



## Study of depression in India

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### Abstract

India accounts for nearly 18% of the world population. It accounted for 15% of global DALYs attributable to mental, neurological and substance use disorders (31 million DALYs) with depression, accounting for 37% (11.5 million DALYs) in 2013. The burden of depression, in terms of DALYs, increased by 67% between 1990 and 2013. By 2025, DALYs attributable to depression are projected to rise by roughly 2.6 million (22.5%) due to population growth and ageing. As per NMHS (2015-16) in India, one in 20 (5.25%) people over 18 years of age have ever suffered (at least once in their lifetime) from depression amounting to a total of over 45 million persons with depression in 2015.

**Keywords:** uniformity, mortality, susceptible

### Introduction

Globally, depression is ranked as the single largest contributor to non-fatal health loss, accounting for 7.5% of global years lived with disability (YLDs) and 2.0% of global disability adjusted life years (DALYs) in 2015. According to Global Health Estimates 2015, depressive disorders accounted for nearly one third of the total DALYs caused by mental and substance use disorder. It is projected to be the second leading cause of disease burden globally and third leading cause of disease burden in LMICs by 2030.

Globally, the proportion of the population with depression is estimated to be 4.4%. It is more common among females (5.1% vs 3.6%) with a peak in the 55–74 year age-group in both sexes.

India accounts for nearly 18% of the world population. It accounted for 15% of global DALYs attributable to mental, neurological and substance use disorders (31 million DALYs) with depression, accounting for 37% (11.5 million DALYs) in 2013. The burden of depression, in terms of DALYs, increased by 67% between 1990 and 2013. By 2025, DALYs attributable to depression are projected to rise by roughly 2.6 million (22.5%) due to population growth and ageing. The problem is estimated to be much higher as per several population-based studies, with the prevalence of depression ranging from 1.8% to 39.6%. Lack of uniformity across studies, with differences in nature of population, sample size, study instruments, assessment procedures and interpretation of findings, contribute to most of the variations. As per NMHS (2015-16) in India, one in 20 (5.25%) people over 18 years of age have ever suffered (at least once in their lifetime) from depression amounting to a total of over 45 million persons with depression in 2015.

### Depression in primary health care settings

CMDs are widely prevalent in primary care settings in LMICs. Several studies conducted in India have documented that 17–46% of patients attending primary health centres suffer from CMDs. Among the patients of primary care facilities who suffer from CMDs, depression was the commonest disorder

(63.6%). A recent study reported a prevalence of 30.3% for depression among outpatient attendees in a secondary hospital in Delhi.

### Mortality associated with depression

People with depression are 1.52 times more likely to die than the general population, probably due to their untreated mental or physical health problems. Further, with depression being associated with many terminal illnesses, the contribution to mortality could be much higher. In addition, the association of depression and suicides are well established and studies have shown the probability of deaths from suicide among depressed hospitalized patients to be 15%. Certain vulnerable situations and particular risk groups are also at an increased risk, as in the case of farmer suicides. Psychological autopsy studies reported a depression prevalence ranging from 2% to 37.7% among suicide decedents

.Depression can affect people from all backgrounds across the life-course, from early childhood to the end stages of life, with an increased toll at certain time points. Much of the understanding in this area is centred around depression among adults, but it is essential to recognize the fact that children, adolescents and the elderly population are susceptible and affected as well.

### Postpartum depression

Depression during pregnancy and after childbirth is known to affect adversely the growth and development of the offspring, especially in developing countries. Emerging evidence also indicates that failure to thrive is more common in infants whose mothers have postnatal depression. The reported prevalence of postpartum depression in India ranges between 15.3% and 23.0% with an incidence of 11.0%. Around 14% of mothers continue to have symptoms of depression till up to 6 months after delivery. Economic and interpersonal relationship issues, partner violence, alcohol use by spouse and gender of the newborn child are among the major determinants of postpartum depression.

### **Depression among children and adolescents**

Depression among children and adolescents, if left unattended, can lead to protracted health and mental health problems in later life. The overall prevalence rates of childhood depression in India vary anywhere between 0.3% to about 1.2%. The NMHS (2015-16) reported a prevalence rate of 0.8% (CI 0.3–1.4) for depression among 13–17-year-old children. Traumatic experiences in early childhood, frequent migration, negative life events, educational setbacks, and early relationship problems, family history of mental illness as well as stress at school and in the family are linked in varying degrees to depression among children and adolescents.

### **Depression in adults**

Clinical depression among adults is more than extremes of normal mood, with early onset during young adulthood. The prevalence of depression in India as observed in previous studies varies from 1.8% (severe) to 39.6% (mild to moderately severe), depending on study methods. A wide range of social, economic, cultural and psychosocial factors, especially changing life styles with lack of support systems in an environment of globalization, urbanization and migration are often linked with depression in young and middle-aged groups.

### **Depression among the elderly**

With an ageing population, depression among the elderly is likely to increase in the coming years, with higher prevalence among the elderly than that in the general adult population. A systematic review reported a median prevalence of 21.9% (IQR, 11.6– 31.1%) for depression among the elderly in India.<sup>41</sup> Among the community based studies in the elderly, the prevalence of depression ranged from 3.9% to 47.0% with higher rates among female and urban residents. Living alone, stressful life events, lack of social support systems, recent loss of a loved one, lower socioeconomic status and presence of comorbid medical illnesses are some of the risk factors for depression in the elderly.

