



Review Article

Management approaches to Dhat syndrome: A review

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Date of Submission :

31 March 2022

Date of Acceptance :

29 April 2022

Abstract

Dhat syndrome is a culture-bound syndrome with pathological concerns about losing vitality through the passage of 'Dhat', which is considered equivalent to semen. It is typically diagnosed in young adult males but also found in females in various age groups. A PUBMED search performed with keywords of 'Dhat syndrome' & 'Semen-loss' with the Boolean operator 'OR' yielded 86 articles across various types. Non-English articles and non-relevant articles were excluded. Various studies have described and discussed the historical perspectives, evolution, phenomenology, and clinical profile, but few studies have actually focused on the management aspects of Dhat syndrome. There is a paucity of interventional research in this area, and existing literature has wide variability in the reports due to heterogeneous samples and methodologies. Individualized plans, patient-centered and integrated approaches combining psychotherapeutic and pharmacological management have been suggested as beneficial by many reviews and research outcomes compared to any methods alone. More interventional and clinical trials are needed to standardize the management approaches.

Keywords:

Dhat Syndrome, Semen loss, Culture-bound-syndrome, Sexual disorder

Introduction

Dhat syndrome is a culture-bound syndrome found in the Indian sub-continent, particularly in northern and eastern regions and across

southeast Asia and southern parts of China. It finds its phenomenological roots in religious beliefs of loss of vital energy through the passage of semen. According to these beliefs, semen is depicted as the most precious fluid of vitality and takes considerable time and resources to be produced. The historical perspectives, evolution, and semen conservation doctrines in ancient Indian culture compared to western perceptions are discussed in detail by Raguram (Raguram, 1994). Many concepts in Vedic literature and subsequent commentaries like Charaka Samhita and Sushruta Samhita are highly abstract. They cannot be easily understood when compared to modern medicine concepts and lead to absurdity.

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How to cite the article: Gopal Das, C., Ananta Kalyan, D., Rao, A. B., & Jog, A. (2022). Management approaches to Dhat syndrome: A review. *Indian Journal of Health, Sexuality and Culture*, 8(1), 55–64.

DOI: 10.5281/zenodo.6805948

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This is possibly propagated by mixing ideas over generations and distorted understanding of concepts in Ayurveda that are widely prevalent in Indian culture and lay concepts of health and disease (Akhtar, 1988; Das & Dutt, 2021; Rao, 2004). The classical explanation of 40 days and 40 drops for sequential condensation of food into the ultimate essence is semen (referred to as a product of “shukhra dhatu”, the most precious among seven dhatus present in the body which is the essence of vitality and energy). Losing such a fluid would result in myriad symptomatology, though often predominated by somatic symptoms, typically weakness and fatigue. Many studies (Avasthi et al., 2012; Chadda and Ahuja, 1990; Behere and Natraj, 1984; Sumathipala et al., 2004) on exploring the origins and phenomenology of Dhat syndrome have reported similar symptoms. Most of the persons suffering from Dhat syndrome attribute it to loss of semen through various modes like night falls, white discharge in urine, and masturbation. Anxiety and depressive symptoms are present in many patients, but the theme of loss of vitality through semen is the core of psychopathology. Although the typical Dhat syndrome is described in males only, similar concerns in females are also known. Many studies (Singh et al., 2001; Chaturvedi et al., 1993; Trollope and Kumar, 2001; Grover et al., 2016; Grover et al., 2014; Chaturvedi, 1998) have reported various causes like non-pathological genital secretions, leukorrhoea, the passage of ‘Dhat’ in urine. Most of these women had a high prevalence of comorbid stress, anxiety, and depressive disorders with considerable somatization. However, not much information is available on the management of Dhat and related syndromes in females.

Bibliometric analysis has reported that most of the research done on Dhat syndrome is from the Indian subcontinent, and authors mainly belong to this region, followed by Europe. Most of the research is focused on historical concepts, evolution, variants, epidemiological aspects, and phenomenology, and only a few studies, predominantly review articles, focus on management (Kar et al., 2021). Even in review articles, management aspects are briefly discussed and restricted to half a page or a paragraph without elaborating the details.

Further lesser studies have attempted controlled trials with various interventions.

