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ORIGINAL

Patterns of psychiatric morbidity in patients attending psychiatric OPD of Government Medical College Anantnag

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Background: Psychiatric morbidity is a significant public health concern globally, with disparities in access and awareness exacerbating the burden in resource-limited settings like Kashmir. The region's socio-political instability and cultural factors have compounded mental health issues, necessitating region-specific studies to assess psychiatric patterns.

Objective: To evaluate the prevalence and patterns of psychiatric disorders among patients attending the Psychiatry Outpatient Department (OPD) at Government Medical College, Anantnag, Kashmir, and identify sociodemographic associations.

Methods: This cross-sectional, descriptive study was conducted over six months, enrolling 933 patients aged =12 years using consecutive sampling. Sociodemographic and clinical data were collected through structured proformas and DSM-5 diagnostic criteria. Statistical analyses, including descriptive and inferential tests, were performed using SPSS Version 20.0.

Results: Of the 933 participants (mean age 32.9 years, 61.3% females), major depressive disorder (23.7%) was the most prevalent diagnosis, followed by obsessive-compulsive disorder (19.3%) and bipolar affective disorder (10.5%). Anxiety disorders collectively accounted for 8.7%, while schizophrenia and PTSD had lower prevalence rates (2.6% and 0.8%, respectively). Females were disproportionately affected by OCD (19.9%) and major depressive episodes (15.4%). Panic disorders and dementia were more common among males. Younger participants predominantly presented with anxiety-related disorders, while older individuals exhibited higher rates of dementia and cognitive impairments. Homemakers (37.9%) and students (30.3%) formed the largest occupational groups.

Conclusion: The study highlights a high burden of depressive and anxiety disorders in Kashmir, influenced by gender, age, and sociocultural factors. Females exhibited higher rates of affective disorders, while younger individuals reported anxiety-related conditions. These findings underscore the need for gender- and age-specific mental health interventions and culturally sensitive policies to address the unique challenges faced by Kashmir's population.

Keywords: Psychiatric morbidity, major depressive disorder, obsessive-compulsive disorder, anxiety, Kashmir, DSM-5, sociodemographic factors.

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Introduction

Mental health disorders are a significant public health concern globally, contributing substantially to the overall burden of disease. Psychiatric morbidity, encompassing a wide range of mental disorders, has become increasingly recognized as a critical aspect of health care requiring systematic attention (1). Despite growing awareness and advancements in psychiatric care, disparities in access, awareness, and cultural perceptions of mental health continue to shape patterns of psychiatric morbidity, particularly in resource-limited settings such as Kashmir (2, 3).

Kashmir, located in the northernmost region of India, has long been marked by socio-political instability, natural disasters, and limited health infrastructure, all of which contribute to a high prevalence of mental health issues. The region's unique sociocultural and geopolitical context has compounded the psychological burden among its population. Reports from international and national agencies suggest elevated rates of anxiety, depression, post-traumatic stress disorder, and other psychiatric conditions in Kashmir (4, 5). These findings highlight the need for region-specific studies to understand the nature and extent of psychiatric morbidity in this population. However, comprehensive research on this topic remains sparse, especially in clinical settings (6).

Psychiatry outpatient departments (OPDs) often serve as the primary point of contact for individuals seeking mental health care in resource-constrained regions like Kashmir. They provide a unique opportunity to assess the prevalence and pattern of psychiatric disorders in individuals presenting with mental health concerns. Understanding these patterns is crucial for developing targeted interventions, optimizing resource allocation, and tailoring treatment protocols to address the specific needs of the population.

Studies conducted in other parts of India have demonstrated diverse patterns of psychiatric morbidity, with common diagnoses including mood disorders, anxiety disorders, psychotic disorders, substance use disorders, and somatoform disorders (7, 8). However, the prevalence and presentation of these conditions can vary significantly depending on the demographic, cultural, and environmental factors unique to a region. For instance, sociocultural beliefs, stigma, and access to care play pivotal roles in shaping help-seeking behaviour and the clinical presentation of psychiatric disorders (9, 10).

In Kashmir, these factors are further influenced by prolonged exposure to stressors such as armed conflict, forced migration, unemployment, poverty, and frequent natural calamities like floods and earthquakes. These adversities have not only heightened the risk of developing psychiatric conditions but have also perpetuated barriers to seeking timely and adequate care. Moreover, the stigma associated with mental illness and a lack of awareness about available services often delay treatment, leading to chronicity and increased morbidity.

This study aims to address the existing gap in knowledge by examining the pattern of psychiatric morbidity among patients attending the psychiatry outpatient department of a government medical college in Kashmir.

Material and methods

Study design

The study was designed as a cross-sectional, descriptive study employing consecutive sampling. This approach allowed for a comprehensive examination of psychiatric morbidity patterns among patients attending the psychiatry outpatient department (OPD) of Government Medical College (GMC), Anantnag.

Study setting

The study was conducted in the Department of Psychiatry at GMC Anantnag, which had been functional for more than five years. This department is serving as the primary mental health care provider for the population of South Kashmir. On average, more than 70 patients visit the psychiatry OPD daily for mental health concerns.

Study population

The study included patients aged 12 years or older attending the psychiatry OPD of GMC Anantnag were included in the study. Only patients who provided informed consent were included. Patients suffering from severe medical illnesses that could interfere with participation in the study were excluded.

Sampling technique

A consecutive sampling method was employed. All eligible patients attending the psychiatry OPD during the study period were approached for inclusion in the study. The present study was conducted over a period of 6 months (April 2024-September 2024).

Procedure

All patients who met the inclusion criteria and visited the psychiatry OPD during the study period were systematically approached for participation. A thorough explanation of the study's objectives, procedures, and significance was provided to each potential participant. For minors aged 12–18 years,

their guardians were also briefed, and written informed consent was obtained from all participants or their guardians before inclusion. Once consent was secured, data collection began with a clinical evaluation conducted by a consultant psychiatrist, who established diagnoses based on the DSM-5 criteria. Sociodemographic details such as age, gender, marital status, educational level, occupation, and family income were recorded using a structured sociodemographic data sheet, while socioeconomic status was assessed using the Modified BG Prasad Scale. Psychiatric and clinical history was meticulously documented using a semi-structured proforma, including details such as the duration of illness, primary complaints, history of treatments received, and any psychosocial stressors contributing to the condition. The collected data were diligently checked for accuracy and completeness by cross-verifying all entries to ensure reliability and validity throughout the data collection process.

Ethical considerations

The study protocol was approved by the Institutional Ethics Committee prior to the commencement of data collection. Participants were assured of their right to withdraw from the study at any time without affecting their access to medical care. Confidentiality was maintained by de-identifying patient data and securely storing all records.

Statistical analysis

Data were entered and analysed using **SPSS Version 20.0**. Descriptive statistics (mean, standard deviation, frequencies, and percentages) were used to summarize demographic and clinical characteristics. Associations between variables were examined using appropriate inferential statistical tests (e.g., Chi-square test for categorical data, t-tests for continuous data).

Results

This cross-sectional study approached 1430 patients out of whom 933 consented to participate. Thus, data of 933 patients attending over a period of 6 months to the Psychiatry Outpatient Department (OPD) at Government Medical College, Anantnag, Kashmir was analysed on the sociodemographic, occupational, and clinical characteristics.

The mean age of participants was 32.9 years (SD = 17.6), with a majority being female (61.3%) compared to males (38.7%). Most participants were married (55.3%), while 44.3% were unmarried, and a minority (0.4%) were divorced or separated. 36.7% of participants had completed secondary education, and 21.4% were graduates, however 18.2% were illiterate. Participants from Nuclear families predominated over joint families (62.6% vs 37.4%) (**Table 1**).

The most frequent occupation among participants was homemaking (37.9%), followed by students (30.3%). Other occupations included business (5.1%), labour (5%), and self-employment (3.8%). Professionals and teachers constituted 1.5% and 1.2% of the sample, respectively, reflecting limited professional engagement among patients. The prevalence of unemployment in the sample was 5.1% (**Table 2**).

TABLE 1 | Sociodemographic characteristics of the participants (n=933).

Parameters	Frequency/Mean	Percentage/ SD
Age (years)	32.9	17.6
Sex		
Male	361	38.7
Female	572	61.3
Marital status		
Unmarried	413	44.3
Married	516	55.3
Divorced/separated	4	0.4
Education		
Illiterate	170	18.2
Primary	186	19.9
Secondary	342	36.7
Graduate	200	21.4
Post-graduate	35	3.8
Type of family		
Joint	349	37.4
Nuclear	584	62.6

TABLE 2 | Occupational characteristics of the participants (n = 933).

Occupation	Frequency/ Mean	Percentage/ SD
Business	48	5.1
Carpenter	5	0.5
Driver	8	0.9
Farmer	23	2.5
Homemaker	354	37.9
Laborer	47	5
Mason	1	0.1
Painter	3	0.3
Professional	14	1.5
Retired	7	0.8
Self-employed	35	3.8
Serviceperson	41	4.4
Skilled worker	4	0.4
Student	283	30.3
Tailor	1	0.1
Teacher	11	1.2
Unemployed	48	5.1

Major depressive disorder (MDD; 23.7%) was the most prevalent observed condition, followed by obsessive-compulsive disorder (OCD), affecting 19.3% of patients, and bipolar affective disorder (BPAD; 10.5%). Panic disorder, vascular headache, and personality disorders each accounted for 5.4% of cases. Schizophrenia was diagnosed in 2.6% of participants, while PTSD and acute stress reaction affected 0.8% each. Notably, anxiety-related disorders (generalized anxiety, phobic anxiety, and panic disorder) collectively constituted a significant portion of diagnoses. Substance use disorder, intellectual disability, and dementia also emerged as notable concerns, albeit with lower prevalence (**Table 3**).

Females were disproportionately affected by OCD (19.9% vs. 18.3% for males) and major depressive episodes (15.4% vs. 11.4% for males). Conversely, BPAD, panic disorders and dementia were more prevalent among males. Statistically significant associations were found between gender and certain diagnoses, such as acute stress reactions and PTSD ($p < 0.001$) (**Table 4**).

The mean age of participants varied significantly by diagnosis. Acute stress reactions and phobic anxiety disorders were more prevalent among younger patients, with mean ages of 33.4 and 33.6 years, respectively. Older age groups exhibited higher rates of dementia (mean age = 65.8 years) and mild cognitive impairment (mean age = 57.5 years). Mood disorders such as MDD and BPAD were observed across a broader age spectrum, reflecting their pervasive nature (**Table 5**).

Significant associations were noted between sociodemographic variables and psychiatric diagnoses. For example, younger participants were more likely to present with anxiety disorders, while older individuals demonstrated higher rates of neurocognitive disorders. Gender differences in the prevalence of OCD, depression, and PTSD underline the need for gender-sensitive mental health interventions (**Tables 4** and **5**).

TABLE 3 | Diagnostic characteristics of the participants (n = 933).

