

History and mystery of Dhat syndrome: A critical look at the current understanding and future directions

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ABSTRACT

Sexual health, an essential component of individual's health, is influenced by many complex issues including sexual behavior, attitudes, societal, and cultural factors on the one hand and while on the other hand, biological aspects, genetic predisposition, and associated mental and physical illnesses. Sexual health is a neglected area, even though it influences mortality, morbidity, and disability. Dhat syndrome (DS), the term coined by Dr. N. N. Wig, has been at the forefront of advancements in understanding and misunderstanding. The concept of DS is still evolving being treated as a culture-bound syndrome in the past to a syndrome of depression and treated as "a culturally determined idiom of distress." It is bound with myths, fallacies, prejudices, secrecy, exaggeration, and value-laden judgments. Although it has been reported from many countries, much of the literature has emanated from Asia, that too mainly from India. The research in India has ranged from the study of a few cases in the past to recent national multicentric studies concerning phenomenology and beliefs of patients. The epidemiological studies have ranged from being hospital-based to population-based studies in rural and urban settings. There are studies on the management of individual cases by resolving sexual myths, relaxation exercises, supportive psychotherapy, anxiolytics, and antidepressants to broader and deeper research concerning cognitive behavior therapy. The presentation looks into DS as a model case highlighting the importance of exploring sexual health concerns in the Indian population in general and in particular need to reconsider DS in the light of the newly available literature. It makes a fervent appeal for the inclusion of DS in the mainstream diagnostic categories in the upcoming revisions of the diagnostic manuals which can pave the way for a better understanding and management of DS and sexual problems.

Key words: Culture-bound syndrome, Dhat syndrome, Dhat syndrome management, Dhat syndrome prevalence, psychiatric comorbidity, sexual disorders

INTRODUCTION

Mr. President, Chairpersons, my respected teachers and seniors, my professional colleagues and friends, ladies and gentlemen:

I deem it a proud privilege and pleasure to receive and to deliver DLN Murti Rao Oration Award for 2020. I am

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humbled at this great honor and remain grateful to the Indian Psychiatric Society (IPS) in general and the awards committee in particular. I would like to begin my presentation with my homage to Professor DLN Murti Rao, who was a Doyen of Psychiatry.^[1] I have a special connection to the name as Dr. Doddaballapura Laxmi Narasimha Murti Rao, apart from a family name, obtained his medical degree from Mysore Medical College, Mysuru, India, the same city where I have served last 33 years in JSS Medical College and JSS Academy of Higher Education and Research. His name carries the reverence in the corridors of the current National Institute of Mental Health and Neuro Sciences (NIMHANS) at Bangalore which was All India Institute of Mental Health, when he served as Head and the Medical Superintendent. Another coincidence was his untimely demise in 1962, the same year another Doyen Dr. Wig^[2,3] published the article on a common but peculiar syndrome in the Indian context and gave the name Dhat syndrome (DS). Even though Dr. Wig is no more, his legacy of profound contribution to psychiatry and psychiatric education in general and service to the society and Mental Health, in particular, is well documented. His keen observation and study culminated in synthesizing many aspects and developments in DS.

I would also like to place on record my humble pranams to my teachers from Christian Medical College, Vellore – Dr. Abraham Varghese, the first Editor of the Indian Journal of Psychological Medicine and Dr. K. Kuruvilla, Past Editor of Indian Journal of Psychiatry whose legacies I carried forward for both the journals. I must place on record that my journey in the field of Sexual Medicine was sown by Dr. K. Kuruvilla and subsequent influence of Dr. Ajit Avasthi from Postgraduate Institute of Medical Education and Research from Chandigarh as my role model in the field. There are many more who have shaped and nurtured my interest in the field of sex and sexuality.

