Review Article

Childhood abuse and late life depression – Recent updates

Amit Agrawal¹, Shweta Sharma¹, Janice Jacson Mandumpala²

From ¹Associate Professor, Department of Pediatrics, Gandhi Medical College and Kamla Nehru Hospital, Bhopal, Madhya Pradesh, ²Pharm D Intern, Department of Pharmacy Practice, Nirmala College of Pharmacy, Kerala University of Health Sciences, Cochin, Kerala, India

ABSTRACT

Childhood abuse is an important public health concern that can derail the developmental course of children. Psychological abuse, physical abuse, and sexual abuse can have far-reaching impacts on children and influence the trajectories of mental health outcomes. They often cooccur and all maltreatment types carry a risk for depression in adulthood. Gaps in research methods pose challenges in extrapolating a generalized result that can influence the understanding of this probable link. Mechanisms correlating biopsychosocial dimensions are relatively scarce. However, this review summarizes the recent updates in linking childhood abuse and major depressive disorder. Finally, targeted interventions and validated screening tools may be beneficial in the prevention of depression. This review highlights the importance of addressing childhood abuse and its sequelae in the development of depression.

Key words: Childhood abuse, Depression, Physical abuse, Prevention, Psychological abuse, Sexual abuse

ajor depressive disorder (MDD) is a chronic disabling psychiatric condition affects populations around the globe. MDD is multifactorial. Rapidly accumulating knowledge about the role of genes, environment, modern lifestyle, fetal nutrition, age, neural circuit, neurotransmitters, and childhood adversity has catalyzed fundamental changes in how we understand MDD and has important implications for its treatment and prevention [1]. The set of symptoms seen in MDD patients is a persistently low or depressed mood, anhedonia or decreased interest in pleasurable activities, feelings of guilt or worthlessness, lack of energy, poor concentration, appetite changes, psychomotor retardation or agitation, sleep disturbances, and suicidal thoughts. Individuals presenting with at least five of the above symptoms are diagnosed with MDD. In addition, individuals report physical symptoms such as chronic pain and headaches. Children with MDD also present with irritable moods [2]. Given the difference between children and adults in epidemiology, etiology, signs and symptoms, and course of depression, there could be a link between early-life adverse events during childhood and subsequent development of MDD [3]. This review describes the challenges in abuse research, the nature of abuse, and possible methods to overcome childhood abuse.

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CHILDHOOD ABUSE

Childhood abuse is an alarming global health concern and it increases the likelihood of developing psychiatric conditions during adulthood. According to the Center for Disease Control and Prevention, child abuse is defined as "any act or series of acts of commission or omission by a parent, caregiver, or another person in the custodial role that results in harm, the potential for harm, or threat of harm to a child." It has been statistically estimated that in the United States around one in every seven children experienced child abuse or neglect in 2021 and around in 2020 around 1750 children died due to abuse. This is likely a rough estimate as most child abuse cases go unreported. Childhood physical abuse, emotional abuse, and sexual abuse contribute to moderate-to-large proportions of psychiatric disorders in the general population. Violence against children and youth are a global threat and an estimated 1 billion children are victims of violence. Abuse can take place in various settings including home, school, childcare institutions, and in the community. Child abuse has existed in society for a long time, but its awareness in developing countries is scarce. Although India has a strong legal framework for the rights and protection of children, with undeniable access to quality protection services, findings of a Government of India survey have reported around 53% of children to face some kind of abuse [4]. The four main laws that addresses child protection in India are The Juvenile Justice (Care and Protection) Act 2000,

Correspondence to: Dr. Amit Agrawal, Associate Professor, Department of Pediatrics, Gandhi Medical College and Kamla Nehru Hospital, Bhopal, Madhya Pradesh, India. E-mail: agrawaldramit@yahoo.co.in

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The Prohibition of Child Marriage Act 2006, The Protection of Children from Sexual Offences Act 2012, and The Child Labor (Prohibition and Regulation) Act 1986 [5-7]. Prompt action is to be instituted to ensure the smooth functioning of this safeguarding machinery.

CHALLENGES IN ABUSE RESEARCH

Although there is a clear distinction between the three different types of childhood abuse, that is, psychological abuse, physical abuse, and sexual abuse, different studies use different methods for analyzing its impact on the development of MDD in adulthood. Certain studies only analyze the impact of one form of abuse, it is noteworthy to mention that all the three types of abuse can overlap in the same time frame and can impose a cumulative effect on the outcome. Therefore, the collective impact of all the three types of abuse on interpersonal functioning remains unknown. In the case of retrospective analysis, relying on interviews and questionnaires also poses the risk of recall bias and memory bias, as currently, depressed individuals are more likely to remember negative experiences from their childhood. Proxy interviews are subject to missing data and attrition concerning cognitive and physical impairments, which are known risk factors for MDD [3,8].