Diagnosis	Frequency/ Mean	Percentage/ SD
Acute stress reaction	7	0.8
ADHD	4	0.4
Agoraphobia	5	0.5
Anxiety disorder	29	3.1
Atypical depression	1	0.1
ASD	2	0.2
BPAD	98	10.5
Case under evaluation	2	0.2
Conduct disorder	3	0.3
Conversion disorder	9	1
Delusional disorder	1	0.1
Dementia	23	2.5
Dissociative disorder	21	2.3
Excoriation disorder	2	0.2
Factitious disorder	2	0.2
Gender dysphoria	1	0.1
Headache	5	0.5
Illness anxiety disorder	10	1.1
Insomnia	12	1.3
Intellectual disability	17	1.8
Major depressive disorder	221	23.7
Mania	1	0.1
Mild cognitive impairment	2	0.2
Munchausen syndrome by proxy	1	0.1
OCD	180	19.3
Other anxiety disorders	4	0.4
Panic disorder	50	5.4
Personality disorder	50	5.4
Phobic anxiety disorder	11	1.2
PTSD	7	0.8
Pseudo-dementia	1	0.1
Psychosis	9	1
Recurrent depressive disorder	8	0.9
Schizoaffective disorder	2	0.2
Schizophrenia	24	2.6
Seizure disorder	5	0.5
Social anxiety	4	0.4
Substance use disorder	10	1.1
Somatic symptom disorder	11	1.2
Syncope	1	0.1
Tension type headache	25	2/7
Trichotillomania	1	0.1
Vascular headache	50	5.4
Vertigo	1	0.1

Discussion

The study offers significant insights into the patterns of psychiatric morbidity in the Kashmir region, highlighting the profound impact of socio-political instability, cultural stigma, and inadequate healthcare infrastructure on mental health. In the present study, major depressive disorder (MDD, 23.7%), followed by obsessive-compulsive disorder (OCD) emerged as the most prevalent diagnosis (19.3%), bipolar affective disorder (BPAD; 10.5%). Major depressive disorder has been widely reported to be one of the most prevalent conditions among patients of psychiatry in the Kashmiri population (11, 12). However, where the present study stands out is in the observation of a prevalence of OCD which is higher than that reported in these studies. A probable cause for this might be the fact that while the other studies on the topic assessed general patient population, the present study assessed only patients presenting to the psychiatry department with apparent symptoms of psychiatric disorders. These observations indicate that symptoms of OCD are distressing enough to warrant a visit to the hospital for treatment, much more

TABLE 4 | Association between sex and diagnosis of the participants (n = 933).

Diagnosis	Male	Female	p-value
Acute stress reaction	2 (0.6%)	5 (0.9%)	<0.001*
ADHD	3 (0.8%)	1 (0.2%)	
Agoraphobia	3 (0.8%)	2 (0.3%)	
Anxiety disorder	9 (2.5%)	20 (3.5%)	
Atypical depression	0 (0.0%)	1 (0.2%)	
ASD	1 (0.3%)	1 (0.2%)	
BPAD	36 (10.0%)	62 (10.8%)	
Case under evaluation	1 (0.3%)	1 (0.2%)	
Conduct disorder	3 (0.8%)	0 (0.0%)	
Conversion disorder	3 (0.8%)	6 (1.0%)	
Delusional disorder	0 (0.0%)	1 (0.2%)	
Dementia	13 (3.6%)	10 (1.7%)	
Dissociative disorder	10 (2.8%)	11 (1.9%)	
Excoriation disorder	0 (0.0%)	2 (0.3%)	
Factitious disorder	1 (0.3%)	1 (0.2%)	
Gender dysphoria	0 (0.0%)	1 (0.2%)	
Headache	2 (0.6%)	3 (0.5%)	
Illness anxiety disorder	8 (2.2%)	2 (0.3%)	
Insomnia	7 (1.9%)	5 (0.9%)	
Intellectual disability	10 (2.8%)	7 (1.2%)	
Major depressive disorder	30 (8.3%)	62 (10.8%)	
Major depressive episode	41 (11.4%)	88 (15.4%)	
Mania	0 (0.0%)	1 (0.2%)	
Mild cognitive impairment	0 (0.0%)	2 (0.3%)	
Munchausen syndrome by proxy	0 (0.0%)	1 (0.2%)	
OCD	66 (18.3%)	114 (19.9%)	
Other anxiety disorders	2 (0.6%)	2 (0.3%)	
Panic disorder	22 (6.1%)	28 (4.9%)	
Personality disorder	15 (4.2%)	35 (6.1%)	
Phobic anxiety disorder	9 (2.5%)	2 (0.3%)	
PTSD	5 (1.4%)	2 (0.3%)	
Pseudo-dementia	0 (0.0%)	1 (0.2%)	
Psychosis	3 (0.8%)	6 (1.0%)	
Recurrent depressive disorder	2 (0.6%)	6 (1.0%)	
Schizoaffective disorder	1 (0.3%)	1 (0.2%)	
Schizophrenia	13 (3.6%)	11 (1.9%)	
Seizure disorder	3 (0.8%)	2 (0.3%)	
Social anxiety	1 (0.3%)	3 (0.5%)	
Substance use disorder	10 (2.8%)	0 (0.0%)	
Somatic symptom disorder	4 (1.1%)	7 (1.2%)	
Syncope	0 (0.0%)	1 (0.2%)	
Tension type headache	9 (2.5%)	16 (2.8%)	
Trichotillomania	0 (0.0%)	1 (0.2%)	
Vascular headache	12 (3.3%)	38 (6.6%)	
Vertigo	0 (0.0%)	1 (0.2%)	

*Statistically significant

TABLE 5 | Association between age and diagnosis of the participants (n = 933).

Diagnosis	Mean Age	SD	p-value
Acute stress reaction	33.4	15.1	<0.001*
ADHD	7.6	3.9	
Agoraphobia	30.8	9.7	
Anxiety disorder	28.1	10.1	
Atypical depression	51	-	
ASD	7.5	0.7	
BPAD	36.1	14.4	
Case under evaluation	19	5.7	
Conduct disorder	13.3	0.6	
Conversion disorder	16.3	3.3	
Delusional disorder	23	-	
Dementia	65.8	6.6	
Dissociative disorder	22.4	6.6	
Excoriation disorder	22	5.7	
Factitious disorder	27.5	17.7	
Gender dysphoria	18	-	
Headache	31.4	24.2	
Illness anxiety disorder	28.5	12.4	
Insomnia	40.3	14.9	
Intellectual disability	32.9	20.7	
Major depressive disorder	40.6	24.7	
Major depressive episode	38.6	12.5	
Mania	30	-	
Mild cognitive impairment	57.5	3.5	
Munchausen syndrome by proxy	35	-	
OCD	28.6	10.5	
Other anxiety disorders	31.8	9.5	
Panic disorder	25.8	10.2	
Personality disorder	20.2	4.3	
Phobic anxiety disorder	33.6	9.6	
PTSD	31.9	3.3	
Pseudo-dementia	60	-	
Psychosis	36.9	13	
Recurrent depressive disorder	44.3	11.6	
Schizoaffective disorder	32.5	3.5	
Schizophrenia	27.5	6.5	
Seizure disorder	23.6	6.9	
Social anxiety	15	2.7	
Substance use disorder	15	2.7	
Somatic symptom disorder	41.8	10.5	
Syncope	65	-	
Tension type headache	33.8	10.3	
Trichotillomania	17	-	
Vascular headache	29.2	11.3	
Vertigo	32	-	

*Statistically significant.

so than other psychiatric disorders. In the present study, anxiety disorders, including generalized anxiety disorder, panic disorder and phobic anxiety disorder made up 8.7% of the diagnoses, similar to that reported by authors like Bailam et al. and Wani et al., pointing to generally higher levels of stress experienced by the population living in

this region, which has historically seen much socio-political turmoil (2, 13).

Sociodemographic factors such as education, occupation, and family structure showed important insights into the profile of the patients presenting to the study institution. The high prevalence of mental health issues among homemakers and students reflects the dual burden of academic/household responsibilities and limited social support networks (14, 15). This finding aligns with regional studies reporting similar trends in populations facing economic and educational disparities (16, 17). Furthermore, the predominance of nuclear families among participants (62.6%) suggests a potential erosion of traditional support systems, which has been identified as a key determinant of mental health (18). The study also highlights the underrepresentation of certain groups, such as professionals and skilled workers, which may point to barriers in accessing mental health care, including stigma and lack of awareness (19, 20).

On assessment of risk factors for psychiatric morbidities, the study revealed significant gender disparities in psychiatric diagnoses. Females were disproportionately affected by OCD and major depressive episodes, a trend observed globally where women exhibit higher vulnerability to affective disorders due to both biological and sociocultural factors (21, 22). In contrast, panic disorders and dementia were more prevalent among males, which could be linked to differences in help-seeking behaviour or exposure to specific stressors like substance abuse and occupational hazards (23).

Age also played a crucial role in the distribution of diagnoses. Anxiety-related disorders were more common in younger individuals, while neurocognitive disorders like dementia were prevalent among older participants (24, 25). This pattern underscores the need for age-specific mental health interventions, as suggested by studies emphasizing developmental and life-course perspectives in psychiatric care (26, 27). The broad age spectrum for mood disorders, such as major depressive disorder, further highlights their pervasive impact across different life stages.

Conclusion

This study provides a crucial foundation for understanding psychiatric morbidity in Kashmir, emphasizing the urgent need for targeted interventions to mitigate the region's mental health crisis. Policymakers and healthcare providers must prioritize culturally adapted, gender- and age-specific strategies to address the diverse mental health needs of this vulnerable population.

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Conflict of interest

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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REVIEW

Climate change and the mental health of older adults in India: a geropsychological perspective on risk, resilience, and policy gaps

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Background: Climate change is emerging as a major public health threat with significant mental health consequences. Older adults in India, due to physical frailty, cognitive decline, and limited social protection, are uniquely vulnerable to these climate stressors. Despite their heightened susceptibility, the intersection of climate change and geriatric mental health remains underexplored in India.

Methods: This review synthesizes existing national and international literature on the mental health impacts of climate change among older adults, particularly in the Indian context. Databases searched include PubMed, Scopus, and Indian Journals Online. Grey literature and policy documents were also reviewed.

Results: Evidence indicates that older adults are disproportionately affected by heatwaves, floods, droughts, and climate-induced displacement. Key psychiatric outcomes include depression, anxiety, post-traumatic stress disorder, and suicide. Challenges include limited access to care, infrastructural inadequacies, and the breakdown of familial support. Protective factors include community engagement, intergenerational support, and culturally sensitive mental health interventions.

Conclusion: There is a pressing need for India to incorporate geriatric mental health into its climate adaptation and mental health strategies. Future research must focus on building climate-resilient mental health systems with a geropsychological lens.

Keywords: Climate change, Geropsychology, Elderly mental health, India, Vulnerability, Adaptation

Introduction

Climate change is no longer a distant threat—it is a current and accelerating global crisis impacting physical and mental health. According to the Intergovernmental Panel on Climate Change (1), South Asia, including India, is witnessing increasing frequency and intensity of extreme weather events such as heatwaves, floods, and cyclones. These environmental disruptions have cascading effects on public health systems, infrastructure, livelihoods, and population well-being.

India, home to over 1.4 billion people, is not only highly vulnerable to climate impacts but is also experiencing a rapid demographic shift. The proportion of older adults (aged 60 and above) in India is projected to reach nearly 20% by 2050 (2). This ageing trend is accompanied by increased life expectancy, higher prevalence of chronic illnesses, and dependency on limited caregiving networks.