The term “Dhat” was taken from the Sanskrit language, which is an important word “Dhatu” and has known several meanings such as “metal,” a “medicinal constituent,” which can be considered as most powerful material within the human body.^[4] The Dhat disorder is mainly known for “loss of semen”, and the DS is a well-known “culture-bound syndrome (CBS).”^[4] The DS leads to several psychosexual disorders such as physical weakness, tiredness, anxiety, appetite loss, and guilt related to the loss of semen through nocturnal emission, in urine and by masturbation as mentioned in many studies.^[4-6] Conventionally, Charaka Samhita mentions “waste of bodily humors” being linked to the “loss of Dhatus.”^[5] Semen has even been mentioned by Aristotle as a “soul substance” and weakness associated with its loss.^[6] This has led to a plethora of beliefs about “food-blood-semen” relationship where the loss of semen is considered to reduce vitality, potency, and psychophysiological strength. People have variously attributed DS to excessive masturbation, premarital sex,

promiscuity, and nocturnal emissions. Several past studies have emphasized that CBS leads to “anxiety for loss of semen” is not only prevalent in the Indian subcontinent but also a global phenomenon.^[7-20]

It is important to note that DS manifestation and the psychosexual features are based on the impact of culture, demographic profiles, and the socioeconomic status of the patients.^[7-20] According to Leff,^[21] culture depends upon norms, values, and myths, based on a specific area, and is also shared by the indigenous individuals of that area. Tiwari *et al.*^[22] mentioned in their study that “culture is closely associated with mental disorders through social and psychological activities.” With this background, the paper attempts to highlight the multidimensional construct of DS for a better clinical understanding in routine practice.

DHAT SYNDROME: A SEPARATE ENTITY OR A “CULTURAL VARIANT” OF DEPRESSION

Even though DS has been studied for years now, a consensus on the definition is yet to be achieved. It has mostly been conceptualized as a multidimensional psychosomatic entity consisting of anxiety, depressive, somatic, and sexual phenomenology. Most importantly, abnormal and erroneous attributions are considered to be responsible for the genesis of DS. The most important debate is, however, related to the nosological status of DS. Although considered to a CBS unique to India, it has also been increasingly reported in China, Europe, Japan, Malaysia, Russia, and America.^[11] The consistency and validity of its diagnosis have been consistently debated, and one of the most vital questions that emerged was: Can there be another way to conceptualize DS? There is no single answer to that question. Apart from an independent entity, the diagnostic validity of which has been limited in longitudinal studies,^[23] it has also been a cultural variant of depressive and somatization disorders. Mumford^[11] in his study of Asian patients with DS found a significant association with depressed mood, anxiety, and fatigue. Around the same time, another study by Chadha^[24] reported comorbidities in DS at a rate of 50%, 32%, and 18% related to depression, somatoform disorders, and anxiety, respectively. Depression continued to be reported as the most common association of DS in many studies.^[25,26] This “cause-effect” dilemma can never be fully resolved. Whether “loss of semen” and the cultural attributions to it leads to the affective symptoms or whether low mood and neuroticism can lead to DS in appropriate cultural context are two sides of the argument. However, the cognitive biases resulting in the attributional errors of DS and the subsequently maintained attitudes with relation to sexuality can be explained by the depressive cognitions and concepts of learned helplessness. Balhara^[27] has argued that since DS is not really culture specific as thought of earlier, it should not be solely categorized as a functional somatic syndrome, as that can have detrimental effects on

its understanding and management. He also mentions that the underlying “emotional distress and cultural contexts” are not unique to DS but can be related to any psychiatric syndrome for that matter. On the contrary, other researchers have warned that subsuming DS and other CBS under the broader rubric of “mood disorders” can lead to neglect and reductionism in disorder like DS that can have unique cultural connotations.^[28] Over the years, there have been multiple propositions to relook and relabel CBS like DS. Considering it as a variant of depression or somatization can make it a “cultural phenotype” of these disorders in certain regions, thus making it easier for the classificatory systems. This dichotomous debate seems never-ending, but clinically, it is always better to err on over-diagnosing and over-treating depression and anxiety in DS, which can improve the well-being of the distressed patients.

