

# Impact of Psychosocial Stressors on Outcome of Major Depressive Disorder: A Case Report

### Dr. Sangamjyot Kaur

P.G. Resident, Department of Psychiatry  
Pacific Medical College and Hospital  
Bhilo ka Bedla, Udaipur

### Dr. S. G. Mehta

Professor and Head, Department of Psychiatry  
Pacific Medical College and Hospital  
Bhilo ka Bedla, Udaipur

### Dr. Bhakti Murkey

Assistant Professor, Department of Psychiatry  
Pacific Medical College and Hospital  
Bhilo ka Bedla, Udaipur

### Dr. Versha Deepankar

P.G. Resident, Department of Psychiatry  
Pacific Medical College and Hospital  
Bhilo ka Bedla, Udaipur

### Dr. Harmandeep Kaur

P.G. Resident, Department of Psychiatry  
Pacific Medical College and Hospital  
Bhilo ka Bedla, Udaipur

### Dr. S. K. Sharma

Consultant Psychiatrist,  
Department of Psychiatry  
Pacific Medical College and Hospital  
Bhilo ka Bedla, Udaipur

#### Address for Correspondence

**Dr. Bhakti Murkey**

doctor.bhaktii@gmail.com

### ABSTRACT

Millions of individuals are affected by Depression, known as one of the most common mental illnesses worldwide. The role of psychological stresses in onset of depression and its numerous negative health outcomes is well established. The psychosocial impact of depression is deemed to be considered with respect to the psychological factors and social factors. However, taking a closer look at stress vulnerabilities in individuals is warranted for implementing adequate and appropriate interventions in management of depression. There are both pharmacological and non-pharmacological treatment modalities for management of depressive symptoms, of which the role of psychotherapy is considered to have a good potential. In addition, behavioural therapy, cognitive therapy and interpersonal psychotherapy are also considered to be efficacious. This case report illustrates how psychosocial stressors can impact presentation of major depressive disorder and describes the bidirectional nature of relationship between stress and mental health. This may help with better understanding of how mind-body therapies can benefit individuals with a higher risk of stress and/or Depression.

**Keywords:** Depression, Life events, Stress, Psychosocial Stressors.

### INTRODUCTION

Mood is defined as an internal and persistent or sustained emotional state that impacts a person's perception of the world and resultant behaviour<sup>[1]</sup>. Affect is an outward manifestation of the mood. Mood disorders are a group of clinical conditions characterized by a subjective experience of distress and loss of sense of control. Depression is a mood disorder, which is the leading cause of disease burden across nations. It affects millions of individuals every year, particularly women. The lifetime risk of experiencing depression is estimated to be 10-25% in women<sup>[2]</sup>. The vulnerability of depression is seen to begin during puberty and continues through menopause<sup>[3]</sup>. Due to short term and long-term detrimental effects, depression is considered to be of remarkable public-health concern. It has been observed that depression is accompanied by high rates of anxiety, substance use and poor relationships and even suicidal ideation<sup>[5]</sup>. Patients with depression often experience loss of interest or pleasure in activities, feeling guilty, fatigue, concentration issues, reduced appetite and thoughts of ending life. Other signs can include changes activity level, speech and vegetative functions (sleep, appetite and sexual activity). According to DSM-IV-TR, major depression occurs in the absence of any manic, mixed or hypomanic episode and lasts for at least 2 weeks, with four or more symptoms from changes in appetite and weight, sleep and activity, lack of pleasure, feeling guilty, problems in thinking and making decisions, and recurring suicidal ideation. These disorders result in significant clinical distress and impairment in social, occupational and interpersonal functioning.

The etiology of depression still remains poorly understood. Genetic analysis recognizes unidentified “depression genes” to be responsible for the onset and cure of depression. Additionally, external factors involved in onset of depression include endocrinopathies (hypo/hyperthyroidism), cancers (carcinoma breast or pancreatic adenocarcinoma), side effects of drugs (such as interferons and isotretinoin) and stressful events (such as loss of loved one, losing a job, financial crisis, etc.). Such stressful events tend to cause psychological and physiological changes in an individual (through hypothalamic-pituitary-adrenal axis and sympathetic nervous system), i.e., the psychological stress response.

