Preventive Measures and Quality Improvement in Depressive Disorders in Children and Adolescents

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ABSTRACT

The rising trend of depressive disorders is of major concern because children and adolescents usually present with varied symptoms that often goes unrecognised. Though effective treatments are available, yet they do not access the mental health services because of unawareness and fear of being socially stigmatized. The major risk factors include a family history of the condition, major life changes, certain medications, chronic health problems, and drug abuse. Interplay of genetic factors, psychological stress, sex hormones and neuro-endocrine hormones can be linked to depression in adolescents. Various quality indicators have been proposed to document the course of the mental disorder, effects of treatment and the performance of the provider. Despite the high burden of depression and the availability of effective treatments, 60% - 80% of affected adolescents do not receive appropriate care. Given the current limitations in effectiveness of treatment modalities for decreasing disability due to mental and behavioural disorders, the only sustainable method for reducing the burden caused by these disorders is prevention.

Key words: depression, children, adolescent, quality measures, prevention, promotion

INTRODUCTION

Depression is defined as a common medical disorder characterized by sadness, loss of interest or pleasure, feeling of guilt or self-worth, disturbed sleep or appetite and feeling of tiredness and lack of concentration. [1]

Depression in its different forms is becoming more common in the modern times owing either to correct diagnosis with advanced and accurate diagnostic tools or actual increase in its occurrence. Mental disorders and mental health problems have increased considerably among adolescents in the past 20-30 years. The rise has been driven by social change, including disruption of family structure, growing youth unemployment, and increasing educational and vocational pressures. Its reported occurrence in the urban population could be due to the changes in the societal behavior and modern day mechanical lifestyle. Psychiatrists blame a fast-paced lifestyle, stress and complexities of living, breakdown of support systems and challenges of economic instability for the rising cases of depression. Fragility of human psyche coupled with lack of social support could be pushing many into depression and suicide ideation. Today, depression is not limited to lower social strata, and can be recorded in patients from middle and high income group. Major depression is currently the fourth-leading cause of disease burden worldwide. As per WHO predictions, this will become the second leading cause of disease burden worldwide in the year 2030. [2] Mental, Neurological and Substance use disorders (MNSUDs) are now included under Non-Communicable Diseases (NCDs) and have become a major public health problem with high morbidity and disability.

Depression in adolescents:

In children and adolescents, the associated symptoms are generally sadness, loneliness, worrying, feelings of worthlessness and anxiety. However,

identification of emotional problems in them is difficult owing to the fact that the boundaries between the different disorders and between normality and disorder are characterised by uncertainty. Many a times, irritability, unexplained reactivity and fluctuating mood can be the core diagnostic symptom rather than mere depression. [3]

Epidemiology:

The WHO global health estimates states that 322 million people are now living with depression with an increase of 18.4% between 2005 and 2015. Nearly one third of these populations belong to South-East Asia region (27%), for example India and China. Global prevalence of depressive disorders in male and female adolescents of age group 15-19 years is approximately 3% and 4.5% respectively. [1]

The National Mental Health Survey (NMHS) 2015 – 2016, across 12 states in India has reported the prevalence of mental morbidity in adolescents (13-17 years) to be 7.3% (M:7.5%; F:7.1%). [4] Though, prevalence of childhood depression is lower (0.3 – 1.4%) as compared to adult age group (current prevalence rate ~ 2.7%), yet it's of major concern because it can have a negative impact on daily functioning and emotional problems in early adolescence can lead to psychiatric disorders later in life. [5,6]

Potential risk factors for depression:

Though the exact cause of major depression is unknown, it is believed to be a combination of genetic, environmental, and psychological factors. Risk factors include a family history of the condition, major life changes, certain medications, chronic health problems, and drug abuse. The risk factors include childhood trauma/abuse - either physical, sexual or psychological; anxiety and drug abuse. This condition causes clinically significant distress or impairment in social or occupational or other important areas of functioning. [5,7]

It has been observed that children of parents suffering from depression are more (about 3-4 times) prone to the condition than the children of healthy parents. The children of the mother with prenatal or postnatal depression are also more likely to get affected with this condition. Even existence of anxiety during childhood may turn into depression during adolescence.

Although environmental factors such as exposure to stressful events viz. physical injury, bereavement, family discord, maltreatment, negative family relationships, bullying by parents or friends, poverty, and chronic disease play important roles in development of depression in adolescents, these are more important in children with high genetic risk.

The role of inherited factors as a cause of depression in adolescents has been established. Besides directly increasing the risk, these factors also act indirectly through gene-environmental interplay particularly by increasing sensitivity to adversity and probability of exposure to risky environment.

