

Clinical Practice Guidelines for Assessment and Management of Dhat Syndrome and Other Culture Bound Syndromes

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Executive Summary

Dhat syndrome is a culture-bound condition introduced by N. N. Wig. It is characterized by excessive concern about semen loss in urine or nocturnal emissions. Initially described in men, a female equivalent involving excessive vaginal discharge is also recognized. Its roots lie in Ayurveda, where semen (*shukra*) is viewed as the body's final, concentrated, precious essence. Clinic-based studies report prevalence of 3.7–64.58%, while a community study estimated prevalence to be 12.5%. It is most often reported among young Hindu men from rural backgrounds. Community studies indicate excessive vaginal discharge in 27.5–28.7% of women. Depression, anxiety, somatoform disorders, hypochondriasis, premature ejaculation, and erectile dysfunction are common comorbidities among patients with Dhat syndrome. Assessment involves evaluation of beliefs and misconceptions about semen loss or vaginal discharge, perceived causes, distress, frequency, duration, associated symptoms, sexual practices and performance, and attitudes toward sex and masturbation. Clinicians should also assess psychiatric disorders, sexual dysfunction, alcohol or drug use, diet, and medical causes such as endocrine disorders, diabetes, urological trauma, prostatitis, prostate cancer, neuropathy, renal stones, or retrograde ejaculation. In women, infections, allergic reactions, and pelvic disorders should be excluded. Treatment expectations should also be clarified. Physical examination helps exclude organic causes and provides reassurance. Urinalysis can detect infection, proteinuria, or phosphaturia, which may cause cloudy urine mistaken for semen. Women with vaginal discharge should be investigated for infection. Management includes psychoeducation and sex education, supportive psychotherapy, cognitive-behavioural therapy, relaxation exercises, and dietary advice. Nutritional supplements may be used, while other medicines should appropriately target comorbid depression, anxiety, sexual dysfunction, and the patient's specific symptoms and concerns.

Key words: Dhat syndrome, Assessment, Management

Introduction

Across many cultures, sexual performance is frequently viewed as the core indicator of a man's virility, masculinity, and overall sense of personal fulfilment. Distress regarding the loss of semen is a recognized phenomenon in both Western and Asian societies, though the frameworks for understanding it differ. While Western perspectives often focus on identifying the physical and psychological consequences of such loss, traditional Ayurvedic teachings emphasize the necessity of semen conservation. The distress associated with loss of semen has been conceptualized as Dhat Syndrome.^[1]

The term Dhat syndrome was introduced by N.N. Wig as a culture-bound condition prevalent in the Indian subcontinent characterized by an intense preoccupation with the loss of semen in urine or by nocturnal emissions.^[2]

Dhat syndrome is considered a sexual disorder that is not classified as a primary psychosexual dysfunction, but as a culture-bound syndrome. It is now understood that patients with Dhat syndrome often present with somatic symptoms (fatigue, weakness, lethargy, poor concentration, etc.), and psychological symptoms (anxiety and dysphoria), and attribute these symptoms to the imagined presence of semen in the urine or the occurrence of nocturnal emissions. An important issue to note is that patients with Dhat syndrome are often convinced of the semen loss, despite the lack of objective clinical evidence to support the presence of semen in their.^[1]

After the initial description of Dhat syndrome in males, a female equivalent of the same has also been described, in which female patients present with non-pathological vaginal discharge and are distressed due to the loss.

Over the years, studies from different parts of the country suggest that Dhat syndrome is highly prevalent in patients presenting to various psychosexual clinics. Hence, it is important to understand its clinical manifestation and management. Indian Psychiatric Society published clinical practice guidelines for the management of sexual dysfunction that also covered Dhat syndrome.^[3] However, these guidelines did not specifically describe the assessment of patients presenting with Dhat syndrome, and rather provided an outline for the assessment of patients presenting with sexual dysfunction in general.^[3] Accordingly, the present guideline provides an outline of historical and cultural understanding, epidemiology, clinical features, assessment, and management of Dhat syndrome. This guideline is not designed for any specific treatment setting and may require contextual modification to align with specific patient settings.

Historical and Cultural Understanding of Dhat Syndrome

Historically, the roots of Dhat syndrome lie in the Ayurvedic understanding of human physiology, which considers that the human body is composed of seven essential constituents, or *Dhatus* (chyle, bile, blood, flesh, fat, bone marrow, and semen). These components are produced through a sequential process of internal refinement, with semen (*shukra*) considered the final, most concentrated, and precious elixir.^[1]

Ancient texts such as the *Charak Samhita* describe *sukrameha* (the passage of semen in urine), a condition that resembles the current conceptualization of Dhat syndrome. The *Susruta Samhita* and other Ayurvedic literature consistently argue that the loss of semen results in the depletion of vital physical and mental energy. This perspective is further supported by long-standing cultural and religious beliefs regarding the process of semen production, which considers that 40 meals create one drop of blood, 40 drops of blood are required for the formation of one drop of bone marrow, and subsequent concentration of 40 drops of bone marrow leads to the production of a single drop of semen. Given this deeply ingrained religio-

cultural narrative, the psychological origins of Dhat syndrome are understandable, as the perceived loss of this "precious elixir" is viewed as a direct threat to a person's life force and well-being.^[1]

In one of the first studies in the contemporary literature, using a case vignette approach,^[4] recruited 107 participants from the general public and evaluated their attitudes towards nocturnal emissions, the possible causes for the same, and its management. They reported that a significant proportion of the general public, irrespective of the socio-economic class, considered loss of semen to be harmful, and believed semen to be an "elixir" of life, both in a mystical and physical sense. The participants believed that preservation of semen ensures physical health, longevity, and even provides supernatural powers. The belief was more prevalent among those in lower socioeconomic groups. Susceptible individuals, influenced by these deep-seated cultural anxieties surrounding semen loss, often manifest physical symptoms. The authors also described that these symptoms typically resolve once the underlying misconceptions are addressed through effective counselling.^[4] After this initial description, research on Dhat syndrome expanded, and the understanding of Dhat syndrome improved.

The symptoms of vaginal discharge in females were equated with Dhat syndrome in males by Chaturvedi et al, in 1993.^[5] Subsequently, research has also emerged on the topic.

Epidemiology

There is a wide variation in the prevalence of Dhat syndrome as reported in different studies from India. Most of the available data is in the form of clinic-based studies, with occasional community-based studies.^[6,7] The clinic-based studies have primarily emerged from various sexual or psychosexual clinics in the country. Most of the studies have been of retrospective study design, have varied in the duration of the period for which the data were extracted, and the sample size of these studies has varied from 50 to 1242, and the prevalence of Dhat syndrome in these studies has ranged from 3.7 to 64.58% (Table-1).^[6-24] Initial studies were based on the self-conceptualized definitions of Dhat syndrome. However, later studies have relied on the conceptualization of Dhat syndrome as per the International Classification of Diseases, tenth revision (ICD-10).^[25] One of the studies reported the prevalence of Dhat syndrome among patients presenting with sexual problems to the dermatology clinics and reported the prevalence to be 9%.^[21] A study from Delhi evaluated the prevalence among 60 patients presenting with culture-bound syndromes to psychiatry outpatient services and estimated the prevalence of Dhat syndrome to be 76.7%.^[13]

Table-1: Prevalence of Dhat Syndrome across different clinic and community based studies from India

Author name	Sample size	Place of Study	Diagnostic Method	Prevalence of Dhat Syndrome
Clinic based studies				
Bagadia et al, 1972 ^[8]	258	Mumbai	Not specified	Nocturnal emissions: 33.72% Passage of semen in urine: 35.27% Watery semen: 12%
Nakra et al, 1977 ^[9]	150	Chandigarh	Self-design description	40%

Singh, 1985 ^[10]	50	Patiala	Self-design description	62%
Bhatia et al, 1989 ^[11]	48	Delhi	Self-design description	64.6%
Bhatia & Malik, 1991 ^[12]	144	Delhi	Self-design description	64.58%
Bhatia, 1999 ^[13]	60	Delhi	-	76.7% ^{\$\$}
Avasthi et al, 1994 ^[14]	66	Chandigarh	Clinical Assessment, Diagnostic criteria not specified	9%
Verma et al, 1998 ^[15]	1000 (36 Females)	New Delhi	Clinical Assessment, Diagnostic criteria not specified	Nocturnal emission: 71.3% Excessive worry about nocturnal emission: 19.5%
Avasthi et al, 2003 ^[16]	178	Chandigarh	ICD-10	8.4%
Kendurkar et al 2008 ^[17]	1242	Lucknow	ICD-9 (1979-92) & ICD-10 (1993-2005) Criteria	Nocturnal discharge of semen: 22.3% White discharge per urethra: 22.3% Dhat Syndrome: 6.28%
Verma et al, 2013 ^[18]	698	New Delhi	ICD-10	DS: 18.1% DS+ED: 3.3% DS+PME: 0.4% DS + Performance Anxiety: 0.1%
Thangadurai et al, 2014 ^[19]	270	Vellore	Clinical Interview Schedule for ICD-10 criteria	Loss of semen due to masturbation and nocturnal emission: 41%
Parmar et al, 2014 ^[20]	204	Nagpur	Clinical Assessment, Diagnostic criteria not specified	Nocturnal Emissions: 9.31% Dhat syndrome: 1.96%
Banerjee et al, 2017 (Dermatology clinic) ^[21]	364	Kolkata	Clinical Assessment by Dermatologist	DS: 9% DS+ED: 2% DS+PME: 2%
Pal et al, 2017 ^[22]	237 (2 females)	Kolkata	ICD-10	14.3%
Parkar & Behere, 2021 ^[23]	55	Mumbai	ICD-10	3.7%

Sahoo & Grover, 2022 ^[24]	419	Chandigarh	ICD-10	Overall: 5.5% Pre-COVID: 6.2% During COVID: 3.6%
Community Based Studies				
Rao et al, 2026 ^[6]	907	Suttur, Karnataka	Tool based on ICD-10 and DSM-IV description	12.5%
Singh et al 2018 ^[7]	894	Ballabgarh, Haryana	Sexual health disorders using ICD-10 Self-report	4.8% Nocturnal emission: 13.6% Defect in semen: 64.4%

DS: Dhat Syndrome; ED: Erectile dysfunction; PME: Premature Ejaculation; PA: Performance Anxiety; ICD: International Classification of Diseases

\$\$- Prevalence figures are those among presenting with culture bound syndrome, rather than the prevalence among those presenting to sexual or psychosexual clinics

There is limited data from the community-based studies. In a community-based study, authors included 907 males, aged 18-60, and evaluated them for Dhat syndrome using a tool that was prepared using the diagnostic criteria of DSM-IV and ICD-10. Those diagnosed with Dhat syndrome were further interviewed in detail for symptoms. The psychiatric comorbidity in the study sample was evaluated using the MINI-PLUS. Additionally, the authors used the International Index of Erectile Function (IIEF) and the Premature Ejaculation Diagnostic Tool (PEDT) to rate the severity of erectile dysfunction and premature ejaculation, respectively. The authors reported the prevalence of Dhat syndrome to be 12.5%, suggesting that one in eight males in the community suffers from Dhat syndrome. Another community-based study conducted in the rural community of Ballabgarh, Faridabad, Haryana, included adult males aged 18-60 years, and used an interview schedule in which various sexual problems were operationally defined (did not specify the diagnostic criteria on which the instrument was based) and included 894 participants. The authors defined Dhat syndrome as *"Passage of whitish urine, mostly considered by the patient as being semen and self-reported by the patient as being problematic and interfering with routine and daily activities"*. Additionally, the authors described two more conditions akin to Dhat syndrome, i.e., nocturnal emission (*involuntary ejaculation occurring in the middle of sleep (day or night), self-reported by the patient as being problematic and interfering with routine and daily activities*) and defect in semen (*self-perceived defect in semen that may or may not hinder sexual intercourse*). The prevalence of Dhat syndrome in this study was 4.8%, and that of nocturnal emission and defect in semen was 13.6% and 64.4%, respectively^[7] (Table-1).

Besides India, Dhat syndrome is reported to be highly prevalent among populations originating from the Indian subcontinent. Beyond India, it has been frequently documented among Buddhists in Sri Lanka, as well as Pakistani expatriate workers residing in Gulf States. Its influence is widespread across Nepal, Bangladesh, and Pakistan, and the condition is also observed in clinical settings throughout Europe and North America when treating immigrants from Asian backgrounds.^[1]

In terms of demographic profile, Dhat syndrome is commonly reported in young males who are either single or married. In a community based study, the majority of the patients with Dhat syndrome were aged 18 to 30 years (44.5%), followed by those aged 31 to 40 years (24.3%). Nearly half were illiterate (45.80%), followed by those with a high school education (25.2%). A majority of the patients were married (63.3%) and lived in nuclear families

(61.30%). In terms of occupation, about one-third were farmers (32.7%), followed by daily wage labourers (25.7%), and students (18.6%).^[6] A multicentric study that included 780 males with Dhat syndrome, aged > 16 years, recruited from 15 centres also reported that 71.3% of the patients were aged less than or equal to 30 years, and about half of them were single (51%). In terms of education, 54.8% were educated up to high school, and the majority of them were employed (73.5%), and about two-third (65%), belonged to upper-lower or lower-middle class as per the Kuppuswamy scale. Further, the majority of the patients were Hindus (68.7%), belonged to a rural background (59.2%), and were from extended or joint families (55.6%).^[26]

There is a lack of data on the prevalence of female Dhat syndrome, which is understandable, considering the fact that the majority of females with the condition contact the Gynaecologists or the general physicians. A community-based study from North India that involved 160 females, enrolled by house-to-house survey, reported the prevalence of excessive vaginal discharge to be 27.5%.^[27] In another house-to-house survey of 236 married women aged 15-45, from three villages of Panchkula, Haryana, selected by purposive sampling, the reported prevalence of vaginal discharge was 28.7%.^[28] However, it is important to remember that these figures not necessarily reflect the prevalence of female Dhat syndrome.