Stress is associated with Major Depression, the mechanism of which remains elusive. Long Term Potentiation (LTP) and long-term depression (LTD) are both influenced by stress. If LTP is considered to be crucial for normal learning, then a limited LTP and facilitated LTD together are responsible for storing stress related memories. There is a bidirectional relationship between stress and depression wherein either ends can act both as a cause and an effect<sup>[5]</sup>. When an individual is exposed to long-term stress, the neuronal and regulatory functions of the body are impaired, placing the individual in a stress cycle. The negative emotions result in decreased quality of life and increased morbidity and mortality.<sup>[6,7]</sup>

In the most recent surveys, major depressive disorder has been considered to have a lifetime prevalence of 17% of any psychiatric disorder. Annual incidence of major depression is 1.89% and 1.10% in women and men, respectively. Patients hospitalized for first episode depression have up to 50% chance of recovering in the first year of treatment. This percentage decreases with time and about 25% experience a recurrence in first 6 months after discharge. In the next 2 years recurrence can be seen in about 30-50% of patients, and nearly 50-75% in following 5 years.<sup>[1]</sup>

Patients with MDD with atypical features (reverse vegetative symptoms) may respond to treatment with Bupropion, MAOIs or SSRIs. Antidepressants which act on both serotonergic and noradrenergic receptors shows greater efficacy in patients with melancholic depressions. Depression during winters (seasonal depression) can be treated with light therapy. Major depressive disorder which presents along with psychotic disorders requires both antidepressant and an atypical antipsychotic for treatment. Several studies have shown ECT to be more effective than pharmacotherapy in such cases. For those with atypical symptom features, MAOIs are effective.<sup>[1]</sup>

Many patients experience persistence of depressive symptoms in spite of adequate care, which pushes them to seek help from complementary therapies.<sup>[8,9]</sup> A thorough examination of such cases warrants evaluation of the interpersonal relationships of an individual, his/her social background and the behavioural factors involved in onset and impact of depression. The case discussed below aims to focus on this particular aspect in order to shape an appropriate interventional plan.

## CASE HISTORY

A 56 years old widowed Hindu female presented to the psychiatric OPD with complaints of sadness, reduced interest in daily activities, insomnia, reduced appetite, crying spells

and body aches along with headache from past 7 months. She was apparently asymptomatic 5 years back when she had sudden onset of burning sensation in her chest, which she referred to as *'enlightenment of Almighty God in her soul'*. Following this incident, she started experiencing possession episodes of Kalka Maa (Goddess) which occurred on every full moon night and each episode was associated with fatigue and body-aches. This further led her to get excessively involved in religious activities. She started praying multiple times daily in her set ritualistic fashion. This continued in varying intensity for the next four years, without any formal treatments/intervention.

Approximately 11 months back, while reconstructing their ancestral place of worship, they shifted lord Bhairav's throne and idol which was placed next to Kalka Ma's. Soon after, her son also got ill and was later diagnosed with carcinoma bone approximately 7 months back. In response to this stressor, the patient perceived that the process of shifting idols was responsible for her son's illness and in order to please these idols, she started engaging more in religious activities. Over the year she spent approximately 1 lac rupees in the same, amounting to further financial burden and distress. The heavy expenditure on her son's chemotherapies also added to the financial crises in the family. She was pushed to eventually sell her property and gold jewelry to survive with the burden and that added more psychological distress on her mind.

Being a sole earner of the family after her husband's death, struggling with her son's illness and having no hands to support the family financially along with the medical expenditures together exacerbated her symptoms and she started experiencing sadness and reduced interest in daily activities, along with decreased energy levels. She has now restricted herself only to religious activities as the worries for her son preoccupies her. She even complained of reduced sleep as earlier she used to sleep for 8-9 hours a day which has been reduced to 3-4 hours per day. This is associated with headache in frontal region, throbbing in nature, continuous throughout the day and generally not relieved upon taking medication. She further mentioned loss of appetite as her diet was reduced from 4 meals to 2 meals per day. She added about experiencing body aches which were not specified to any particular part of the body and persisted despite of taking medications.

The patient is third in birth order amongst 7 siblings and belongs to lower socio-economic status. She has never been to school and prefers to be a clay potter for earning. Her husband died 30 years back due to tuberculosis as he had been on treatment for coughing and hematemesis for 8 years. She is now living in an extended family type with her eldest son, daughter in law and 3 grandchildren. She has a total of 4 children, 3 sons and a daughter, all of which are married. There is no history of psychiatric complaints among the family members.

There is no history suggestive of seizures, prolonged fever, vomiting, neck stiffness or blurry vision which thus rules out probable underlying organicity. There is no history of increased/big talk, flight of ideas, pressure of speech, repetitive thoughts or impulsive activities, fearfulness, suspicion, muttering, or use of any psychoactive substance.

Though, she has been consuming tobacco for 40 years in the form of a paste which she rubs over her gums and teeth about 2-3 times a day. The patient is a known case of hypertension and hypothyroidism from past 5 years for which she has been under medication. She has been a defaulter and details about previously prescribed medications could not be retrieved.