WHY DISCUSS DHAT SYNDROME: IMPLICATIONS IN CLINICAL PRACTICE

DS might occur independently or associated with multiple comorbidities. It has been a widely recognized clinical condition in various parts of the world, though considered specific to the Indian subcontinent. The presentation can often be polymorphic with symptom clusters of affective, somatic, behavioral, and cognitive manifestations.^[29] Being common in rural areas, the first contacts of the patients are frequently traditional faith healers and less often, the general practitioners. A psychiatric referral occurs much later, if at all. This leads to underdetection and faulty treatments, which can strengthen the already existing misattributions and misinformation responsible for maintaining the disorder. Furthermore, depression and sexual dysfunction can be the important comorbidities that if untreated, lead to significant psychosocial dysfunction and impaired quality of life.^[30] Besides many patients of DS believe that their symptoms are due to failure of interpersonal relationships, infections, and heredity, which might cause early death and infertility. This contributes to the vicious cycle of fear and panic.^[31] Doctor shopping is another challenge and failure to detect and address the concern of DS might lead to dropping out from the care.^[15] Rao^[17] in their epidemiological study reported 12.5% prevalence in the general population, with 20.5% and 50% suffering from comorbid depression and sexual disorders. The authors stressed upon the importance of early detection of DS for the psychosexual and social well-being. Most importantly, the multidimensional presentation of DS can at certain times be a facade overshadowing underlying neurotic disorders (anxiety, depression, somatoform, hypochondriasis, and phobias), obsessive-compulsive spectrum disorders and body dysmorphic disorders, delusional disorders, sexual disorders (premature ejaculation and erectile dysfunction) and infectious disorders (urinary tract infections, sexually transmitted

diseases), and even stress-related manifestations in otherwise healthy individuals.^[4,14,15] This significant overlap of symptomatology, increased prevalence, and marked comorbidity make it all the more important for physicians to make sense out of the construct of DS. That can facilitate prompt detection and management of DS in routine clinical practice.

In an earlier review study, it was observed that few studies are undertaken to update the research works from published articles as an updated review, systemic review, world literature review, etc., on DS and its management approach.^[29,32-35] The present paper attempts to compile the evidence till date on DS related to its nosology, critique, manifestations, and management plan. The various empirical studies on DS all over the world will be briefly discussed along with the implications and importance of the syndrome.

THE CONSTRUCT OF DHAT SYNDROME: SUMMARY OF CURRENT EVIDENCE

DS is a well-known CBS, which is defined as undue concern about the weakening effects after the passage of semen in urine or through nocturnal emission that has been stated by the International Statistical Classification of Diseases and Related Health Problems (ICD-10).^[36] It is also known as “semen loss syndrome” by Shakya,^[20] which is prevalent mainly in the Indian subcontinent^[37] and has also been reported in the South-Eastern and western population.^[15,16,20,32,38-41] Individuals with “semen loss anxiety” suffer from a myriad of psychosexual symptoms, which have been attributed to “loss of vital essence through semen” (common in South Asia).^[7,15,16,17,32,37,41-43] The various studies related to attributes of DS and their findings are summarized further.

Prakash *et al.*^[5] studied 100 DS patients through 139 symptoms of the Associated Symptoms Scale. They studied sociodemographic profile, Hamilton Depression Rating Scale, Hamilton Anxiety Rating Scale, Mini-International Neuropsychiatric Interview, and Postgraduate Institute Neuroticism Scale. The study found a wide range of physical, anxiety, depression, sexual, and cognitive symptoms. Most commonly associated symptoms were found as per score ≥ 1 . This study reported several parameters such as the “sense of being unhealthy” (99%), worry (99%), feeling “no improvement despite treatment” (97%), tension (97%), tiredness (95%), fatigue (95%), weakness (95%), and anxiety (95%). The common sexual disorders were observed as loss of masculinity (83%), erectile dysfunction (54%), and premature ejaculation (53%). Majority of patients had faced mild or moderate level of symptoms in which 47% of the patients reported severe weakness. Overall distress and dysfunction were observed as 64% and 81% in the studied subjects, respectively.