This article attempts to look into various available literature, mainly focusing on management aspects. A PubMed search is done using the Boolean operator ‘OR’ with keywords of ‘Dhat syndrome’; ‘Semen loss’, resulting in 86 articles listed from 1975 to date (March 30th, 2022). A sharp rise in the number of publications started since 2004 and again saw a decline after 2017. 2015 saw a maximum number of 13 publications in a single year and an average of 6 publications per year from 2012 to 2017. Out of 86, there were 17 review articles, 3 systematic reviews, 30 original research with descriptive methodology, 4 original research with interventional methodology, 2 clinical trials, 10 case reports, 4 case series, 15 letters to editors, and 1 brief research communication. However, this search is restricted to PubMed, but there are possibilities that more literature is available and some of which are cited in this article.

Although it is very important to know various ways of presentation, epidemiology, and phenomenology, many studies report that patients with Dhat syndrome commonly does not approach allopathic practitioner or psychiatrists early. Even if they approach, adherence to treatment and response to treatment are not consistently reported as ‘encouraging’. Hence, before discussing management and approaches, a brief discussion is worthwhile on understanding the pattern and pathways to care until the patient with Dhat syndrome reaches out to a psychiatrist.

Pathways to care and clinical presentations

Patients with Dhat syndrome do not easily approach psychiatrists and are considered the main barrier to effective care delivery. Ansari and Mulla (2017) have discussed the delays and previous consultation with their effectiveness in detail. The mean delay in seeking psychiatric consultation is 8 months (SD \pm 6.25) since first contact to seek help for Dhat syndrome-related problems with anyone other than Psychiatrists (including family friends). 98% had previous consultations with non-doctors, indigenous

medical practitioners, or allopathic practitioners. More than half of them (53%) have consulted quacks, indigenous practitioners, or paramedical staff. Those who have consulted indigenous practitioners had around a mean delay of 2 months more than the above-mentioned (8 ± 6.25 months) to present at a psychiatrist. One-third (34%) have consulted family & friends. Consultation with allopathic practitioners constituted only 11% (Ansari and Mulla, 2017).

In their descriptive study, Grover et al. (2016) report that the favorite choice for first contact was indigenous practitioners followed by friends and relatives. Ayurvedic practitioners were the most common first choice among indigenous practitioners. General physicians were the most common allopathic practitioners, followed by urologists and surgeons. It is worth noting that none of the patients took help from psychiatrists as their first preference. 1/4th of patients sought help from psychiatrists as a second contact and around 1/5th of them as third and fourth contact. The mean years of passage of Dhat were nearly 7 years. Sexual dysfunction had slightly more prevalence than anxiety-depressive symptoms in the study. The study reports significant delay since the onset of symptoms and nearly 2 consultations before approaching a psychiatrist. The myths regarding semen loss get reinforced during this delay, and further increases the distress. This study also reports patients' hesitancy to consult medical professionals who prefer to seek help from their friends / relatives. This adds to a significant delay in approaching psychiatrists (Grover et al., 2016).

Grover et al. (2016), in their follow-up study of patients with Dhat syndrome, observed patients for 6 months after initial evaluation. 36% of them completed treatment, 22% dropped out early, and 42% were late dropouts. Early dropouts cited "no time for consultation" and "not having prescribed any medication" as reasons for dropping out, while late dropouts cited "no improvement of symptoms" as the reason. This suggests practitioners discuss the follow-up visits with patients, considering medications and adjunctive or alternatives when symptoms are not relieved (Grover et al., 2016).

The concept of semen loss and myriad symptoms experienced by patients may stem from deep-rooted cultural beliefs that evolved from the complex interplay of socio-cultural models of health & disease. It is influenced by concepts from native Indian medicinal systems and Ayurveda, other systems like Unani and Siddha, vague concepts of sexuality focused excessively by native healers (Kar and Varma, 1978), and distorted propagation of information through generations. Patients with Dhat syndrome generally have less scientific knowledge of human sexuality and do not get easily convinced with an understanding of Dhat syndrome given by modern medicine (Grover et al., 2015). Many do not know what the 'Dhat' is, but most believe it is a vital fluid. Many believe it is semen, and others perceive Dhat as pus, sugar, urine, etc. A multi centric nationwide study in India presented the most commonly reported reasons for passage of Dhat as excessive masturbation (55.1%), sexual dreams (47.3%), excessive sexual desire (42.8%), and consumption of high energy foods (36.7%). The most common situation in which participants experienced the passage of Dhat were as 'night falls' (60.1%) and 'while passing stools' (59.5%). The most common consequence due to the passage of Dhat was weakness in sexual ability (75.6%) (Grover et al., 2016). Post hoc analysis details from Ansari and Mulla (2017) opine that many myths were instilled or solidified in previous consultations between friends, relatives, and quacks. Hence, a detailed understanding and busting of myths with a non-judgmental and empathetic approach need to be taken up before attempting treatment (Ansari and Mulla, 2017). This may be followed by educative approaches, first in unlearning the myths, learning the scientific concepts, and internalizing them. However, when a person presents, they generally expect magical cures and energizing tonics (Grover et al., 2014), usually promised and prescribed by quacks. They generally expect this because of their various symptoms. Many studies (Deb and Balhara, 2013; Prakash and Kar, 2019) have identified symptoms found in Dhat syndrome such as somatic, anxiety-depressive, and sexual symptoms that require different management approaches. In Grover et al. (2015) study, 1/3rd of them had anxiety/stress-related