Many studies have shown that about 60-90% episodes of adolescent depression recur within a year. Further, adolescent depression can also forecast a variety of mental disorders like anxiety disorder, drug abuse, bipolar disorder and even suicidal ideation in adulthood. [8] **Pathophysiology:**

The exact pathophysiology of depression is not correctly understood. However, among the genetic origins of the disease, the serotonin-transporter-linked polymorphic region (5-HTTLPR) or serotonin transporter gene's (SERT) short allele, monoamine oxidase A (MAOA), corticotrophin releasing hormone receptor 1 (CRHR1), FK506 (tacrolimus - immunosuppressant) binding protein 5 (FKBP5 – stress response modulator), opioid related nociceptin receptor 1 (OPRL1) and brain-derived neurotrophic factor (BDNF) may be associated with increased risk of depression. [9]

Brain and neuroendocrine mechanisms also play an important role in development of depression in adolescents. The theories like the monoaminergic systems, the circadian rhythm, immunological dysfunction, hypothalamic-

pituitary-adrenal (HPA) axis dysfunction, and structural or functional abnormalities of emotional circuits seem to be relevant. According to the monoamine theory insufficient activity of monoamine neurotransmitters is the major cause of depression. [10,11]

Two interrelated neural circuits and associated modulatory systems are closely linked to risk for depression in adolescents. The circuit which connects the amygdala to the hippocampus and ventral expanses of the prefrontal cortex is linked to hypothalamic-pituitary-adrenal axis activity. Since this circuit matures after adolescence, the effects of genetic factors, psychological stress, sex hormones and development can be linked to depression in adolescents. [8,12] Presence of high concentration of sex steroid receptors in this circuit may be the reason for girls being at higher risk than boys. The other circuit includes the striatum and its connection to both the prefrontal cortex and ventral dopamine-based systems which also matures during adolescence. Reduced activity in these circuits is responsible for depression. [11,13]

How mental health problems affect quality of life in children and adolescents?

Scientists have often documented that anxiety and depression are the two facets of one syndrome. Symptoms of mental health problems in childhood and adolescence can be classified into two categories - emotional (internalising) and behavioural (externalising) problems. General signs and symptoms of depression include disturbed sleep, loss of appetite, senses of guilt, feeling ashamed, low self-worth, loss of weight, feeling tired and lethargy. It may also manifest as agitation or physical restlessness, violent behaviour, drug abuse, reduced concentration and suicidal ideation or acts. Pain in various forms is almost a constant sign of depression. Children and adolescents become irritable rather than sad. [2,8]

In children, depression may manifest as an irritable mood instead of a depressed mood and may show varying symptoms depending on age and situation. Most children lose interest in school, show a decline in confidence level and their academic performance. They may be described as clingy, demanding, dependent, or insecure. Diagnosis may be delayed or missed when symptoms are interpreted as normal moodiness. [14]

What are various mental health quality indicators:

Many measures have been proposed to document the course of the mental disorder, effects of treatment and the performance of the provider. Many stakeholders have created and implemented rate-based process measures that indicate the percentage of patients receiving adequate care. Commonly used monitors for mental health services include measures of access (e.g., time to first appointment after hospital discharge), utilization (e.g., average length of inpatient stays), care processes (e.g., adequate trials of antidepressants for patients with major depression), and outcomes (e.g., changes in scores on standardized psychiatric rating scales).

The Quality Indicators (QI) as described by Donabedian framework is being increasingly used in psychiatry. These, however, vary in their types, sophistication and utility. These indicators provide accountability for funding, delivery, effectiveness and improvement of health services. [15,16]

I. Structural indicator measures the adequacy of health care structural components such as -
   i. Resource personnel (mental health specialists)
   ii. Training facilities
   iii. Treatment availability
   iv. Quality improvement protocols
   v. Standard infrastructure set-up
   vi. Policy making for providing primary care.