Older adults are especially susceptible to the mental health consequences of climate change due to a combination of biological, psychological, and social vulnerabilities. Physical frailty, multimorbidity, reduced mobility, cognitive decline,

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and social isolation amplify the risks posed by climate-induced displacement, food insecurity, and environmental degradation (3). Moreover, the emotional and psychological impact of experiencing or anticipating climate threats can result in elevated anxiety, depression, post-traumatic stress, and a sense of helplessness—issues that are often underdiagnosed in older populations (4).

The traditional Indian joint family system that once supported elderly members is gradually eroding under the pressure of urbanization, migration, and socio-economic transformations (5). This shift has led to a rise in solitary living among older adults, further compounding their mental health vulnerabilities during climate emergencies.

Despite this alarming intersection of ageing and climate risk, India's mental health infrastructure has not adequately adapted to include the needs of older adults in climate policy or health preparedness frameworks. Current national climate resilience and mental health strategies remain largely youth-centric, overlooking the specific needs of a growing elderly population.

This review aims to bridge this gap by exploring the complex interplay between climate change and the mental health of older adults in India through a geropsychological lens. It highlights key risk factors, protective mechanisms, and policy gaps, while proposing actionable strategies for inclusive, age-sensitive climate adaptation and mental health resilience.

Pathways linking climate change and mental health in older adults

Climate change can impact mental health through two primary pathways: direct and indirect. The direct pathway includes exposure to extreme weather events—such as floods, droughts, heatwaves, and cyclones—that result in trauma, displacement, injury, or the death of loved ones. For older adults, who may already be dealing with chronic physical illnesses or mobility limitations, such traumatic exposures are associated with heightened psychological distress, including anxiety, helplessness, confusion, and symptoms of post-traumatic stress disorder (PTSD) (3).

The indirect pathway includes gradual environmental changes—such as rising temperatures, air pollution, and ecosystem degradation—which exacerbate financial insecurity, social isolation, and loss of routine. For instance, older adults in agrarian communities face cumulative stress from crop failure, water scarcity, and loss of traditional livelihoods. These stressors are intensified by age-related vulnerabilities like frailty, impaired thermoregulation, cognitive decline, and dependence on caregivers (4).

Emerging evidence shows that prolonged heat exposure can exacerbate irritability, confusion, and sleep disturbances in older individuals. High humidity, coupled with poor indoor ventilation and lack of access to cooling systems, further increases the physiological stress burden. Socially, climate change weakens community networks and increases the burden on overstretched family structures, leaving older adults more exposed to emotional neglect and loneliness (6). The result is a multifactorial, chronic psychosocial burden that remains poorly recognized by public health systems.

Mental health impacts: Indian context and case studies

In India, regional evidence increasingly links climate variability with adverse mental health outcomes among elderly populations. For example, studies from Ahmedabad and Delhi documented significant increases in mortality and hospital admissions among older adults during extreme heatwaves, as well as a rise in mood disorders and sleep disturbances (5). The Ahmedabad Heat Action Plan was a notable initiative in response to these health threats, but geriatric mental health remained underprioritized.

In Kerala and Assam, elderly residents displaced by flooding reported heightened symptoms of anxiety, PTSD, and social withdrawal. Displacement, loss of personal belongings, and separation from familiar environments deeply affect older adults' sense of identity and control, triggering grief and a sense of purposelessness (7). Temporary shelters often lack age-friendly infrastructure, and older evacuees frequently experience a lack of privacy, inadequate sanitation, and unaddressed medical needs—all of which further impair mental well-being.

In rural Maharashtra and Telangana, drought-induced agrarian distress has been associated with a disturbing rise in suicides among elderly farmers (8). While most suicide prevention programs target younger individuals, elderly suicides often go unnoticed or are misclassified due to stigma and underreporting.

The COVID-19 pandemic offered a parallel disaster scenario in which older adults faced prolonged isolation, disrupted routines, and anxiety over infection and mortality. Studies indicate that many seniors in urban areas experienced depression and cognitive decline due to social disconnectedness, while those in rural areas were affected by limited access to telehealth and psychiatric care (9).

Taken together, these examples demonstrate that climate-related stressors in India—whether sudden (disasters) or slow-onset (droughts, pandemics)—magnify psychological vulnerabilities among the elderly. However, there is a lack of targeted mental health interventions or structured support mechanisms to address these emerging risks in this age group.

Geropsychological considerations

Geropsychology is a subfield of psychology that focuses on the mental health and well-being of older adults, especially in the context of ageing-related transitions (10). This includes cognitive decline, loss of independence, chronic illness, bereavement, and changing social roles. The cumulative life experiences of older individuals shape their resilience, yet these same experiences may heighten their vulnerability during climate crises.

Disasters such as floods, cyclones, and heatwaves often lead to abrupt displacement or loss of familiar environments, which can be particularly disorienting for older adults. The trauma of losing a home, ancestral land, or community structures is processed differently by older individuals due to long-term emotional attachment and sense of identity. Furthermore, individuals with dementia or mild cognitive impairment (MCI) may struggle to comprehend the unfolding crisis, follow safety protocols, or adapt to new living environments, increasing the risk of confusion, distress, and worsening cognitive symptoms.

Though emotional regulation may be more mature among older adults due to a lifetime of coping with adversities, this is counterbalanced by increased emotional burden from loneliness, bereavement, fear of dependence, and existential anxieties—especially in unfamiliar or disempowering post-disaster settings (11). Additionally, older adults may underreport their distress due to generational stigma around mental health or the belief that suffering is an inevitable part of ageing. Without proactive screening and culturally appropriate interventions, these psychological issues often go unnoticed and untreated.

Family, community, and socio-cultural dynamics

Family and community structures are essential determinants of elderly well-being, particularly in collectivist societies like India. Traditionally, the Indian joint family system served as a buffer against psychosocial stress for older adults, offering caregiving, emotional support, and social identity (12). However, rapid urbanization, labour migration, and shifting socio-economic norms have led to nuclear families and geographic fragmentation, weakening these support systems.

In climate-vulnerable regions, this fragmentation becomes particularly stark. Younger family members often migrate to cities for livelihood opportunities, leaving behind elderly parents to cope alone in ecologically high-risk rural areas. The elderly may find themselves solely responsible for managing homes, livestock, or land, often without adequate financial, physical, or emotional resources.

Gender adds another layer of vulnerability. Widowed and elderly women, especially in rural India, face greater risks due to patriarchal social norms, lack of land ownership, and economic dependence. Climate-related resource scarcity may exacerbate elder neglect or even abuse within families, particularly when caregiving burdens increase or when limited aid is distributed inequitably (13).

Community cohesion and religious or spiritual frameworks often offer resilience. Yet when entire communities are displaced or fragmented due to floods or droughts, these protective networks collapse. Rebuilding them requires intentional, inclusive efforts that center older adults—not merely as vulnerable recipients, but as holders of traditional knowledge and community memory.

Policy landscape and institutional gaps (expanded)

India has made significant strides in mental health and elderly welfare through the National Mental Health Programme (NMHP) and the National Policy for Senior Citizens. However, these policies operate in silos and are not integrated into climate adaptation or disaster preparedness frameworks (14). This fragmentation prevents the development of coordinated, age-responsive mental health services during climate crises.

The National Disaster Management Authority (NDMA), while progressive in developing community-based disaster preparedness protocols, rarely addresses the unique vulnerabilities of older adults in its guidelines (15). Disaster shelters often lack wheelchair accessibility, hearing or vision aids, geriatric medication, and trained personnel to support older evacuees. Elderly individuals are also more likely to be excluded from early warning systems due to digital illiteracy or isolation.

Furthermore, India's District Mental Health Programme (DMHP), the operational arm of NMHP, is under-resourced and largely urban-focused, failing to reach remote and rural elderly populations (16). The absence of geriatric psychiatry as a public health priority reflects both institutional neglect and broader societal ageism.

Internationally, models such as Japan's integrated disaster risk reduction approach—which includes geriatric mental health screening and community drills—may offer valuable lessons for India. A convergence of mental health, aging, and climate resilience in policy frameworks is urgently required to prevent marginalization of older adults during environmental crises.

Adaptation and resilience strategies (expanded)

A proactive response to climate-related mental health challenges in older adults demands age-integrated,

community-based interventions. Key strategies include the deployment of mobile mental health units, especially in disaster-prone districts, and elderly-friendly shelters equipped with age-appropriate infrastructure and psychosocial support services.

Training frontline workers—such as ASHAs, ANMs, and panchayat-level volunteers—in geriatric psychosocial first aid can strengthen grassroots capacity. These workers can identify early signs of distress, coordinate referrals, and offer companionship to isolated elders. Such efforts align with WHO's "Age-friendly Primary Health Care" principles (17).

Digital mental health platforms also hold promise, provided they are adapted for older users with large fonts, local languages, and simple interfaces. Tele-counseling services, such as those piloted by NIMHANS and supported by NGOs like HelpAge India, have shown feasibility in reducing anxiety, especially during the COVID-19 lockdowns (18).

Social capital remains a key buffer. Strengthening intergenerational programs, senior citizens' associations, and faith-based networks can rebuild fractured community ties. Incorporating older adults into local climate committees not only empowers them but ensures their unique perspectives are reflected in climate adaptation planning.

Research and ethical imperatives (expanded)

Despite growing recognition of climate change as a public health crisis, there is a paucity of longitudinal and geriatric-specific research on its psychological impacts in the Indian context. Most existing studies focus on younger populations or treat the elderly as a homogenous group, without disaggregating data by age, gender, rurality, or socioeconomic status. There is an urgent need for multidisciplinary research that explores how climate-related stressors affect different subgroups of older adults over time.

Ethical challenges arise when conducting research involving cognitively impaired elders—such as those living with dementia or mild cognitive impairment. Ensuring informed consent, autonomy, and privacy becomes complex when participants may have limited comprehension or communicative ability. Researchers must employ surrogate consent mechanisms, use accessible language, and involve caregivers while upholding participants' dignity and rights (19).

Further, post-disaster research must avoid retraumatization. Engaging older adults in such contexts demands trauma-informed methodologies, sensitivity to grief and loss, and efforts to avoid extraction without benefit. Intersectionality is essential; elderly persons' experiences with climate stress are shaped by caste, class, gender, tribal identity, and disability (20). For example, Dalit or Adivasi elders may face systemic exclusion from relief efforts or rehabilitation schemes.

There is also a research gap in documenting the resilience and adaptive strategies employed by older adults, including indigenous knowledge, religious coping, and community leadership. Without such inclusive and ethical research, policies will continue to marginalize the very people they aim to protect.

Recommendations

To bridge the gaps identified across systems, services, and research, the following evidence-based, geropsychology-informed recommendations are proposed:

- Develop geriatric-specific mental health modules within NDMA and NMHP that address trauma, grief, and climate-induced anxiety in older adults. These modules should also include training on cognitive impairment and elderly-specific psychosocial assessment tools.
- Increase funding and resource allocation for geriatric mental health services, particularly in rural, tribal, and climate-vulnerable regions. This includes establishing satellite geriatric clinics, mobile outreach programs, and dedicated disaster counseling teams.
- Implement early warning and alert systems tailored for older adults. These should use multi-sensory modes (e.g., visual cues, audio announcements in local languages) and involve community volunteers to reach elders with limited mobility or hearing/vision impairments.
- Train frontline health and social workers in geropsychology-informed disaster response, including how to recognize signs of depression, trauma, or cognitive decline in elders. ASHA workers, Anganwadi staff, and Panchayati Raj institutions can be capacitated to act as first responders.
- Foster intergenerational dialogue and community-based adaptation models, such as pairing youth volunteers with older adults for environmental education, mutual aid, and climate action. Programs that build on existing senior citizen clubs, religious congregations, and local NGOs have shown promise in reducing isolation while empowering elders as community knowledge holders.
- Integrate digital literacy programs for older adults to ensure their inclusion in telehealth and emergency information platforms.
- Establish monitoring and accountability mechanisms within public health and disaster departments to track the delivery and quality of elderly-centered mental health services during and after climate events.

