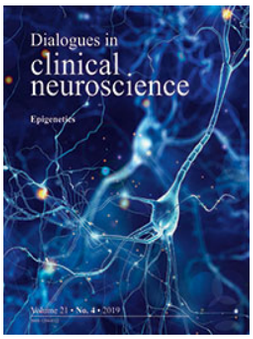

Dialogues in Clinical Neuroscience

ISSN: (Print) (Online) Journal homepage: www.tandfonline.com/journals/tdcn20

Cultural aspects of anxiety disorders in India

Maherra Khambaty & Rajesh M. Parikh

To cite this article: Maherra Khambaty & Rajesh M. Parikh (2017) Cultural aspects of anxiety disorders in India, Dialogues in Clinical Neuroscience, 19:2, 117-126, DOI: 10.31887/DCNS.2017.19.2/rparikh

To link to this article: https://doi.org/10.31887/DCNS.2017.19.2/rparikh

Cultural aspects of anxiety disorders in India

Maherra Khambaty, MSc; Rajesh M. Parikh, MD, DPM, DipNBE

Cultural factors have influenced the presentation, diagnoses, and treatment of anxiety disorders in India for several centuries. This review covers the antecedents, prevalence, phenomenology, and treatment modalities of anxiety disorders in the Indian cultural context. It covers the history of the depiction of anxiety in India and the concept of culture in the classification of anxiety disorders, and examines the cultural factors influencing anxiety disorders in India. We review the prevalence and phenomenology of various disorders, such as generalized anxiety disorder, panic disorder, social anxiety, and phobic disorder, as well as culture-specific syndromes such as dhat and koro in India. Finally, the review examines the wide range of therapeutic modalities practiced in India, such as faith healing, psychotherapy, ayurveda, psychopharmacology, Unani medicine, homeopathy, yoga, meditation, and mindfulness. We conclude by emphasizing the significance of cultural factors in making relevant diagnoses and offering effective and holistic treatments to individuals with anxiety disorders.

 Dialogues Clin Neurosci. 2017;19:117-125.

Introduction

Listening to patients is integral to the practice of psychiatry in order to understand their illnesses and thereby arrive at diagnoses.[1] The patient's narrative is frequently influenced by cultural beliefs and experiences, as is the interpretation by the interviewer.[2] Because the concept of normality differs across cultures, understanding the cultural context is crucial to the process of understanding and treating mental illness.[3]

Historical depiction of anxiety disorders in India

Mental disorders have been represented across ancient Indian texts.[4-7] In the *Ramayana*, composed circa 5000 BC, Marrich is described as experiencing hyperarousal, re-experiencing of events, and avoidance.[4] In Shrimad Bhagavatam, an epic written by Maharshi Ved Vyasa around 400 BC, the character of King Kansha develops generalized anxiety disorder (GAD) symptoms upon

Keywords: *anxiety disorder; ayurveda; cultural factor; dhat syndrome; faith healer; holistic treatment; homeopathy; India; meditation; mindfulness; psychotherapy; Unani; yoga; koro*

Author affiliations: Department of Psychiatry, Jaslok Hospital and Research Center, Mumbai, India

Address for correspondence: Rajesh M. Parikh, MD, Director, Medical Research & Hon. Cons. Neuropsychiatrist, Jaslok Hospital & Research Centre, 15 Dr. G. Deshmukh Marg, Mumbai 400 026, India
(email: dr.rmparikh@gmail.com)

being threatened by Lord Krishna; the symptoms included excessive worry, difficulty in concentration, and sleep disturbances.[4]

Evolution of the concept of culture in the classification of anxiety disorders

The *Diagnostic and Statistical Manual for Mental Disorders* (*DSM*) through its various editions has been predominantly influenced by Western culture.[8-10] The fourth edition of the *DSM* (*DSM-IV*), in 1994, was the first to recognize cultural factors by specifying cultural considerations in the process of diagnosis. It provided a glossary with culture-bound syndromes and idioms of distress.[11] It included culture-bound syndromes related to anxiety such as ataque de nervios, brain fog, dhat, ghost sickness, koro, latah, mal de ojo, susto, *miedo*, *espanto*, *pasmo*, *taijin kyofusho,* and wind or cold illness.[12]

The *DSM-5* has reclassified anxiety disorders, obsessive-compulsive disorder, and posttraumatic stress disorder into different spectra.[13] Anxiety disorders include separation anxiety disorder, selective mutism, specific phobias, social anxiety disorder (SAD), panic disorder and panic attacks, agoraphobia, and GAD. Cultural concepts of distress covering anxiety symptoms include ataque de nervios, dhat syndrome, *khyâl cap*, *kufungisisa*, *nervois*, *shenjing shuairuo*, and *taijin kyofusho*.[13] Of these, dhat syndrome is considered to be culture-specific to the Indian subcontinent.[14-17]

Thus, the classification of anxiety disorders has undergone conceptual reorganization, influenced by changing culture and society. It has reshaped our definitions, descriptions, and classifications of anxiety disorders.[18]

Cultural factors influencing anxiety disorders in India

Collectivism vs individualism

Indian culture—unlike that of the West, which emphasizes singularity, self-sufficiency, and independence—values intimacy, family unity, and security, making it a collectivist society.[19,20] Such societies emphasize interdependence and value group harmony; thus, "we" is more important than "I." Social rules for behavior are strict in these cultures; deviations in behavior often result in embarrassment, whereas guilt and self-blame are experienced in individualistic cultures, which are guided by internal sanctions.[21] Thus, the expression of anxiety as either embarrassment or guilt may depend on social norms and context. So, it is crucial to consider both the cultural orientation of the individual and the cultural norms within which the individual exists, especially if the cultural orientation of the individual is at either extreme of "individualism" (idiocentric) or "collectivism" (allocentric).[22]