A study in Taiwan involved 87 participants from a Urology clinic. Most of them have sexual neurosis (Shen-K'uei syndrome).^[7] More than one-third of the patients belonged to lower social class and symptoms of depression, somatization, anxiety, masturbation, and nocturnal emissions. Other bodily complaints as reported were sleep disturbances, fatigue, dizziness, backache, and weakness. Nearly 80% of them considered that all of their problems were due to masturbatory practices.

De Silva and Dissanayake^[8] investigated several manifestations on semen loss syndrome in the psychiatric clinic of Colombo General Hospital, Sri Lanka. Beliefs regarding effects of semen loss and help-seeking sought for DS were explored. 38 patients were studied after psychiatrically ill individuals and those with organic disorders were excluded. Duration of semen loss varied from 1 to 20 years. Every participant reported excessive loss of semen and was preoccupied with it. The common forms of semen loss were through nocturnal emission, masturbation, urinary loss, and through sexual activities. Most of them reported multiple modes of semen loss. Masturbatory frequency and that of nocturnal emissions varied significantly. More than half of the patients reported all types of complaints (psychological, sexual, somatic, and genital).

In the study by Chadda and Ahuja,^[9] 52 psychiatric patients (mostly adolescents and young adults) complained of passing "Dhat" in urine. They were assessed for a period of 6 months. More than 80% of them complained of body weakness, aches, and pains. More than 50% of the patients suffered from depression and anxiety. All the participants felt that their symptoms were due to loss of "dhat" in urine, attributed to excessive masturbation, extramarital and premarital sex. Half of those who faced sexual dysfunctions attributed them to semen loss.

Mumford^[11] proposed a controversial explanation of DS arguing that it might be a part of other psychiatric disorders, like depression. A total of 1000 literate patients were recruited from a medical outdoor in a public sector hospital in Lahore, Pakistan. About 600 educated patients were included as per Bradford Somatic Inventory (BSI). Men with DS reported greater symptoms on BSI than those without DS. 60 psychiatric patients were also recruited from the same hospital and diagnosed using Diagnostic and Statistical Manual (DSM)-III-R. Among them, 33% of the patients qualified for "Dhat" items on BSI. The symptoms persisted for more than 15 days. It was observed that symptoms of DS highly correlated with BSI items, namely erectile dysfunction, burning sensation during urination, fatigue, energy loss, and weakness. This comparative study indicated that patients with DS suffered more from depressive disorders than without DS and the age group affected by DS was mostly the young.

Grover *et al.*^[15] conducted a study on 780 male patients aged >16 years in five centers (Chandigarh, Jaipur, Faridkot, Mewat, and New Delhi) of Northern India, 4 centers (2 from Kolkata, 1 each in Kalyani and Bhubaneswar) of Eastern India, 2 centers (Agra and Lucknow) of Central India, 2 centers (Ahmedabad and Wardha) of Western India, and 2 centers of Southern India (both located at Mysore) spread across the country by using DS questionnaire. Nearly one-third of the patients were passing "Dhat" multiple times a week. Among them, nearly 60% passed almost a spoonful of "Dhat" each time during a loss. This work on sexual disorders reported that the passage of "Dhat" was mostly attributed to masturbation (55.1%), dreams on sex (47.3%), sexual desire (42.8%), and high energy foods consumption (36.7%). Mostly, the participants experienced passage of Dhat as "night falls" (60.1%) and "while passing stools" (59.5%). About 75.6% showed weakness in sexual ability as a common consequence of the "loss of Dhat." The associated symptoms were depression, hopelessness, feeling low, decreased energy levels, weakness, and lack of pleasure. Erectile problems and premature ejaculation were also present.

Rao^[17] in his first epidemiological study done in Karnataka, India, showed the prevalence rate of DS in general male population as 12.5%. It was found that 57.5% were suffering either from comorbid depression or anxiety disorders. The prevalence of psychiatric and sexual disorders was about three times higher with DS compared to non-DS subjects. One-third of the cases (32.8%) had no comorbidity in hospital (urban). One-fifth (20.5%) and 50% subjects (51.3%) had comorbid depressive disorders and sexual dysfunction. The psychosexual symptoms were found among 113 patients who had DS. The most common psychological symptoms reported by the subjects with DS were low self-esteem (100%), loss of interest in any activity (95.60%), feeling of guilt (92.00%), and decreased social interaction (90.30%). In case of sexual disorders, beliefs were held commonly about testes becoming smaller (92.00%), thinness of semen (86.70%), decreased sexual capabilities (83.20%), and tilting of penis (70.80%).