neurotic disorder/depressive diagnosis. Another 1/3rd had sexual dysfunction diagnosis, amounting to more than 60% of Dhat syndrome patients having comorbid disorders (Grover et al., 2015).

Hence, one model of initiating management may not always work for every patient. Wig et al. (1960) suggested many approaches based on listening and educational approaches with judicious use of medications and placebo whenever required (Wig et al., 1960). Avasthi and Gupta (1997) in their manual for standardized management of single males with sexual disorders suggests mainly sex education, relaxation therapies, and medications (Avasthi & Gupta, 1997).

In a review article, Kar and Singh (2016) systematically reviewed 17 studies focusing exclusively on the management of Dhat Syndrome. They emphasized the 'Person-centered-care' as a holistic management approach rather than symptomatic management (Kar and Singh, 2016). This includes similar elements mentioned above in Wig et al., (1960) suggestions. This approach may be an effective and more acceptable model in view of wide individual variations that need to address each patient's unique need (Wig et al., 1960).

Before going into management, one may also have to assess the source of knowledge acquisition regarding sexuality-related matters, which may have a formative effect on the patient's cognitions related to the 'Dhat' concept. The concepts are formed and solidified by a complex interplay of various sources such as lay magazines, porn literature, ads about sexual problems widely displayed on the street side, peer discussions with friends and family members, etc. (Prakash, 2007). Practitioners of indigenous medicine, native healers, religious healers, and various persons influence patients by further reinforcing the semen loss as a sin. They try to get a cure through various herbs, native medicines, and various practices like celibacy, diets, and religious offerings. The stigma, guilt, and shame of having lost the vitality through semen loss would make them apprehensive about reaching out to doctors.

As we all know, a proper diagnostic evaluation and formulation have to precede the management plan. Hence, longitudinal history, treatment history, and history of comorbid illnesses have to be elaborately taken. This may be followed by a thorough physical examination and a focused exam of the genito-urinary system. This helps in assessing genito-urinary infections and other causes which can result in discharge of fluids similar to 'Dhat'. This would reassure patients that the treating doctor has considered their concerns. Many patients having concerns about penile size, distortion, or 'weakness' may be addressed for further reassurance and educative approaches using the examination findings instead of depending on a surgeon or urologist entirely for genital examination. If there are observable gross anomalies and clinical findings, it will help us take the specialists mentioned above' opinions for detailed evaluation, yet retain the 'Dhat' syndrome as a working diagnosis if the pathological concern on the loss of vitality through 'Dhat' persists with or without positive examination findings. This also helps prevent patient dropouts due to dissatisfaction with 'inadequate physical examination'.

Grover et al. (2014) have come up with a comprehensive questionnaire for assessing Dhat syndrome, which serves as a comprehensive checklist for many clinical features and beliefs associated with the passage of Dhat and its attribution to symptoms (Grover et al., 2014).

Overall, treatments may be broadly classified into pharmacotherapeutic and psychotherapeutic approaches. Psychotherapeutic approaches focus on educating the patient and addressing the myths. Pharmacotherapeutic approaches mainly focus on alleviating anxiety, targeting depressive, somatic, and sexual symptoms which works from easily understandable symptomatic or somatic aspects to relatively hidden cognitive aspects (outside to inside). On the other hand, psychotherapeutic approaches work from core cognitive aspects and restructuring, thereby reducing somatic symptoms and illness behavior (inside to outside).