Conclusion

Climate change acts as a powerful risk amplifier for the mental health of older adults, particularly in low- and middle-income countries like India where public health infrastructure and geriatric care remain underdeveloped. The elderly face compounded vulnerabilities due to physical frailty, cognitive decline, social isolation, and lack of targeted policy attention during climate-related crises.

India's mental health and climate adaptation frameworks must evolve to inclusively address the needs of its ageing population. A geropsychological lens not only enhances diagnostic accuracy but also serves as a critical foundation for building equitable, culturally grounded, and future-ready mental health systems. Incorporating older adults as active stakeholders—rather than passive recipients—can foster more resilient, compassionate, and age-inclusive responses to the mental health consequences of a changing climate.

Author contribution

The author independently conceptualized and designed the review, conducted the literature search and data extraction, and synthesized the results into the final manuscript. The author have read and approved the final version.

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Consent to participate

Not applicable.

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REVIEW

Ayurveda, Homeopathy and other complementary treatments in the child and adolescent mental health: A critical review of emerging paradigms

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The prevalence of child and adolescent mental health disorders, including ADHD, anxiety, depression, and autism spectrum disorders, is increasing globally, necessitating diverse treatment approaches. While conventional psychiatric interventions such as pharmacotherapy and psychotherapy remain the standard of care, their limitations—including side effects, treatment resistance, and accessibility challenges—have led to a growing interest in Complementary and Alternative Medicine (CAM). Ayurveda, homeopathy, and other CAM interventions are widely used, particularly in low- and middle-income countries, where up to 97% of the population relies on traditional medicine. Despite their popularity, scientific validation of these treatments remains limited, with inconsistent evidence regarding their efficacy, safety, and feasibility for integration into mainstream psychiatric care. This review examines the role of CAM in child and adolescent psychiatry, highlighting potential benefits and limitations based on a comprehensive literature search across major databases, expert discussions from an academic seminar, and survey responses from clinicians. Findings suggest that Ayurvedic practices such as "Sattvavajaya" (a cognitive-behavioral therapy analog), homeopathic remedies, and mind-body interventions like yoga and mindfulness show promise for managing psychiatric conditions. However, regulatory challenges, quality control concerns, and insufficient clinical validation hinder their integration into evidence-based mental healthcare. Further rigorous research, standardized treatment protocols, and interdisciplinary collaboration are essential to determine the role of CAM in pediatric psychiatry. Medical education must also incorporate CAM-related training to equip clinicians with the knowledge necessary to guide patients and caregivers effectively.

Keywords: Ayurvedic medicine, Homeopathy, Complementary therapies, Adolescent, Mental health

Introduction

Child and adolescent mental health disorders, including attention-deficit hyperactivity disorder (ADHD), anxiety, depression, and autism spectrum disorder (ASD), are increasing globally, with significant implications for healthcare systems. According to the World Health Organization (WHO), depression is projected to become the leading cause of disability by 2030 (1) The prevalence of ADHD in the United States nearly doubled between 1998 and 2011, rising from 5.9% to 11.4%, while adolescent depression rates increased from 26.1% in 2009 to 29.9% in 2015 ($p < 0.05$, CI 95%) (2–5) By 2022, an additional one million U.S. children aged 3–17 years were diagnosed with ADHD compared to 2016 (6, 7) Currently, an estimated one in five children in the U.S. experiences a mental disorder annually, contributing to an economic burden of $247 billion (8) The COVID-19 pandemic has further exacerbated this

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crisis, with global anxiety and depression rates increasing by 25% between 2022 and 2024 (9)

Despite the growing burden of mental health disorders, conventional psychiatric treatments—including pharmacotherapy and psychotherapy—face limitations such as adverse effects, treatment resistance, and accessibility barriers, particularly in low- and middle-income countries (LMICs). (10, 11) In response, there has been a growing interest in Complementary and Alternative Medicine (CAM), which encompasses diverse non-conventional therapeutic approaches aimed at promoting mental and physical well-being. Complementary and Alternative Medicine (CAM) includes traditional medical systems such as Ayurveda and homeopathy, as well as mind-body interventions like mindfulness, yoga, and herbal medicine. These therapies are widely utilized, particularly in LMICs, where 70–97.4% of the population relies on traditional medicine (9) Approximately 83% of families incorporate Complementary and Alternative Medicine (CAM) alongside biomedical treatments for paediatric mental health conditions, driven by financial constraints (56%), cultural preferences (68%), and perceived inadequacy of conventional treatments (49%) ($p < 0.05$, CI 95%) (5).

Parental preferences play a crucial role in Complementary and Alternative Medicine (CAM) adoption, particularly for neurodevelopmental disorders. Studies indicate that 68% of families with autistic children and 73.7% of those seeking ADHD care pursue Complementary and Alternative Medicine (CAM) interventions, often influenced by the therapeutic misconception—the belief that non-evidence-based treatments may be as effective as standard care. Affordability is a key factor, with 56% of LMIC families citing financial constraints as a primary reason for Complementary and Alternative Medicine (CAM) use, compared to just 22% in high-income countries (HICs) (OR = 3.2, 95% CI: 2.5–4.0, $p < 0.001$) (12).

Clinician perspectives on Complementary and Alternative Medicine (CAM) vary globally. In the U.S., 43% of pediatricians endorse mindfulness-based therapies, while in India, 68% of psychiatrists integrate Ayurvedic principles with selective serotonin reuptake inhibitors (SSRIs) (13, 14) Cultural influences further shape Complementary and Alternative Medicine (CAM) preferences; for instance, Ayurveda use is significantly higher in collectivist societies—3.2 times greater than in individualistic cultures. In rural India, 79% of the population relies on Ayurveda, whereas only 12% of urban U.S. residents report similar usage. Conversely, Western societies prefer evidence-based Complementary and Alternative Medicine (CAM) interventions, such as digital mindfulness applications, which are utilized by 48% of American adolescents (15–17)While Complementary and Alternative Medicine (CAM) is widely used, its integration into conventional psychiatric practice remains underexplored due to a lack of high-quality clinical evidence, standardized treatment protocols, and adequate clinician training. Many Complementary and Alternative Medicine (CAM) therapies lack robust empirical validation, with existing studies often limited by small sample sizes, methodological inconsistencies, and cultural biases. Regulatory challenges further hinder their safe incorporation into psychiatric care, as there are insufficient frameworks for monitoring safety, efficacy, and potential interactions with pharmacological treatments (17).

Need for Review

Despite the increasing prevalence of psychiatric disorders among children and adolescents, conventional treatments often fail to provide universally effective, accessible, and culturally adaptable solutions (18) The widespread use of Complementary and Alternative Medicine (CAM) in paediatric mental health underscores the urgent need for systematic evaluation of its effectiveness, safety, and integration potential. This is particularly critical in LMICs, where resource constraints and deep-rooted traditional medical systems drive reliance on Complementary and Alternative Medicine (CAM) (19).

This review aims to address these gaps by:

1) Critically evaluating the role of Ayurveda, homeopathy, and other Complementary and Alternative Medicine (CAM) therapies in child and adolescent psychiatry.
2) Assessing the scientific evidence supporting Complementary and Alternative Medicine (CAM)'s efficacy and safety for mental health conditions.
3) Identifying challenges to Complementary and Alternative Medicine (CAM) integration in psychiatric care, including regulatory, clinical, and training barriers.
4) Exploring pathways for informed Complementary and Alternative Medicine (CAM) integration, ensuring evidence-based, ethical, and patient-centered approaches in paediatric psychiatry.

By synthesizing literature, practitioner perspectives, and empirical evidence, this review seeks to provide a comprehensive framework for understanding Complementary and Alternative Medicine (CAMs) potential role in child and adolescent mental health, while identifying areas for future research and policy development.

Methodology

This narrative review employed a multifaceted methodology, integrating an extensive literature search with insights from an academic seminar on integrative approaches in child and adolescent psychiatry. The research process was structured as follows.

Literature Search and Analysis

A comprehensive literature search was conducted from January 2010 to October 2024 across PubMed, PsycINFO, Embase, and Google Scholar, using Boolean operators (AND/OR) with keywords: "Holistic medicine," "Alternative medicine," "Ayurveda," "Homeopathy," "Psychiatry," "Children," "Adolescents." A total of 1,247 articles were screened, with 82 meeting inclusion criteria after full-text review. Hand-searching of reference lists identified an additional 15 relevant studies.

The selection criteria were as follows:
Inclusion Criteria:
Studies were included if they:

- Examined Complementary and Alternative Medicine (CAM) interventions (Ayurveda, homeopathy, and other treatments) in child and adolescent mental health.
- Were peer-reviewed and published in English.
- Incorporated qualitative or quantitative assessments of Complementary and Alternative Medicine (CAM) therapies.
- Focused on pediatric populations ($\leq$ 18 years) or included separate subgroup analyses for child and adolescent mental health.

Exclusion Criteria:
Studies were excluded if they:

- Were non-English publications (due to language constraints, potentially introducing selection bias).
- Focused exclusively on adult populations without pediatric subgroup analyses.
- Had no direct relevance to Complementary and Alternative Medicine (CAM) in psychiatric care.
- Although non-English publications were excluded, this may have restricted insights from non-Western research, potentially introducing selection bias

Limitations of Evidence Quality

Small sample sizes (median n = 85 across reviewed studies), inconsistent methodologies, and a dearth of randomized controlled trials (RCTs; only 18% of included studies were RCTs) frequently restrict the quality of CAM studies. Sixty percent of the reviewed trials had no negative results, indicating publication bias favouring positive outcomes in homeopathy studies (20) Because of these restrictions, generalizability is limited, and efficacy claims must be interpreted carefully.

Academic Seminar on Complementary and Alternative Medicine (CAM) in Psychiatry

To supplement the literature review, an academic seminar was conducted as part of the child psychiatry academic curriculum. The session aimed to explore:

- Current evidence and challenges in Complementary and Alternative Medicine (CAM) integration.
- Practitioner perspectives on Complementary and Alternative Medicine (CAMs) efficacy and safety.
- Future research directions in Complementary and Alternative Medicine (CAM)-based psychiatric care.

The seminar included 25 participants (5 psychiatrists, 8 psychologists, 12 residents) and focused on evidence-based CAM integration, practitioner perspectives, and future research directions.

Survey Design and Data Collection

Pre- and Post-Session Surveys

Before and after the seminar, 30 clinicians (response rate: 76%, n = 23) were given a structured Google Forms survey. Residents (n = 5), psychologists (n = 8), and psychiatrists (n = 10) were among the participants. While the post-session survey examined shifts in confidence, misunderstandings, and interest in CAM research, the pre-session survey evaluated baseline knowledge, attitudes, and perceived barriers to CAM integration. Although clinicians with a history of CAM interest may have been overrepresented, responses were anonymous to minimize social desirability bias and is shown in **Table 2**.