A higher prevalence of depression among women and working age adults (aged 20–69 years) has been consistently reported by Indian studies. Depression is also common among the elderly. Several reasons are attributed to higher rates among women – biological and hormonal factors are found to be playing a greater role amidst a wide array of social and economic factors. Findings from NMHS have shown consistently higher rates for females across all age groups and among those residing in urban metros as compared to their counterparts. Prevalence reached its peak in the adult age group, with above 3.5% in females and above 3% in males aged 40 and above. NMHS also reported a glaring differential in household income for depression with the prevalence of current depression in the lowest income quintile group (3.4%) being almost twice the prevalence in the highest income quintile population (1.9%). Depression is due to multiple factors resulting from complex mechanisms; there can be no single identifiable cause. However, there is conclusive evidence to reveal that several biological, social, economic, cultural and environmental factors operate in a maladaptive individual, leading to depression.

One may develop depression due to the loss of a loved one, or it may unfold in the backdrop of multiple social or

financial stresses, or on an account of a family history of depression, or it may begin in the background of a chronic medical condition. Some individuals can experience loneliness and feeling low for no apparent reason at all. It is crucial to note that recognition of these factors is important to provide appropriate intervention for the affected individual and to support the family.

### **Biological factors**

About a third of depression cases are linked to genetic factors and the rest to non-genetic or environmental factors. However, evidence of the role of specific genes or specific gene environment associations is not yet established. A substantial association between genetic vulnerability to depression and early childhood traumatic experiences is known to exist. Even though early life trauma increases the chances of developing depression, not all individuals develop depression; and those who develop it, may do so due to the presence of genetic factors. Deficiency of monoamines, particularly noradrenaline and serotonin, are also known to play a role in the pathogenesis of depression.

### **Psychological factors**

Exposure to negative parental influences such as a critical and condemning parental style during early childhood may give rise to negative feelings about oneself. The long-term consequences of separation or early loss of the maternal attachment bond are many, and include depression.

### **Social factors**

Distressing social relationships such as familial, marital and parental relationships have been associated with the onset of depression. Domestic and intimate partner violence (IPV) among women, which is prevalent in India and other LMICs, along with partner's alcohol use are closely associated with depression. Of recent importance is the impact of modernization, urbanization, migration and globalization and consequent loss of family and social support systems, leading to social isolation. Cities with dense population, high migration, poor planning or organization of services lead to health hazards and residents may be at risk for mental health problems.

### **Cultural factors**

Culture plays a significant role, such as religion, caste, beliefs, attitudes, interpretations and symptom thresholds, which vary across different parts of India. People with depression often have features related to various sociocultural contexts and may not fit into the classical definition of depression as per established diagnostic categories. People in distress often experience different symptoms; general physicians, primary care doctors and health care workers need to have proper insight requiring appropriate skills for understanding and interpretation of these presentations. This cultural understanding is critical to develop integrated models of care delivery in different settings.

### **Economic factors**

People who experienced acute (sudden economic crisis) or chronic (poor income households) economic adversities are more vulnerable to developing depression. Individuals living in conflict zones or at times of natural disasters are

also likely to experience depression to a greater extent. Poverty and mental health interact in a “vicious cycle”. People with CMDs are more likely to drift into poverty due to increased health expenditure, reduced productivity, lost employment, school dropout, reduced social support, and stigma associated with these conditions. Poverty also increases the risk of developing CMDs through social exclusion, high stressors, reduced social capital, malnutrition, obstetric risks and increased risk of violence and trauma, all of which increase the risk for higher prevalence of mental disorders. Furthermore, lack of access to quality and continued care disposes individuals to have a long and protracted illness. With one in five Indians being poor (Reserve Bank of India, September 2013[<https://www.rbi.org.in/scripts/PublicationsView.aspx?id=15283>]), it is imperative to consider mental disorder alongside other diseases associated with poverty and within the overall developmental agenda of the country.

In conclusion, it is essential to note that depression has multifactorial origin with a complex interplay of factors which, spread over different domains of an individual's life, operate in togetherness, over short or long periods, can be cumulative and un-resolving in nature, leading to protracted illness.

#### **Chronic communicable diseases**

Burden due to depression has particular relevance in LMICs because of its association with poverty and Human Immunodeficiency Virus (HIV)/Acquired Immune Deficiency Syndrome (AIDS). By hindering treatment adherence in HIV/AIDS, depression adds to the burden to HIV/AIDS.

#### **Mental health comorbidity**

Findings from NMHS 2015-16 showed that nearly 30% of those with depression have substance use disorder as a comorbid condition. Conversely, those with long-term use of alcohol and drugs are known to suffer from depression to a greater extent.

#### **Chronic non-communicable diseases**

Chronic diseases (cardiovascular diseases, mental health disorders, diabetes, and cancer) and injuries are the leading public health problems of India. Mental disorders, especially depression share common determinants with NCDs and frequently co-occur. Poor mental health can be a precursor to or a consequence of NCDs and it can exacerbate NCD risk factors such as unhealthy diet, physical inactivity, tobacco use and harmful alcohol use. Prevalence of major depression among individuals with NCDs ranges from 22% to 33%.

There is a significant association between depression and incidence of type 2 diabetes. Depression is associated with a 60% increased risk of type 2 diabetes and diabetes doubles the odds of depression. Emerging evidence from South Asia has shown that psychosocial factors like depression and stress at work or home have a significant association with acute myocardial infarction (odds ratio 2.62). Risk of ischemic stroke is increased among individuals suffering from depression and 31% of stroke survivors are likely to have depression at any time- point up to 5 years after stroke (systematic review). Prevalence of depression among cancer patients in palliative and non-palliative care settings is

24.6% and 20.7%, respectively.<sup>59</sup> Depressive symptoms were 7.85 times more likely among cancer patients when compared to those without cancer and 6.03 times more likely in those suffering from other disease conditions.

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