Self-construal

Individuals with independent self-construal view themselves as autonomous—as separate from the social situation—and they try to endorse their own unique internal attributes and goals. In contrast, individuals in Asian cultures, such as that in India, possess interdependent self-construals, which emphasize connectedness and integration with the social group. They consider themselves to be an extension of the community and strive to preserve harmony within social relationships.[23]

Interdependent self-construal has been positively correlated with embarrassability and fear of negative evaluations, both of which contribute to our understanding of social anxiety and SAD.[24-26]

Shame

In Asian cultures, shame and anxiety have been closely linked and studied.[27-29] Studies have found that shame has a more important effect on social anxiety within a Chinese sample than in an American sample.[30] In India, the Oriya Hindu emotion of *lajya* or *lajja* (shame) has been regarded as a highly valued mental state. It is often used for women and is considered a powerful and good virtue.[31,32] Shweder has explained how shame in this context differs from the American understanding of the word.[33]

Prevalence of anxiety disorders in India

There have been three major meta-analyses of psychiatric epidemiological studies in India.[34-36] Reddy and Chandrashekhar, in their meta-analysis of 13 studies with a sample size of 33 572 subjects, found neurotic disorders to have the highest estimated prevalence rate,

20.7% (18.7% to 22.7%). Of the neurotic disorders they studied, only phobia and GAD are included under anxiety disorders as per the current *DSM-5* criteria, with weighted prevalence values of 4.2% and 5.8% respectively.[13,34] Urban communities had higher prevalence rates (35.7% vs 13.9%; $P<0.01$) than rural communities.[34]

The second meta-analysis, by Ganguli in 2000, analyzed 15 epidemiological studies. Anxiety neurosis was reported to be prevalent in 16.5 per thousand individuals, with a marginally higher prevalence in urban settings than in rural settings (106:100).[35] However, in this meta-analysis, anxiety neurosis was covered as a broad category without specific mention of the specific disorders.

The third meta-analysis, by Madhav, included 10 studies, and reported a similar prevalence for anxiety neurosis (18.5 per thousand population).[36] These findings seem comparable to those from studies across the world, in which current prevalence estimates across 44 countries ranged between 0.9% and 28.3%, with the global prevalence calculated to be 7.3%.[37]

Phenomenology of anxiety disorders in India

Generalized anxiety disorder

Individuals with GAD from Asian cultures present with somatic symptoms, whereas those from Western cultures present with more psychological symptoms.[38,39] In India, a similar pattern is observed.[40] *DSM-5* GAD diagnostic criteria emphasize psychological symptoms in keeping with Western culture, furthering the risk that GAD may be overlooked in Indian patients.[38]

Panic disorder

Neerakal and Srinivasan, in a study of 94 panic patients in out-patient settings, found that Indian patients with panic disorder reported fewer cognitive symptoms, such as fear of loss of control and depersonalization, than such patients in Western countries.[41] They also reported fewer vestibular symptoms.[41] Those with comorbid agoraphobia feared losing control and fainting. Comorbid major depression was present in 45.7% of the patients with panic attacks, and such subjects were at a greater risk of concurrent GAD.[42]

Social anxiety

Mehtalia and Vankar found that the most common manifestation of SAD in adolescents was the avoidance of giving speeches.[43] Other reported factors were difficulties in coping with academics, weight concerns, having few friends, lack of intimacy with parents, and differential treatment from siblings.[43]

Phobic disorder

A study in Uttar Pradesh in India reported that comorbidity of depression with blood injury and injection phobia was high, whereas rates of obsessive-compulsion disorder and SAD were low.[44] Only one case of emetophobia (fear of vomiting) has been reported in India.[45] Basu et al reported two cases of individuals who developed agoraphobic symptoms after developing alcohol dependence, with phobic symptoms worsening during alcohol abstinence. The investigators recommended the need for a comprehensive treatment model for this group to address the issues of alcohol dependence and underlying anxiety disorder.[46]

Culture also influences the severity and content of phobias.[38] In general, girls experience more fear than boys. In Western cultures, fears about burglars and getting lost are reported, whereas in Asian cultures, themes of fear relate to animals, ghosts, deep waters, the dark, imaginary things, supernatural things, and the natural environment.[38]

Dhat syndrome

"Semen-loss syndrome," popularly known as dhat syndrome in India, is a presentation of anxiety.[47,48] The dhat syndrome is represented under "cultural concepts of distress" in the *DSM-5* and among "other specific neurotic disorders" in the *International Classification of Diseases, Tenth Revision* (*ICD-10*).[13,49] The syndrome presents in male patients who attribute their fatigue, weakness, and multiple somatic complaints to semen loss that they believe occurs during nocturnal emission, urination, and masturbation.[14]

Dhat, or the seminal fluid, is believed to be the source of virility and vitality in popular culture.[50] Its perceived loss creates avenues to express mood, cognitive, and bodily symptoms of distress with a plausible explanation. This form of distress is widely accepted

within the cultural context by traditional and faith healers.[50]

Dhat syndrome includes hypochondriacal anxiety and depressive symptoms[51] and can be categorized as dhat alone, dhat with comorbid depression and anxiety, and dhat with sexual dysfunction.[52] Chadda, in his study on Indian patients, found that roughly 50% of the cases of dhat syndrome presented with depression; 18% with anxiety disorders; and 32% with somatoform disorders.[53]

However, the syndrome is not restricted to the Indian subcontinent. Western literature of the 19th century, as well as reports from Sri Lanka, China, Europe, America, and Russia, suggest that this syndrome is also present outside India.[48,54] Physical and psychological features of semen loss or the "soul substance" have been described in the works of Galen and Aristotle.[54] Beard, Hare, and Maudsley linked seminal fluid loss with mental illness in their work.[55]