Data Analysis and Synthesis

Survey results, seminar discussions, and literature reviews were used to triangulate the evidence. Explicit participant consent and anonymized survey responses were ethical considerations.

Results

This review synthesizes findings from the literature search, academic seminar, and survey responses, structured into

four themes: prevalence of CAM use, clinical evidence for evidence-based CAM, less validated CAM modalities, and practitioner perspectives.

Prevalence and Utilization of Complementary and Alternative Medicine (CAM) in Child and Adolescent Mental Health

Particularly in LMICs, where 70–97% of the population uses traditional medicine, CAM therapies are widely used (9) Compared to 12% in urban U.S. settings, 79% of rural families in India use Ayurveda for mental health (OR = 3.2, 95% CI: 2.5–4.0, $p < 0.001$) (10). Adoption of CAM is driven by cultural preferences (68%), financial constraints (56%), and discontent with traditional treatments (49%).

Clinical Evidence: CAM Modalities Based on Evidence

Ayurveda uses dietary changes, herbal remedies (like *Ashwagandha* and *Brahmi*), and Sattvavajaya (similar to CBT). Larger trials are required, but a 2023 RCT (n = 120) found that *Brahmi* improved ADHD attention ($p < 0.05$, Cohen's d = 0.42) (21) Meta-analyses support the moderate effects of yoga and mindfulness on depression and anxiety (Hedges' g = 0.61) (22) SSRI interactions are a risk associated with herbal supplements such as *St. John's Wort* (23) Key studies are summarized in **Table 1**.

Reduced Verified CAM Modalities

Small studies (n = 20) have shown some initial benefits of homeopathy for ADHD; however, systematic reviews point to high bias and a lack of replication (24, 25) Its effectiveness has not been established, so interpretation must be done with caution.

Cultural Background: CAM Without Evidence

Although they are not scientifically supported, sorcery, astrology, and faith healing are culturally significant in LMICs. For instance, 15–20% of rural South Asians practice astrological rituals for mental health, attributing symptoms to planetary alignments (26)Where spiritual beliefs predominate, faith healing—including exorcisms—is common, but no peer-reviewed research has confirmed its effectiveness (27) Although they are not advised for clinical use, these modalities are listed in **Table 2** to represent cultural customs.

Practitioner Views According to surveys (n = 23), 58.8% of clinicians preferred mindfulness for integration, while 68.4% of them valued evidence-based CAM insights. Among the obstacles were insufficient training (56.3%) and a lack of evidence (81.3%) as shown in **Table 2**.

Ayurvedic mental health treatments are categorized into three approaches:

(1) Daivavyapashraya, involving spiritual interventions such as mantras and rituals.

(2) Yuktivyapashraya, which incorporates herbal medicine, dietary modifications, and detoxification therapies.

(3) Sattvavajaya, a psychotherapeutic technique emphasizing cognitive regulation, emotional resilience, and self-awareness. (28, 29)

Behere et al coined "PsychoVeda," blending Ayurveda and psychotherapy to deepen self-awareness and connection with nature. Sattvavajaya, akin to cognitive-behavioral therapy and mindfulness, offers techniques such as thought regulation and self-reflection. Integrating these with modern therapies creates a holistic, culturally sensitive approach to mental health, enhances outcomes, and fosters personal growth. (11)

TABLE 1 | Summary of key CAM studies, including study type, sample size, findings, and limitations.

Serial number	CAM Modality	Study	Study Type	Sample Size	Key Findings	Limitations
1	Ayurveda (*Brahmi*)	Kumar et al. (2023) (21)	RCT	120	Improved attention in ADHD ($p < 0.05$)	Small sample, short-term follow-up
2	Homeopathy	Fibert et al. (2016) (24)	Case series	20	Reduced ADHD symptoms	Non-randomized, no control group
3	Mindfulness	James et al. (2018) (22)	Meta analysis	1234	Moderate effect on anxiety (Hedges' g = 0.61)	Heterogeneous protocols, publication bias
4	Yoga	Hagen et al. (2014) (34)	Review	540	Reduced depression symptoms	Limited RCTs, variable intervention duration
5	Herbal (*St. John's Wort*)	Hoenders et al. (2018) (23)	Systematic review	678	Potential benefit for depression	Risk of SSRI interactions, dosage variability

TABLE 2 | Post-Seminar Clinician Perspectives on CAM Integration in Psychiatry.

Serial Number	Survey Question	Key Responses & Percentages
1	Most Valuable Parts of Session	68.4% valued evidence-based Complementary and Alternative Medicine (CAM) insights
2	Confidence in Discussing Complementary and Alternative Medicine (CAM) with Caregivers	47.4% somewhat confident, 31.6% very confident
3	Preferred Complementary and Alternative Medicine (CAM) for Integration	58.8% chose mindfulness & meditation
4	Barriers to Complementary and Alternative Medicine (CAM) Integration	81.3% cited lack of clinical evidence, 56.3% reported inadequate training
5	Interest in Complementary and Alternative Medicine (CAM) Research	84.2% expressed willingness to participate

This table presents the results of a post-seminar survey evaluating clinician attitudes toward the use of CAM in psychiatric practice

TABLE 3 | Ayurvedic Diagnosis and Their Modern Psychiatric or Neurological Equivalents. This table, an original synthesis based on Behere et al. and Pandey & Tiwari et al (11, 29).

Serial Number	Ayurvedic Diagnosis	Modern Psychiatry or Neurological Equivalent
1	Unmada	Psychosis
2	Apasmara	Convulsive disorder
3	Bhrama	Illusion
4	Atatvabhinivesham	Obsessive Compulsive Disorder (OCD)
5	Prajnaparadha	Lack of coordination between Dhi, Dhruti, and Smruti
6	Tandra	Drowsiness
7	Klama	Chronic fatigue syndrome/Neurasthenia
8	Mada	Loss of perception
9	Apatantrakam	Hysteria
10	Avasada	Depression
11	Citto Udvega	Anxiety neurosis
12	Manasa Mandata	Intellectual disability

Ayurveda and Mental Health

Ayurveda emphasizes mind-body balance and employs herbal medicine, dietary modifications, and psychotherapeutic techniques such as Sattvavajaya (analogous to cognitive-behavioral therapy). Studies suggest that adaptogenic herbs like *Brahmi* (*Bacopa monnieri*) and *Ashwagandha (Withania somnifera)* may reduce anxiety and enhance cognitive function, yet high-quality clinical trials remain scarce (30–35).

Although larger, multicenter trials are required for replication, a 2023 RCT by Kumar et al. (n = 120) found that *Brahmi (Bacopa monnieri)* improved attention in ADHD children ($p < 0.05$, Cohen's $d = 0.42$) (21) Research on *Ashwagandha* (*Withania somnifera*) for anxiety is limited by small sample sizes ($n < 100$) and a lack of standardization (30–35) Herb-drug interactions, protocol variability, and the scarcity of RCTs (just 15% of Ayurvedic studies) are among the issues raised by systematic reviews (36)**Table 3** provides a comparison of traditional Ayurvedic mental health diagnoses with their contemporary psychiatric and neurological counterparts.

Homeopathy: The Principle of Similars

Homeopathy, based on the "Principle of Similars," uses highly diluted substances to stimulate self-healing. Reduced ADHD symptoms were reported in a 2016 case series by Fibert et al. (n = 20); however, generalizability is limited by the small sample size and lack of a control group (24) According to a 2014 systematic review by Shaddel et al., there is little evidence linking homeopathy to intellectual disabilities or autism spectrum disorders, and the majority of studies have a high risk of bias (70 percent of trials) (25) Because of methodological flaws and a lack of replication, efficacy claims should be interpreted with caution.

Mindfulness, Yoga, and Herbal Supplements

Yoga and tai chi are examples of mindfulness-based therapies that have promise for treating depression and anxiety. While tai chi's effects were not statistically significant, a 2018 meta-analysis by James et al. (n = 1,234) found that yoga had moderate effects on teenage anxiety (Hedges' g = 0.61, 95% CI: 0.29–0.92) (22) Although a 2018 review by Hoenders et al. highlighted irregular dosage and serotonin syndrome risks with SSRIs, herbal supplements such as *St. John's Wort* and *Ginkgo biloba* have demonstrated promise for treating pediatric depression (23) To verify safety and efficacy, more extensive RCTs are required.

Challenges in Integrating Complementary and Alternative Medicine (CAM) into Psychiatric Care

Despite its widespread use, Complementary and Alternative Medicine (CAM) faces significant barriers to integration into mainstream psychiatric practice.

Regulatory Gaps and Policy Challenges

One of the major obstacles to Complementary and Alternative Medicine (CAM) adoption is regulatory

inconsistency. In many countries, Complementary and Alternative Medicine (CAM) therapies exist outside standardized medical frameworks, leading to quality control issues, inconsistent practitioner training, and a lack of formal safety protocols.

Global Regulatory Examples

- **India:** Ayurveda and homeopathy are recognized under AYUSH (Ministry of Ayurveda, Yoga & Naturopathy, Unani, Siddha, and Homeopathy), yet clinical trials and pharmacovigilance remain underdeveloped (19).
- **United States:** The FDA does not regulate homeopathic remedies as strictly as conventional drugs, leading to concerns about quality and efficacy (37).
- **European Union:** The European Medicines Agency (EMA) has stringent approval processes for herbal medicine, yet many Complementary and Alternative Medicine (CAM) interventions remain outside formal healthcare systems (23).

Lack of Standardized Training for Clinicians

Medical professionals often lack formal training in Complementary and Alternative Medicine (CAM), leading to uncertainty about recommending or discouraging its use. A survey of pediatricians found that while 43% endorsed mindfulness-based therapies, fewer than 10% had received training in Complementary and Alternative Medicine (CAM) safety or efficacy (5, 10, 13, 15) Medical curricula should incorporate Complementary and Alternative Medicine (CAM) literacy to equip clinicians with evidence-based guidance for patients and caregivers (19).

Safety Concerns and Misconceptions

The perception that Complementary and Alternative Medicine (CAM) is inherently safe is problematic. Herbal remedies like *St. John's Wort* can induce serotonin syndrome when combined with SSRIs, and unregulated homeopathic products have been found to contain undeclared active ingredients (23, 38).

To address these challenges, regulatory bodies must implement pharmacovigilance measures to ensure Complementary and Alternative Medicine (CAM) interventions meet safety standards comparable to conventional treatments.

Alternative and Complementary Therapies: Expanding Mental Health Options

Many parents are turning to Complementary and Alternative Medicine (CAM) for children's mental health, seeking natural, holistic approaches due to concerns about side effects, stigma, and dependence on conventional treatments, such as pharmaceuticals and counselling (5) Emerging evidence supports Complementary and Alternative Medicine (CAMs) effectiveness for disorders, such as autism, ADHD, anxiety, and depression. Mindfulness practices like tai chi, yoga, and meditation, either alone or with other treatments, are becoming increasingly popular among parents (11, 24–29) Although there is still little evidence to support tai chi, a meta-analysis by James et al. (2018) found that yoga had moderate effect sizes in lowering teenage anxiety (Hedges' g = 0.61, 95% CI: 0.29–0.92). (22) Mindfulness-based therapies may also pose risks in trauma patients by triggering distressing flashbacks if not properly structured (30)A 2023 RCT by Kumar et al. demonstrated that *Brahmi* (*Bacopa monnieri*) was effective in improving attention in ADHD ($p < 0.05$, $n = 120$), supporting the claims that herbal supplements such as *St. John's Wort, Ginkgo biloba,* and *Brahmi* may alleviate symptoms of childhood anxiety and depression. (21) However, concerns regarding standardization, dosage variability, and potential drug interactions necessitate further investigation (5).