Shakya^[20] studied a clinicodemographic profile of DS patients in psychiatry outpatient clinic of B. P. Koirala Institute of Health Sciences, Dharan, Nepal. A total of 50 subjects were included in this study, and the psychiatric diagnoses as well as comorbidities were investigated as per the ICD-10 criteria. Among the subjects, most of the cases had symptoms of depression and anxiety, and all the subjects were worried about semen loss. Somehow these subjects had heard or read that semen loss or masturbation is unhealthy practice. The view of participants was that semen is very "precious," needs preservation, and masturbation is a malpractice. Beside DS, two-thirds of the subjects had comorbid depression.

In another Indian study, Chadda *et al.*^[24] compared patients with DS with those affected with neurotic/depressive disorders. Among 100 patients, 50%, 32%, and 18% reported depression, somatic problems, and anxiety, respectively. The authors argued that cases of DS have similar symptom dimensions as mood and anxiety disorders.

Dhikav *et al.*^[31] examined prevalence and management depression comorbid with DS. DSM-IV and Hamilton Depression Rating Scale were used for assessments. About 66% of the patients met the DSM-IV diagnostic criteria of depression. They concluded that depression was a frequent comorbidity in DS patients.

In a study by Perme *et al.*^[37] from South India that included 32 DS patients, the control group consisted of 33 people from the same clinic without DS, depression, and anxiety. The researchers followed the guidelines of Bhatia and Malik's for the assessment of primary complaints of semen loss through "nocturnal emissions, masturbation, sexual intercourse, and passing of semen before and after urine." The assessment was done based on several indices, namely "Somatization Screening Index, Illness Behavior Questionnaire, Somatosensory Amplification Scale, Whitley Index, and Revised Chalder Fatigue Scale." Several complaints such as somatic complaints, hypochondriacal beliefs, and fatigue were observed to be significantly higher among patients with DS compared to the control group.

A study conducted in South Hall (an industrial area in the borough of Middlesex, London) included Indian and Pakistani immigrants. Young men living separately from their wives reported promiscuity, some being infected with gonorrhoea and syphilis. Like other studies, nocturnal emission, weakness, and impotency were the other reported complaints. Semen was considered to be responsible for strength and vigor by most patients. Compared to the sexual problems of Indians, the British residents complained of pelvic issues and backache.

In another work, Bhatia *et al.*^[42] undertook a study on culture-bound syndromes and reported that 76.7% of the sample had DS followed by possession syndrome and Koro (a genital-related anxiety among males in South-East Asia). Priyadarshi and Verma^[43] performed a study in Urology Department of S M S Hospital, Jaipur, India. They conducted the study among 110 male patients who complained of DS and majority of them were living alone (54.5%) or in nuclear family (30%) as compared to joint family. Furthermore, 60% of them reported of never having experienced sex.

Nakra *et al.*^[44] investigated incidence and clinical features of 150 consecutive patients who presented with potency complaints in their clinic. Clinical assessments were done apart from detailed sexual history. The patients were 15–50 years of age, educated up to mid-school and mostly

from a rural background. Most of them were married and reported premarital sexual practices, while nearly 67% of them practiced masturbation from early age. There was significant guilt associated with nocturnal emissions and masturbation. Nearly 27% of the cases reported DS-like symptoms attributing their health problems to semen loss.

Behere and Nataraj^[45] reported that majority of the patients with DS presented with comorbidities of physical weakness, anxiety, headache, sad mood, loss of appetite, impotence, and premature ejaculation. The authors stated that DS in India is a symptom complex commonly found in younger age groups (16–23 years). The study subjects presented with complaints of whitish discharge in urine and believed that the loss of semen through masturbation was the reason for DS and weakness.