Over time, as a result of industrialization and urbanization, cases of anxiety centered on semen loss have diminished in Western cultures. This trend can be expected in India as well.[48]

Koro syndrome

Yet another cultural presentation of anxiety symptoms prevalent in Southeast Asia is koro. It manifests as a belief that the genitals will retract into the abdomen.[56] The word koro originates from the Malay word *kura* meaning "tortoise." The retraction of the penis is considered analogous to the retraction of the tortoise's head into its shell. Koro presents as penile retraction in men, retraction of breast and labia in women, or retraction of a protruding organ, such as the nose and tongue, in either gender.[57]

Koro has three cardinal symptoms: (i) a belief or delusion of penile retraction into the abdomen; (ii) panic associated with physical signs of anxiety; and (iii) the use of mechanical methods to prevent retraction of the penis.[56] It has been reported sporadically worldwide in the United States, Britain, Canada, Greece, Jordan, and Nigeria and as an epidemic in China and India.[57] In India, koro is better known as *jhinjhinia bemar*, especially in Assam and West Bengal.[57] Sachdev reported an epidemic of koro in Northeast India involving 31 patients. The majority of the individuals affected were from the lower socioeconomic group, poorly educated, and aged 20 to 40 years.[58] Kumar et al examined 70 koro patients and found that it was within migrant lineage and presented as an acute anxiety state.[59] Chakraborty and Sanyal described the koro epidemic in 19 jute mill workers in West Bengal.[56] It has also been reported as an epidemic in migrant labor camps in South India.[60] Thus, culture influences the presentation of various anxiety disorders in India and also contributes to syndromes such as those of dhat and koro.

Treatment of anxiety disorders in India

Faith healers

In his seminal work, *Persuasion and Healing*, Jerome Frank posited that faith is one of the major factors in the psychotherapeutic process.[61] In India, faith healers are often sought in rural areas with poor penetration of psychiatric services.[62] Srivastava and Barmola have analyzed various rituals practiced in Hinduism that may be applied to mental disorders, including anxiety disorders.[63]

Psychotherapy

The concept of talking as therapy is part of ancient Indian culture, as seen in mythology, philosophy, and religion.[64,65] Satyanand's integration of these ancient concepts in therapy allowed for the Indianization of psychoanalysis.[64]

Indian psychotherapists typically use face-to-face seating arrangements, suggestions, sympathy, and environmental manipulation, and provide more reassurances than their Western counterparts. Short-term, crisis-oriented, supportive, flexible, and eclectic psychotherapy is believed to be more beneficial in this population.[66] The teachings of the Bhagvad Gita and the guru-chela relationship[64] are sometimes incorporated into Indian therapy.[64,67,68]

Ayurveda

Ayurveda is India's ancient and traditional medicine system. The term ayurveda originates from "*ayu,*" meaning life, and "*veda,*" meaning knowledge. It is considered the "science of life" and involves care of a person's physical, mental, and spiritual health.[69]

In the book *Charak Samhitā*, a pre–second-century CE Sanskrit text on ayurveda, psychiatry is referred to

as *bhuta vidya* and mental illness is attributed to endogenous factors, such as provoked humors (*vatonmad*, *pittonmad*, and *kaphonmad*), and exogenous factors, such as fear or ill influence of gods or demons. Techniques of treating mental disorders include psychotherapy, physiotherapy, shock, drug treatment, hypnotism, and religious discourses by sages. Medication includes the use of products like old medicated ghee; cordfolia; horseradish (*shigru*) with asafetida and rock salt; *Centella asiatica* (*brahmi*) with *catechu*, honey, and powdered roots of serpentine.[7]

Ayurveda has three treatment modalities - *yuktivyapashray*, *daivyapashray chikitsa*, and *satvavajay chikitsa*.[70] *Yuktivyapashray* refers to rational therapy and *daivyapashray* to faith therapy. *Satvavajay chikitsa* is a concept of ayurvedic psychotherapy that is nonpharmacological in approach. It focuses on control of the mind or mental restraint from stressors, which can be attained via "spiritual knowledge, philosophy, fortitude, remembrance, and concentration." *Satvavajay* is indicated for mental diseases and works on three principles—replacement of emotions, assurances, and psychoshock therapy. Anxiety is recognized and referred to as *cittodveqa*.[70]

For anxiety disorders, various ayurvedic herbs have been recommended. The efficacy of *sankhapuspi* (*Convolvulus pluricaulis*), *brahmi* (*Bacopa monnieri*), and *ashwagandha* (*Withania somnifera*) in patient populations and *mandukaparni* (*Centella asiatica*) and *tulasi* (*Ocimum sanctum*) in animal models have been reported.[71] Recently, *ashwagandha* has been recognized as a treatment for anxiety and stress in the United States. Used as a broad-spectrum remedy in India for centuries, *ashwagandha* (*Withania somnifera*) was reported by the five human trials included in a systematic review by Pratte et al to improve outcomes on anxiety and stress scales.[72]

Pharmacological intervention

Across the world, patients with anxiety disorders seek treatment from general physicians rather than from mental health professionals.[73-75] This is particularly true of India because of the predominance of physical symptoms in patients with anxiety.[41,75]

It has been postulated that the high prevalence of poor-metabolizing variants of cytochrome P450 enzymes, such as CYP2D6, CYP2C19, CYP1A2, in the Asian population renders them particularly sensitive to drugs like diazepam and imipramine.[76,77]
Andrade et al reported that with sustained-release alprazolam, the anxiolytic efficacy wears off much earlier than blood levels of the drug drop. Therefore, despite three to four daily doses, interdose anxiety may be a clinical problem.[78] India is probably the only country in which a sustained-release preparation of alprazolam is commercially available.[78]