Cultural Background of CAM Without Evidence

Despite having strong cultural and spiritual roots, some complementary and alternative medicine (CAM) practices—like astrology, faith healing, and sorcery—do not have scientific support for clinical application. For instance, 15–20% of South Asian rural populations report using astrology-based rituals and sorcery practices (such as animal sacrifices and exorcisms) for mental health issues (26) These practices are common in some LMIC communities. Similar prevalence exists for faith healing, such as shamanic or Koranic rites, especially in areas where spiritual beliefs ascribe supernatural causes to mental illness (27) Although these practices are listed in **Table 2** to represent their cultural significance, there is no peer-reviewed evidence to support their safety or efficacy, so clinical integration is not advised. Clinicians should proceed cautiously when using these modalities, recognizing their cultural significance while informing patients and caregivers of their lack of scientific support.

The various forms of Complementary and Alternative Medicine (CAM) (24) can be summarized in **Table 4**.

Shukla et al reviewed the role of art therapy in managing psychiatric issues, highlighting its use of creative interventions like theatre, music and visual arts to promote well-being. (19) Art therapy integrates physical, emotional,

TABLE 4 | Various Forms of Complementary and Alternative Medicine (CAM) and Their Mental Health Applications.

Serial Number	Complementary and Alternative Medicine (CAM) Modality	Specific Example	Mental Health Applications
1.	Herbal medicine (Ayurvedic, Chinese, Japanese)	*Brahmi, Ashwagandha, St. John's Wort*	Schizophrenia, Bipolar disorder, Tourette Syndrome, Major depressive disorder, ADHD (*Brahmi*: moderate evidence for ADHD attention improvement (21))
2.	Exorcisms		Historically linked to spiritual beliefs; no empirical evidence for mental health efficacy (27)
3.	Meditation	Concentrative, Mindfulness	ADHD, Anxiety, Depression (Mindfulness; strong evidence for anxiety reduction (5, 23, 29))
4.	Sorcery and Astrology	Animal sacrifices, Confessions, Exorcism, Purification ceremonies, Herbal treatments, Charms, Witchcraft, Rituals based on planetary alignment.	Culturally significant but no evidence for efficacy; attributed to evil spirits (26)
5.	Religious healing, Shamanism	Faith healing (e.g., Koranic), Rituals, Talismans, Devil dancers, Pilgrimages, Exorcism, Charms	Culturally significant; no empirical evidence; attributed to evil spirits (26, 27)

This table categorizes different CAM modalities and their associated mental health applications.

and spiritual aspects, and offers a holistic healing approach (31, 32) Its popularity is rising owing to its person-centered focus, although its effectiveness remains unclear owing to limited research (19) In addition, sensory-based approaches, including sensory rooms and integration programs, improve emotional regulation and reduce symptoms in individuals with mental disabilities, autism, and dementia. However, standardized evaluation tools are required for further assessment (33).

Practitioner and Researchers Perspectives on Complementary and Alternative Medicine (CAM)

These findings suggest that while clinicians acknowledge Complementary and Alternative Medicine (CAMs) potential, its integration into psychiatric practice requires scientific validation, structured education, and regulatory oversight.

Discussion

This review highlights the growing role of Complementary and Alternative Medicine (CAM) in child and adolescent mental health, particularly in regions where conventional psychiatric care faces accessibility barriers. Ayurveda, homeopathy, and other Complementary and Alternative Medicine (CAM) modalities offer culturally accepted, often cost-effective alternatives, yet their integration into mainstream psychiatric care remains a challenge due to inconsistent evidence, regulatory concerns, and a lack of standardized protocols.

Ayurveda emphasizes mind-body balance through herbal medicine, dietary interventions, and psychotherapeutic techniques such as Sattvavajaya, which shares similarities with cognitive-behavioral therapy (CBT). Preliminary studies suggest benefits in managing anxiety and cognitive function, yet robust clinical trials are needed (30–34, 37)Homeopathy, based on the principle of "like cures like," has been explored for ADHD and autism spectrum disorders, though existing research is limited by methodological weaknesses and small sample sizes (11, 26–29). Mindfulness, yoga, and herbal supplements such as *St. John's Wort* and *Ginkgo biloba* show promise for anxiety and depression but require further validation regarding dosage standardization and interactions with psychotropic medications (5, 23, 29).

Despite their potential, Complementary and Alternative Medicine (CAM) therapies face significant challenges in regulatory oversight, clinical validation, and practitioner training. A key barrier is the variability in study quality, with small sample sizes and heterogeneous methodologies limiting the generalizability of findings. Furthermore, safety concerns, including potential herb-drug interactions and the misconception that Complementary and Alternative Medicine (CAM) is inherently risk-free, necessitate stricter pharmacovigilance measures (19, 38). Medical education should integrate Complementary and Alternative Medicine (CAM) literacy to equip clinicians with the knowledge to guide patients effectively, fostering informed decision-making in pediatric mental healthcare.

Strengths

This review effectively integrates Ayurveda, homeopathy, and other complementary practices into child and adolescent

psychiatry, emphasizing their cultural relevance and accessibility, particularly in low- and middle-income countries (LMICs). By incorporating practitioner perspectives, academic discourse, and a broad range of sources—including clinical studies, policy reports, historical texts, and patient experiences—it offers a well-rounded exploration of Complementary and Alternative Medicine (CAM) applications, addressing key gaps in conventional psychiatric research.

Limitations

Despite its contributions, the review faces limitations inherent to CAM research, such as heterogeneous methodologies, small sample sizes, and a lack of standardized protocols, which constrain generalizability and replicability. Discrepancies between biomedical and CAM frameworks, publication bias, and ethical complexities in pediatric care further challenge integration. Additionally, the short-term nature of most studies limits understanding of long-term outcomes, underscoring the need for rigorous, culturally sensitive research and standardized, ethically sound approaches moving forward.

Future direction and Proposed Framework

A. Filling in the Evidence Gap

- Perform large-scale RCTs (e.g., n $\geq$ 500, multi-site designs) for CAM modalities that target depression, anxiety, and ADHD, such as Ayurveda and mindfulness.
- Create standardized procedures that are verified by pharmacokinetic studies for homeopathic remedies and Ayurvedic herbs (e.g., *Brahmi* dosage: 300–600 mg/day) (21)

B. Including CAM in Psychiatric Education

- Include CAM modules that address patient communication, safety (such as herb-drug interactions), and evidence evaluation in medical curricula. Three hours on safety procedures, three hours on cultural sensitivity, and four hours on Ayurvedic/mindfulness evidence are all included in a suggested 10-hour module (39)
- To improve collaborative care models, support interdisciplinary training programs that pair AYUSH practitioners with psychiatrists.

C. Implementation of Regulations and Policies

- Form WHO-APA collaborations to develop pharmacovigilance-based global CAM adverse event reporting systems (40).
- Create CAM integration referral pathways, such as psychiatrists sending patients to licensed AYUSH practitioners for herbal or yoga therapy, with safety and efficacy monitoring in place.
- Establish international registries that integrate data from LMICs and HICs to track long-term CAM outcomes in pediatric mental health (40)

Conclusion

The growing integration of Complementary and Alternative Medicine (CAM) into child and adolescent mental healthcare necessitates urgent policy action and innovative research frameworks grounded in international collaboration. Aligned with the WHO Traditional Medicine Strategy 2025-2035, we propose WHO-APA collaborations to develop a unified regulatory framework addressing:

1. Mandatory adverse event reporting systems for Complementary and Alternative Medicine (CAM)-related complications.
2. Incorporation of Complementary and Alternative Medicine (CAM) safety and efficacy metrics into DSM/ICD guidelines.
3. Global pharmaco-vigilance registries to monitor long-term Complementary and Alternative Medicine (CAM) effects, particularly in vulnerable populations such as children and adolescents.

Concurrently, medical education must evolve to address clinical realities - 67% of paediatric residents report encountering Complementary and Alternative Medicine (CAM) use despite lacking formal training. This demands competency-based PGME modules covering evidence appraisal of traditional medical systems, ethical communication about Complementary and Alternative Medicine (CAM) risks/benefits and safe integration protocols for high-prevalence modalities such as Yoga-SSRI combinations. These initiatives should be operationalized through tripartite collaboration between WHO technical groups, APA clinical committees, and NCCIH research networks to ensure culturally sensitive yet evidence-anchored implementation.

In conclusion, while integrative approaches, such as Ayurveda, homeopathy and Complementary and Alternative Medicine (CAM), hold promise for addressing psychiatric disorders in children and adolescents, significant challenges remain. These therapies offer a holistic, low-stigma, and cost-effective alternative to conventional pharmacological treatments, often appealing to families seeking natural and individualized care. However, the current evidence is limited by the variability in study quality, lack of robust clinical trials, and challenges in standardization. Future research should focus on well-designed clinical trials, standardized evaluation

methodologies, and interdisciplinary collaborations to determine the efficacy, safety, and integration of these approaches into mainstream psychiatric care.

Authors' contributions

All authors have made a substantial, direct, and intellectual contribution to the work and approved it for publication. The manuscript has been read and approved by all the authors, the requirements for authorship as stated in guidelines of journal have been met, and that each author believes that the manuscript represents honest work, if that information is not provided in another form.

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The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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THEORETICAL RESEARCH

Sivaraman's mind action research theory

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Information from the external world enters the mind through the five special senses, forming perception that influences thoughts and emotions. The interaction of thoughts and emotions leads to the formation of impulses, which remain internal until expressed through speech or action, resulting in self-experience. The conversion of impulse into expression is regulated by experience derived from genetic factors, bodily sensations, others' experiences, and self-experience. Experience guides impulse expression by considering contextual factors such as place, meaning, and situation, highlighting the role of sensory input and experiential regulation in shaping human behavior.

Keywords: Psychopathology, Speech Perception, Mental processes, Theory of Mind, Information Processing

The information from external world enters inside our Mind through five special senses (Vision, Hearing, Taste, Smell and Touch). Although there may be many factors, these five special senses feed key information for formation of Perception. The Perceived Perception influences the formation of Various Thoughts and Emotions. Although there may be many factors, these formed thoughts and Emotions interplay with each other and influence the formation of Impulse (Urge to speak or to do Action). The process so far would be predominantly Internal and won't be available to the external world. When the Impulse is expressed to the external world through Speech or Action, the individual gains self experience.

The Process of Conversion of Impulse into Speech or Action is being regulated by Experience. The Experience is gained by Gene, Visceral Body Sensations, other's experience and Self experience. The Gene carries much information from Ancestors and their descendents and this information feeds the Experience. Apart from Special senses there are several other visceral organs, joint sense and others which influence body sensations and in turn feeds information to Experience. The information gained from other's Experience can directly feed to Experience without subject to the process of Self Experience.

The Experience gained regulates the process of Conversion of Impulse into Speech or Action. The Experience while regulating the Process considers the Place, Meaning and Situation where the Impulse is going to be expressed as Speech or Action.