Help Seeking in Dhat Syndrome

Most individuals with Dhat syndrome seek non-psychiatric care as their initial point of contact. This trend is likely driven by deep-rooted cultural misconceptions, which contribute to substantial delays in accessing specialized mental healthcare. Initial non-psychiatric contacts often include unqualified 'sex specialists' and faith healers,^[29,30] as well as practitioners of traditional systems, particularly Ayurveda.^[29,31] Evidence from Pakistan suggests that approximately half of these patients initially consult *hakims*.^[32]

Several studies in India have specifically evaluated the care pathways for Dhat syndrome. Research from Chandigarh (N=47) reported that patients consulted an average of 2.85 (SD: 1.4) providers before reaching a psychosexual clinic. The most frequent initial contacts were indigenous practitioners (Ayurvedic, Homeopathic, Siddha, or Unani), accounting for 36.2% of cases, followed by advice from friends or relatives (31.9%), allopathic specialists (23.4%), and faith healers or pharmacies (8.5%). Among the indigenous category, Ayurvedic doctors were the most frequently consulted (17%).^[31]

A study from Lucknow (N=58) reported a mean duration of illness prior to the first contact of 1.85 (SD: 2.14) years, with an additional 4.63 (SD: 5.35) years elapsing before psychiatric consultation. During this interim, patients consulted an average of 3.21 (SD: 2.38) providers (median = 3), with over one-third (36%) visiting four or more practitioners. Regarding referral pathways to the first care provider, 58.2% of patients were self-referred, while the remainder were referred by family (12.7%) or social contacts (29.1%). When specifically examining referrals to a psychiatrist, 40.0% were self-referred, 23.6% were referred by family, and 20% by other healthcare providers.^[29]

Further evidence from South India (N=47) indicated a mean delay in seeking initial care of 1.87 (SD: 1.41) years (range: 2 months to 6 years), with a median time of one year from first contact to psychiatric consultation.^[33] Finally, a study from Jhalawar reported an average delay of eight months for psychiatric help-seeking, noting that 98% of patients had consulted other providers—including friends, relatives, elders, quacks, and indigenous doctors—prior to their psychiatric visit. Significantly longer delays were observed in patients who initially

visited quacks or indigenous practitioners, as these encounters often reinforced existing myths regarding their condition.^[34]

Beliefs Associated with Dhat Syndrome

The whole concept of Dhat syndrome centres on the belief that semen is a "vital fluid" or "elixir of life." Because of the belief that semen is vital, patients often fear that losing it will lead to physical weakness, fatigue, diminished sexual performance (impotence or premature ejaculation), hair loss, and even infertility. Various studies since the beginning have reported beliefs about the formation and conservation of semen, the reasons for passage and the consequences of the passage of *dhat*. In the multicentric study, the authors evaluated 780 patients using the Dhat Syndrome Questionnaire, which had the provision to document the reasons and consequences of passage of *dhat*.^[26] Patients attributed the passage of *dhat* to a wide variety of causes, with excessive masturbation being the most frequently reported explanation (55.1%). Other common perceived causes included nocturnal emissions (47.3%), excessive sexual desire (42.8%), consumption of high-energy foods (36.7%), childhood "wrong deeds" (32.7%), urinary tract infections or pathology (28.7%), constipation (26.9%), excessive sexual activity (24.5%), unbalanced diet (23.5%), and premarital sexual intercourse (22.7%). On average, patients provided 5.68 (SD: 4.12) explanations (range: 0–24; median: 5). Notably, over three-quarters of the cohort (77%) cited at least three distinct reasons for the passage of *dhat*. Patients attributed a wide range of adverse consequences to the passage of *dhat*, reflecting deep-seated anxieties regarding their physical and reproductive health. The most frequently reported concern was weakness in sexual ability (75.6%), followed by symptoms of early ejaculation (66.4%) and poor erections (62.2%). Significant physical concerns were also prevalent, with 58.5% of patients reporting generalized bodily weakness, reduced stamina, or physical thinness, while 50.9% and 50.8% expressed fears regarding the loss of physical beauty and a reduction in penile size, respectively. Furthermore, many patients linked *dhat* to psychological and long-term reproductive outcomes, including mental illness (47.2%), early death (24.7%), the malformation of children (20.4%), and a perceived shift in the sex ratio of offspring, specifically the birth of more female children (14.0%). An additional 28.3% of the cohort associated the condition with various other unspecified health problems (Table 2).^[26]

In addition to the similar demographic variables, symptoms associated with passage of discharge, attitude towards sex, attribution of physical symptoms to passage of discharge, similar beliefs with respect to conservation of vaginal fluid, reasons for loss and consequence of loss of vaginal fluid have also been documented in females presenting with leucorrhoea or whitish vaginal discharge (Table-3). In an ethnographic study, the author observed that both patients and local healthcare providers, such as traditional birth attendants (*dais*), expressed significant anxiety regarding *safed pani* (vaginal discharge), rooted in the belief that "100 drops of blood are required to produce one drop of *safed pani*."^[35] Other ethnographic studies corroborate these findings, noting that the perceived loss of this "vital fluid" is frequently linked to a broad constellation of somatic, psychological, and sexual complaints. Furthermore, patients often attribute the onset of *safed pani* to a multitude of external factors, including prior tubectomy procedures and dietary habits.^[36] In a study from rural Haryana, participants attributed the occurrence of vaginal discharge to a diverse array of physical, behavioral, and environmental factors. Among the most frequently cited causes were sexual promiscuity of the husband (97.4%) and poor personal hygiene of the husband (96%). These were followed closely by the patient's own perceived physical state, including

feelings of weakness (97%), sensation of "melting bones" (95.2%), and internal gynecological concerns (90%). Environmental and lifestyle-related attributions were also prevalent, with significant proportions of the sample identifying excessive "heat" (89.1%), backache (73.0%), and their own poor personal hygiene (71.3%) as contributors. Furthermore, dietary habits (60.9%), reproductive history such as having too many children (52.6%), the use of intrauterine contraceptive devices like Copper T (49.6%), and undergoing family planning operations (39.1%) were also identified as perceived triggers for the condition. [28]

In recent times, three studies have relied on the Scale for Assessment of Female Dhat syndrome (SAFED) to assess the reasons and consequences of patients with female Dhat syndrome^[36-38] Table-3). Patients consistently attribute the passage of vaginal discharge to diverse lifestyle, dietary, and physiological factors. Across all three cohorts, urinary tract infections or problems were frequently cited as a primary cause, reported by 41.4% to 63.8% of patients. Dietary factors also play a significant role in patient belief systems; the consumption of "warm" foods and drinks was identified as a cause by 34.3% of patients in the gynaecological outpatient setting and reached as high as 75.4% in the rural community sample. Similarly, the consumption of unbalanced or high-energy foods was consistently reported as a trigger across studies. Physiological issues, such as vaginal or uterine infections and constipation, were also commonly linked to the condition. Interestingly, psychological and symbolic attributions, such as sexual dreams, low sexual desire, and even "wrong deeds of past life", were also reported by a small proportion of patients, indicating that patients perceive the condition as a manifestation of both bodily and spiritual imbalance. The perceived consequences of vaginal discharge in these studies have been predominantly somatic and systemic, with a strong emphasis on the loss of vitality. A pervasive belief across all cohorts is that the condition leads to generalized weakness, reduced stamina, and a thinning physique, a concern expressed by up to 95.7% of patients in the study by Joshi et al. (2022).^[37] Genital-related distress, including pain in the genitals and pain during sexual intercourse, is also widely reported. Psychologically, patients associate the condition with significant morbidity. Mental illness was identified as a consequence by approximately 40%–48% of patients across the three studies. Menstrual disturbances and irritability, particularly around the menstrual cycle, were also frequently noted. Beyond individual physical and mental health, patients also harbour fears regarding reproductive outcomes, including the malformation of children and the birth of more female children, further illustrating the high level of anxiety that female Dhat syndrome elicits regarding long-term well-being and social status. These findings underscore the importance of addressing the specific cultural misconceptions held by patients. In clinical settings, particularly in gynaecology and community health, providers should recognize that vaginal discharge is often viewed by patients not merely as a biological symptom, but as a systemic issue requiring a holistic approach to care [36-38].

When one attempts to understand the similarities and differences in the reasons for passage of dhat in male and females, a higher proportion of males attribute the passage of dhat to excessive masturbation, excessive sexual intercourse, having premarital sexual intercourse, having sexual intercourse outside wedlock, having sexual dreams, excessive sexual desire, and mistakes in childhood; whereas a higher proportion of females attribute the passage of dhat to eating unbalanced/inappropriate food, excessive eating, constipation, worm infestation, urinary infection or problems of urinary tract, consumption of high energy foods, and consumption of warm foods and drinks (Table-2). Similarly, in terms of consequences, a

significantly higher proportion of males report weakness in sexual ability, early death, and malformation of children, loss of beauty of face and body (Table-2) ^[36-38].

Table-2: Reasons for Passage of Dhat/Vaginal Discharge in male and female patients with Dhat syndrome

Variables	Grover et al, 2016 (n=780) (Psychiatry Outpatient services) ^[26]	Grover et al, 2016 (n=26) (Psychiatry Outpatient services) ^[38]	Mehra et al 2021 (n=69) (Rural Community Clinic) ^[39]	Joshi et al, 2022 (n=70) (Gynaecology Outpatient Services) ^[37]
Reason for Passage of Dhat/Vaginal Discharge				
Due to excessive masturbation	55.1%	3.8%	4.3%	-
Due to excessive sexual intercourse	24.5%	11.5%	11.6%	5.7%
Due to less sexual intercourse		23.1%	14.5%	-
Due to not being satisfied during sexual intercourse		26.9%	26.1%	-
Due to having sexual intercourse during menstruation	14.5%	-	23.2%	4.3%
Due to premarital sexual intercourse	22.7%	3.8%	8.7%	
Due to having sexual intercourse outside of wedlock	17.2%	-	10.1%	1.4%
Due to homosexual relationship	13.6%	-	10.1%	
Due to having sex with commercial sex workers	15.9%			
Due to having sexual intercourse in an unnatural way	16.2%	7.7%	13.0%	
Due to having sexual dreams	47.3%	11.5%	33.3%	1.4%
Due to low sexual desire	21.0%	23.1%	30.4%	1.4%
Due to excessive sexual desire	42.8%	7.7%	20.3%	
Due to lack of indulgence in masturbation	17.2%	11.5%	11.6%	
Due to eating unbalanced/inappropriate food	23.5%	30.8%	73.9%	18.6%
Due to excessive eating	13.8%	7.7%	47.8%	1.4%
Due to wrong deeds of past life	16.0%	7.7%	23.8%	1.4%
Due to lack of/improper sleep	18.1%	15.4%	24.6%	4.3%
Due to constipation	26.9%	19.2%	49.3%	12.9%
Due to worm infestation of gastrointestinal tract	12.8%	11.5%	42.0%	4.3%
Due to urinary infection or problems of urinary tract	28.7%	42.3%	63.8%	41.4%
Due to vaginal infection/disease	-	34.6%	59.4%	18.6%
Due to uterine infection/disease		19.2%	29.0%	-
Due to use of birth control pills		11.5%	26.1%	-
Due to hereditary reasons	13.1%	7.7%	18.8%	2.9%
Due to some mistake done in childhood	32.7%	23.1%	15.9%	4.3%
Due to consumption of high energy foods	36.7%	26.9%	69.6%	17.1%

Due to consumption of warm foods and drinks	29.4%	26.9%	75.4%	34.3%
Others	9.0%		18.8%	21.4%
Consequences of passage of Dhat/Vaginal Discharge				
Weakness in sexual ability	75.6%	42.3%	36.2%	31.4%
Loss of sexual desire		50.0%	31.9%	34.3%
Excessive sexual desire		24.0%	24.6%	4.3%
Early death	24.7%	-	7.2%	17.1%
Loss of beauty of face and body	50.9%	30.8%	36.2%	67.1%
Malformation of children	20.4%	15.4%	13.0%	11.4%
Birth of more female children	14.0%	3.8%	10.1%	7.1%
Reduction in size of penis (vagina/uterus)	50.8%	7.7%	20.3%	8.6%
Poor erection	62.2%	X	X	X
Early ejaculation	66.4%	X	X	X
Pain in genitals	X	36.0%	68.1%	25.7%
Pain in genitals during sex	X	30.8%	49.3%	12.9%
Repeated vaginal infection	X	38.5%	46.4%	25.7%
Irritability before or after menstruation	X	30.8%	66.7%	67.1%
Menstrual disturbances	X	30.8%	59.4%	21.4%
Mental illness	47.2%	38.5%	47.8%	47.1%
Weakness in body, stamina, and physique	58.5%	53.8%	68.1%	95.7%
Others	28.3%		4.3%	7.1%

Table 3: Comparison of Demographic Variables, Symptoms, and psychological aspects of Dhat Syndrome in Males and Female equivalent of Dhat Syndrome (Adapted from Grover et al, 2014)^[40]

Category	Feature	Dhat Syndrome (Males)	Female Equivalent (Dhat Syndrome)
Demographics	Age Group	Young	Young
	Education	Lower educational attainment	Often illiterate
	Marital Status	Married in recent past	Married in recent past
	Locality	Rural background	Rural background
Discharge	Appearance	Whitish	Whitish
	Odour	No odour	No odour
Examination	Physical examination and Investigations	No evidence of semen/infection	No/little evidence of infection
Symptoms	Physical Symptoms	Fatigue, listlessness, weakness	Burning (hands/feet), dizziness, backache, weakness
	Mental Symptoms	Anxiety, depression, poor concentration	Anxiety, depression, poor concentration
	Psychiatric comorbidity	Possible Depressive/ Anxiety disorder	Depression, common mental disorders

	Sexual comorbidity	Premature ejaculation / Erectile dysfunction	Sexual weakness
Psychology	Mental State Examination	Preoccupied with loss of "vital" fluid	Worried about loss of genital secretions
	Attitude to Sex	Conservative	Conservative
	Beliefs about formation of secretions	"40 meals = 1 drop of semen"	"100 drops of blood = 1 drop of <i>safed panni</i> "
	Link between passage (semen/vaginal discharge) and symptoms	Attributes the somatic symptoms to passage of precious vital fluid	Attributes the somatic symptoms to passage of precious vital fluid
	Causal Model	Excessive sex/ masturbation, "hot" foods	Unwanted sex, "hot" diet, environmental heat

Sexual Knowledge and Attitude

Poor knowledge about semen formation is widely prevalent in patients with Dhat syndrome. However, these have rarely been assessed systematically. A comparative study demonstrated that patients with Dhat syndrome had deficiencies in specific domains of sexual knowledge and attitudes when compared to the control group.^[20] A retrospective study that included data of 264 patients with Dhat syndrome evaluated the sexual knowledge and attitude using the Sex Knowledge and Attitude Questionnaire (SKAQ-II). The study showed that the inadequate understanding of sexual matters extended beyond the production of semen to include other facets of sexuality, such as masturbation, the connection between pregnancy and orgasm in women, breastfeeding and pregnancy, the connection between sexual desire and addictive drugs, and the idea that having sex with a virgin girl can cure sexually transmitted diseases. Some of the common misconceptions included the idea that exposure to pornography influences childhood sexual behavior (85.2%), that excessive youthful masturbation depletes semen (84.1%), that excessive sexual desire results in improper sexual practices (83.7%), and that semen is a byproduct of blood (80.3%). Furthermore, participants often linked early sexual activity to future marital dysfunction (78%) and associated masturbation with mental health issues (74.6%) and impotency (72%). Participants also frequently endorsed myths regarding external factors, such as the influence of specific foods (74.6%) and addictive drugs (70.5%) on sexual desire, as well as the belief that homosexuality is learned behavior (73.9%). Additionally, 71.6% of respondents felt that individuals from lower socioeconomic backgrounds inadequately prioritize family planning. Conversely, there was a strong awareness of preventative measures, with 89.8% of participants acknowledging that condom use effectively reduces the transmission of sexually transmitted diseases. The knowledge and attitude were not affected by psychiatric comorbidity. In terms of attitude, a sizable percentage of participants believed that masturbation is generally bad for one's health (75%), that parents should prevent their children from masturbating (71.4%), and that women should be prevented from masturbating (71.6%). More than half (60.6%) of the subjects thought that sex education was making premarital sex more common in society, and 61.7% of the subjects thought that aborting an undesired child was worse than giving birth. It was

also noted that more educated patients had better sexual knowledge and attitudes towards sex.^[41] Similar findings of poor sexual knowledge has been reported in another small sample size study.^[20]