Singh *et al.*^[46] studied 50 cases with DS and sexual problems (premature ejaculation and impotence) from Punjab, India, after exclusion of those who were psychiatrically ill. It was assumed in the study that semen loss is considered synonymous to "loss of something precious", hence its loss would be associated with low mood and grief. Impotency (24%), premature ejaculation (14%), and "Dhat" in urine (40%) were the common complaints observed. Patients reported variety of symptoms including anxiety, depression, appetite loss, sleep problems, bodily pains, and headache. More than half of the patients were independently diagnosed with depression, and hence, the authors argued that DS may be a manifestation of depressive disorders.

Bhatia and Malik^[47] reported that the most common complaints associated with DS were physical weakness, fatigue and palpitation, insomnia, sad mood, headache, guilt feeling and suicidal ideation, impotence, and premature ejaculation. Psychiatric disorders were found in 69% of the patients, out of which the most common was depression followed by anxiety, psychosis, and phobia. About 15% of the patients were found to have premature ejaculation and 8% had impotence.

Bhatia *et al.*^[48] examined several biological variables of DS after enrolment of 40 patients in a psychosexual clinic in Delhi. Patients had a history of impotence, premature ejaculation, and loss of semen (after exclusion of substance abuse and other psychiatric disorders). Twenty years was the mean age of onset and semen loss was mainly through masturbation and sexual intercourse. 67.5% and 75% of them reported sexual disorders and psychiatric comorbidity while 25%, 12.5%, and 37.5% were recorded to suffer from ejaculatory impotence, premature ejaculation, and depression (with anxiety), respectively.

Bhatia^[49] conducted a study on CBS among 60 patients attending psychiatric outdoor in a teaching hospital. The

study revealed that among all patients with CBSs, DS was the most common (76.7%) followed by possession syndrome (13.3%) and Koro (5%). Hypochondriasis, sexually transmitted diseases, and depression were the associated comorbidities. Morrone *et al.*^[50] studied 18 male patients with DS in the Dermatology department who were from Bangladesh and India. The symptoms observed were mainly fatigue and nonspecific somatic symptoms. DS patients manifested several symptoms in psychosocial, religious, somatic, and other domains. The reasons provided by the patients for semen loss were urinary loss, nocturnal emission, and masturbation.

DHAT SYNDROME: THE EPIDEMIOLOGY

The typical demographic profile of a DS patient has been reported to be a less educated, young male from lower socioeconomic status and usually from rural areas. In the earlier Indian studies by Carstairs,^[51-53] it was observed that majority of the cases (52%–66.7%) were from rural areas, belonged to “conservative families and posed rigid views about sex” (69%–73%). De Silva and Dissanayake^[8] in their study on semen loss syndrome reported the average age of onset of DS to be 25 years with most of them from lower-middle socioeconomic class. Chadda and Ahuja^[9] studied young psychiatric patients who complained of semen loss. They were mainly manual laborers, farmers, and clerks from low socioeconomic status. More than half were married and mostly uneducated. Khan^[13] studied DS patients in Pakistan and reported that majority of the patients visited Hakims (50%) and Homeopaths (24%) for treatment. The age range was wide between 12 and 65 years with an average age of 24 years. Among those studied, majority were unmarried (75%), literacy was up to matriculation and they belonged to lower socioeconomic class. Grover *et al.*^[15] in their study of 780 male subjects showed the average age of onset to be 28.14 years and the age ranged between 21 and 30 years (55.3%). The subjects were single or unmarried (51.0%) and married (46.7%). About 23.5% of the subjects had graduated and most were unemployed (73.5%). Majority of subjects were lower-middle class (34%) and had lower incomes. Rao^[17] studied 907 subjects, in which majority were from 18 to 30 years (44.5%). About 45.80% of the study subjects were illiterates and very few had completed postgraduation. The subjects were both married and single. Majority of the subjects were residing in nuclear family (61.30%) and only 0.30% subjects were residing alone. Most of the patients did not have comorbid addictive disorders. The subjects were mainly engaged in agriculture (43.40%). Majority of the subjects were from lower middle and upper lower socioeconomic class.

