

## Therapeutic Management of Depression

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Depression is a common, chronic and potentially debilitating illness with the state of gloomy thoughts characterized by sadness, loss of interest in activities and decreased energy (WHO, Mental Health, 2010). In today's busy life, it is one of the most prevalent psychological disorder which is challenge to public health. By 2030, it is projected that depression alone is likely to be the second highest cause of disease burden – second only to HIV/AIDS (WHO, Mental Health, 2010; Mathers and Loncar, 2006). In 2003, results of a large national survey in United States revealed a lifetime prevalence rate of major depression of 16.2%, and the 12-month prevalence rate was 6.6% (Kessler *et al.*, 2003; Kessler *et al.*, 1994). The annual incidence of mood disorders is estimated to range from 7% to 12% of the population, and approximately 1 in 10 adults will suffer from an episode of major depression during any 12-month period (Narrow *et al.*, 2002). Major depression affects 5 to 13 % of medical outpatients (Coyne *et al.*, 1994), yet is often misdiagnosed or untreated (Hirschfeld *et al.*, 1997; Goldman *et al.*, 1999). Moreover, it is often undertreated when correctly diagnosed (Goldman *et al.*, 1999).

The demographics of depression are striking. Among persons both with major depressive disorder (MDD) and bipolar disorder, 75 to 85 per cent have recurrent episodes (Mueller *et al.*, 1999; Keller *et al.*, 1986). In addition, 10 to 30 per cent of persons with a major depressive episode recover incompletely and have persistent, residual depressive symptoms, or dysthymia, a disorder with symptoms that are similar to those of major depression but last longer and are milder (Keller *et al.*, 1986; Judd *et al.*, 1998). Patients who have other co-morbidities with concomitant major depression have poorer outcomes than do those without depression (Ciechanowski *et al.*, 2000; Jiang *et al.*, 2002).

The risk of death from suicide, accidents, heart disease, respiratory disorders, and stroke is higher among the depressed (Angst *et al.*, 2002; Stark *et al.*, 1995). It is estimated that up to 50% of depressive patient do not receive any treatment in low- and middle-income countries (WHO, mhGAP, 2008). Effective treatment of depression may reduce mortality or improve the outcome after acute myocardial infarction (Taylor *et al.*, 2005) or stroke (Jorge *et al.*, 2003) and lower the risk of suicide (Gibbons *et al.*, 2005).

### Pathophysiological features of depression:

The underlying pathophysiology of MDD has not been clearly defined (Dunlop and Nemeroff, 2007). The clinical picture of depression varies from one major depressive episode to another in any given patient. This suggests that major depression, despite its various symptom profiles, may have a common underlying cause. If so, the clinically evident symptom profiles may result from differing patterns of neurotransmitter abnormalities in various brain regions, including norepinephrine, serotonin, dopamine, g-aminobutyric acid (GABA), and peptide neurotransmitters or trophic factors such as brain-derived neurotrophic factor, somatostatin, and thyroid-related hormones and have been proposed as contributing to depression (Milak *et al.*, 2005; Mann *et al.*, 2006). Furthermore, overactivity in still other neurotransmitter systems involving acetylcholine, corticotropin-releasing factor, and substance P are thought to be implicated in depression (Mann *et al.*, 2006). Although no specific abnormalities in genes that control neurotransmitter or hormonal synthesis or release have been identified with certainty, both major depressive disorder and bipolar disorder are clearly heritable (Kendler *et al.*, 1997).