Psychological Correlates in patients with Dhat syndrome

Many researchers have challenged the notion of Dhat syndrome being an independent psychiatric diagnosis and consider it to be a variant of depression, whereas others contradict this. Authors who consider Dhat syndrome to be an independent disorder have attempted to evaluate the psychological correlates in patients with depression and those with other psychiatric disorders. In a study involving 50 patients with Dhat syndrome, authors showed that compared to controls (i.e., those diagnosed with a non-psychotic depression), patients with Dhat syndrome displayed a distinctive illness behavior profile with higher scores on the Illness behaviour questionnaire (IBQ) factors of general hypochondriasis and affective disturbances and lower scores on the depressive factor. In this study, 66% of the patients with Dhat syndrome were categorised into those having an unspecified diagnosis of DSM-III-R. Based on these findings, the authors argued that Dhat syndrome deserves an independent diagnosis.^[42] In a study, 29 patients with Dhat syndrome and 32 medical controls were compared on the Somatization Screening Index (SSI), SIBQ, Somatosensory Amplification Scale (SAS), Whitley Index (WI), and Chalder Fatigue Scale. The results showed that patients with Dhat syndrome scored higher on all scales except somatoform amplification, indicating that, despite having similar other functional somatic syndromes, patients with Dhat syndrome had significantly different illness beliefs and behaviors. Another study evaluated the prevalence of somatosensory amplification, hypochondriasis and alexithymia between those with Dhat syndrome alone and those with comorbid depression and somatoform disorders and reported a lack of any significant difference between the diagnostic groups. However, there were significant differences between those with Dhat syndrome alone and those with depression on alexithymia and hypochondriasis. Further, when compared to those with somatoform disorders, patients with Dhat syndrome alone differed significantly on somatosensory amplification, some of the domains of alexithymia, and had higher proportion categorised as having hypochondriasis. These findings suggest that Dhat syndrome may be an independent diagnosis.^[43] Further, based on the findings of high prevalence of somatosensory amplification, hypochondriasis, and alexithymia, the authors suggested that therapies could be created for Dhat syndrome that address cognitive errors and schemas in addition to cultural myths.^[43]

In a retrospective study, authors evaluated the relationship of Dhat syndrome with a depressive spectrum as defined by Winokur. Based on the existence of depressive spectrum disorders in first-degree relatives, 46 patients with Dhat syndrome were classified into two groups based on their case records, i.e., those with a positive family history (FH+) and those with a negative family history (FH-) for depression.. Comorbidity, symptom profile, and demographic factors were compared between these two groups. It was seen that substance use disorders (alcohol and nicotine dependence) and depressive disorders were considerably more common in the FH+ group. Concerns over penile size were also more common among them. Based on these findings, the authors suggested that a subset of patients with Dhat syndrome may have a depressive spectrum disorder, and accordingly, rather than considering it as a single diagnostic entity, Dhat syndrome may be best regarded as a diverse group. According to the authors, these findings can have implications on the selection of treatment.^[44]

Comorbidity: Psychiatric disorders and Sexual Dysfunction

Psychiatric comorbidity

Different studies have varied in the method of ascertainment of psychiatric disorders, with the majority of the studies relying on the International Classification of Diseases, tenth revision (ICD-10 criteria).^[25] The sample size of different individual centre clinic based has varied from 30 to 100 and the prevalence of depressive disorders (first episode depression, dysthymia and recurrent depressive disorder) across different studies has ranged from 14 to 70.8% and that of neurotic, stress-related and somatoform disorders (anxiety disorders, somatoform disorders, hypochondriasis, obsessive compulsive disorder) range from 14.9% to 38% (Table-4). A community-based study from Karnataka demonstrated a significantly higher prevalence of psychiatric comorbidity in those with Dhat syndrome, compared to those without Dhat syndrome (73.5% versus 22.5%). Major Depressive Disorder was the most common psychiatric comorbidity among those with Dhat syndrome (25.7%). However, when the broad definition of depression was considered, 37.2% had a depressive disorder. A small proportion also had comorbid Generalized anxiety disorder (11.5%), alcohol dependence syndrome (8.8%), and mixed anxiety and depression (4.4%).^[6] Studies involving patients with female Dhat syndrome have reported the prevalence of depressive disorders to be 18.6 to 19.2% and that of neurotic, stress-related, and somatoform disorders to be 10-80.8% (Table-4).

Comorbid Sexual Dysfunction

Comorbid sexual dysfunction is also highly prevalent among patients with Dhat syndrome. The prevalence of erectile dysfunction in clinic-based studies ranges from 6.6 to 36.5%, and that of premature ejaculation ranges from 20.4 to 42.3%. Occasional studies have documented sexual dysfunction in other domains as well (Table-5). In a community-based study, 42.47% of persons with Dhat syndrome had a sexual dysfunction, with erectile dysfunction being the most common comorbid dysfunction, followed by premature ejaculation and hypoactive sexual desire disorder.^[6]

Subtyping of Dhat syndrome

Based on the available literature, authors have attempted to categorise Dhat syndrome as: Dhat syndrome alone, Dhat syndrome with depression and anxiety disorder, and Dhat syndrome with sexual dysfunction. However, it is important to note that a subgroup of patients has both psychiatric disorders and sexual dysfunction.

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Table 4: Prevalence of Psychiatric Comorbidity in patients with Dhat Syndrome

Author name	Sample size	Site/ City	Method used to diagnose psychiatric comorbidity	Depression/ Depressive Disorders	Anxiety	Other Psychiatric Disorders	At least one psychiatric diagnosis
Community Based Study							
Rao TSS et al, 2026 ^[6]	907	Suttur, Karnataka	MINI-Plus structured interview	37.2%	21.2% ^{\$}	15%	-
Clinic Based Studies							
Behere & Natraj, 1984 ^[30]	50	Varanasi	No diagnostic criteria mentioned	-	38%	46% (Hypochondriasis)	-
Singh et al, 1985 ^[10]	50	Patiala	Amritsar Depression Inventory, HDRS	52%	16%		
Chadda & Ahuja, 1990 ^[45]	52	New Delhi	Clinical interview	40.4%	36.5%	5.8% (Hypochondriasis)	
Chadda, 1995 ^[42]	50	New Delhi	DSM-IIIR	40% ^{##}	36% ^{##}		
Dhikav et al, 2007 ^[46]	30	New Delhi	DSM-IV	66%	-		-
Grover et al, 2014 ^[47]	54	Chandigarh	ICD 10 criteria	51.9%	16.7% ^{\$}		
Grover et al, 2016 ^[26]	780	Multicentric	MINI	20.5%	20.5% ^{\$}		41%
Grover et al, 2015 ^[41]	264	Chandigarh	ICD 10 criteria	15.1%	12.9% ^{\$}		27.3%
Grover et al, 2016 ^[31]	47	Chandigarh	ICD 10 criteria	17%	14.9% ^{\$}		31.9%
Grover et al, 2016 ^[48]	64	Chandigarh	ICD 10 criteria				32.8%
Prakash et al, 2016 ^[49]	100	New Delhi	MINI	14%	11% ^{\$}	8%	
Singh et al, 2016 ^[29]	55	Lucknow	ICD 10 criteria	70.8%	36.4% ^{\$}		
Ansari & Mulla, 2017 ^[34]	100	Jhalawar	DSM-5 Criteria	43%			
Clinic Based Studies on Female Dhat Syndrome							
Grover et al, 2016 ^[38]	26	Chandigarh	ICD 10 criteria	19.2%	80.8% ^{\$}		100%
Joshi et al, 2022 ^[37]	70	Lucknow	Hospital Depression & Anxiety Scale	18.6%	10%		

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^{\$}-the prevalence figures indicate neurotic, stress-related and somatoform disorders

^{##}- The definitive diagnosis of a depressive disorder was seen in 40% of the patients and 60% had depressive disorder not otherwise specified; similarly, definitive diagnosis of generalized anxiety disorder was made in 4% of the patients and 32% had diagnosis of anxiety not otherwise specified. In terms of diagnosis of somatoform disorders, 24% had diagnosis of somatoform disorder and 40% were diagnosed with somatoform not otherwise specified.

431 **Table 5: Prevalence of Sexual Dysfunction in patients with Dhat Syndrome**

Author name	Sample size	Place of Stud	Diagnostic Method	Premature Ejaculation	Erectile Dysfunction	Lack/loss of sexual desire	Lack of sexual enjoyment	Orgasmic dysfunction	Other sexual dysfunction	Overall sexual dysfunction
Community Based Study										
Rao et al, 2026 ^[6]	907	Suttur, Karnataka	Specific Criteria	42.9%	9.5%	4.8%				55.7%
Clinic Based studies										
Behere and Nataraj, 1984 ^[30]	50	Varanasi	No diagnostic criteria mentioned	22%	26%	-	-		-	-
Singh et al 1985 ^[10]	50	Patiala	Established criteria for PME and ED		35.5%					
Chadda & Ahuja, 1990 ^[45]	52	New Delhi	No diagnostic criteria mentioned	42.3%	36.5%					-
Bhatia & Malik, 1991 ^[12]	93	Delhi	Self-designed criteria	22.6%	12.9%	-	-		-	-
Grover et al, 2014 ^[47]	54	Chandigarh	ICD 10 criteria	27.8%	29.6%					
Grover et al, 2016 ^[26]	780	15 centres	ICD 10 criteria	32.4%	20.3%	6.3%	11.8%	6.2%	11%	51.3%
Grover et al, 2015 ^[41]	264	Chandigarh	ICD 10 criteria	20.4%	22.7%					36%
Grover et al, 2016 ^[31]	47	Chandigarh	ICD 10 criteria	23.4%	23.4%	10.6%	12.8%	6.4%	21.3%	5.3%
Grover et al, 2016 ^[48]	64	Chandigarh	ICD 10 criteria	25%						31.2%
Singh et al, 2016 ^[29]	55	Lucknow	ICD 10 criteria	41.8%	32.7%					
Dhikav et al 2008 ^[46]	30	Delhi	Sexual history, Clinical interview	33.3%	6.6%					

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Clinical Features of Dhat syndrome

Since the conceptualization of Dhat syndrome, it is described to be associated with somatic, affective, cognitive, and sexual symptoms. However, different studies have varied in terms of the frequency of these symptoms in patients with Dhat syndrome. While early studies among males^[10,11] and females^[5] focused on a narrower range of symptoms, recent research based on the recent questionnaires demonstrates a much broader, more comprehensive symptom profile, both in males and females (Table-6).

Bodily and physical weakness is the most consistent and pervasive symptom reported, appearing in every study with high percentages ranging from 70.8% to 98.6%. Other frequently reported somatic issues include back pain (noted as high as 91.4%) and generalized pain in the extremities or joints. Depressive and anxiety symptoms such as "feeling down, depressed, or hopeless", "little interest or pleasure in doing things", "anxiety" are also reported to be highly prevalent. Gastrointestinal symptoms, such as nausea, gas, and indigestion, have been reported in more than half of the study populations. Concerns regarding micturition (burning sensation or frequency) are also frequently reported, suggesting that somatic manifestations in the genital and urinary tracts remain a core feature of the syndrome across the decades.

Overall, broadly, there is a lack of significant difference in the prevalence of various symptoms reported in males and females. Further, the prevalence of various symptoms also does not appear to be significantly different among participants of community and clinic based studies (Table-6).

Table-6: Clinical Features of Dhat Syndrome in males and females

Variables	Rao et al, 2026 ^[6]	Singh, 1985 ^[10]	Bhatia et al, 1989 ^[11]	Bhatia & Malik, 1991 ^[12]	Grover et al, 2016 ^[26]	Grover et al, 2014	Prakash et al, 2016 ^[49]	Grover et al, 2016 ^[36]	Mehra et al, 2021 ^[39]	Joshi et al, 2022 ^[37]
	Male Dhat Syndrome						Female Dhat Syndrome			
	N=907	N=31	N=48	N=93	N=780	N=54	N=100 ^s	N=26	N=69	N=70
Bodily/physical weakness	93.8%	73.8%	70.8%	70.8%	78.2%	87%	95%	76.9%	87.0%	98.6%
Mental weakness	X	X	X	X	62.9%	83.3%	X	50.0%	50.7%	92.9%
Stomach ache	X	X	X	X	27.8%	57.4%	X	50.0%	66.7%	80.0%
Back pain	75.2%	X	X	X	46.9%	60.1%	42%	76.9%	71.0%	91.4%
Pain in your arms, legs or joints (knees, hips, etc.)	12.4%	X	X	X	51.3%	64.8%	73%	69.2%	65.2%	80.0%
Pain or problems during sexual intercourse	X	X	X	X	30.0%	42.6%	X	23.1%	49.3%	32.9%
Headaches	54.9%	68%	X	54.1%	31.3%	48.1%	56%	53.8%	30.4%	50.0%
Chest pain	X	X	X	X	24.5%	51.9%	X	38.5%	18.8%	35.7%
Dizziness	17.7%	X	X	X	39.4%	44.4%	8%	34.6%	36.2%	60.0%
Fainting spells	X	X	X	X	13.6%	18.5%	X	19.2%	20.3%	14.3%
Feeling your heart pound or race	X	X	X	X	40.1%	40.7%	X	26.9%	44.9%	31.4%
Shortness of breath	X	X	X	X	30.5%	46.2%	X	38.5%	21.7%	25.7%
Constipation, loose bowels or diarrhoea	X	X	X	X	32.4%	63%	X	26.9%	60.9%	57.1%
Nausea, gas or indigestion	X	X	X	X	40.8%	68.5%	28%	34.6%	53.6%	67.1%
Little interest or pleasure in doing things	X	X	X	62.4%	63.7%	77.8%	22%	46.2%	29.0%	81.4%
Feeling down, depressed or hopeless	X	62.5%	X	58.3%	62.4%	79.6%	35%	42.3%	33.3%	77.1%
Trouble sleeping	X	X	62.4%)	62.4%	50.8%	64.8%	48%	76.9%	60.9%	54.3%
Feeling tired or having low energy	88.5%	X	68.7%	68.7%	67.9%	75.9%	95%	53.8%	23.2%	82.9%
Feeling bad about yourself that you are a failure/have let yourself or your family down	X	X	X	X	50.4%	44.4%	X	30.8%	30.4%	8.6%
Poor appetite or overeating	X	X	X	X	47.8%	74.1%	X	38.5%	36.2%	55.7%