Shakya^[20] had studied the sociodemographic profile of 50 patients with DS. The average age of the studied patients was 25.4 years. The age ranges in decreasing order of frequency were 16–20 years (34%) followed

by 21–25 years (28%), greater than 30 years (26%), 26–30 years (10%), and 11–15 years (2%). Further, the subjects were mostly students (50%) and rest were in service (26%), farmers (14%), laborers (6%), and business (4%), respectively. Dhikav *et al.*^[31] conducted a study on 30 patients who had attended the Psychiatry Outpatient Clinic of a tertiary care hospital with complaints of frequently passing semen in urine. In the studied patients, the age ranged between 20 and 40 years with an average age of 29 years and average age of onset of 19 years. The average duration of illness was that of 11 months. Most of the studied patients were unmarried (64.2%) and educated till middle or high school (70%). Priyadarshi and Verma^[43] performed a study in 110 male patients with DS. The average age of the patients was 23.53 years and it ranged between 15 and 68 years. The most affected age group of patients was of 18–25 years, which comprised about 60% of patients. On the other hand, about 25% ranged between 25 and 35 years, 10% were lesser than 18 years of age, and 5.5% patients were aged >35 years. Higher percentage of the patients were unmarried (70%). Interestingly, high prevalence of DS was found in educated patients and about 50% of patients were graduate or above but most of the patients were either unemployed or student (49.1%). About 55% and 24.5% patients showed monthly family income of <10,000 and 5000 Indian Rupees (INR), respectively. Two-third patients belonged to rural areas of residence. Behere and Nataraj^[45] found majority of the patients with DS (68%) to be between 16 and 25 years age. About 52% patients were married while 48% were unmarried and from lower socioeconomic strata. The duration of DS symptoms varied widely. Singh^[46] studied patients those who reported with DS, impotence, and premature ejaculation and reported the average age of the affected to be 21.8 years with a younger age of onset. Only a few patients received higher education. Bhatia and Malik^[47] as mentioned earlier reported that age at the time of onset of DS ranged from 16 to 24 years. More than half of them were single. It was observed that most patients had some territorial education (91.67%) but few (8.33%) had postgraduate education or professional training. Finally, Bhatia *et al.*^[48] studied cases of sexual dysfunctions and reported an average age of 21.6 years among the affected, majority being unmarried (80%). Most of those who had comorbid DS symptoms received minimal formal education.

MANAGEMENT: A MULTIMODAL APPROACH

As mentioned before, individuals affected with DS often seek initial treatment with traditional healers, practitioners of alternative medicine, and local quacks. As a consequence, varied treatment strategies have been popularized. Dietary supplements, protein and iron-rich diet, Vitamin B and C-complexes, antibiotics, multivitamin injections, herbal “supplements,” etc., have all been used in the treatment though scientific evidence related to them is sparse.^[33] Frequent change of doctors, irregular compliance to treatment, and

high dropout from health care are the major challenges, as the attributional beliefs toward DS persist in the majority even after repeated reassurance.^[54] A multidisciplinary approach (involving psychiatrists, clinical psychologists, psychiatric social workers) is recommended and close liaison with the general physicians, the Ayurveda, Yoga, Unani, Siddha, Homeopathy practitioners, dermatologists, venereologists, and neurologists often help. The role of faith healers and local counselors is vital, and it is important to integrate them into the care of DS patients, rather than side-tracking them from the system. Community awareness needs to be increased especially in primary health care for early detection and appropriate referrals. Follow-up data show two-thirds of patients affected with DS recovering with psychoeducation and low-dose sedatives.^[45] Bhatia^[49] studied 60 cases of DS and reported better response to anti-anxiety and antidepressant medications compared to psychotherapy alone. Classically, the correction of attributional biases through empathy, reflective, and nonjudgmental approaches has been proposed.^[38] Over the years, sex education, psychotherapy, psychoeducation, relaxation techniques, and medications have been advocated in the management of DS.^[9,55] In psychotherapy, cognitive behavioral and brief solution-focused approaches are useful to target the dysfunctional assumptions and beliefs in DS. The role of sex education is vital involving the basic understanding of sexual anatomy and physiology of sexuality. This needs to be tailored to the local terminology and beliefs. Biofeedback has also been proposed as a treatment modality.^[4] Individual stress factors that might have precipitated DS need to be addressed. A detailed outline of assessment, evaluation, and management of DS is beyond the scope of this article and has already been reported in the IPS Clinical Practice Guidelines.^[56] The readers are referred to these important guidelines for a comprehensive read on management. Probably, the most important factor is to understand and resolve the sociocultural contexts in the genesis of DS in each individual. Adequate debunking of the myths related to sexuality and culturally appropriate sexual education is vital both for the prevention and treatment of DS.^[56] Adequate treatment of comorbidities such as depression and anxiety often helps in reduction of symptoms, more so when the DS is considered to be a manifestation of the same.