Equation 1

1. (T) (E) ⟹ (I)

(Thoughts) (Emotions) → (Impulse)

The thoughts and emotions may proportionately compensate each other and Impulse can be the same. If there is excess or deficit in formation of thoughts, the emotions may respectively become deficit or in excess so that the Formation of Impulse is left undisturbed and hence external expression of Speech and Action remains the same as usual. If there is excess or deficit in formation of thoughts, the emotions may respectively become excess or in deficit so that the Formation of Impulse gets altered and hence external expression of Speech and Action may vary from one's usual self.

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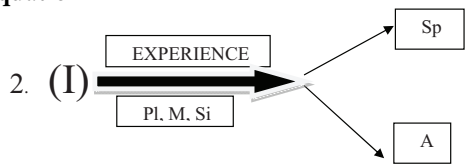
Equation 2



The Impulse will be tested by Experience through Place, Meaning and Situation before Speech or Action formation. The impulse once formed will urge to express to the external world through Speech or Action or both. The Prevailing Place, Meaning and Situation where the Impulse is going to be expressed as Speech or Action, guides the Experience so that it may modify how the Speech or Action is expressed to the external world. The Place, Meaning and Situation interplay with each other and guide the Experience so that different possible consequences of Expression of Speech or Action will be analyzed before it gets expressed to the external world.

This implies that by Modifying Speech and Action at appropriate Place, Meaning and Situation the Impulse can be modified and in turn Thoughts, & Emotions Can be modified. Also by Modifying Speech, one's Thoughts & Emotions can be modified and in turn Impulse can be modified and in turn Action can be modified.

The individual's Speech and Action are expressed in the External world.They are modifiyable by regular appropriate practice. This implies that by choosing appropriate words and Actions while expressing to the external world one can modify their Thought and Action Formation in their inner self.

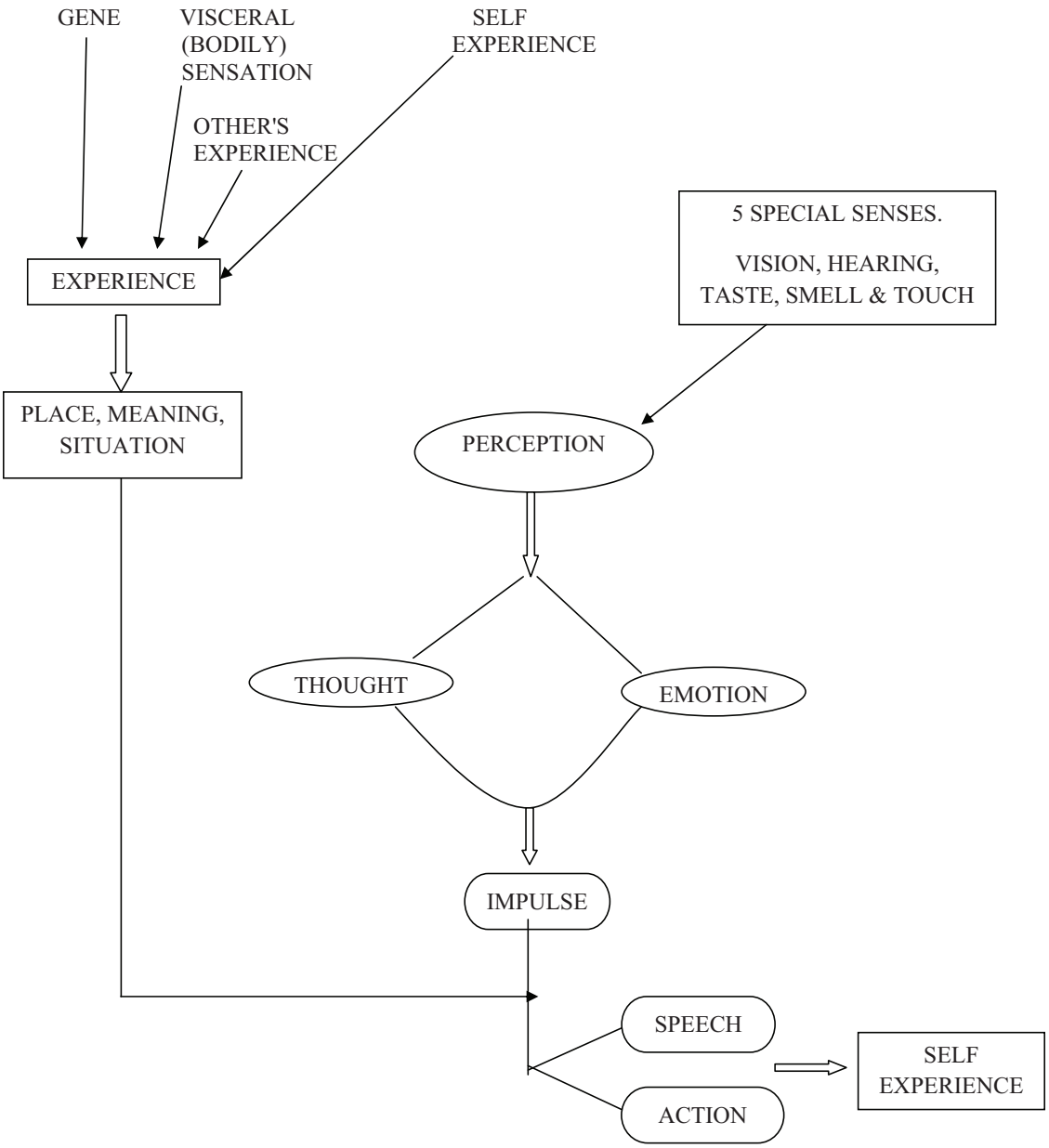
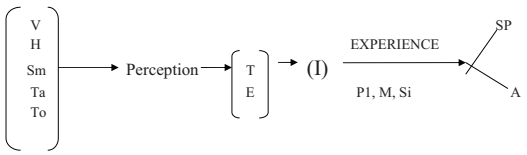


FIGURE 1 |

Equation 3



By directing five Special Senses in a desired way, Thoughts and Emotions can be directed in a desired Path, While Thought and Emotions in turn direct the Impulse formation. The Impulse in turn when subjected to experience will be tested for appropriate Place, Meaning and situation which will in turn lead to formation of speech or Action.

Experience is gained from different Modes including Gene, Visceral (Bodily) Sensation, Self Experience and Other's Experience. This gives an understanding that by choosing Appropriate Gene, Optimal functioning of visceral and other organs, Carefully choosing Information from Other's Experience and Information from one's own self Experience will decide whether Impulse to be converted into Speech and Action in the same or different Manner. The Speech and Action Can reflect the Impulse in the same Version, Exactly opposite version or a modified version depending upon the Place, Meaning and situation as directed by Experience. If Impulse, Speech and Action are one and same there will not be any Conflict. If speech and Action is modified by Experience there will be a Conflict between Impulse and Experience.

This implies that by directing five Special senses appropriately and strengthening one's self towards intended Goal (What is to be achieved) by Speech (words read out loudly/Pledge), Thought and Emotions will be directed towards the desired Goal.

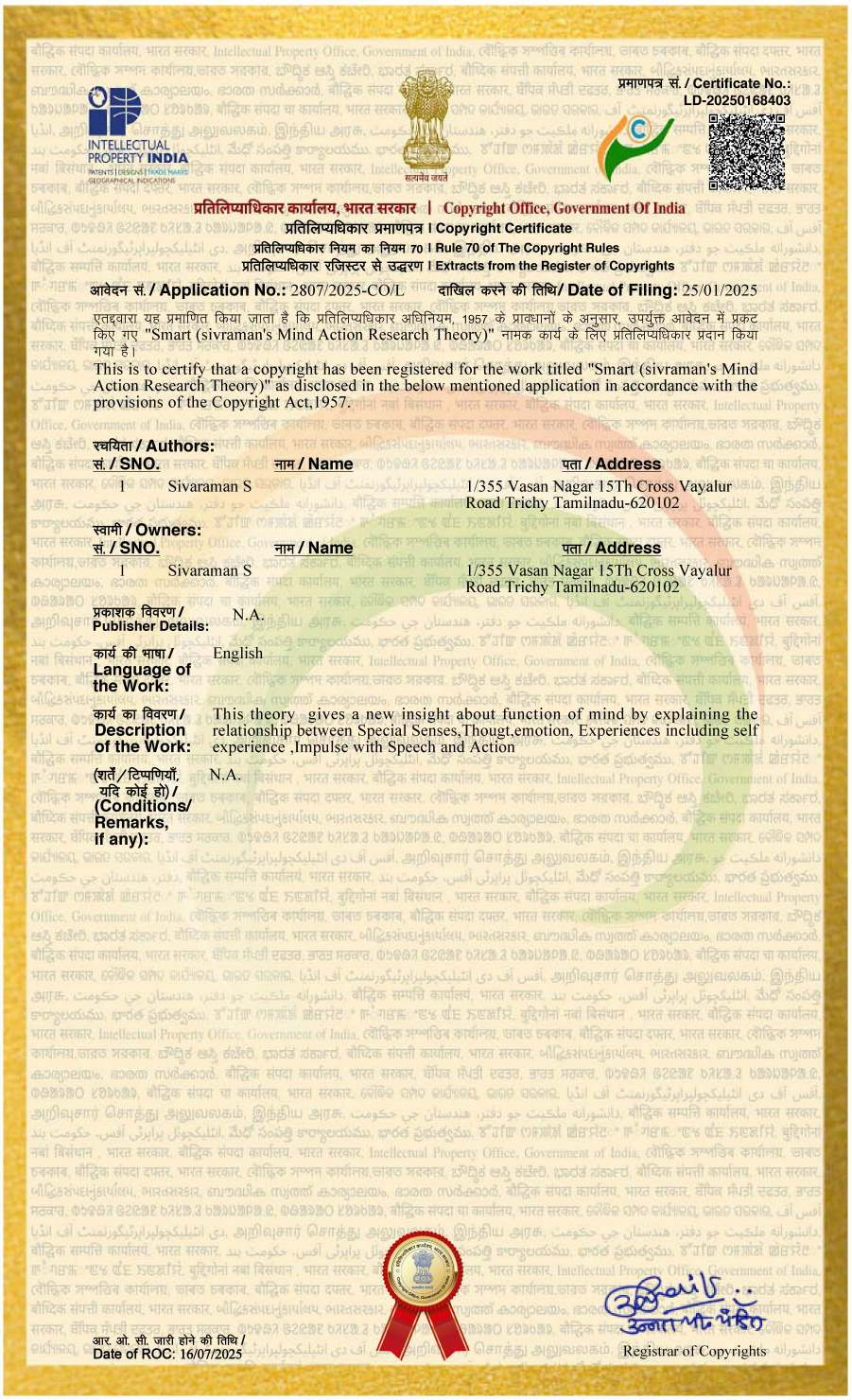
This implies that by directing five Special senses appropriately and strengthening one's self towards intended Goal (What is to be achieved) by Action (Regular exercise /behavior), Thought and Emotions will be directed towards the desired Goal.

Note:

T = Thought, Sp = Speech, E = Emotion, I = Impulse. A = Action, V = Vision, H = Hearing, Ta = Taste, Sm = Smell, To = Touch, Pe = Perception, PI = Place, M = Meaning, Si = Situation.