Unani medicine

Unani medicine is an ancient Greek form of medicine that evolved within the Muslim world and then came to India with the Mughal invasion.[79] The term is derived from the Arabic word *yūnānī*, meaning "Greek," as the system of medicine evolved from the teachings of Greek physicians.[79] In Unani medicine, anxiety disorders are described as *malikholia* (melancholia), *junoon* (insanity), *bedari* (insomnia), and *khafqaan* (palpitation). Several herbal drugs, like sankhaholi (*Evolvulus alsinoides Linn*.) are considered to have beneficial effects in psychiatric disorders. Sankhaholi has *musakkin-e-asab* (tranquilizing properties), *Muqawwi-e-asab* (nervine tonic) and *mufarreh* (alexiteric) activities, which supposedly makes it effective in managing *malikholia* (melancholia), *junoon* (insanity), *bedari* (insomnia), and *khafqaan* (palpitation).[80] Recent clinical trials have indicated that sankhaholi relieved anxiety symptoms without causing any side effects or withdrawal upon sudden stopping of the drug.[80]

Homeopathy

Homoeopathy was developed by the German physician Dr Samuel Hahnemann who is regarded as its founding father.[81] The word homeopathy is derived from two Greek words—"*homois,*" meaning similar, and "*pathos,*" meaning suffering. Homeopathy simply means treating diseases with remedies that are capable of producing symptoms similar to the disease when taken by healthy people.[82]

It was introduced in India in the early 19th century, flourished in Bengal at first, and then spread all over India.[83] With over 240 000 practicing homeopaths, India has the largest number of practitioners in the world.[84,85] Some studies indicate beneficial effects of homeopathy in treating mild to severe anxiety disorders.[86] However,

a systematic review revealed limited evidence, as well as methodological issues and contradictory findings, making it difficult to arrive at a positive conclusion.[87]

Yoga and meditation

Yoga originated around 3000 BC in India[88] and is popularly recognized as a program of physical exercises (*asana*), breath control (*pranayama*), and meditation.[89] Yoga and *pranayama* are increasingly recognized as effective techniques for improving health in addition to their long-recognized role in the prevention and management of diseases.[90]

It is postulated that yoga helps in the management of stress and anxiety by its downregulating effect on the hypothalamic-pituitary-adrenal (HPA) axis, which gets triggered in response to physical or psychological stressors. Yoga modulates the stress response systems by reducing perceived stress, which in turn reduces physiological arousal, eg, reducing the heart rate, lowering blood pressure, and easing respiration. Evidence suggests that yoga practices improve heart rate variability, indicating improved ability to deal with stress.[90]

Yoga meditation may also promote neuroplastic changes in the executive brain system. Fewer cognitive failures and greater gray matter volume (GMV) have been reported in the frontal, limbic, temporal, occipital, and cerebellar regions of yoga meditation practitioners than in matched controls.[91] Other studies have found higher plasma melatonin levels in experienced meditators immediately after meditation than under control conditions with the same individuals without meditation.[92] An Indian study by Harinath et al found that after 3 months of practicing hatha yoga and omkar meditation, there was an improvement in cardiorespiratory performance and psychological profiles of healthy adults.[93] This study also found increased plasma melatonin levels. Other studies have found that subjects trained in yoga can achieve a state of deep psychosomatic relaxation by practicing 5 minutes of *savitri pranayama*—slow, rhythmic, and deep breathing. *Shavasana* has also been associated with reduced oxygen consumption.[94]

Transcendental meditation was developed by the late Maharishi Mahesh Yogi based on the ancient Vedic traditions of India. It is a technique that focuses on avoiding distracting thoughts and promoting a state of relaxed awareness.[95] It has been linked to increased regional cerebral metabolic rate of glucose consumption (rCMRGlc) in the frontal lobe of the brain and reduction in the primary and secondary visual centers.[96] An Indian study by Subrahmanyam and colleagues found changes in neurotransmitters showing reduced stress and improved health in practitioners of transcendental meditation.[97]

Studies examining the effects of meditative therapies based on yogic principles on both stress and anxiety have demonstrated positive outcomes on anxiety.[98] Mind sound resonance technique (MSRT) is an advanced yoga technique involving mindful relaxation using mantra to generate resonance, which is believed to induce deep relaxation for the mind and body. A pilot study of the MSRT technique showed a reduction in state anxiety and enhanced psychomotor functioning in GAD patients.[99] Vahia et al found that meditation was as effective as pharmacotherapy (imipramine and chlordiazepoxide) in the treatment of GAD, with the added advantage of not having associated problems of pharmacological treatments, including habit formation, withdrawal reactions, and concerns of overdosage.[100]

Regardless of the pathophysiologic pathway, various studies have shown that yoga results in immediate psychological effects of decreasing anxiety.[101] What started as an ancient Indian practice is currently being applied across the globe. In December 2014, the United Nations General Assembly declared June 21st as the International Day of Yoga.[102]

Buddhism and mindfulness

Mindfulness is a meditation practice that finds its roots in Buddhist philosophy. The Buddha preached that nothing is permanent, neither our joys nor our troubles, and advocated equanimity. Misconceptions and attachment causes suffering.[103] While practicing mindfulness, one focuses on the present moment, being consciously aware of what is happening within and outside, without any reaction. It promotes reflection and conscious response as opposed to automatic responses.[104] Mindfulness aims to enhance insight and reduce one's suffering by focusing on the current moment.[103] Mindfulness promotes detachment from the external world and turns the focus of the individual inward, breaking the usual patterns of responding when anxious. In addition, it also includes relaxation techniques, which are effective for reducing anxiety.[104]