Trouble concentrating on things, such as reading the newspaper or watching television	X	X	X	56.3%	49.1%	66.6%	74%	26.9%	24.6%	34.3%
Psychomotor agitation or retardation	X	X	X	X	29.9%	68.5%	X	19.2%	18.8%	20.0%
Thoughts that you would be better off dead, or of hurting yourself in some way	X	X	X	X	29.9%	55.6%	X	23.1%	23.2%	12.9%
Burning micturition	30.1%	X	X	X	42.4%	X	22%	26.9%	56.5%	38.6%
Excessive straining while micturition	X	X	X	X	27.8%	X	X	30.8%	17.4%	20.0%
Itching on/around the genitals	X	X	X	X	25.0%	X	X	34.6%	59.4%	55.7%
Development of lesions on/around the genitals	X	X	X	X	12.2%	X	X	23.1%	20.3%	18.6%
Difficulty in gaining weight or losing weight	X	X	X	X	38.6%	X	X	30.8%	21.7%	41.4%
Excessive worry	X	X	X	X	56.2%	X	97%	50.0%	39.1%	54.3%
Restlessness to the extent that you have difficulty in sitting still	X	X	X	X	29.9%	X	72%	15.4%	26.1%	28.6%
Anger, irritability, getting annoyed easily	X	X	X	X	56.4%	X	52%	42.3%	52.2%	92.9%
Bodily aches and pains	63.7%	X	X	X	X	X	X	X	X	X
Weakness of the legs	13.3%	X	X	X	X	X	X	X	X	X
Pain in Legs	8%	X	X	X	X	X	X	X	X	X
Weight loss	28.3%	X	X	X	X	X	X	X	X	X
Dryness of mouth	20.4%	X	X	X	X	X	X	X	X	X
Constipation	31.9%	12.5%	X	35.4%	X	X	47%	X	X	X
Breathlessness	18.6%	X	X	X	X	X	4%	X	X	X
Frequent loose stools	22.1%	X	X	X	X	X	X	X	X	X
Excessive sweating	44.2%	X	X	X	X	X	58%	X	X	X
Burning sensation in the chest	40.7%	X	X	X	X	X	X	X	X	X
Flushing of face	10.6%	X	X	X	X	X	X	X	X	X
Palpitation	32.7%	31.3%	68.7%	68.7%	X	X	88%	X	X	X
Trembling of hands and legs	31.9%	X	X	X	X	X	14%	X	X	X
Loss of consciousness	9.7%	X	X	X	X	X	X	X	X	X
Anxiety	X	51.6%	X	X	X	X	95%	X	X	X
Poor appetite	X	43.8%	X	45.8%	X	X	46%	X	X	X
Suicidal thoughts	X	26.2%	X	18.6%	X	X	10%	X	X	X
Gastrointestinal symptoms	X	18.8%	X	X	X	X	X	X	X	X
Increased frequency of micturition	X	6.3%	X	37.5%	X	X	5%	X	X	X
Guilt feeling	X	X	X	35.4%	X	X	78%	X	X	X
Worthlessness	X	X	X	54.1%	X	X	9%	X	X	X
Pain in epigastrium	X	X	X	51.0%	X	X	X	X	X	X
Giddiness	X	X	X	45.8%	X	X	X	X	X	X
Forgetfulness	X	X	X	45.8%	X	X	X	X	X	X

X- Indicate that the symptom was not assessed in the study, rather than these being absent

\$- Prakash et al, 2016 have described other symptoms than that listed in the table. In addition to the symptoms included in the table, the authors described 100 more symptoms. The symptoms can be broadly categorised as follows:

Anxiety symptoms: Tension (97%), anxiety (95%), nervousness (93%), nervousness that cannot be calmed (45%), startled by noise (21%), fidgeting/restlessness (20%), feeling like running away (9%), pacing around (10%), financial worries (8%), afraid to talk to people (7%), afraid to talk to women (5%), afraid of mental illness (4%), suspiciousness (4%), and irrational thoughts (3%).

Depressive symptoms: Decreased self-esteem (89%), shame (84%), decreased self-confidence (85%), decreased sleep (48%), pessimistic thinking (39%), everything feeling like effort (37%), helplessness (32%), loss of control over mind (32%), hopelessness (25%), nothing is able to cheer one up (19%), loss of interest (16%), decreased desire to talk to others (14%), death wishes (14%), increased sleep (12%), feelings of emptiness (5%), worries regarding betrayal in love (71%), and worries regarding betrayal in friendship (1%)

Cognitive symptoms: Inability to concentrate (74%), difficulty in thinking (73%), failing memory (58%), mental fatigue (68%), loss of control over body (16%), and inability to let go of minor worries (15%).

Somatic symptoms: Sense of being unhealthy (99%), no improvement despite treatment from multiple doctors (97%), laziness (94%), listlessness (88%), loss of energy (86%), discomfort in head (64%), discomfort in stomach (63%), weakness in nerves (47%), thinness (45%), flatulence (28%), indigestion (18%), distension of abdomens (11%), diarrhoea (9%), dry mouth (8%), mild bodyaches (7%), severe bodyaches (7%), no blood in the body (7%), decreased taste (6%), weak joints (5%), dryness of whole body (5%), heaviness in eyes (5%), burning hands (5%), blurred vision (5%), light-headedness (4%), burning eyes (3%), hiccough (4%), painful micturition (3%), cough (2%), altered taste (1%), one side of body being weak (1%), loosening of teeth (1%), and watering from eyes (1%).

Symptoms related to appearance: Eyes growing hollow (12%), lack of lustre in face (10%), lack of lustre in eyes (8%), sunken eyes (7%), facial discolouration (6%), hair loss (8%), feminine voice (0%), and pallor (0%).

Symptoms that were not reported by any patients included: enlarged testicles, feminine voice, pallor, and boils or ulcers in the genital region.

Pathophysiology of Dhat Syndrome

Dhat syndrome results from a complicated interplay between underlying psychological suffering and deeply rooted cultural ideas about reproductive health. The syndrome usually affects those with conservative ideas on sexuality who come from rural or lower-to-medium socioeconomic origins. These viewpoints have substantial moral weight, are frequently passed down through generations, and are supported by peer social groups. An obsession with the alleged loss of "vital fluid", i.e., semen in men or vaginal discharge/fluid in women, is at the heart of the illness. Post-micturition dribbling, nocturnal emissions, or regular cyclical vaginal secretions are examples of benign physiological occurrences that patients often mistake for the involuntary, pathological "leaking" of essential fluid. Sexual activity and the loss of bodily fluids are typically seen through a moral lens within these traditional frameworks, sometimes linked to guilt, sin, or a perceived inability to uphold the discipline (*such as brahmacharya*) required for both physical and spiritual strength. A vicious cycle of psychological and physical suffering is set off by this perceived loss. Fatigue, lethargy, palpitations, erectile dysfunction, irregular menstruation, and other somatic symptoms are the first signs of anxiety. The patient views these sensations as "clinical evidence" of physical exhaustion rather than worry. A self-perpetuating feedback loop of disease results from this assumption, which feeds additional anxiety, despair, and hypochondriacal worries that worsen the physical symptoms.

Initial distress leads the patients to seek initial help from non-psychiatric physicians, such as traditional healers or unlicensed practitioners (often known as "quacks"), who may unintentionally reinforce their beliefs in order to market "energizing" tonics, injections, or needless drugs. Although this confirmation temporarily eases the patient's anxieties, it ultimately causes a major delay in receiving the proper psychosexual care. Additionally, a lack of culturally responsive sex education can unintentionally exacerbate the issue even within the medical system. Clinicians may give the impression that a patient's condition is a "physical mystery" by dismissing concerns without attending to the patient's distress, or, on the other hand, ordering excessive, needless diagnostic testing. This can strengthen the patient's belief

and encourage non-scientific interventions. The pathophysiology of Dhat syndrome is presented in Figure 1.

Nosology

Prior to the ICD-10, in most of the studies, the authors mostly relied on self-defined features of Dhat syndrome to identify patients with Dhat syndrome. During the development of ICD-10, there was a concerted effort by the World Health Organization (WHO) to make the manual more globally applicable. The earlier versions of the ICD were criticized for being "Eurocentric". As a result, the WHO established various workgroups to identify mental disorders specific to certain regions. Dhat syndrome was recognized as a classic example of how cultural beliefs (specifically the Ayurvedic concept of *Dhatu*) influence the manifestation of psychological distress. Accordingly, researchers pushed for its entry into the ICD-10. The ICD-10 entry was supported by the understanding that Dhat is rooted in ancient Indian medical traditions. Proponents for its inclusion argued that while Dhat syndrome shared features with Somatic Symptom Disorder or Depressive Episode, it did not fit perfectly into either. In Western models, the "semen loss" would be viewed as a delusion or a minor somatic complaint; however, in the South Asian context, it is the *central* organizing feature of the illness.

As a result of these efforts, Dhat syndrome gained international acknowledgement through its inclusion in ICD-10 in the category of F48.8, Other specified neurotic disorders. The category was described as:

This category includes mixed disorders of behaviour, beliefs, and emotions which are of uncertain etiology and nosological status and which occur with particular frequency in certain cultures; examples include Dhat syndrome (undue concern about the debilitating effects of the passage of semen), koro (anxiety and fear that the penis will retract into the abdomen and cause death), and latah (imitative and automatic response behaviour). The strong association of these syndromes with locally accepted cultural beliefs and patterns of behaviour indicates that they are probably best regarded as not delusional.

The ICD-10 DCR further described Dhat, dhatu, jiryan, shen-k'uei (India; Taiwan (Province of China)) to be characterised by *acute anxiety and somatic complaints such as fatigue and muscle pain, related to a fear of semen loss in men or women (also thought to secrete semen). Precursors are said to include excess coitus, urinary disorders, imbalances in body humours, and diet. The main symptom is a whitish discharge in urine, interpreted as semen loss. Traditional remedies focus on herbal tonics to restore semen or humoral balance.*

Dhat syndrome was also described in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM), Text Revision of the fourth edition (DSM-IV-TR). It was not categorized as a formal, independent diagnostic entity and was instead included in Appendix I of the manual, which was dedicated to "Outline for Cultural Formulation" and a "Glossary of Culture-Bound Syndromes". It was recognized as a condition predominantly found on the Indian subcontinent, characterized by the patient's preoccupation with the loss of semen (referred to as "Dhat") via urine, nocturnal emissions, or masturbation, and the subsequent attribution of various somatic and psychological symptoms (fatigue, weakness, anxiety, and guilt) to this loss. However, in DSM-5, the term "culture-bound syndrome" was replaced and Dhat syndrome was included under the broader category of "Cultural Concepts of Distress," reflecting the understanding that it is a culturally influenced method of expressing psychological distress rather than a discrete "exotic" disease entity.

However, over the years, some of the authors have questioned the independent diagnostic status of Dhat syndrome. Some of the authors have conceptualized Dhat syndrome as a culturally sanctioned variant of depression.^[44,50]

Dhat syndrome is not included in the ICD-11 as a separate, official diagnostic category. It is described as a cultural concept of distress, to align with DSM-5. By acknowledging that people experience and express suffering through idioms, syndromes, and explanations that are influenced by their cultural background, ICD-11 integrates sociocultural viewpoints. ICD-11 encourages clinicians to identify the underlying psychopathology (such as anxiety, depressive disorders, or somatic symptom disorders) while recording the cultural context in which these symptoms appear rather than classifying Dhat as a distinct illness. However, many medical professionals and researchers disagree with the elimination of Dhat syndrome's autonomous diagnostic status.

In the absence of formal ICD-10 criteria, clinicians and researchers typically have relied on the consensus-based description established through decades of psychiatric observation in the Indian subcontinent. However, in recent times, some of the authors have described the diagnostic criteria for Dhat syndrome in males and females (Table-7).

Table 7: Criteria described by different authors for Dhat syndrome in the recent literature

Dhat Disorder Diagnostic Criteria^[49]
• Persistent preoccupation with passage of “Dhat”/semen/whitish discharge, or symptoms/physical abnormality believed to be due to it; causes persistent distress or interference with personal functioning in daily living, or leads the patient to seek health interventions • Persistent belief (held with conviction), that the passage of “Dhat”/semen/whitish discharge has led or can potentially lead to serious health consequences. The belief (that the passage of “Dhat”/semen/whitish discharge has led or can potentially lead to serious health consequences) persists despite allopathic advice (following appropriate evaluation and investigations) that the passage of “Dhat”/semen/whitish discharge is benign and that the reported symptoms or physical abnormalities are not due to it; except for short periods of up to a few weeks at a time immediately after or during allopathic evaluation/investigations/interventions • The belief (that the passage of “Dhat”/semen/whitish discharge has led or can potentially lead to serious health consequences) is in keeping with the prevalent sociocultural (including traditional health systems’) understanding of the salience/consequences of passage of “Dhat”/semen/whitish discharge • The belief (that the passage of “Dhat”/semen/whitish discharge has led or can potentially lead to serious health consequences) is not of delusional intensity • The duration of the disturbance is at least 1 month
Operational criteria for Dhat syndrome in females^[40]
• Presence of whitish, odourless vaginal discharge • Local examination and/or laboratory finding not suggestive of infective/local pathology • Presence of somatic symptoms in the forms of aches and pains, weakness, fatigue; mental and psychological symptoms, cognitive symptoms like poor concentration and subjective memory complaints. Depending on the nature and severity of the symptoms patients may fulfil an independent psychiatric diagnosis

- Patients attribute somatic and mental symptoms to passage of whitish vaginal discharge
- Persistent preoccupation/presence of worry about the loss of genital secretion

Instruments for Assessment of Dhat Syndrome

Prior to 2013, only a few questionnaires/interview scheduled were available for assessment of Dhat syndrome. One of such instruments was Dhat syndrome interview schedule.^[51] However, in the last one and half decade, few instruments have been developed to assess Dhat syndrome. These include Dhat Syndrome Questionnaire, Scale for Assessment of Female Dhat Syndrome (SAFED) , Dhat Disorder Diagnostic Interview (Prakash et al., 2016), and Dhat Syndrome Severity Scale (Table-8). These instruments have been used in recent studies that have assessed Dhat syndrome, both in males and females.