Explorations of the patient’s cognition at multiple levels must be done, depending on the patient’s psychological sophistication or metacognitive abilities. On a superficial level, their disease model needs to be understood, which in one or another way is related to loss of vitality due to semen loss. Patients may be concerned and preoccupied with their symptoms and/or the consequence of loss of vitality by semen loss. The fear of becoming impotent and unable to have a healthy sex life or procreation

may frequently occur, especially in young and unmarried patients. Hence, the management needs to focus on patients’ concerns before we engage them in psycho-educative or cognitive-behavioral and other therapies. Fear of impotence and anxiety may secondarily produce or worsen psychological and sexual dysfunction, including erectile dysfunction and premature ejaculation, performance anxiety, or delayed orgasms/anorgasmia.

Table 1: List of symptoms categorized in Dhat syndrome

Somatic Symptoms	Anxiety – Depressive Symptoms	Sexual Symptoms
Generalized Weakness	Nervousness, fear (of illness, being cursed, impotence or death)	Reduced penis size and girth
Easy Fatiguability	Restlessness	Distortion of penis shape like bending, nodules etc
Multiple body aches	Autonomic arousal symptoms such palpitation, sweating, increased muscle tension, dryness of mouth and throat, choking sensation, giddiness	Erectile dysfunction
Gastro-intestinal symptoms such as bloating, belching, nausea, abdominal fullness, ‘gas’ formation, flatulence, irregular bowels	Low mood, lack of pleasure and energy, lack of motivation, guilt, shame, low self esteem	Premature ejaculation
Genito-urinary symptoms such as burning micturition, hesitancy, dribbling of urine, ‘reduced force’ of urine stream, altered color of urine,	Lack of concentration, Loss of memory	Loss of libido
Loss of weight, anorexia, hollowing of eyes and chin, dark circles	Suicidal ideations	Pain or itching in groin or genital region
Sleep disturbances, excess or loss of sleep		Boils, ulcers, swelling in genital region
		Dryness of vagina, dyspareunia (in females)

Non-pharmacological management

A study (Chavan et al., 2009) presents a 3-session specific psychological intervention based on the psychoeducation model, which is derived from the PLISSIT model (Annon et al., 1976). Three sessions targeted anatomical, physiological, and open sessions to express opinions and clarifications.

1st session focused on the anatomy of sex organs using charts and models. Both female and male anatomy was shown. The concerns regarding the size of the penis and, depth of the vagina, other parts related to sexual activity were explained. Fears regarding the reduced size of the penis by

loss of Dhat or masturbation and night emission were met at this session. The second session focused on physiological aspects, which dealt with erogenous zones, production and storage of semen, the content of semen and other secretions which are mistaken as semen was discussed, and stages of sexual activity were explained. 3rd session was an open session meant for expressing opinions, further discussion, and other concerns. A study reports that 47.61% (20 out of 42) patients came for the first follow-up, and the number dropped to 21.42% (9 out of 42) in the second follow-up visit and 11.92% (5 out of 42) in the third follow-up visit. 16.72% (7 out of 42) patients attended more than 3 follow-up

visits. Reassessment at the end of treatment among patients attending 3 or more sessions showed more than 50% reduction in symptoms in more than 71% of patients, which is encouraging.

After various assessments, Salam, Sharma and Prakash (2012) proposed a Cognitive Behavioral Therapy (CBT) module. This includes basic sex education, cognitive restructuring, relaxation training, imaginal desensitization, masturbatory training as homework, Kegel’s exercises, ‘start-stop technique’, and ‘squeeze technique’ for sexual dysfunctions (Salam et al., 2012). The number of sessions in the CBT module developed in this study ranged from 11-15, with an average of 45 minutes duration. The components of the CBT module are intake and assessment (in sessions 1 and 2), socializing the patient to CBT (in sessions 3 and 4), basic sex education (in sessions 4 and 5), cognitive restructuring, and other techniques (in sessions 6 to 15). Apart from various cognitive distortions that are dealt, the focus is given to emotional and interpersonal aspects of sexuality. The intertwined schema of masculinity and sexual power is dealt with in performance anxiety issues. Other techniques such as Jacobson’s Progressive Muscle Relaxation (JPMR), imaginal desensitization, masturbation as homework to understand the harmless loss of semen, Kegel’s exercises, and squeeze and start-stop techniques are taught in cases of sexual dysfunction. However, the study has used limited cases and emphasizes the need for a larger study sample, multiple modules, and comparative trials.