FUTURE OF DHAT SYNDROME: THE WAY FORWARD

Classifications in psychiatry have always been fraught with debates and discussion such as categorical versus dimensional, biological versus evolutionary. CBS like DS forms a major area of this nosological controversy. Longitudinal stability of a diagnosis is considered to be an important part of its independent categorization. Sameer *et al.*^[23] followed up DS patients for 6.0 ± 3.5 years and concluded that the “pure” variety of DS is not a stable diagnostic entity. The authors rather proposed DS as a

variant of somatoform disorder, with cultural explanations. The right “place” for DS in classification systems has mostly been debated and theoretically fluctuant.^[14] Sridhar *et al.*^[57] mentioned the importance of reclassifying DS from a clinically, phenomenologically, psycho-pathologically, and diagnostically valid standpoint. Although both ICD and DSM have been culturally sensitive to classification, their approach to DS has been different. While ICD-10 considers DS under “other nonpsychotic mental disorders” (F48), DSM-V mentions it only in appendix section as “cultural concepts of distress” not assigning the condition any particular number.^[12,58] Fundamental questions have actually been raised about its separate existence altogether,^[35] which further puts its diagnostic position in doubt. As discussed in the earlier sections, an alternate hypothesization of DS is a cultural variant of depression, rather than a “true syndrome.”^[27] Over decades, various schools of thought have considered DS either to be a global phenomenon or a cultural “idiom” of distress in specific geographical regions or a manifestation of other primary psychiatric disorders.^[59] Qualitative studies in doctors have led to marked discordance in their opinion about the validity and classificatory area of DS.^[60] The upcoming ICD-11 targets to pay more importance to cultural contexts for a valid and reliable classification. However, separating the phenomenological boundaries of diseases might lead to subsetting the cultural and contextual variants in broader rubrics.^[61,62] In that way, ICD-11 might propose alternate models for distinction of CBS like DS at nosological levels.^[62] It is evident that various factors include socioeconomics, acceptability, and sustainability influence global classificatory systems, and this might influence the “niche” of DS in the near future. It will be interesting to see whether it retains its diagnostic independence or gets subsumed under the broader “narrative” of depression. In any case, uniformity of diagnosing this culturally relevant yet distressing and highly prevalent condition will remain a major area related to psychiatric research and treatment.

CONCLUSION

DS is a multidimensional psychiatric “construct” which is equally interesting and controversial. Historically relevant and symptomatically mysterious, this disorder provides unique insights into cultural contexts of human behavior and the role of misattributions, beliefs, and misinformation in sexuality. Beyond the traditional debate about its “separate” existence, the high prevalence of DS, associated comorbidities, and resultant dysfunction make it relevant for emotional and psychosexual health. It is also treatable, and hence, the detection, understanding, and awareness become vital to its management. This oration attempts a “bird’s eye” view of this CBS taking into account a holistic perspective of the available evidence so far. The clinical manifestations, diagnostic and epidemiological attributes, management, and nosological controversies are highlighted to provide a comprehensive account of DS and its relevance

to mental health. More systematic and mixed methods research are warranted to unravel the enigma of this controversial yet distressing psychiatric disorder.

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Conflicts of interest

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