In a review of neuroimaging studies, Marchand found that neural mechanisms of mindfulness training affect attention, automatic thoughts, self-referential thinking, and emotional regulation. Such training affects the functioning of the medial cortex, insula, and amygdala, and in some cases, the lateral frontal regions and basal ganglia.[105]

Two popular mindfulness techniques integrated in psychotherapy are mindfulness-based cognitive therapy (MBCT) and mindfulness-based stress reduction (MBSR). MBCT seeks to change an individual's understanding of thoughts, as opposed to cognitive therapy that aims to change the content of the thoughts.[103] Sharma et al found MBCT to be effective in the treatment of anxiety disorders, especially in the reduction of worry (cognitive symptom) that usually accompanies GAD.[104] MBSR focuses on reducing stress, enhancing coping strategies, and increasing purposefulness.[103] It is effective in the treatment of SAD and has also been found to reduce depression and improve distorted views of oneself in social situations.[106] Various other studies have also shown the effectiveness of mindfulness-based interventions in treatment of anxiety disorders.[107]

Another popular meditative technique practiced widely in India, Vipassana meditation, also finds its roots in Buddhism.[103] Vipassana refers to special observation ("vi," meaning special; "passana," meaning see or observe).[108] It promotes three concepts—nothing is permanent, misconception causes suffering, and everything is interrelated and constantly changing (thus, rejecting the concept of "self").[109] Regular practice of Vipassana meditation has been linked with reduced anxiety levels and an enhanced sense of well-being.[110]

Thus, the treatment of anxiety disorders in India is heavily influenced by cultural factors. Treatment options cover a diverse range, including faith healers, ayurveda, psychopharmacology, Unani medicine, homeopathy, yoga, meditation, and mindfulness.

Conclusion

India is one country where cultural factors exercise a profound influence on the presentation, diagnosis, and treatment of anxiety disorders. An awareness of the modifying effects of these factors contributes to more accurate and relevant diagnoses, as well as more effective and holistic treatment modalities. ❑

Acknowledgments/Conflict of Interest: The authors declare no conflict of interest.

REFERENCES

1. Giron M, Manjon-Arce P, Puerto-Barber J, Sanchez-Garcia E, Gomez-Beneyto M. Clinical interview skills and identification of emotional disorders in primary care. *Am J Psychiatry*. 1998;155(4):530-535.
2. Manassis K. The effects of cultural differences on the physician-patient relationship. *Can Fam Physician*. 1986;32:383-389.
3. Kirmayer LJ. Culture, context and experience in psychiatric diagnosis. *Psychopathology*. 2005;38(4):192-196.
4. Sheth HC, Gandhi Z, Vankar GK. Anxiety disorders in ancient Indian literature. *Indian J Psychiatry*. 2010;52(3):289-291.
5. Weiss M. History of psychiatry in India. *Samiksa.* 1986;40(2):31-45.
6. Bhugra D. Psychiatry in ancient Indian texts: a review. *Hist Psychiatry.* 1992;3(10):167-186.
7. Parkar SR, Dawani VS, Apte JS. History of psychiatry in India. *J Postgrad Med*. 2001;47(1):73.
8. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders.* Washington, DC: American Psychiatric Association; 1952:31ff.
9. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders.* 2nd ed. Washington, DC: American Psychiatric Association; 1968:39ff.
10. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders.* 3rd ed. Washington, DC: American Psychiatric Association; 1980.
11. Mezzich J, Kirmayer L, Kleinman A, et al. The place of culture in *DSM-IV*. *J Nerv Ment Dis*. 1999;187(8):457-464.
12. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders.* 4th ed. Washington, DC: American Psychiatric Association; 1994.
13. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders.* 5th ed. Arlington, VA: American Psychiatric Association; 2013.
14. Wig NN. Problems of mental health in India. *J Clin Soc Psychiatry.* 1960;17:48-53.
15. Malhotra HK, Wig NN. Dhat syndrome: a culture bound sex neurosis of the orient. *Arch Sex Behav*. 1975;4(5):519-528.
16. Chadda RK, Ahuja N. Dhat syndrome. A sex neurosis of the Indian subcontinent. *Br J Psychiatry.* 1990;156:577-579.
17. Kar SK, Sarkar S. Dhat syndrome: evolution of concept, current understanding, and need of an integrated approach. *J Hum Reprod Sci*. 2015;8(3):130-134.
18. Crocq MA. A history of anxiety: from Hippocrates to *DSM*. *Dialogues Clin Neurosci.* 2015;17(3):319-325.
19. Varma VK. Cultural psychodynamics in health and illness. *Indian J Psychiatry.* 1986;28(1):13-34.
20. Chadda RK, Deb KS. Indian family systems, collectivistic society and psychotherapy. *Indian J Psychiatry*. 2013;55(suppl 2):S299-S309.
21. Hofmann SG, Asnaani A, Hinton DE. Cultural aspects in social anxiety and social anxiety disorder. *Depress Anxiety.* 2010;27(12):1117-1127.
22. Hofmann SG, Hinton DE. Cross-cultural aspects of anxiety disorders. *Curr Psychiatry Rep.* 2014;16(6):450.
23. Markus HR, Kitayama S. Culture and the self: implications for cognition, emotion, and motivation. *Psychol Rev.* 1991;98(2):224-253.
24. Singelis TM, Sharkey W. Culture, self-construal, and embarrassability. *J Cross Cult Psychol.* 1995;26:622-644.
25. Scherer KR, Wallbott HG, Summerfield AR. *Experiencing Emotion: a Cross-Cultural Study.* Cambridge, UK: Cambridge University Press; 1986.

26. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders.* 4th ed. Text Revision. Washington, DC: American Psychiatric Association Press; 2000.
27. Okano K. Shame and social phobia: a transcultural viewpoint. *Bull Menninger Clin.* 1994;58(3):323-338.
28. Fessler DMT. Shame in two cultures: implications for evolutionary approaches. *J Cogn Cult.* 2004;4(2):207-262.
29. Xu Y. Shame, neurosis and culture [in Chinese]. *Chin J Clin Psychol.* 1982;2:125-127.
30. Zhong J, Wang A, Qian M, et al. Shame, personality, and social anxiety symptoms in Chinese and American nonclinical samples: a cross-cultural study. *Depress Anxiety.* 2008;25(5):449-460.
31. Menon U, Shweder RA. Kalis tongue: cultural psychology, cultural consensus and the meaning of "shame" in Orissa, India. In: Kitayama S, Markus H, eds. *Culture and the Emotions*. Washington, DC: American Psychological Association; 1994:241-284.
32. Shweder RA. The cultural psychology of the emotions. In: Lewis M, Haviland J, eds. *The Handbook of Emotions.* New York, NY: Guilford Press; 1993:417-431.
33. Shweder RA. Toward a deep cultural psychology of shame. *Soc Res (New York).* 2003;1109-1130.
34. Chandrashekhar CR, Reddy MV. Prevalence of mental and behavioural disorders in India: a meta-analysis. *Indian J Psychiatry.* 1998;40:149-157.
35. Ganguli IH. Epidemiological findings on prevalence of mental disorders in India. *Indian J Psychiatry.* 2000;42:14-20.
36. Madhav M. Epidemiological study of prevalence of mental disorders in India. *Indian J Community Med.* 2001;26(4):10-12.
37. Baxter AJ, Scott KM, Vos T, Whiteford HA. Global prevalence of anxiety disorders: a systematic review and meta-regression. *Psychol Med.* 2013;43(5):897-910.
38. Marques L, Robinaugh DJ, LeBlanc NJ, Hinton D. Cross-cultural variations in the prevalence and presentation of anxiety disorders. *Expert Rev Neurother.* 2011;11(2):313-322.
39. Hoge EA, Tamrakar SM, Christian KM, et al. Cross-cultural differences in somatic presentation in patients with generalized anxiety disorder. *J Nerv Ment Dis*. 2006;194(12):962-966.
40. Vijay KG, Avasthi A, Grover S. A study of worry and functional somatic symptoms in generalized anxiety disorder. *Asian J Psychiatr.* 2014;11:50-52.
41. Neerakal I, Srinivasan K. A study of the phenomenology of panic attacks in patients from India. *Psychopathology.* 2003;36(2):92-97.
42. Srinivasan K, Neerakal I. A study of panic patients with and without depression. *Indian J Psychiatry.* 2002;44(3):246-252.
43. Mehtalia K, Vankar GK. Social anxiety in adolescents. *Indian J Psychiatry.* 2004;46(3):221-227.
44. Wani AL, Ara A, Bhat SA. Blood injury and injection phobia: the neglected one. *Behav Neurol.* 2014;2014:471340.
45. Faye AD, Gawande S, Tadke R, Kirpekar VC, Bhave SH. Emetophobia: a fear of vomiting. *Indian J Psychiatry*. 2013;55(4):390-392.
46. Basu D, Raj L, Mattoo SK, Malhotra A, Varma VK. The agoraphobic alcoholic: report of two cases. *Indian J Psychiatry.* 1993;35(3):185-186.
47. Perme B, Ranjith G, Mohan R, Chandrasekaran R. Dhat (semen loss) syndrome: a functional somatic syndrome of the Indian subcontinent. *Gen Hosp Psychiatry.* 2005;27(3):215-217.
48. Sumathipala A, Siribaddana S, Bhugra D. Culture-bound syndromes: the story of Dhat syndrome. *Br J Psychiatry.* 2004;184:200-209.
49. World Health Organization. *International Statistical Classification of Diseases and Related Health Problems.* 10th ed. Geneva, Switzerland: World Health Organization; 1992.
50. Balhara YPS. Culture-bound syndrome: has it found its right niche? *Indian J Psychol Med.* 2011;33(2):210-215.
51. Avasthi A, Jhirwal OP. The concept and epidemiology of Dhat syndrome. *J Pak Psychiatr Soc*. 2005;2:6-8.
52. Avasthi A, Nehra R. Sexual disorders: a review of Indian research. In: Murthy RS, eds. *Mental Health in India (1995-2000): People's Action for Mental Health.* Bangalore, India; 2001:42-53.
53. Chadda RK. Dhat syndrome: is it a distinct clinical entity? A study of illness behaviour characteristics. *Acta Psychiatr Scand.* 1995;91(2):136-139.
54. Jadhav S. Dhat syndrome: a re-evaluation. *Psychiatry.* 2004;3:14-16.
55. Raguram R, Jadhav S, Weiss M. Historical perspectives on Dhat syndrome. *Natl Inst Men Health Neurosci J*. 1994;12:117-124.
56. Chakraborty S, Sanyal D. An outbreak of Koro among 19 workers in a jute mill in south Bengal. *Indian Psychiatry J.* 2011;20(1):58-60.
57. Srivastava M, Pandit B. Koro - a case report and review. *Int J Physiol.* 2013;1(1):37-40.
58. Sachdev PS. Koro epidemic in north-east India. *Aust N Z J Psychiatry.* 1985;19(4):433-438.
59. Kumar R, Phookun HR, Datta A. Epidemic of Koro in North East India: an observational cross-sectional study. *Asian J Psychiatr.* 2014;12:113-117.
60. Promudu K, Nair K, Pushparajan S. Koro syndrome: mass epidemic in Kerala, India. *Ind J Clin Psychol.* 2012;39(2):152-156.
61. Frank JD, Julia BF. *Persuasion and Healing: a Comparative Study of Psychotherapy*. Baltimore, MD: Johns Hopkins University Press; 1993.
62. Kapur RL. The role of traditional healers in mental health care in rural India. *Soc Sci Med Med Anthropol.* 1979;13B(1):27-31.
63. Srivastava SK, Barmola KC. Rituals in Hinduism as related to spirituality. *Indian J Positive Psychol.* 2013;4(1):87-95.
64. Neki JS. Psychotherapy in India. *Indian J Psychiatry.* 1977;19:1-10.
65. Avasthi A, Kate N, Grover S. Indianization of psychiatry utilizing Indian mental concepts. *Indian J Psychiatry*. 2013;55(6):136.
66. Varma VK, Ghosh A. Psychotherapy as practiced by the Indian psychiatrists. *Indian J Psychiatry.* 1976;18:177-186.
67. Venkoba RA, Parvathi DS. The Bhagvad Gita treats body and mind. *Indian J Hist Med.* 1974;19(2):35-44.
68. Reddy MS. Psychotherapy - insights from bhagavad gita. *Indian J Psychol Med*. 2012;34(1):100.
69. Lad V. An introduction to Ayurveda. *Altern Ther Health Med.* 1995;1(3):57-63.
70. Behere PB, Das A, Yadav R, Behere AP. Ayurvedic concepts related to psychotherapy. *Indian J Psychiatry*. 2013;55(suppl 2):S310-S314.
71. Mishra LC, ed. *Scientific Basis for Ayurvedic Therapies.* Washington, DC: CRC Press; 2004:448.
72. Pratte MA, Nanavati KB, Young V, Morley CP. An alternative treatment for anxiety: a systematic review of human trial results reported for the ayurvedic herb ashwagandha (*Withania somnifera*). *J Altern Complement Med*. 2014;20(12):901-908.
73. Weisberg RB, Dyck I, Culpepper L, Keller MB. Psychiatric treatment in primary care patients with anxiety disorders: a comparison of care received from primary care providers and psychiatrists. *Am J Psychiatry*. 2007;164(2):10.
74. Tiller JW. Depression and anxiety. *Med J Australia*. 2013;199(suppl. 6):S28-S31.
75. Sonawalla SB, Chakraborthy NC, Parikh RM. The perception of depression in general practice. *Mumbai J Psychiatry.* 1997;1:5-8.
76. Lin KM, Smith MW, Ortiz V. Culture and psychopharmacology. *Psychiatr Clin North Am.* 2001;24:523-557.
77. Allen JJ, Rack PH, Vaddadi KS. Differences in the effects of clomipramine on English and Asian volunteers: preliminary report on a pilot study. *Postgrad Med J.* 1977;53(suppl 4):79-86.
78. Andrade C, Aswath A, Chaturvedi SK, Raguram R, Bhide A. A double blind controlled evaluation of the efficacy and adverse effect profile of sustained release alprazolam. *Indian J Psychiatry.* 2000;42:302-307.
79. Poulakou-Rebelakou E, Karamanou M, George A. The impact of ancient Greek medicine in India: the birth of Unani medicine. *Acta Med Hist Adriat.* 2015;13(2):323-328.
80. Shamsi Y, Ahmad J, Khan A. A clinical study on the management of anxiety neurosis with *Sankhaholi. Indian J Tradi Knowledge.* 2007;6(4):668-677.
81. Jobst KA. Homeopathy, Hahnemann, and The Lancet 250 years on: a case of the emperor's new clothes? *J Altern Complement Med*. 2005;11(5):751-754.
82. Swati K, Dasgupta A, Mitra A. Treatment efficacy of acupuncture, yoga and homeopathy in the Indian context: a review. *IJBSAHM.* 2011;2(1):1-20.
83. Ghosh AK. A short history of the development of homeopathy in India. *Homeopathy.* 2010;99(2):130-136.
84. Sinhal K. Homeopath doctors double in two decades. *Times of India*. September 1, 2012. Available at: http://timesofindia.indiatimes.com. Accessed December 9, 2016.
85. Jain N. Homeopathy is here to stay. *News 18.* March 19, 2015. Available at: www.news18.com. Accessed December 9, 2016.