Table-8: Questionnaire/Instruments for Assessment of Dhat Syndrome

Questionnaire/ Instruments	Brief Description
Dhat Syndrome Questionnaire (DSQ) [47]	• A multi-format tool (translated into 10 Indian languages) • Assesses Dhat syndrome under the following broad headings: ✓ <i>Characteristics of Dhat Syndrome</i> ✓ <i>Situations in Which There Is Passage of Dhat</i> ✓ <i>Reasons for the Passage of Dhat</i> ✓ <i>Consequences of Passage of Dhat</i> ✓ <i>Accompanying Symptoms</i> ✓ <i>Help Seeking and Treatment Related Beliefs</i> • Self-rated instrument, that can be completed by the patient in about 10-15 minutes • Has good face validity • Was used in the multicentric study
Scale for Assessment of Female Dhat Syndrome (SAFED) [38]	• Female version of the Dhat syndrome questionnaire • Assesses Female Dhat syndrome under the following broad headings: ✓ <i>Characteristics of Dhat Syndrome</i> ✓ <i>Situations in Which There Is Passage of Dhat</i> ✓ <i>Reasons for the Passage of Dhat</i> ✓ <i>Consequences of Passage of Dhat</i> ✓ <i>Accompanying Symptoms</i> ✓ <i>Help Seeking and Treatment Related Beliefs</i> • Self-rated instrument, that can be completed by the patient in about 10-15 minutes • Has been used three previous studies
Dhat Disorder Diagnostic Interview [49]	• It is a seven-question structured interview focused on diagnostic criteria for Dhat syndrome over the preceding weeks. • Clinician administered interview
Dhat Syndrome Severity Scale (DSSS) [49]	• The scale begins with a description of the belief and its cause over the last week, followed by questions to rule out alternative causes of discharge and mode of passage of Dhat • Health Belief: 25 health belief dimensions, rated from 0-3

	Associated symptoms: 139 symptoms, and overall distress and dysfunction, rated on a scale of 0 to 3
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Course and Outcome

Very few studies have prospectively followed patients with Dhat syndrome and have evaluated their outcomes. In a follow-up study, authors evaluated the diagnostic stability and long-term outcomes of 36 patients with "pure" Dhat syndrome (cases without concurrent psychiatric comorbidities). At the mean follow-up duration of 6 (SD: 3.5) years, approximately two-thirds of the cohort no longer met the criteria for Dhat syndrome at follow-up. A small proportion of the patients had a change in diagnosis, and the most frequent secondary diagnosis in these patients was somatoform disorder. About one-fourth (26%) of the total sample achieved complete remission. The authors concluded that "pure" Dhat syndrome is not a diagnostically stable condition for the majority of patients, and it would be more accurately conceptualized as a somatoform disorder expressed through culturally specific idioms of distress.^[52] In another study, authors evaluated the treatment patterns, follow-up adherence, and treatment satisfaction of 64 patients with Dhat syndrome after 6 months of baseline assessment. Over the six-month period, participants attended an average of 3.81 (SD: 3.06) visits. At six months, 21.9% of patients had recovered, 32.8% showed improvement, and 45.3% reported no change. After six months, the cohort was categorized into three groups: treatment completers (n=23), early drop-outs (n=14), and late drop-outs (n=27). A significantly higher proportion of treatment completers (52.2%) sought psychiatric care on their own initiative, compared to only 7.1% of early drop-outs. Completers also demonstrated superior sexual knowledge and more positive attitudes toward sex than the late drop-out group. Only 34.4% of subjects were fully satisfied with their treatment, with the highest satisfaction levels reported among those who completed the treatment protocol. This study showed that there are high rates of treatment attrition among patients with Dhat syndrome. These findings highlight a critical need for clinicians to reorient their approach to better engage these patients and address their specific expectations and needs.^[48]

Management of Dhat Syndrome: Available Evidence

Although the concept of Dhat syndrome has been in clinical practice for more than 65 years, there has not been a single randomized controlled trial for evaluation of any kind of interventions for management of Dhat syndrome. However, there are lots of recommendations by many clinicians for the management of Dhat syndrome. Most of the recommendations include providing proper sex education and clarifying the myths.^[3] A small sample study evaluated the feasibility of a Cognitive Behavior Therapy (CBT) module for patients with Dhat syndrome. Initially, the authors developed a draft module based on existing theoretical knowledge and suggestions from five mental health professionals. This module was then applied to five patients with Dhat syndrome. The module consisted of 15 sessions, with the first 2 sessions focusing on assessment, sessions 3 and 4 focused on socializing the patient about CBT, sessions 4 and 5 focused on basic sex education, and sessions 6 to 15 focused on cognitive restructuring. In addition to the sessions, the patients were asked to practice relaxation exercises, and masturbation at home. Additionally, as per the requirement, the patients were asked to practice Kegel's exercise, stop and start technique, and squeeze technique.^[53]

A few studies suggest that antidepressants and anti-anxiety agents can also be helpful.^[11,12] However, it is important to note that these agents have been evaluated systematically for making specific recommendations.

Regarding patient expectations for treatment, research using the DSQ and SAFed scales highlights significant trends in how individuals with Dhat perceive necessary interventions.^[31,38] A majority of patients view blood and urine investigations as essential. More than two-third to all respondents (69.2 to 100%) consider investigations as "very essential"; 54.4%–100% have previously undergone laboratory investigations. In terms of previous help-seeking, 34.4% to 64.3% have consulted Vaid/Hakim; 33.7% to 77.1% have Unani, Ayurvedic or homeopathic doctor; 2.9% to 20.4% have consulted traditional sex specialist; 31.2% to 61.1% have consulted an MBBS doctor; 30.4% to 47.1% of females with Dhat syndrome have consulted a gynaecologist; 8.9% to 20.4% have consulted surgeons; 0 to 9% have consulted a skin specialist; 15.6% to 23.2% have consulted another mental health specialist; and 0 to 39% have consulted others, such as quacks.

Irrespective of the gender, the majority of the patients believe that taking energizing medications (like vitamins/tonics/tablets) (22.9% to 66.7%), or energizing injections (22.9% to 52.2%). Some of the patients also believe that taking medications that can increase or decrease sexual desire, medications that reduce infection, and medications used for the treatment of mental problems can be helpful. Less than one-third of the patients believe that talking to a doctor (counselling) may be beneficial. Additionally, more than one-third of patients, irrespective of gender, believe that dietary change may be useful (Table-8).

Table-8: Assessment and Treatment Expectations for Patients with Dhat Syndrome

Variables	Grover et al, 2016 N=780 ^[26]	Grover et al, 2014 N=54 ^[47]	Grover et al, 2015 N=26 ^[38]	Mehra et al, 2021 N=69 ^[39]	Joshi et al, 2022 N=70 ^[37]
	Males		Females		
Opinion about need for investigations of blood and urine					
Very essential	70.6%	72.2%	69.2%	85.5%	100%
Less essential	16.7%	18.5%	11.5%	11.6%	0
Not at all	12.7%	9.3%	6.2%	2.9%	0
Ever underwent any investigations of blood and urine for Dhat	54.4%	-	100.0%	58.0%	100%
Prior consultations for the problem of Dhat					
Vaid, Hakim	34.4%	57.4%	-	49.3%	64.3%
Unani, Ayurvedic or homeopathic doctor	33.7%	46.3%	-	36.2%	77.1%
Traditional sex specialist	20.4%	13%	-	-	2.9%
MBBS doctor	31.2%	61.1%	-	53.6%	37.1%
Gynecologists	-	-	-	30.4%	47.1%
Surgeon	8.9%	20.4%	-	10.1%	-
Skin specialist	9.2%	5.6%	-	-	-
Mental health specialist (psychiatrist)	15.6%	22.2%	-	23.2%	-
Others, such as quacks	9.0%	11.1%	-	39.1%	0.0%
Opinion regarding treatment for Dhat					
Change in food	33.7%	37.0%	34.6%	55.1%	8.6%
By taking energizing medications like vitamins/tonics/tablets	49.1%	57.4%	42.3%	66.7%	22.9%

By taking energizing injections	38.2%	46.3%	3.8%	52.2%	22.9%
By taking medications which can increase the sexual desire	17.4%	53.7%	0.0%	27.5%	0.0%
By taking medications to reduce infection	10.8%	31.5%	19.2%	44.9%	25.7%
By taking medications used for treatment of mental problems	22.8%	55.6%	23.1%	31.9%	4.3%
By taking treatment from gynaecologist	-	-	34.6%	59.4%	72.9%
Consultation and discussion with a doctor	60.9%	75.9%	23.1%	56.5%	30.0%
There is no treatment	7.3%	5.6%	7.7%	13.0%	4.3%
Medications to reduce sexual desire	16.2%	-	3.8%	17.4%	4.3%
By talking to doctors, that is, counselling	33.6%	-	15.4%	15.4%	2.9%
Others	2.7%	-	-	5.8%	1.4%

Assessment

Effective management of Dhat syndrome requires a thorough assessment of patients presenting with the complaint of Dhat syndrome. The assessment should extend beyond mere symptom identification. The first step in assessment is proper history taking. The majority of patients with Dhat syndrome often seek help alone. However, occasional patients may come with a family member. While evaluating a person with Dhat syndrome, basic principles of assessment of a person with a sexual problem should be followed (Table-10). Ensure that the interview is conducted in a room that provides privacy and is conducive to sensitive conversation. Depending on the gender of the patient and the clinician, a chaperone needs to be arranged. While talking to the patient, the clinicians should preferably talk in the patient's preferred language and should use terminology that the patient can understand. To facilitate this, while assessing a patient, right at the beginning, the clinician should state that *"it is possible that some of the things I say may not be clear to you, similarly, some of the things that you say may not be clear to me, hence, both of us can seek clarification from each other"*. This often helps the patient to question the clinicians if they end-up using technical jargon. While evaluating a patient, stating things like these problems are common and addressable could help to build a therapeutic alliance with the patient. The clinicians should also acknowledge that they understand the difficulty of the patient in talking about these topics, which are very personal to them. Accordingly, clinicians should anticipate embarrassment and validate the emotional distress of the patient right at the beginning of the assessment. Clinicians should use empathetic, grounding language, such as - *"I know talking about these intimate issues can feel uncomfortable, but I appreciate your openness. Everything you share is confidential. Many people experience these concerns, and my goal is to figure out exactly what is happening with you, so that we can help you regain your health and peace of mind."*

If required, the clinicians can use anatomical drawings and audio-visual aids to understand the problem and also identify the sexual knowledge gap.

The conversation should usually start with broad, non-threatening questions before moving to intimate details. While evaluating, the clinicians should not assume anything about patients' sexual orientation, number of partners, or sexual practices. These should be explicitly assessed. If the patient comes with a partner or a family member, initially, the patient should be interviewed alone, and consent of the patient must be obtained to speak to the accompanying person.

While evaluating a person with Dhat syndrome, it is important for the clinician to understand the deeply ingrained misconceptions regarding semen loss or vaginal discharge, including its

perceived causes, the intensity of those beliefs, and the patient's distress related to the semen loss or vaginal discharge. It is important to recognise that these patients often feel a profound sense of failure, shame, or physical deterioration. Clinicians should gently ask the patient to describe the perceived semen loss (e.g., during urination, defecation, or sleep) and vaginal discharge, situations in which it occurs, frequency, and duration. It is also important to identify specific gaps in knowledge and negative attitudes toward sex, masturbation, and seminal fluid. Validated tools to capture the specific cultural beliefs, extent of symptom severity, and associated somatic complaints can be used to facilitate detailed evaluation. Use these tools to identify the exact misconceptions the patient holds (e.g., the belief that "one drop of semen requires forty drops of blood to produce"). Identifying these specific myths is essential, as the cornerstone of treating Dhat syndrome is psychoeducation, which involves replacing cultural myths with factual, anatomical reality. While assessing sexual myths, it is also important to understand the source of such information. This is important because many a time, quacks and faith healers are often responsible for imposing these myths or reinforcing these myths.

History-taking should also capture the age of onset, the breadth of symptoms, and the patient's specific causal attributions (e.g., viewing semen loss as the direct cause of somatic complaints).

Clinicians must document the frequency, quantity, and specific triggers of semen loss or vaginal discharge, alongside the patient's understanding of semen physiology. Furthermore, it is vital to assess longitudinal changes in sexual practices, sexual performance, and the frequency of nocturnal emissions.

While evaluating a patient with Dhat syndrome, it is important to focus on the patient's sexual knowledge, myths, or unrealistic expectations. Similarly, it is also important to explore how the patient's cultural or religious beliefs impact their perception of their symptoms. While assessing, it is also important to understand the factors that motivated the patient to seek help and what are the expectations of the patient from the treatment. The clinicians should also focus on assessing the psychological sophistication of the patient, and at the end of the assessment, should be able to make a rough idea about the same.

It is also important to enquire about erectile function, premature ejaculation, masturbation habits, and sexual fantasies, noting what triggers performance anxiety. In females, it is important to evaluate the association of vaginal discharge with the different phases of the menstrual cycle, pregnancy, physical activity, and the use of external irritants (specific soap, bubble baths, feminine hygiene sprays, douching, etc.).

As a significant proportion of patients with Dhat syndrome are married, it is also important to evaluate the relationship quality, communication barriers with partners, and cultural/familial expectations regarding masculinity and reproduction. Identify predisposing, precipitating, and maintaining factors, such as occupational stress, sexual guilt, or traumatic past experiences.

Patients with Dhat syndrome often experience severe anxiety and fatigue rooted in the cultural belief that the loss of semen (typically in urine or nocturnal emissions) causes physical and mental decay. Besides sexual symptoms, patients with Dhat syndrome usually present with somatic, anxiety, depressive, cognitive, and behavioural symptoms (Table-11), these should not be dismissed and should be given due importance, and the patient should be thoroughly evaluated for a comorbid psychiatric disorder, especially depression, generalized anxiety, and hypochondriasis. The sexual symptoms may include a change in the masturbatory or sexual practices to conserve semen, masturbatory guilt, pain or problems

during sexual intercourse, distress related to having night falls, premature ejaculation, erectile dysfunction, and perceived change in the size of the genitals. In general, besides the usual affective and anxiety symptoms, patients may express apprehension and worries related to sexual issues (related to future sexual performance, fathering a child, becoming impotent, etc.), irritability, and anxiety. The somatic symptoms include generalized weakness, body aches, lethargy, low energy, tiredness, listlessness, burning micturition, turbid micturition, night falls, etc. Regarding behavioral change, the patients usually report being withdrawn, having reduced sleep, reduced appetite, reduced libido, a change in masturbatory or sexual practices to conserve semen, etc. These patients also have significant depressive cognitions or cognitive errors in the form of preoccupation with semen loss, negative views about the future, catastrophization, preoccupation with change in their appearance, etc. Patients also complain of neurocognitive symptoms such as poor attention and concentration, forgetfulness, and their brains not functioning properly due to semen loss. Women with vaginal discharge may be worried about pelvic pain, menstrual irregularities, and premenstrual irritability, as well as somatic concerns such as the perceived loss of vitality and facial aesthetic.

It is also important to evaluate alcohol and recreational drug use, which can exacerbate sexual dysfunction and mood symptoms.

Proper evaluation also requires distinguishing the patient's culturally bound psychological distress from any genuine organic pathology (such as urinary tract infections or true erectile dysfunction). It is also important to recognise that many patients with Dhat syndrome may have a genuine infection. Hence, the presence of an evidence for infection should not lead the clinician to rule out Dhat syndrome. In such a scenario, the person should be re-evaluated after the treatment of urinary tract infection or genital infection for the possibility of Dhat syndrome.

It is also important to focus on the history of endocrine disorders, urological trauma, or chronic diseases (e.g., diabetes mellitus) that could cause retrograde ejaculation or cloudy urine (Table-12). Additionally, the clinicians should focus on dietary patterns (high intake of meat and dairy), as foods with high phosphorous intake can lead to phosphaturia. Additionally, while history taking clinicians should also rule out prostrate-related issues (prostatitis, prostate cancer), neuropathy and neuronal injuries, and renal stones.