The majority of the studies are cross-sectional and even though the findings of these studies elaborate on an association between childhood abuse and depression, they cannot be considered causal. Lack of considering variables such as the number of perpetrators, victims' relationships to abusers, victims' emotional states directly after abuse, socioeconomic status, possible history of depression, age of abuse onset, the severity of abuse, presence of other psychiatric illness, history of substance abuse, and factors related to parents can reduce the generalizability of the results. There is a need for conducting longitudinal research to establish causal mechanisms that influence childhood abuse and the subsequent development of depression. Longitudinal studies can also ascertain the directionality of the observed implications from past studies and describe the long-term implications of childhood abuse [9-13].

There is a shortage of prospective studies that can comprehensively investigate the biopsychosocial factors underlying the mechanisms of childhood abuse in depression. Adequacy in describing the exact mechanism can better guide treatment patterns for depression [14,15]. Li et al. conducted a meta-analysis that provides robust evidence about the effects of childhood maltreatment on the subsequent development of depression in adulthood. However, the interpretations in this study may be skewed as it is not representative of the populations around the world, with studies coming from the United States, Australia, and New Zealand and with a lack of incorporation of studies from developing countries [16]. With varying cultural and ethnic variations, it is necessary to tailor studies that address issues at the grassroots of societies, involving all the sections, thus enabling generalizability of results and permitting clinical implications for specific cohorts.

TYPES OF ABUSE

Abuse poses a consequential threat to the well-being of children. Victims of child abuse are prone to display deteriorating mental health outcomes in later stages of their life, depending on the onset, duration, and severity of the exposure. According to estimates by the World Health Organization, 300 million children experience physical or psychological abuse in their childhood [17]. Negative childhood experiences, thus, lead to a spectrum of psychiatric conditions in adulthood. We have examined and discussed all the three possible types of childhood abuse in the following sections.

Psychological Abuse

Psychological abuse can affect based on the context and age of the victim. Traumatic events in childhood have a strong influence on MDD symptom severity in the early adulthood. Patients with MDD have a characteristic increased past focus, decreased future focus, and increased recall of negative past events. Furthermore, emotional abuse and emotional neglect are the two most endorsed experiences among children. They are considered as "silent forms" of maltreatment that has a strong association with depression. Emotional neglect also leaves individuals particularly vulnerable to anhedonic symptoms of MDD [3]. Therefore, depressive cognitive style may not only stem from negative communication, such as emotional abuse but also from lack of emotional support, as is the case with emotional neglect. Individuals with the early traumatic life events have high degrees of entropy in the ventromedial prefrontal cortex and posterior cingulate cortex and these regions are associated with mental time travel. Hence, they shift more toward their past at the expense of their future. It has been hypothesized that an abnormal time perspective mediates the impact of the early childhood trauma on depressive symptomatology [3,18].

Emotional regulation refers to "the processes responsible for monitoring, evaluating, and modifying emotional reactions, especially their intensive and temporal features, to accomplish one's goals" and emotional deregulation has been implicated in the relation between childhood abuse and depression [19]. An explanation for this can be seen in the child's course of emotional development which is influenced by the family's emotional climate. Their emotional regulation can be impaired due to parents' denigrating or dismissive behaviors and frequent negative emotions targeted at them. Therefore, recurrent unhealthy and frustrating interpersonal dynamics make an individual more vulnerable to depression [13].

Childhood emotional abuse has been associated with a heightened risk of developing cognitive symptoms of MDD when diagnosed with depression later in life. Psychological implications of emotional abuse are, reduced interpersonal sensitivity and paranoid ideation, and attributed to the impairment in the development of a cognitive structure for social interactions [9]. Psychological abuse has been interchangeably used with emotional abuse. Emotional abuse is acts that damage the emotional health of the victim. Acts such as denigration, ridicule,

threats, intimidation, discrimination, rejection, ignorance, restricting communication, and other forms of hostile treatment can threaten a child's emotional safety.

Verbal abuse and aggression during childhood also trigger moderate to large associations with psychological distress among adults. It is an accepted trend to use words that can harm or belittle children as a part of ensuring strict discipline and this is widely prevalent across cultures. Shouting at children by parents is also considered a justified and much-accepted norm. However, these actions can cause trauma and long-lasting harm to the child's mental health. This is an assault on an individual's autonomy that can degrade their self-image and confidence and eventually lead to clinical depression [10,20]. Probable mechanisms include overreactivity of the hypothalamic-pituitary-adrenal (HPA) axis which is also one of the most consistent psychoneuroendocrinological findings in MDD. The HPA axis is the most prominent neuroendocrine stress response system that serves to adapt an organism to alter according to demand and maintain a quality of life. Therefore, it is hypothesized that HPA axis changes could mediate the manifestation of depressive symptoms as a response to childhood trauma [15]. HPA hyperactivity adversely impacts hippocampal neurogenesis and altered hippocampal function contributes to the development of cognitive symptoms in MDD [9].