II. Process indicators are most commonly used and are used as the primary focus of benchmarking quality of mental

health care. These indicators assess the implementation of evidence-based practices in standardization of method protocol such as

i. Documentation of patients attending the mental health program
ii. Accessibility of treatment facilities
iii. Appropriateness of psychotherapy
iv. Timelines of treatments and services
v. Safety of drug usage during treatment
vi. Adequacy of follow-up

III. Outcome indicators provide information about the effectiveness of mental health services that, when used in combination with process indicators, can provide information about the link between service delivery and effectiveness.

i. Regular functioning assessment by World health organization Disability Assessment Scale (WHO-DAS)
ii. Number of patients returning to school or work
iii. Improvement in symptoms as assessed by Patient Health Questionnaire-9 (PHQ-9)
iv. Percentage of recovery

Health care organizations that adopt guidelines often use these quantitative measures to determine if the guidelines are being followed. In order to make a uniform and credible mechanism to assess the quality internationally, the Organization for Economic Cooperation and Development (OECD) has undertaken pioneering work in setting of quality indicators, covering the three key domains: safety, treatment cost effectiveness and patient experience. [17,18]

The indicators should measure the technical quality provided, is focused on the most relevant parameters such as treatment, continuity of care, coordination of care and patient to be useful in quality assessment at the health care system level. [19]

Preventive measures:

As per WHO, services for people with mental disorders remain minimal and do not measure up to the prescribed principles in many countries. Community-based care is not available in 37% of all countries. Certain essential psychotropic drugs are not available at primary care level in almost 20% of countries, with marked variability within and between countries. About 70% of all people have access to less than one psychiatrist per one lakh population. [20]

Despite the high burden of depression and the availability of effective treatments, 60% - 80% of affected adolescents do not receive appropriate care. Given the current limitations in effectiveness of treatment modalities for decreasing disability due to mental and behavioural disorders, the only sustainable method for reducing the burden caused by these disorders is prevention. [21]

Prevention of mental disorders is based on two essential pillars: [7]

i. Promotion of mental health
ii. Prevention of mental disorders.

Mental health promotion refers to positive mental health, considering mental health as a resource, as a value on its own and as a basic human right essential to social and economic development. Mental health promotion aims to impact on determinants of mental health so as to increase positive mental health and to include strategies to promote the mental well-being of those who are not at risk, those who are at increased risk, and those who are suffering or recovering from mental health problems. The following action plans required to achieve the promotional objectives.

i. Access to information, awareness and community support: tackling bullying, mental health education, early diagnosis of children with medical needs and encouraging social motivation to ensure supportive environment.
ii. Provision for special education for children with learning disabilities.
iii. Facilitating resource personnel and infrastructure and refocusing the

services on educational and vocational issues.

iv. Encouragement of community based activity such as involvement of such children in their local celebration, encouraging them for participation in different sports and craft activities, providing opportunity for expressing their views in the local forum.

v. Active participation of media to spread awareness on child mental health.

vi. Regular update of prevalence and incidence in different regions would aid in planning and implementation.

Mental disorder prevention aims at reducing incidence, prevalence, recurrence of mental disorders, the time spent with symptoms, or the risk condition for a mental illness, preventing or delaying recurrences and also decreasing the impact of illness.

The approach to mental disorder prevention can be primary, secondary and tertiary prevention. Universal, selective and indicated preventive interventions are included within primary prevention in the public health classification. Secondary prevention seeks to lower the rate of established cases of the disorder or illness in the population (prevalence) through early detection and treatment of diagnosable diseases. Tertiary prevention includes interventions that reduce disability, enhance rehabilitation and prevent relapses and recurrences of the illness.

The following action plans required for prevention of mental disorders:

i. Very effective preventive programs

ii. Immediate interventions required to the target children and adolescents such as those under effects of abuse or neglect or domestic violence or affected by familial or environmental disasters.

iii. Appropriate parental attention, bonding and child- rearing are the fundamental practices to deal the major emotional and behavioural disturbances in children and growing adolescents.

iv. Motivation of parents to seek medical help when required without hesitation. Health care personnel must actively participate in order to gain trust and confidentiality of parents so that they can assess the services.

v. The mental health specialist needs to extrapolate the literature and research findings because children and adolescents present with varied symptoms and rarely with single disorder.

vi. Correctable and easily treatable conditions like cretinism, iodine deficiency and nutritional deficiency disorders should be adequately addressed through different programs.

vii. Development of diagnostic facilities to aid in prenatal diagnosis of congenital disorders like phenylketonuria, congenital hypothyroidism with provision for parental counselling.

WHO Mental Health Action Plan-2013-2020:

WHO emphasizes that a focus on quality helps to ensure that scarce resources are used in an efficient and effective way since without quality, there will be no trust in the effectiveness of the system. WHO identified the key principle that everyone in need should have access to basic mental health care and that mental health care be affordable, equitable, geographically accessible, available on a voluntary basis and of adequate quality. A WHO Assembly resolution in 2013 called for a comprehensive and coordinated response to mental disorders at country level. Depression is considered as a priority condition in the Mental Health Gap Action Programme (MHGAP) of WHO with the objective to help the countries to increase medical services to patients suffering from mental, neurological and drug use disorders. [22]

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