Her pre-morbid personality revealed her to be a strong-minded lady by the way she supported her family both financially and emotionally after her husband passed away. She raised her family all alone by opting for multiple jobs such as being a house maid, a rag picker and a potter. Thus, there has been a history of various significant stressful life events in the form of being married at a young age, followed by her husband's prolonged illness leading to his untimely death and burden of rearing the family alone, and now her son's illness, associated with the financial crises owing to increased expenditures. The burden of care-giving in her close family members had led to expressed emotions in them, further worsening her symptoms.

On examination, the patient was conscious, cooperative and well-oriented during the interview. She was afebrile and her vital signs were within normal range. She showed signs of pallor but no icterus, cyanosis; clubbing, lymphadenopathy or oedema was noted. Systemic examination revealed no major abnormality. She presented as an elderly-women who appeared of her stated age of 56 years, was dressed up in Rajasthani attire. She was generally cooperative, easy to engage with and displayed eye contact which was established but not sustained. Her psychomotor activity was slowed down. She stated her mood to be sad and worried about her son's health issue. Speech was spontaneous, comprehensible, coherent, relevant, with reduced tone, volume and pressure. Her reaction time was prolonged. The evaluation of thought and perception was reported to be normal. She denied harboring any suicidal ideation. Her immediate and long-term memory was intact and her fund of knowledge was above average. However, she attributed her illness to external causes and did not accept her symptoms to be a part of a mental health condition.

After conducting routine blood investigations, including metabolic and thyroid profile, the values were suggestive of hypothyroidism (raised TSH & low T3 and T4). Imaging of the brain (CT Scan) showed no underlying lesion. Further assessment of her personality revealed no major abnormalities.

Based on the above history and clinical examination, the patient met the DSM-5 criteria for Depressive disorder with somatic complaints and without psychotic features. The criteria included either depressive mood or lack of pleasure accompanied by 4 additional symptoms, for two weeks and a change from previous functioning. As her symptoms seem to have been precipitated by her son's illness, a diagnosis of Adjustment disorder with depressive mood may have been considered, but the duration of symptoms has exceeded the cut off criteria of 6 months. With no history of manic symptoms, a diagnosis of Bipolar Disorder was ruled out. With no abnormalities detected in physical health parameters (except co-morbid hypertension and subclinical hypothyroidism), Major Depressive Disorder secondary to general medical condition appeared to be less likely. Depressive symptoms also did not appear to be a direct physiological effect of chronic

tobacco consumption, ruling out the possibility of substance-induced depressive disorder. Absence of symptoms suggestive of psychosis and no formal thought disorder found on examination ruled out presence of a Psychosis disorder (Schizophrenia).

## TREATMENT

The patient presented to our OPD with persisting symptoms for more than 5 years, with the recent exacerbation from past 7 months. The patient was treatment-naïve until 1 year back, when she has received a trial of Amitriptyline (12.5mg) and Chlordiazepoxide (5mg) combination, along with Venlafaxine (37.5mg) and Flupentixol (0.5mg) and Melitracen (10mg) combination. She was also prescribed tablet Thyroxine (25 micrograms). On this regimen, she had reported some relief in her symptoms, but her financial crises in the past 7 months and the nation-wide lockdown imposed in wake of the Covid-19 pandemic, she was not compliant with her medication. She reported no adverse effects with the above medicines.

## DISCUSSION

Mood disorders are postulated to be a result of interactions between environment and individual biological factors, which was attempted to be highlighted in this case report. On similar note, a cross-sectional study conducted by Jansen and colleagues used the Mini International Neuropsychiatric Interviews and the Social Readjustment Rating Scale to evaluate mood disorders and stressful life events respectively, on a sample of 1172 and found the following percentages of stressful events in various categories: 38.87% in finances, 42.4% loss of social support, 50.9% environmental changes, 53.8% work, 61.1% personal difficulties, and 63.8% family. This reiterates the significant relationship between stress and mood disorders, depicting a psychosocial interaction between the two<sup>[10]</sup>.

Acute or chronic burden of accumulated life stressors is known to precipitate depressive symptoms by a complex interaction with each other. The tendency of experiencing stressful episodes is also heightened by the experience of depression. Whenever the stressors are persistent and profound, they tend to prevent the regulatory mechanisms from adjusting appropriately and also results in neurobiological dysregulations leading to poor health outcomes<sup>[11]</sup>.

Vulnerabilities regarding the psychosocial environment in the form of lower socioeconomic status, lesser perceived social support, poor lifestyle or adverse interpersonal situations have an important impact on depression. There is a clear link between lower socio-economic background and higher stress vulnerability, with impaired coping mechanisms and lesser educational and financial opportunities, unhealthy lifestyle choices and worse health outcomes<sup>[12]</sup>. Domestic violence (intimate partner violence) and lesser perceived support add to a person's vulnerability for stress-induced depression.