The effect of childhood trauma is also dose-dependent, indicating that more serious childhood abuse leads to more dysfunctional attitudes, induces a higher risk of MDD, and worse self-experienced depressive symptoms. There is a positive correlation between childhood trauma and basal cortisol level, suggesting that childhood trauma may have the potential to enhance cortisol release in late adulthood, by modifying the expression of the glucocorticoid receptors. Higher levels of cortisol can lead to more grave damage to the structure and functions of the brain that is related to emotional regulation, subsequently resulting in more severe depressive symptoms. Prolonged exposure to chronic stressors can weaken the body's ability to regulate stress, which leads to undesirable mental health outcomes including depressive symptoms [14].

Physical Abuse

Physical abuse by the parent, getting in trouble with the police, receiving help for financial difficulties, deviation in childrearing standards, and parental alcohol and drug abuse have the utmost impact on the risk of developing MDD. Physical abuse is relatively more in men than in women, suggesting that men are more vulnerable to the risk of developing MDD. An insecure caregiver-child attachment coupled with the paradox that the caregiver who is to give security to their child becomes the source of violence could be the source of physical abuse. Caregiverchild realm has a significant contribution to shaping the cognitive spectra of an individual, it helps a child understand self, others, and the relationship between self and others. An ill-fostered caregiver-child attachment makes an individual perceive himself as unworthy, unlovable, and unreliable, which are prominent risk factors for MDD [8]. Certain cultures also endorse parents' power that tends to justify physical abuse and consider it acceptable, ultimately resulting in an adverse childhood experience [20].

Early-onset, greater severity, and longer duration of physical abuse predict greater depressive symptomatology. Children's ability to interpret and perceive physical abuse is largely dependent on the cognitive abilities of their age. Under the age of six, children are unable to think or understand abuse when it is not occurring. This provides a degree of protection against the development of MDD symptoms among the youngest abuse victims, but instead, they are at risk for trauma and subsequently develop post-traumatic stress disorder. As children mature, they evolve to ruminate on their victimization experiences. Thus, it can be concluded that abuse occurring after the age of six, which is a more robust predictor of MDD [11].

Economic instability during COVID-19 including job loss, unemployment, decreased social support, and debt could be the reasons for harsh parenting thus amplifying the risk for child abuse. Physical abuse imposed by parents includes corporal punishment, assault, and very severe assault (spanking, slapping, hitting with an object, kicking, hitting body parts, and hitting hard as possible). Depression, anxiety, low self-esteem, violent behavior, and substance abuse during childhood and adulthood are the farreaching negative implications of corporal punishment [20]. It has been studied that parents who lost their job during pandemics had a greater tendency toward physical abuse. These events have a destructive effect on the caregiver-child relationship [12]. Individual differences in emotional regulation under such circumstances can dictate the course of clinical depression [21].

Physical abuse regularly can lead to chronic and extreme stress. This can negatively affect the development of the nervous and immune systems. Physical abuse also indirectly induces feelings of worthlessness, low self-esteem, and self-suffering, hence affecting an individual's ability to cope with stressful circumstances, terminating in the internalization of pain with undesirable or maladaptive outbursts [20].

Sexual Abuse

Sexual abuse can have a negative life-long impact on the psychological function of victims. It can be forced and is not confined to physical force only, but can also include manipulation, coercion, threats, and any situation without consent. Childhood sexual abuse is one of the robust risk factors for adult depression [16]. Although, child sexual abuse is more prominent among women. It is also prevalent among men, they encounter unique barriers such as impaired masculine identity, internalized homophobia, and gender-based stigma. According to the World Health Organization, one in five women and one in 13 men belonging to the age group 0-17 years are sexually abused [17]. Effects of traumatic stressors during childhood can reverberate across the entire life span. It is reported that men, who were victims of child sexual abuse experienced a greater burden

of depressive symptoms in their 50 s, 60 s, and even 70 s [22]. Sexual abuse can have far-reaching negative effects such as selfblame, low self-esteem, suicidal ideation, sleep disturbances, anxiety, and depression [20]. Sexual abuse is also associated with greater psychiatric admissions, a diagnosis of MDD, and an elevated risk for suicide in early adulthood [23].