Other differential diagnoses that require consideration in patients with possible Dhat syndrome should include evaluation for post-orgasmic illness syndrome (POIS) and Koro. POIS is defined by the onset of flu-like symptoms immediately following ejaculation, whether caused by masturbation, intercourse, or spontaneous ejaculation. Patients often report extreme fatigue or exhaustion, muscle weakness, mood disturbances, and cognitive impairment. Additional symptoms may include perspiration, feverishness, nasal congestion, rhinorrhea, and itchy eyes. These symptoms manifest within seconds to hours post-ejaculation after 90% of the ejaculations, and typically persist for 2 to 7 days before resolving spontaneously. It is considered to be an autoimmune reaction to semen.^[54] Presence of flu-like symptoms such as fever, rhinorrhoea, occurring in an episodic pattern, and linked to ejaculation provides a clue for this diagnosis. Koro is characterised by fear of shrinkage/retraction of genitalia into the body, with associated fear of death due to the same. One more important issue, especially among patients with psychiatric disorders who are on psychotropic medications, is to evaluate for retrograde ejaculation, as this can also at times lead to turbid urine.

Similarly, while evaluating vaginal discharge in females, it is important to rule out infection, allergic reactions, and pelvic disorders (Table-12).

It is also important to understand the patient's expectations in terms of treatment, i.e., they want medications or psychological intervention. Failing to address these expectations often leads to high treatment attrition.

A thorough physical examination is vital, not only to rule out organic causes but to serve as a powerful tool for patient reassurance. In males, assess the size and structure of the penis and testes, check for discharge, and ensure normal urethral anatomy to reassure the patient of their physiological normalcy.

Urine analysis is crucial for ruling out infections, proteinuria, or phosphaturia (which can cause cloudy urine often mistaken for semen). In females with vaginal discharge, clinicians must prioritize the investigation of potential vaginal infections. Routine investigations such as haemogram, blood glucose levels, lipid profiles, and basic metabolic panels can be useful to rule out organic causes of their reported fatigue and weakness. Further specific investigations should be guided by findings from the history and physical examination (Table-13).

At the end of the assessment of a patient with Dhat syndrome, the clinicians should be able to rule out the organic causes of discharge and understand the predisposing factors (traditional cultural beliefs and values), precipitating factors, and the maintaining factors (such as myths, improper sex education) (Figure-2). Additionally, the clinicians should be able to figure out whether they are dealing with a person with Dhat syndrome alone, Dhat syndrome along with comorbid depressive and anxiety disorders, Dhat syndrome with comorbid sexual dysfunction, or Dhat syndrome along with both comorbid depressive and anxiety disorders, and sexual dysfunction (Figure-3, Table-14). Such an understanding is important, as these will guide the treatment.

Table-10: Basic Principles of Assessment of persons presenting with Dhat syndrome (Adapted from Avasthi et al, 2017)^[3]

Environment & Communication

- **Establish Comfort:** Conduct the assessment in a private, comfortable, and safe environment.
- **Empathic Approach:** Maintain a non-judgmental, empathetic and understanding demeanour throughout the assessment.
- **Language:** Communicate in the patient's preferred language. Use clear, simple, and neutral terminology. While using accurate medical terms (e.g., "penis", "vagina"), ensure that they are commonly understood; if you introduce new terms, define them and verify the patient's comprehension.
- **Audio-visual Aids:** Utilize anatomical drawings to clarify medical explanations and assess the patient's existing knowledge. These may be useful for patient to describe all the openings from where the dhat is passed.

Interview Techniques

- **Graduated Inquiry:** Begin with general, non-threatening questions (e.g., relationship status) before progressing to more intimate or potentially embarrassing topics.
- **Avoid Assumptions:** Never assume a patient's sexual orientation, number of partners, or specific sexual practices.

- **Individual Interviews:** When a patient presents with partner or a family member together, interview each person separately to ensure honest and accurate history taking.

Patient Reassurance & Normalization

- **Normalize the Experience:** Actively reassure the patient that sexual dysfunction is common and treatable (e.g., "It is common for many people to experience...").
- **Assess Expectations:** Evaluate whether the reported "problem" stems from a lack of sex education or unrealistic expectations rather than actual dysfunction.

Safety & Ethics

- **Chaperone Policy:** Always conduct physical examinations in the presence of a attendant or relative when examining a patient of the opposite gender.

Comprehensive Assessment

- **Contextualize:** Recognize that sexual issues are often multifactorial. Screen for co-existing issues, including relationship discord, psychiatric conditions (e.g., anxiety, depression), or physical illnesses.
- **Cultural Awareness:** Carefully consider how religious and cultural beliefs shape the patient's perception of sexual health.
- **Clinical Goal Setting:** Assess the patient's psychological sophistication and motivation for treatment to help prioritize and structure therapeutic goals effectively.

Table 11: Common Symptoms Observed in Patients with Dhat Syndrome

Symptom Category	Manifestations
Affective	Sadness, anxiety (generalized or performance-related), apprehension regarding sexual health/future, irritability, and anhedonia.
Somatic	Generalized weakness, fatigue, lethargy, various body/joint aches, headaches, dizziness, palpitations, shortness of breath, gastrointestinal distress (constipation/diarrhoea/nausea), and urinary symptoms (burning or turbid micturition).
Cognitive	Forgetfulness, poor concentration/attention, and subjective mental fatigue.
Thoughts	Preoccupation with semen loss and appearance changes, negative outlook, catastrophization, and depressive cognitions.
Behavioral	Social withdrawal, disturbed sleep patterns, appetite changes, and variations in libido.
Sexual	Preoccupation with semen conservation, masturbatory guilt, erectile dysfunction, premature ejaculation, concerns regarding genital size, and distress related to nocturnal emissions (<i>night falls</i>).

Table-12: Differential Diagnosis of Dhat^[55,56]

Dhat Syndrome in males	Dhat Syndrome in females
• Post-orgasmic illness syndrome: flu-like symptoms post-ejaculation, start within 30 minutes of	• Infection • Medications: Antibiotics or steroids can sometimes kill

ejaculation, peak around 12–48 hours after, and can last up to 7 days • Infection • Sexual arousal • Phosphaturia: Eating large amounts of foods high in phosphorus (like meats and dairy) or taking certain vitamin supplements can alter your urine's chemical balance and pH, making it cloudy • Prostate related issues: prostatitis, prostate cancer • Diabetes mellitus: excess protein or sugar to leak into your urine, resulting in a hazy or foamy appearance • Neuronal injury or neuropathy: diabetes mellitus, stroke, multiple sclerosis • Renal stones • Koro: belief that one's external genitalia are shrinking • Antipsychotic associated retrograde ejaculation	beneficial bacteria, triggering a yeast overgrowth • Allergic reaction: soaps, bubble baths, lubricants, or douching can disrupt vaginal flora, leading to inflammation and abnormal discharge • Sexual arousal • Pelvic disorders
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Table-13: Assessment for patients with Dhat Syndrome (Adapted from Grover, 2024)^[57]

History Taking	• Age of onset of symptoms • Symptoms: Affective, Somatic, Behavioural, Depressive cognitions, Neurocognition, Sexual • Attribution of symptoms • Frequency of semen loss • Consistency and quantity of semen loss/vaginal discharge • Relationship of vaginal discharge with menstruation cycle (for females) • Beliefs & Myths related to semen loss/vaginal discharge (reasons for passage of Dhat): excessive masturbation, excessive sexual intercourse, due to sexual intercourse with a woman while she was menstruating, premarital sexual intercourse, due to sexual intercourse outside wedlock, homosexual relationship, sexual intercourse with commercial sex workers, sexual intercourse in an unnatural way, sexual dreams, low/excessive sexual desire, lack of indulgence in masturbation, eating unbalanced food/absurd food, excessive eating, wrong deeds of past life, lack of sleep/improper sleep, constipation, worm infestation of the gastrointestinal tract, urinary infection or problems of the urinary tract, hereditary reasons (because others in family also suffer from the same problem) • Knowledge about how semen formation occurs • Source(s) of information about semen formation: peers, family members, faith healers
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	• Situations in which they experience loss of Dhat: micturition, defecation, night falls/nocturnal emissions, passive stimulation, sexual intercourse • Sexual practices (masturbation/sexual intercourse), including change in the sexual practices with the emergence of features of Dhat syndrome • Sexual encounters and performance • Childhood sexual history: Childhood and adolescent sexual learning and activities • Current sexual practice: Childhood and adolescent sexual learning and activities • History of night falls and patient's understanding of reasons for the same • Perceived consequences of loss of Dhat: weakness in sexual ability, negative impact on physical appearance, malformation of children, more chances of having a female child, early death • Comorbid sexual dysfunction: premature ejaculation, erectile dysfunction, change in the size of the genitals • Other negative sexual consequences: thinning of semen, reduction in the quantity of semen • Comorbid psychiatric disorders: depression, dysthymia, mixed anxiety and depressive disorder, adjustment disorder, somatoform disorder, generalized anxiety disorder, obsessive-compulsive disorder, and other anxiety disorders • Comorbid physical diseases: diabetes mellitus, renal stones, neuropathy, prostate ailments • Flu-like symptoms immediately after ejaculation • Dietary pattern: attribution of symptoms of any particular type of diet and intake of dairy and meat products • Help-seeking behavior: Previous consultations with faith healers, traditional practitioners, or non-medical sources • Life stresses: Recent life stress, Current life stress, Losses • Pathways to care • Expectations from treatment: Need, Expectations, Priorities, Treatment preferences • Impact on daily functioning: Impairment in occupational or academic performance • Social impact: Avoidance of social gatherings, marital strain, or impact on family relationships
Physical Examination	• General physical examination to rule out any possible physical illness • Genital examination for any infection, size of genitals (for males)
Mental Status Examination	• Evaluation of mood, affect, and anxiety levels • Presence of somatic preoccupation or hypochondriacal ideation • Assessment of cognitive distortions related to semen loss • Suicidal ideation (if depressive symptoms are severe)

Scales for detailed assessment of Dhat Syndrome	• Dhat Syndrome Questionnaire (DSQ) • Scale for Assessment of Female Dhat Syndrome (SAFED) • Dhat Disorder Diagnostic Interview • Dhat Syndrome Severity Scale (DSSS)
Scales for comorbidities	• Depression: Patient Health Questionnaire- (PHQ-9), Beck Depression Rating Scale (BDI), Hamilton Depression Rating Scale (HDRS), Hospital Anxiety Depression Scale (HADS) • Anxiety: Generalized Anxiety Disorder-7 (GAD-7), Hamilton Anxiety Rating Scale (HARS) • Sexual Dysfunction: Arizona Sexual Experience Scale (ASEX), Change in Sexual Functioning Questionnaire (CSFQ), Female Sexual Function Index • Erectile Dysfunction: International Index of Erectile Function • Premature Ejaculation: Premature ejaculation diagnostic tool
Scale for assessment of knowledge & attitude	• Sexual Knowledge and Attitude Questionnaire
Investigations	• Urine examination: Routine & Microscopy to rule out urinary tract infection; for females rule out vaginitis and other infections • Other investigations: guided by the history and physical examination (e.g., blood glucose for erectile dysfunction, semen analysis if infertility is a concern, or STI screening)
Liaison with other specialist	• Urologist/Endocrinologist/Gynaecologist

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Table-14: Factors Contributing to Dhat Syndrome

Factor Type	Description / Contributing Elements
Predisposing Factors	• What kind of conservative or traditional views on sexuality are held by the patient? • What kind of cultural/familial belief systems (e.g., equating semen/fluid loss with loss of "vitality") that are influencing the current belief system? • What kind of locality does the patient comes from? • What is the socioeconomic background? • Are the patient's beliefs linked to morality, guilt, sin, or failure to uphold discipline (e.g., <i>brahmacharya</i>)?
Precipitating Factors	• Which benign physiological events (e.g., post-micturition dribbling, nocturnal emissions, cyclical vaginal secretions) have been misinterpreted by the patient? • How did the patient react initially the physiological misinterpretation- Initial onset of anxiety-related somatic symptoms (fatigue, palpitations, lethargy). • What kind of help was sought by the patient – was there any initial misdiagnosis or reinforcement of misinterpretation and beliefs by "quacks" or unlicensed practitioners?

Maintaining Factors	• Self-perpetuating feedback loop: did the initial anxiety lead to further distress and emergence of somatic symptoms, depressive symptoms, further worsening of anxiety, and hypochondriasis. • Lack of culturally responsive, accurate sex education. • Unintentional reinforcement by medical professionals (e.g., dismissing distress as a "physical mystery" or ordering excessive, unnecessary tests). • Delay in seeking appropriate psychosexual care.
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Liaison with other specialists

As per the requirement, it is important to liaise with other specialists, such as endocrinologists, urologists, and gynecologists, to rule out other possible causes of turbid urine and sexual dysfunction. Similarly, for patients with female Dhat syndrome, depending on the need, a close liaison with the gynecologists and endocrinologists needs to be done to rule out other possible causes of vaginal discharge. Involvement of other specialists should be guided by the presence of other comorbidities.

Treatment

Treatment of Dhat syndrome will require addressing the sociocultural factors influencing the core beliefs about the Dhat syndrome, comorbid psychiatric disorder, and sexual dysfunction, and associated medical issues. The overall scheme of treatment of Dhat syndrome is presented in Figure 4.

Treatment planning should take into consideration the expectations of the patients into account; otherwise, this can lead to early dropout from the treatment.

Non-pharmacological Interventions

Non-pharmacological treatment strategies in patients with Dhat syndrome include psychoeducation/sex education, supportive psychotherapy, cognitive behaviour therapy, relaxation exercises, and dietary advice. The pharmacological treatment may include non-specific medications such as nutritional supplements. Additional pharmacological treatment strategies are guided by the presence or absence of comorbid depression/anxiety and sexual dysfunction.

Psychoeducation/Sex Education for Patients with Dhat Syndrome

Providing comprehensive education on physiological functions and reproductive health is critical for debunking myths and mitigating patient anxiety.

Psychoeducation or sex education in the context of Dhat syndrome is understood as a structured, therapeutic intervention that provides individuals with factual information about semen formation/vaginal secretions, and clarifies the myths. It must be tailored to address the specific anxieties while promoting healthy sexual functioning. While providing sex education, it is essential to balance scientific information with an empathetic understanding of their cultural and personal distress. The goal is to move the individual away from the fear of physical depletion toward a perspective of sexual wellness and bodily confidence. Different components of sex education are outlined in Table-15. All the components may not be applicable in every patient, and the information sharing should be personalized as per the myths held by the patient. As in psychoeducation of other mental health condition, it is always a good idea to seek a feedback and understand the basic sexual knowledge of the patient,

myths related to semen formation, storage and expulsions; semen is a source of vitality; relationship of semen loss/vaginal discharge with somatic, cognitive, affective, and anxiety symptoms; relationship of semen/vaginal discharge with food intake; association of night falls/vaginal discharge and urge to masturbation with body heat, etc. Additionally, issues with sexual knowledge and attitude could be understood by reviewing the sexual knowledge and attitude questionnaire.