Treating MDD may become more difficult because of the accumulation of stress-related memories from previous exposures to various psychological stresses that can further bias cognitions and behaviours. In order to prevent the relapse and development of MDD, certain anti-stress therapies can be offered. Such approaches are found to be helpful in even

lowering the biomarkers related to physiological stress<sup>[13]</sup>.

An untreated episode of depression is usually self-limiting and lasts for about 6 months or more. The absence of psychotic features and no hospital stay in the past, along with the absence of any psychiatric co-morbidity are positive prognostic indicators for this patient's illness. The negative prognostic

factors in her case include her co-morbid hypothyroidism and life stressors like early death of husband, burden of care-giving for her son, concern for son's illness, and financial strain. As per the Life Change Index Scale, the stressful life events experienced by the patient amounted to a score of 319, which implies that the odds of her attaining the depressive illness secondary to these stressors were raised to about 80%.

LIFE EVENTS	MEAN VALUE
Death of the spouse	100
Personal Illness	53
Change in health of family member	44
Change in financial status	38
Change to a different line of work	36
Change in responsibility at work	29
Change in social activities	19
<b>TOTAL</b>	<b>319</b>

## CONCLUSION

This case report is to highlight the impact of psychosocial stressors on major depressive disorders. It attempts to elaborate on the importance of external factors (stressors) involved in the onset of depression and its practical considerations in management. This also emphasizes that early screening of mood symptoms, timely recognition of stressors, relaxation therapies and non-pharmacological treatment modalities in addition to pharmacological are of equal importance in reducing depressive morbidity. The aim is to provide holistic care, achieve maximum treatment response and minimize overall psychological distress in the patient.

**CONFLICT OF INTEREST:** None.

**FINANCIAL SUPPORT:** None.

## REFERENCES

- Sadock, B. J., Sadock, V. A., & Ruiz, P. (2015). *Kaplan & Sadock's synopsis of psychiatry: Behavioural sciences/clinical psychiatry* (Eleventh edition.). Philadelphia: Wolters Kluwer
- Kessler, R., P. Berglund, O. Demler, R. Jin, D. Koretz, K. Merikangas, et al. (2003). The epidemiology of major depressive disorder: results from the national comorbidity survey replication (NCS-R). *J. Am. Med. Assoc.* 289:3095–3105.
- Nolen-Hoeksema, S. (2006). The etiology of gender differences in depression. Pp. 9–43 in G. P. Keita, ed. *Understanding depression in women: applying empirical research to practice and policy*. American Psychological Association, Washington, DC.
- Kessler, R. C., M. Gruber, J. M. Hettema, I. Hwang, N. Sampson, and K. A. Yonkers. (2008). Co-morbid major depression and generalized anxiety disorders in the national comorbidity survey follow-up. *Psychol. Med.* 38:365–374
- Kinser, P. A., L. E. Goehler, and A. G. Taylor. (2012). How might yoga help depression? A neurobiological perspective. *EXPLORE (NY)* 8:118–126
- Logan, J. G., and D. J. Barksdale. (2008). Allostatic and allostatic load: expanding the discourse on stress and cardiovascular disease. *J. Clin. Nurs.* 17:201–208.
- McEwen, B. S. (2000). Allostatic and allostatic load: implications for neuropsychopharmacology. *Neuropsychopharmacology* 22:108–124;
- Zajacka, J., S. G. Kornstein, and P. Blier. (2013). Residual symptoms in major depressive disorder: prevalence, effects, and management. *J. Clin. Psychiatry* 74:407–414.
- Jorm, A. F., H. Christensen, K. M. Griffiths, and B. Rodgers. (2002). Effectiveness of complementary and self-help treatments for depression. *Med. J. Aust.* 176 (Suppl):S84–S96.
- Jansen, K., Cardoso, T., Mondin, T. C., Matos, M. B., Souza, L. D., Pinheiro, R. T., Magalhães, P. V., & Silva, R. A. (2014). Eventos de vida estressores e episódios de humor: uma amostragem comunitária [Stressful life events and mood disorders: a community sample]. *Ciencia & Saude Coletiva*, 19(9), 3941–3946.
- Nolen-Hoeksema, S. (2006). The aetiology of gender differences in depression. Pp. 9–43 in G. P. Keita, ed. *Understanding depression in women: applying empirical research to practice and policy*. American Psychological Association, Washington, DC.
- Shonkoff, J. P., W. T. Boyce, and B. S. McEwen. (2009). Neuroscience, molecular biology, and the childhood roots of health disparities: building a new framework for health promotion and disease prevention. *JAMA. J. Am. Med. Assoc.* 301:2252–2259.
- Pascoe MC, Thompson DR, Jenkins ZM, Ski CF. (2017) Mindfulness mediates the physiological markers of stress: Systematic review and meta-analysis. *J Psychiatry Res.* Dec;95:156-178