Male victims of child abuse have a three-fold risk of committing suicide than females. Background of child sexual abuse can heighten the risk of hazardous alcohol abuse, a masculine way of being depressed. Gender-sensitive assessments indicate that men diagnosed with clinical depression have greater externalizing symptoms such as misuse of alcohol/drugs, poor impulse control, risk-taking behavior, and suicidal ideation. This can have an impact on the way depression which has been conceptualized and assessed among men who are at risk for negative mental health outcomes [24]. Boys who have faced child sexual abuse find it challenging to convey their mental health condition, due to the dominant construct of masculinity imposed by society.

Sexual abuse can also hinder an individual's academic life. Consequences include impairment in cognitive development, language, memory, and school performance. Children who are victims of sexual abuse can display a range of behaviors such as alcohol abuse, drug abuse, risky sexual practices, shyness, isolation, vulnerability, academic problems, delinquency, low self-esteem, aggressiveness, hopelessness about the future, selfdestructive nature, difficulty in trusting others, and damage to their quality of life [25].

PREVENTION

Individuals diagnosed with MDD are instituted psychotherapy and pharmacotherapy. In the past decade, several strategies have been tailored to improve health outcomes in MDD. Cognitive behavioral therapy, behavioral action therapy, interpersonal psychotherapy, problem-solving therapy, and directive counseling are the few psychotherapies adopted. Psychotherapies are more preferred among patient groups. Apart from psychotherapies, the antidepressants approved by the Food and Drug Administration for the treatment of depression are selective serotonin reuptake inhibitors, tricyclic antidepressants, norepinephrine dopamine reuptake inhibitors, serotonin modulators, serotoninnorepinephrine reuptake inhibitors, monoamine oxidase inhibitors, and serotonin reuptake inhibitor and 5-HT1Areceptor partial agonist [26,27]. Availability of treatment does not guarantee eradication of child abuse, preventing child abuse right from the initiator event will significantly help reduce the incidence of MDD in adulthood.

A strategy to overcome depression among emotional abuse victims is to overcome attachment insecurity, build encouraging therapeutic alliances, and engage in empathetic confrontations. This can improve response to psychotherapy and is particularly useful in patients with a history of emotional abuse or neglect [28].

Coping strategies can be utilized to reduce the impact of child sexual abuse and avoid its negative outcome in early adulthood. A study conducted in Turkey has shed some light on the type of coping strategies that can be implemented and how each one of them influences the course of depression. Emotion-focused coping strategies characterized by avoidance and helplessness are associated with more depressive symptoms. On the contrary, problem-focused coping strategies encourage self-confidence and optimism among victims and alleviate their symptoms of MDD [29].

The incorporation of a validated screening tool can help diagnose sexual abuse and prevent MDD in children. Employing a validated Computer-Aided Decision Support System using Artificial Neural networks can help predict the development of MDD in the early post-abuse period. The input parameters considered are the gender of the victim, the type of sexual abuse, the age of exposure, the duration until reporting, the time of the abuse, the proximity of the abuser to the victim, and the number of sexual abuse, whether the child is exposed to threats and violence during the abuse, the person who reported the event, and the intelligence level of the victim. Hence, utilizing an artificial intelligence-based system can aid in the psychiatric assessment process in children [30]. Clinicians and practitioners need to raise awareness about the need to develop, pilot, test, implement, and evaluate screening instruments for child violence exposure.

Addressing gender norms and sexism prevalent in society may prove to be beneficial in curtailing child abuse. For girls and women, reducing the threat of sexism will avoid any negative influence on their psychophysiology. Both boys and girls are prone to be victims of rigid gender norms, this, in turn, can result in detrimental effects on their mental health. Regardless of gender, it is an arduous task to eradicate gender stereotypes and inculcate healthy practices for nurturing good mental health outcomes. Ongoing efforts from both the healthcare system and the public targeted at limiting sexism as a modifiable childhood experience can prevent such discrimination from transmitting socially across generations [31].

CONCLUSION

Psychological, physical, and sexual abuse are associated with the worst mental health outcomes, and with more than one of these will result in greater impairment. Understanding the etiology of MDD, particularly modifiable factors that may play a causal role, is important for reducing the burden of this recurrent and crippling disorder. Therefore, recognition of childhood maltreatment practice can help guide treatment selection and management in adulthood. Multicomponent interventions that utilize expanded parenting education, mental health counseling, social service referrals, expanded social support, and integration of behavioral health services for both the parents and children can reduce the impact of childhood abuse and subsequent development of depression.

AUTHORS' CONTRIBUTIONS

SS, JJM: Acquisition and interpretation of data, data analysis, drafting the article, and literature review; AA: Concept, interpretation of data and data analysis, drafting the article, literature review, and revising the article critically for important intellectual content. All the authors approved the final manuscript.

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