86. Davidson JR, Morrison RM, Shore J, Davidson RT, Bedayn G. Homeopathic treatment of depression and anxiety. *Altern Ther Health Med*. 1997;3(1):46-49.
87. Pilkington K, Kirkwood G, Rampes H, Fisher P, Richardson J. Homeopathy for anxiety and anxiety disorders: a systematic review of the research. *Homeopathy.* 2006;95(3):151-162.
88. Raj VA. *The Hindu Connection: Roots of New Age.* St. Louis, MO: Concordia Publishing House; 1994:62-86.
89. Ernst E. Therapies: yoga (section 3). In: Ernst E, ed. *The Desktop Guide to Complementary and Alternative Medicine. An Evidence-Based Approach*. Edinburgh, UK: Mosby; 2001:76-78.
90. Sengupta P. Health impacts of yoga and pranayama: a state-of-the-art review. *Int J Prev Med.* 2012;3(7):444-458.
91. Froeliger BE, Garland EL, McClernon FJ. Yoga meditation practitioners exhibit greater gray matter volume and fewer reported cognitive failures: results of a preliminary voxel-based morphometric analysis. *Evid Based Complement Alternat Med.* 2012;2012:821307.
92. Tooley GA, Armstrong SM, Norman TR, Sali A. Acute increases in nighttime plasma melatonin levels following a period of meditation. *Biol Psychol*. 2000;53:69-78.
93. Harinath K, Malhotra AS, Pal K, et al. Effects of Hatha yoga and Omkar meditation on cardiorespiratory performance, psychologic profile, and melatonin secretion. *J Altern Complement Med.* 2004;10(2):261-268.
94. Madanmohan, Rai UC, Balavittal V, Thombre DP, Gitananda S. Cardiorespiratory changes during savitri pranayama and shavasan. *Yoga Rev.* 1983;3:25-34.
95. Trama S, Cheema N. Transcendental meditation: nature and perspectives. *Indian J Health Wellbeing.* 2016;7(9):928-933.
96. Herzog H, Lele VR, Kuwert T, Langen KJ, Kops ER, Feinendegen LE. Changed pattern of regional glucose metabolism during yoga meditative relaxation. *Neuropsychobiology.* 1990;23(4):182-187.
97. Subrahmanyam S, Porkodi K. Neurohumoral correlates of transcendental meditation. *J Biomed.* 1980;1:73-88.
98. Saeed S, Antonacci D, Bloch R. Exercise, yoga, and meditation for depressive and anxiety disorders. *Am Fam Physician.* 2010;81(8):981.
99. Dhansoia V, Bhargav H, Metri K. Immediate effect of mind sound resonance technique on state anxiety and cognitive functions in patients suffering from generalized anxiety disorder: a self-controlled pilot study. *Int J Yoga*, 2015;8(1):70-73.
100. Vahia VN, Shetty HK, Motiwala S, Thakkar G, Fernandes L, Sharma CJ. Effect of meditation in generalised anxiety disorder. *Indian J Psychiatry*. 1993;35:87-92.
101. Kirkwood G, Rampes H, Tuffrey V, Richardson J, Pilkington K, Ramaratnam S. Yoga for anxiety: a systematic review of the research evidence. *Br J Sports Med.* 2005;39(12):884-891.
102. United Nations. General Assembly Resolution 69/131, "International Day of Yoga". Adopted December 11, 2014. Available at: https://www.un.org/en/ga/69/resolutions.shtml. Accessed March 2017.
103. Maxwell L, Duff E. Mindfulness: an effective prescription for depression and anxiety. *J Nurse Pract.* 2016;12(6):403-409.
104. Sharma M, Mao A, Sudhir P. Mindfulness-based cognitive behavior therapy in patients with anxiety disorders: a case series. *Indian J Psychol Medicine.* 2012;34(3):263-269.
105. Marchand WR. Neural mechanisms of mindfulness and meditation: evidence from neuroimaging studies. *World J Radiol.* 2014;6(7):471-479.
106. Goldin P, Ramel W, Gross J. Mindfulness meditation training and self-referential processing in social anxiety disorder: behavioral and neural effects. *J Cogn Psychother.* 2009;23(3):242-257.
107. Miller JJ, Fletcher K, Kabat-Zinn J. Three-year follow-up and clinical implications of a mindfulness meditation-based stress reduction intervention in the treatment of anxiety disorders. *Gen Hosp Psychiatry.* 1995;17(3):192-200.
108. Sharma MP. Vipassana meditation: the art and science of mindfulness. In: Balodhi JP, eds. *Application of Oriental Philosophical Thoughts in Mental Health.* Bangalore, India: National Institute of Mental Health and Neuroscience; 2002:69-74.
109. Batchelor M. Meditation and mindfulness. *Contemp Buddhism*. 2011;12(1):157-164.
110. Dhule S, Gawali S, Lomate A. Effect of vipassana meditation on state and trait anxiety scores. *Indian J Basic Appl Med Res.* 2014;3(4):243-247.