This write up has been done based on the author's own Theory registered under Copyright Office, Government of India. The details of registration have been given as **Appendix**.

Appendix



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CASE REPORT

Bloody Tears: A Rare Presentation of Munchausen Syndrome

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Background: Haemolacria, or bloody tears, is a rare and alarming clinical presentation with a broad differential diagnosis encompassing ocular, systemic, and psychological causes. Factitious disorder imposed on self (previously known as Munchausen syndrome) is characterized by the deliberate fabrication of symptoms to assume the sick role and is particularly challenging to identify in adolescents. Awareness of this association is limited, often leading to extensive and unnecessary investigations.

Case Presentation: A 17-year-old female presented with a six-month history of intermittent, painless bleeding from both eyes. Episodes were sudden, not associated with trauma, menstruation, or systemic illness, and caused significant distress to her family, while the patient remained relatively unconcerned. Comprehensive ophthalmic, hematological, and radiological evaluations, including CT and MR angiography, revealed no abnormalities. Mental state examination revealed anxiety related to familial stressors, particularly concerns about her father's health and financial insecurity.

Diagnosis: Following detailed psychiatric assessment and psychotherapy, the patient disclosed deliberate fabrication of symptoms using red watercolour paint to simulate bleeding episodes during periods of emotional stress, primarily to gain attention and care. A diagnosis of factitious disorder imposed on self presenting as haemolacria was established.

Management and Outcome: An eclectic psychotherapeutic approach focusing on insight development, addressing maladaptive coping mechanisms, and enhancing stress management skills was initiated. Regular follow-up sessions resulted in significant symptomatic improvement and cessation of fabricated bleeding episodes.

Conclusion: This case highlights haemolacria as a rare but striking manifestation of factitious disorder in adolescents. It underscores the importance of considering psychiatric etiologies after exclusion of organic causes, particularly in unexplained and recurrent presentations. Early recognition can prevent unnecessary investigations, reduce iatrogenic harm, and facilitate timely psychological intervention.

Keywords: Haemolacria, Factitious disorder imposed on self, Munchausen syndrome, Adolescents, Bloody tears

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Introduction

Haemolacria, commonly known as Bloody Tears due to its striking physical manifestation, is a rare condition that often induces sudden panic and distress in both patients and healthcare providers. The limited literature on haemolacria, combined with its diverse aetiologies and presentations, makes achieving a definitive diagnosis challenging, even after extensive investigations.

Munchausen Syndrome, first described by Richard Asher in 1951, was named after Baron von Munchausen, a fictional character inspired by s German military officer known for his exaggerated tales of adventure. Among various factitious disorders, Munchausen Syndrome stands out due to the chronic nature of the sick role, persistent therapy-seeking behaviour, and an intense desire for attention. It is characterized by the deliberate fabrication and simulation of symptoms to assume the role of a patient (1).

Factitious disorders (FDs) in which a child or adolescent deliberately induces or falsifies illness to adopt the role of a patient receive relatively little attention. This condition typically occurs in older children and adolescents with medical conditions requiring treatment and hospitalization. It is often associated with a history of environmental or family deprivation, as well as emotional and physical abuse (2).

Dealing with factitious disorders can be challenging in adults, but could be bothersome in children, though each case comes with its complexities. There is a possibility that children might intentionally fabricate or exaggerate symptoms. The gap in awareness can lead to unnecessary testing and misdiagnosis, as clinicians might not initially consider that the young patients themselves might be responsible for their symptoms. Children and adolescents may have varied motivations for falsifying illness, such as seeking attention, evading school or social situations, or attempting to control certain dynamics at home or within their peer group. Unlike adults, younger patients may not fully grasp the potential risks of their behaviour, which can lead to unintentional harm through unnecessary medical interventions (3).

Factitious disorder imposed on self, previously known as Munchausen syndrome, is a psychiatric disorder characterized by an individual deliberately fabricating or inducing physical symptoms in themselves. The primary motivation is to assume the role of a sick person, without any apparent external incentives such as financial gain or other benefits. This disorder is particularly challenging to manage, as patients often deny their diagnosis when confronted and may become hostile. It is common for these individuals to leave medical facilities against professional advice, only to seek care at another hospital. Certain risk factors have been identified for this disorder, including being female, unmarried, and employed within the healthcare community. (2) These factors may contribute to the development and perpetuation of the condition, making it a complex issue to address in clinical settings.

Narrative

Miss X was a 17-year-old, 11th Class student from a Hindu, middle-class family who presented to the urban Health and Wellness Centre (HWC) of the field practice area of the Department of Community Medicine, in a tertiary care hospital. The child was then referred to the Department of Psychiatry for further evaluation. The child presented with complaints of bleeding from both eyes for the past 6 months. As per history, bleeding was sudden, intermittent, not related to any time, and was 1 to 2 cc in amount. The blood was red, not associated with any bruise, abrasion, or petechiae on the skin. X was developmentally typical, with a difficult temperament, with no specific learning disability or learning issue, with no history of psychiatric illness in the family, and no parental discord. Her family was quite affected and distressed, while on the contrary, she was indifferent to her condition.

There was no history suggestive of epistaxis, injury, local infection/inflammation, blood dyscrasia, drug intake, systemic illness, relation to headache, or menstruation. General examination was normal, with no signs of anaemia, dilated vessels, or bleeding from other sites, including the nose, gums, or skin, and no hepatosplenomegaly or lymphadenopathy. There was no ocular trauma or any trauma to the periorbital region. Several investigations revealed normal general examination results, with no signs of anaemia, dilated vessels, bleeding from other sites, hepatosplenomegaly, or lymphadenopathy. Ophthalmic examination was also normal, with no evidence of conjunctival injury or an obvious bleeding site. Her investigations, including full blood count, prothrombin time, partial thromboplastin time, bleeding time, and international normalized ratio (INR), along with serum electrolytes, were normal, too. CT and MR Angiography of the brain and face were also done, which were unremarkable. The possibility of ocular vicarious menstruation being the cause of it was ruled out as the episodes didn't coincide with the period of menstruation.

On mental state examination, X expressed feelings of excessive worrying related to her father and apprehension about his health. The child shared a strong attachment to her father, who experienced a myocardial infarction a few years ago and is the family's sole breadwinner. Her parents stay far, and she stays with her brother's family. She expressed concerns about financial difficulties and stated that if anything were to happen to him, she would harm herself. The child was sensitive to criticism and had trouble coping with stress. Concerning her expressed behaviour's, it was observed that the level of anxiety concerning being sick and not yet diagnosed, despite numerous hospital admissions and

examinations, was less than expected; in fact, she seemed to be at ease. An eclectic psychotherapeutic approach was initiated. During the therapy, the child revealed that she does not get enough care and attention from her caregivers, so she uses red water colour as a substitute for blood and uses to apply on herself whenever she faces stressors. She used this to seek attention from her caregivers. During the therapy, her distorted thinking patterns, unhealthy coping mechanisms, and desire for attention and validation were addressed. Relaxation techniques, coping strategies, and activity scheduling were stressed.

Regular follow-up sessions were conducted, and there was a significant improvement in the symptoms.

The patient had pictorial evidence (**Figure 1**) of her bleeding from both eyes twice per week. Her physical examination showed a normal-looking young girl, with streaks of blood from both fornixes.

Patient's perspective

I didn't know how to ask for help or tell anyone how I was feeling. I was scared and felt alone, especially with my parents, especially my father, living away. When I started getting attention after the bleeding episodes, I felt cared for, even if it wasn't real. During therapy, I slowly began to understand my feelings and found other ways to express myself. Now, I feel lighter, more in control, and I'm learning how to manage my stress in healthier ways. I'm glad someone finally listened without judging me.

FIGURE 1 |

Discussion

Hemolacria, or bloody tears, is a sporadic condition with multiple potential causes, including tumours, conjunctivitis, trauma, retrograde epistaxis, inflammatory polyps, haemangiomas, and chloromas, among others. However, Munchausen syndrome can manifest with ophthalmic symptoms and should be considered in the differential diagnosis when a thorough evaluation fails to identify an underlying cause for ocular abnormalities.(3–5)Patients often present with prominent physical signs and symptoms, prompting urgent medical attention and hospitalization, with some even willingly consenting to invasive procedures. Alongside providing appropriate care, it is essential to reduce secondary gains and consider malingering as a differential diagnosis (6, 7). These patients often have an underlying trigger, such as a sudden loss of attention from others, leading them to fabricate symptoms to regain medical care. A thorough physical evaluation should be conducted promptly, as a diagnosis of Munchausen's does not rule out the coexistence of an actual medical condition. Overall, Munchausen syndrome, along with the broader spectrum of factitious disorders, remains widely underdiagnosed by both psychiatrists and physicians(8). Haemolacria, though rare, is a distressing phenomenon and an unusual presentation of Munchausen syndrome. While the exact causes of Munchausen syndrome remain unclear, contributing factors may include parental neglect, childhood emotional trauma or illness, unresolved psychological conflicts, personality disorders, and other significant stressors (9).

Conclusion

Further research across diverse cultures is essential to unravel the psychological, social, and cultural dimensions of factitious disorders. This may ultimately pave the way for the development of innovative, culturally sensitive treatment approaches.

Conflict of interest

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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LETTER TO EDITOR

Letter to editor: mental health and neuroscientific impact of the blind box toy consumption

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Writer's challenge

Letters to the editor content allows free expression of opinions to comment on published articles, and it is worthwhile attempting to write a letter, even if it is limited by a highly restrictive prescribed word count (1). Letters are the guideline section to show the author's interest and reinforce the importance of understanding an expert's opinions (2). Moreover, letters to the editor should know how they help in future research for authors and readers to have a better insight into doing research based on the sincere quality of comments (3).

Theoretical significance

In order to discover why consumers have loyalty to buy blind box toys, analyzing and surveying consumers' buying experience is important. Specifically, using prospect theory, cognitive dissonance, and post-purchase rationalization to examine why it will strengthen customer loyalty and keep the blind box crazy alive (4). Blind box culture theory can help researchers explore how the psychological allure drives blind box consumption, which can explain young people's obsession with blind boxes in their daily life (5). Past research has done a good job of studying the psychological mechanism of why people are addicted to involvement in blind boxes. Future suggests adjusting emotions after purchasing a blind box, especially for those fanatic consumers.

Discussion

Blind box toys are popular, but long-term addiction to such products can have negative impacts on mental health problems such as depression, anxiety, and suicide risks. Previous researchers have emphasized that players experience happiness and look forward to the blind box toy they purchase. Unpredictable contents in a blind box trigger dopamine release, and when a dopamine rush can be addictive, it leads individuals to buy more to gain potentially rare or desirable items, resulting in financial losses, buyer's remorse, and immersion in surprise and disappointment for the gambling-like physical products. What feelings are blind box consumers pursuing? Blind box collectables offer a more exciting experience than buying transparently packaged items, and they provide participants with the hedonic value when imagining what could be inside in the pre-opening phase. That is, blind box toys' unknown attributes were quite attractive to consumers. Blind box toys are sold in opaque packaging which allows consumers to possess a sense of mystery, as the emotional value exceeds the utilitarian value, and derive enjoyment and satisfaction from them. From a consumer behavior perspective, being blind is perceived as uncertainty; positive emotions of surprise and feelings of winning are accompanied by curious consumers because they perceive themselves as lucky, estimating outcomes optimistically.

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Conflict of interest

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