodology.
**Prevalence** – the proportion of individuals in the total population who have a psychiatric disorder at a specified point of time, or over a specific period of time.

**Incidence** – refers to new cases that arise in a healthy population during a specified period of time.

**Common mental disorders** – a group of disorders with less severe manifestations; includes depression, anxiety, somatoform and dissociative disorders; also referred to as neurotic, or minor psychiatric disorders.

**Major depressive disorder** – a more severe and often recurrent form of depression.

**Bipolar disorder** – a mood disorder characterised by episodes of mania and depression.

**Dementia** – a disorder characterised by gradual loss of memory and other intellectual faculties; common in the elderly.

**Postpartum** – the period after childbirth.

### 2.13 SUGGESTED READINGS AND REFERENCES


Articles in journals