Aspectos culturales de los trastornos de ansiedad en India

Por varios siglos, los factores culturales han influenciado la presentación, diagnóstico y tratamiento de los trastornos de ansiedad. Esta revisión abarca los antecedentes, prevalencia, fenomenología y modalidades terapéuticas de los trastornos de ansiedad en el contexto cultural de India. También incluye la historia de la descripción de la ansiedad en India y el concepto de cultura en la clasificación de los trastornos de ansiedad, como asimismo examina los factores culturales que influyen en los trastornos de ansiedad en India. Se revisa la prevalencia y la fenomenología de varios trastornos, como el trastorno de ansiedad generalizada, el trastorno de pánico, la ansiedad social y el trastorno fóbico, como también síndromes culturales específicos en India como el dhat *y el koro. Por ultimo, el artículo revisa el amplio rango de modalidades terapéuticas practicadas en India, como la curación por la fe, la psicoterapia, el ayurveda y la psicofarmacología. Se concluye enfatizando en el significado de los factores culturales que son relevantes para realizar diagnósticos y ofrecer tratamientos efectivos y holísticos para individuos con trastornos de ansiedad.*

Aspects culturels des troubles anxieux en Inde

Depuis plusieurs siècles, des facteurs culturels influent sur la présentation, le diagnostic et le traitement des troubles anxieux en Inde. Cet article parcourt les antécédents, la prévalence, la phénoménologie et les modalités de traitement des troubles anxieux dans le contexte culturel indien. Il traite de l'histoire de la représentation de l'anxiété en Inde et du concept de culture dans la classification des troubles anxieux et analyse les facteurs culturels influant sur les troubles anxieux en Inde. Nous examinons la prévalence et la phénoménologie des différents troubles, comme les troubles anxieux généralisés, le trouble panique, l'anxiété sociale et les troubles phobiques, ainsi que les syndromes culturels spécifiques comme le syndrome du Dhat et du koro en Inde. Enfin, l'article analyse la large gamme de modalités thérapeutiques pratiquées en Inde, comme la guérison par la foi, la psychothérapie, l'ayurvéda, la psychopharmacologie, la médecine Unani, l'homéopathie, le yoga, la méditation et la pleine conscience. Nous concluons en soulignant l'importance des facteurs culturels dans l'établissement de diagnostics pertinents et en proposant des traitements efficaces et holistiques aux individus ayant des troubles anxieux.