The basic things to remember while providing information to the patient are being empathetic and non-judgmental. As patients with Dhat syndrome often feel shame or fear, a safe, welcoming environment provides them a safe space to discuss their concerns and lowers their anxiety. It is important for the clinician to respect the culture of the patient, and not mock or dismiss the fears of the patient. Using an individualized approach, clinicians should use clear, simple explanations to teach how the body actually works, specifically separating sexual functions from digestive processes. Clinicians clarify that reproductive fluids are produced continuously by the body and that normal processes like masturbation or nocturnal emissions do not "deplete" one's overall health or strength (Table-15 & 16). For patients avoiding masturbation due to fear of loss of vital fluid, it is important to explain to them how masturbation can help their overall well-being, and sexual desires. By using diagrams and simple language, the clinician should provide the patient with a new, evidence-based way to understand their own bodily sensations. As the myths associated with Dhat are highly ingrained in the cultural and societal beliefs, it is essential to acknowledge the patient's worldview while gently introducing scientific facts. When the explanation aligns with the patient's existing value system, they are much more likely to trust the diagnosis and follow the recommended treatment plan. Based on the specific myths (Table-16), factual information needs to be shared. The sex education/psychoeducation can be done over multiple sessions (Table-15).

For women experiencing Dhat syndrome, psychoeducation should focus on providing a clear, evidence-based understanding of sexual anatomy. Using visual aids like charts, diagrams, and videos, the sessions should explain the nature and function of normal vaginal discharge. It is essential to educate patients on the factors that cause healthy, non-pathological variations in discharge and to address the specific cultural myths that link these natural processes to physical depletion or disease.

If a patient has a partner and Dhat syndrome is leading to conflict or intimacy issues, involving the partner in psychoeducation can be helpful. The partner can also learn about the facts about Dhat syndrome, which can reduce their own frustration and help them to support the patient. This can also help to reduce performance anxiety.

Table-15: Sex Education for Patients with Dhat Syndrome (adapted from Avasthi et al, 2017)^[3]

Aims of Sex Education in Dhat Syndrome

- **Provide factual information:** The goal is to provide accurate information about reproductive physiology to help alleviate the patient's anxiety and address the underlying psychological distress through counselling or appropriate psychiatric support
- **Normalize the Experience:** Help the individual understand that nocturnal emissions and the physiological processes of the body are natural, healthy, and not indicative of

a loss of "vital energy" or physical deterioration. Validate that many others share these same fears and misconceptions.

- **Reduce Anxiety and Dispel Myths:** Directly address the myths surrounding semen loss or vaginal discharge. Provide accurate, evidence-based information regarding the production of semen, arousal, and the body's ability to replenish itself, thereby replacing fear-based misconceptions with biological reality. Similarly, for females inform that fluctuation in the vaginal secretions during the different phases of menstrual cycle, pregnancy, and sexual excitement

Components of Sex Education for Dhat Syndrome

Information about Anatomy:

- Explain the anatomy and physiology of the reproductive system.

Information about Sex Physiology:

- Detail the biological process of semen formation, storage, and natural discharge (including nocturnal emissions/night falls). For females, detail the biological process of vaginal secretion formation, change in the quantity and consistency of secretions in different phases of menstrual cycle and life stages and these being physiological.
- Explain that these processes are consistent with a healthy, functioning body and do not deplete one's strength or health.
- Provide clear information on the normal sexual response cycle and the normalcy of masturbation as a physiological outlet.

Address myths related to diet

- Provide clear information about a lack of association of semen formation and seminal discharge with any particular type of food.

Address myths related to bowel habits and constipation

- Provide clear information about lack of connection between bowels and the reproductive system except for compression effect of hard stools on release of secretions of prostate gland and seminal vesicles at the end of micturition or defecation. This does not have sperm and does not lead to any loss of vital semen or reproductive strength

Addressing Sexual Desires and Variability:

- Educate the individual/couple on the wide variation in sexual desire and frequency among healthy individuals.
- Emphasize that fluctuating levels of desire are normal across the lifespan.

Communication and Relationship Dynamics:

- Encourage the couple to communicate openly about their sexual needs and desires, helping to remove the stigma often associated with sexual talk.
- Provide tools for initiating intimacy and, conversely, for refusing sex diplomatically, ensuring that both partners understand that a refusal is not a personal rejection.

Planning Intimacy:

- Discuss the importance of planning time for intimacy, allowing couples to enjoy each other's company without the pressure of sexual performance or the anxiety surrounding "semen loss."
- Discuss sexual play and the role of manual or oral stimulation, emphasizing that these forms of intimacy are valid, healthy, and do not equate to a "lack of love" for one's partner.

Promoting Healthy Sexual Satisfaction:

- Encourage the couple to communicate their specific needs for arousal and the types of stimulation they prefer.
- Educate on the nuances of the sexual response cycle, including preferences before, during, and after orgasm, ensuring that both partners feel comfortable and respected.
- Discuss the variability in female sexual response, including the potential for multiple orgasms, to foster a deeper understanding of mutual sexual satisfaction.

Table-16: Addressing myths of patients with Dhat Syndrome

Myth	Fact
Semen is a source of vitality (e.g., 40 drops of bone marrow make a single drop of <i>safed panni</i>) Vaginal fluid is a source of vitality (e.g., 100 drops of blood make a single drop of <i>safed panni</i>)	Semen does not contain physical energy or vitality. Vaginal fluid does not contain physical energy or vitality.
Semen is finite and will end if a person continues to ejaculate	The body constantly produces sperm and seminal fluid. It does not store a "fixed" amount of semen that is depleted by ejaculation. The production process continues regardless of whether an individual engages in sexual activity. Body is not like a storage tank that runs out, but is like a river. It is constantly flowing and regenerating. The fluids produced by your body are naturally replenished by your nutrition and overall health. They are not 'drained' away in a way that depletes your core strength.
Semen/vaginal fluid are formed from food via a complex process.	There is no direct biological relationship between food intake and semen production. Note: High consumption of dairy and meat can sometimes lead to turbid urine, which is often misinterpreted as semen.
Milky urine indicates semen loss	Milky urine is caused by various common physiological or pathological factors, and not by the presence of semen.
Semen is "wasted" through urine	Urine does not contain semen. The turbidity of urine could be due to many reasons, with secretions from different part of the genital tract contributing to the same
Semen is "wasted" through masturbation	There is no scientific evidence to support the idea that ejaculation leads to muscle loss, physical frailty, or "nervous weakness." Masturbation can improve overall well-being
Semen is "wasted" through night emissions	The reproductive system is designed to produce semen constantly. If it is not released through voluntary sexual activity or masturbation, the body may release it involuntarily during sleep to maintain balance.

	Sexual dreams or accidental pressure or friction from bedding or clothing while sleeping can sometimes trigger the reflex leading to nocturnal emissions.
Excessive 'body heat' leads to frequent night falls or excessive masturbation	The frequency of night falls and masturbation is not related to 'body heat' Nocturnal emissions are a normal, spontaneous physiological mechanism. They occur when the body releases stored semen, often during REM sleep, in the absence of voluntary sexual activity. They are driven by hormonal fluctuations (primarily testosterone), natural variations in sleep cycles, and the body's homeostatic regulation of the reproductive system and not by temperature. There is a normal vaso-congestive response of the body during arousal and this is not a pathological state that requires cooling or "release."
Loss of heat from the body would result in weakness or other serious health problems.	During sexual arousal or activity, blood flow increases to various parts of the body, which can make the skin feel warmer. After sexual release, the body enters a relaxed state during which the body returns to the baseline state—it is a sign of recovery, not depletion. Chronic anxiety can cause physical sensations like "flushing," "burning," or "heat" in the skin or gut. Patients may mistake these stress responses for a loss of body energy
Semen loss causes physical and mental illness.	Semen loss does not lead to physical weakness, infertility, sexual dysfunction, hair loss, or weight loss. There is no scientific evidence linking the loss of semen to physical or mental health deterioration.
Masturbation physical and mental illness.	There is no link between masturbation and psychiatric disorders, cognitive impairment, or nervous system issues.
Excessive masturbation or night falls can lead to birth of more female offspring's	The gender of the offspring's has nothing to do with masturbation and night falls
Masturbation & Indulging in sexual activity is sin	Sexual urges and the physiological processes of the reproductive system are biological functions. Indulgence in masturbation or sexual activity does not reflect the moral values of a person.
Premarital sexual activity can lead to exhaustion of semen in the long run	The male body produces sperm and seminal fluid continuously. It is not a finite resource, and there is no "reservoir" that can be permanently depleted by sexual activity or ejaculation.

	After ejaculation, the body immediately begins the process of replenishing the fluid and sperm. This is a standard, ongoing biological function that occurs throughout a man's life. Frequent ejaculation does not reduce your general capacity for semen production or lead to any form of permanent "loss." Regular ejaculation can be beneficial for sperm quality as it helps remove older sperm and reduce oxidative stress within the reproductive tract.
Sexual desires are wrong	Sexual desire is a basic human biological drive, regulated by hormones (like testosterone) and the central nervous system. Healthy sexual expression is part of overall well-being. Engaging in sexual activity does not reduce one's future sexual ability or stamina.
Semen loss leads to sexual dysfunction or infertility.	There is no evidence that loss of semen causes sexual problems or infertility.
Mucus coming out of anus is semen	Normally there is no connection between the urinary (genito-urinary) tract and the gastrointestinal tract
Straining during passage of stools leads to expulsion of semen through the urethra.	Straining while passing hard stool increases intra-abdominal pressure and leads to a mechanical compression on the prostate gland and seminal vesicles that leads to release of a small amount of normal prostatic fluid or urethral mucus at the end of micturition or defecation. This does not have sperm and does not lead to any loss of vital semen or reproductive strength
Constipation leads to generation of excessive heat in the Gastrointestinal tract, which leads to burning, thinning and melting of semen, that flows out	There is no thermal or metabolic effect of gastrointestinal transit time and bowel sluggishness on spermatogenesis or semen consistency. Variations in consistency of the normal secretions are purely physiological.
Constipation is responsible for the loss of dhat	There is no relationship of constipation with semen loss; the passage of secretions of prostate gland and seminal vesicles due to hard stools associated with constipation is due to compression effect. Comorbid depression and anxiety can frequently change the gut motility via the gut-brain axis, leading to functional gastrointestinal symptoms like constipation or Irritable Bowel Syndrome (IBS). Additionally, anxiety can lead to patients monitoring their stool and urine obsessively, misinterpreting normal physiological variations or mucosal discharges as evidence of organ failure or vital fluid loss.

Treatment requires only changes in diet or sexual behavior	Dietary change has no role in management of Dhat syndrome, except in situations where the patient is very distressed due to turbid urine as a result of phosphaturia related to excessive intake of milk products or meat. Change of diet may be useful in reducing the turbidity of urine, but it is not the definitive treatment
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Relaxation exercises

Incorporation of relaxation exercises in the management of Dhat syndrome is vital because significant proportions of the patients with Dhat syndrome have psychological distress, autonomic arousal, and muscle tension. These are often misinterpreted as evidence of "semen loss" causing physical weakness. Relaxation training helps interrupt the cycle of fear and physical depletion. Relaxation exercises lower the physiological markers of stress, thereby decreasing the patient's subjective feeling of "bodily drain." Relaxation training in the long run also helps the patient identify the physical tension, and distinguish it from true pathology, and enables them to manage their symptoms. It can also help in shifting the patient's focus from "somatic monitoring" (constantly checking for symptoms) to "somatic regulation." [1,56,58]

Relaxation training should start early during the management, and should accompany the psychoeducation, as it makes the person feel calmer, and resultantly they will be able to participate better in the psychoeducation sessions. The different relaxation techniques that can be used include Jacobson's Progressive Muscle Relaxation (PMR), Diaphragmatic Breathing, guided imagery, and mindfulness meditation.

JPMR is considered to be the gold standard, and this involves teaching the patients to tense and release muscle groups systematically (usually 2–3 times daily) to become hyper-aware of tension. This, in the long run, helps them to voluntarily induce a state of deep relaxation to counter anxiety. Breathing exercises can be beneficial to counter immediate spikes in anxiety or panic. By slowing the respiratory rate and promoting deep breathing, patients can physically calm their nervous system during moments of distress. The guided imagery helps the patients by providing a distraction from ruminative thoughts about sexual health or perceived physical decline. For maximum benefit, patients should be advised to practice these exercises 2–3 times daily on a regular basis, so that they can develop a long-term self-regulation skill rather than just a one-time relief mechanism.

Supportive Psychotherapy

Supportive psychotherapy should be an integral part of the management of Dhat syndrome, as it helps the patient to vent out their concerns, fears, and frustrations. By maintaining an empathetic, non-confrontational, and non-judgmental stance, the clinician creates a space where the patient discusses their sexual anxieties, nocturnal emissions, and bodily fears without fear of being labeled "ignorant" or "weak." The supporting psychotherapy also helps to build a therapeutic alliance and provides emotional safety to the patient to engage in the treatment. By acknowledging that the patient's distress is *real* (even if the underlying medical belief is inaccurate), clinicians can gain the trust required that is required to challenge the inaccurate beliefs during the cognitive behavioural therapy. The supportive psychotherapy can also help to reduce the pressure to perform and develop adaptive coping. In the context of management of Dhat syndrome, supportive psychotherapy should not be viewed as a

separate intervention; rather, it should be viewed as part of any kind of non-pharmacological intervention.

Dietary Advice

As is evident from the studies that have looked at the patients' understanding and expectations from the treatment, it is evident that patients with Dhat syndrome often look up to the clinicians for some dietary advice. The dietary advice can serve three main roles: general health restoration, stress reduction, and validating the patient's health goals without reinforcing the myth of "vitality loss." While discussing about the dietary issues, the clinicians should emphasize that the body does not lose critical vitamins or minerals through normal reproductive fluids. Accordingly, the dietary advice should focus on "fueling a healthy body." The clinicians in general should advice a balanced, nutrient-dense diet (whole grains, proteins, healthy fats, fruits, and vegetables) rather than "semen-boosting" or "heat-reducing" foods. Many patients with Dhat syndrome can have somatic symptoms in the form of "burning" in the stomach, indigestion, or a feeling of "drainage" in the gut. Accordingly, advising them to take gut-healthy foods can address these somatic complaints. Informing the patient that intake of regular, high-fiber meals, maintaining adequate hydration, and the inclusion of probiotics (like yogurt/curd) can help stabilize digestion and reduces the physical discomfort that the patient may be misinterpreting as a symptom of Dhat syndrome. Adequate hydration can help regulate the feeling of "body heat." However, it is important for clinicians to avoid the prescription of restorative tonics, and advising un-necessary dietary restrictions. The bottom line for dietary advice is to convey that "diet is fuel for well-being" and not a medicine for loss.

Psychosexual Therapy

Dhat syndrome is often accompanied by performance anxiety, premature ejaculation, and erectile dysfunction. Accordingly, managing Dhat syndrome is rarely just about addressing the patient's belief in "semen loss." Because this belief often causes high stress, it creates a "feedback loop": the anxiety triggers sexual problems (like premature ejaculation or erectile dysfunction), and these problems, in turn, reinforce the patient's fear that their body is failing. To break this loop, clinicians must treat both the fear and the physical symptoms simultaneously. Accordingly, incorporation of non-pharmacological measures to address these issues is also an important part of the whole package of non-pharmacological intervention. These can include Kegel's exercises, 'the squeeze technique' and 'the start-stop technique', depending on the accompanying comorbidity. Additional measures such as individual or couple counselling can be considered depending on the presence of relationship issues. The "stop-start" technique often helps the patient learn to recognize their own physiological signals and prolong the excitement phase. In the "Squeeze" technique, the patient or the partner is instructed that when the patient is close to the ejaculation, they should firmly squeeze the head (glans) of the penis for several seconds when the, until the urge to ejaculate passes. Weakness in pelvic floor muscles can contribute to both erectile dysfunction and difficulty in controlled ejaculation. Kegel's exercises can help to strengthen the weak pelvic floor muscles. Over time, these strengthen the support structure for the genitals, improving blood flow, erectile quality, and voluntary control over ejaculation^[56]. Among females, additionally, these can help to enhance the orgasmic response and reduce sexual pain (dyspareunia). For details of all these therapies the readers can refer to the clinical practice guidelines addressing the specific psychosexual disorders.

Cognitive Behavior Therapy

Some of the authors have developed cognitive behaviour therapy modules for the management of Dhat syndrome and reported this to be beneficial in a small open label study. The focus is on addressing the core misconceptions, anxiety, and sexual dysfunction. It involves 15 sessions, with initial sessions focusing on assessment, followed by psychoeducation, cognitive restructuring, relaxation exercises, non-pharmacological measures for associated sexual dysfunction (Kegel's exercises, stop-start technique, squeeze technique), and imaginal desensitization (addresses the fear of sexual intercourse. Cognitive restructuring is the key component of the therapy that helps patient challenge their fears about semen loss. Instead of holding on to harmful, inaccurate beliefs, patients work with their therapist to identify these negative thoughts and replace them with healthier, evidence-based facts. CBT also helps the patient to develop more adaptive coping strategies. Asking the patients to practice masturbation as a homework assignment can help the patients about harmlessness of semen loss. The cognitive restructuring also focuses on addressing the cognitive errors related to masculinity.

Pharmacological Treatment

Multiple studies have demonstrated that patients with Dhat syndrome come with the expectation of getting a prescription for tonics, vitamins, or injections to restore the perceived loss of vitality.^[26,37–39,47] However, there is no role for such treatments in the management of Dhat syndrome. Similarly, there is no role for psychotropic medications in the management of Dhat syndrome, other than the use of short-term anti-anxiety medications. To reduce patient disappointment and frustration, clinicians should provide them with the dietary advice as discussed earlier. In patients with Dhat syndrome alone, short-term use of anti-anxiety medications (such as clonazepam or lorazepam) can be beneficial to allay the anxiety and facilitate engagement with the non-pharmacological treatment.

However, pharmacological measures may be useful in patients presenting with a comorbid diagnosable psychiatric disorder or sexual dysfunction. There is preliminary evidence to suggest that the use of antidepressants may be useful in patients with comorbid depression.^[11,46] Similarly, there is data to suggest the role of Selective Serotonin Reuptake Inhibitors (SSRIs) in the management of premature ejaculation. SSRIs, such as escitalopram, fluoxetine, and paroxetine may be beneficial. However, while prescribing antidepressants, the sexual side effects and paradoxical anxiety seen with these medications must be kept in mind. Accordingly, in patients with low sexual desire or comorbid erectile dysfunction, medications such as bupropion, mirtazapine, vilazodone, and vortioxetine may be considered. The presence of comorbid erectile dysfunction may require the use of phosphodiesterase inhibitors (PDE-5 inhibitors), i.e., sildenafil, tadalafil, vardenafil, along with non-pharmacological measures. However, for using these agents, clinicians should be aware of the side effects and the contraindications for use of these agents. Alternatively, medications like trazodone, yohimbine, apomorphine, phentolamine, and L-arginine may be considered.^[3] For more details about the management of erectile dysfunction, readers can go through the guidelines for the management of erectile dysfunction.

Prevention of Dhat Syndrome

Prevention of Dhat syndrome requires a public mental health approach as the condition is rooted at the intersection of cultural myths and a lack of accurate information. Accordingly,

prevention requires replacing misinformation with scientific clarity before it can take root in the anxious minds of the younger generation. Accordingly, sex education in schools and colleges should focus on providing correct information about semen formation, vaginal secretions, masturbation, nocturnal emissions, and other sexual practices. The educational programmes should also run outside schools and colleges, both in rural and urban areas. Facilitating healthy peer discussions about puberty and sexual health reduces the "taboo" nature of these topics and can help in preventing individuals from seeking answers from unreliable or exploitative sources.

Media and social media campaigns can help in clarifying the myths, and at the same time the regulation of misleading advertisements in mass media (e.g., magazines, local newspapers, and internet forums) that promote "energy boosters" or "rejuvenation tonics" for sexual performance.

It is also important to educate the primary care providers, general practitioners, urologists, or alternative medicine practitioners (like *vaid*s or *hakims*) about Dhat syndrome, and they should be asked not to promote or instil myths about semen formation and vaginal discharge. Collaboration with these providers can also help in creating appropriate referral pathways to reduce the delay in the initiation of appropriate psychological interventions.

Koro

Koro is a culture bound syndrome of south and south east Asia characterised by a perception that an individual's penis (or vulva or breast in a female) is getting retracted acutely.^[59] This perception is associated with panic-like reaction, and a feeling of impending danger (death or sexual disability) due to this acute onset problem. The individual feels that the penis may get retracted into the abdomen. Typically, this episode of acute anxiety and perception would last for few minutes to hours. This is also often accompanied by attempts at preventing the retraction by pulling the organ out by hands or other mechanical means.

Other descriptions of koro-like presentations have been described where the perception has been chronic and lasted for several days or weeks; or not associated with acute anxiety or a sense of impending danger. Additionally, adolescents may present in the clinical setting with the complaints of short penis, but not associated with a feeling of retraction, or associated with panic or impending danger. Such a presentation is not that of Koro and should be differentiated. Furthermore, in individuals with psychosis, one may have a delusion of penis (or genital organs) of being damaged by persecuting agency, and this should be differentiated from Koro with by background psychotic symptoms, gradual development of symptoms, and lack of impending danger attributed exclusively to this phenomenon.

Koro has been described typically in young adult males, though some cases of Koro have been described in women too. The disorder may coexist with other disorders like Dhat syndrome, depression or OCD as well. Koro has been described to occur in epidemics, and such epidemics have been described in India, China, Indonesia, Malaysia and Singapore. Sporadic cases of Koro has been described from outside the Asian continent as well.

Intervention for Koro includes a combination of pharmacological, psychological and social interventions. However, none of these have been evaluated thoroughly.^[60] Psychotherapy may include respectful education, understanding of sex organs and other sex-related topics, dispelling culturally rooted myths.

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Figure 1: Pathophysiology of Dhat Syndrome

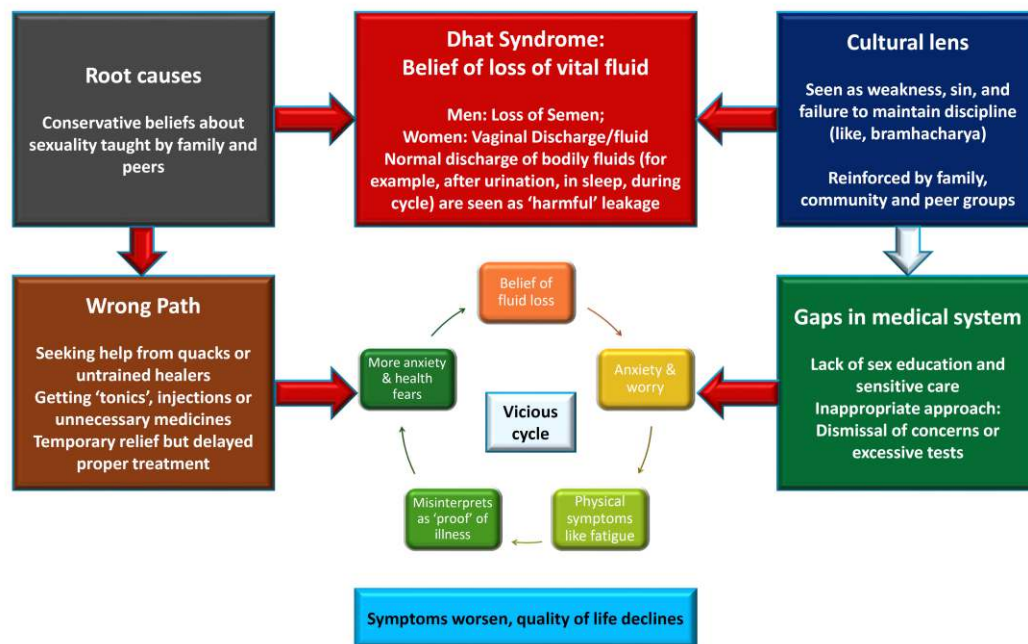


Figure-2: Factors to be understood during the Assessment of a patient with Dhat syndrome

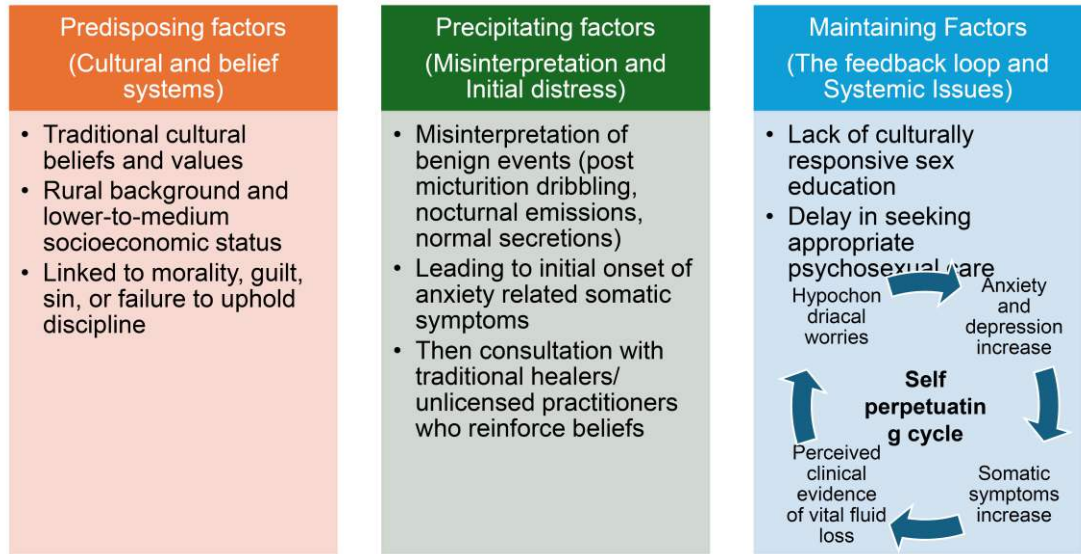
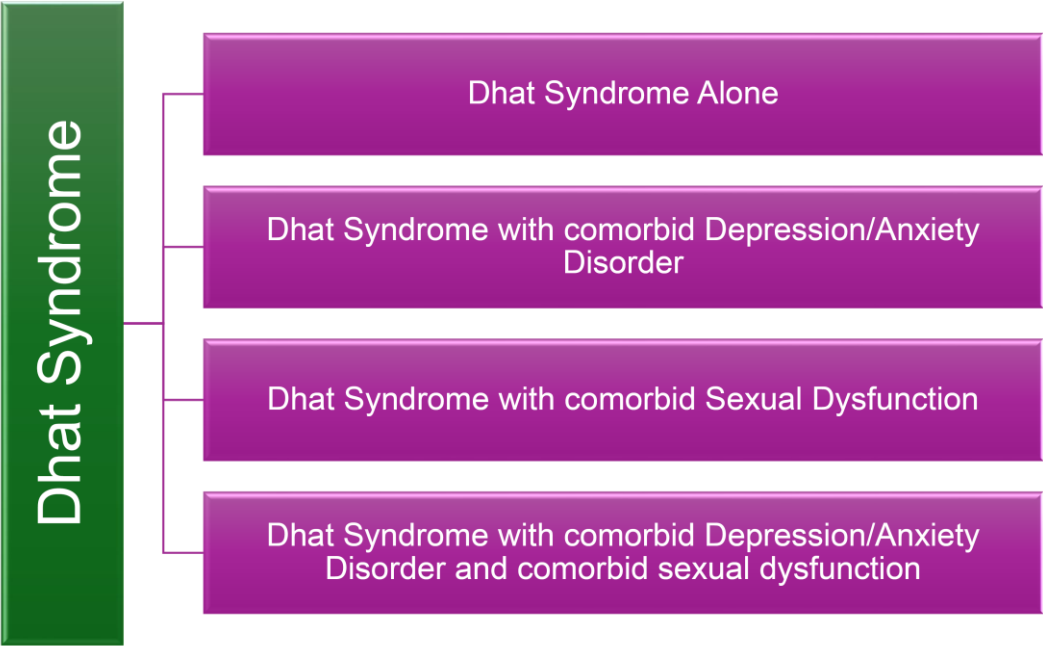
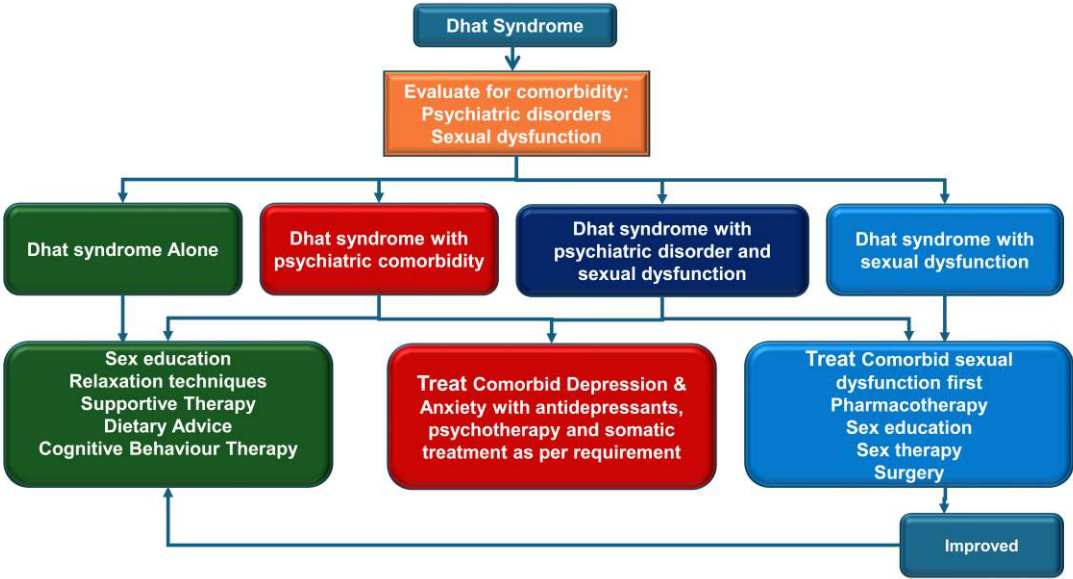


Figure-3: Categories of Dhat Syndrome



1285 **Figure 4: Treatment approach to Dhat syndrome**



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