Another study reports a 3-case experience of effectiveness of CBT (Tripathi and Sridevi, 2014). The intervention included psychoeducation, supportive psychotherapy, and cognitive behavior therapy for 4 months in 18 sessions, and informed consent was taken from the patients. The cognitive behavior therapy was compiled with activity scheduling, cognitive restructuring (thought challenging, role-playing, positive statements, and behavioral rehearsal and relaxation therapy (JPMR). Beck’s Depression Inventory - Version 2 (BDI-II), Hamilton’s Rating Scale for Anxiety (HAM-A), and The International Index of Erectile Function (IIEF) were used for pre-post assessment. The study reported a significant reduction in depressive and sexual dysfunction and modest improvement in anxiety scores. Another recent study proposes a simple 2-session therapy proposal that could be used as a brief intervention and can also be used in tele-consultations, liaison clinics, and non-psychiatric settings. Session-1 is a preparative session where rapport is built, assessments, examinations, and expectations are clarified. In the next phase, necessary investigations may be done. Session-2 is an 8-step dialogue session in question-answer format, wherein patients’ beliefs are challenged, and alternative explanations are proposed. This follows validation, psychoeducation, and providing a mind-body link followed by addressing concerns and summarizing (Innamuri and Ramaswamy, 2021). Clients are encouraged to express dissatisfaction and need for more detailed psychotherapeutic and other management options, including a formal referral to a psychiatrist (in case of non-psychiatric consultation).

Table 2: Summary of non-pharmacological management

Cognitive	Behavioral	Psycho-educative
Exploration of Schemas— especially regarding masculinity, sexual power and semen preservation	Relaxation Training	Basic Sex education
Challenging beliefs/Thought	Jacobson’s Progressive Muscular Relaxation	Explaining reproductive anatomy and physiology using charts and diagrams
Challenging, providing alternatives	Imaginal desensitization	Educating about human sexuality, phases and normal limits
Cognitive restructuring	Activity scheduling	
Roleplaying and reflection	Behavioral rehearsal	
	Masturbatory Practice	
	Kegel’s Exercises	
	Squeeze & Start-stop technique	

Pharmacological management

Pharmacological management has been discussed with varying results across many studies. Antidepressants and anti-anxiety, sedative-hypnotic classes of medications, have been widely used apart from nutraceuticals. For an average patient who does not have much prior knowledge of various medications, the very prescription of medication serves as a therapeutic maneuver. A supplemental dose of vitamins, other tonics, and other herbal-based products that do not have a serious evidence base, commonly prescribed in non-specialized settings, may still have a placebo effect and keeps the hopes alive in patients regarding the 'cure' has the potential to retain patient in treatment. This, in turn, provides a second or subsequent opportunity to engage patients in further sessions. The previously mentioned follow-up study of patients with Dhat syndrome by Grover, Gupta, and Avasthi (2016) also suggested that early use of some form of medication may validate the medical model and help hold patients in treatment (Grover et al., 2016).

Comorbid anxiety and depressive disorders, and sexual dysfunction may be targeted effectively by judicious medications. Several studies report the effective use and outcomes of pharmacotherapy. Selective Serotonin Reuptake Inhibitors (SSRIs) and Benzodiazepines are the most commonly used medications.

First of its kind clinical trials compared several randomized groups with and without pharmacotherapy with groups receiving Imipramine or Lorazepam for 4 weeks which fared significantly better than only counseling or placebo and other medications groups (Bhatia et al., 1989; Bhatia and Malik, 1991). In another study, Fluoxetine trial in depressed patients with Dhat syndrome, over 20-40 mg dose for unspecified duration resulted in statistical improvement of symptoms (Dhikav et al., 2008). However, this study does not have a control

group or effect on the improvement of distress due to passage of semen compared to depressive symptoms. Another study by Rajkumar et al. (2016) also emphasized the effectiveness of antidepressants in a depressed subset of Dhat syndrome. It may be considered a depressive spectrum disorder (Rajkumar et al., 2016). Several case reports discuss the role of SSRIs and other medications in managing Dhat syndrome and comorbid conditions. However, no clear guideline or consensus is available. The clinical decision largely depends on the symptomatic status and choice of the treating psychiatrist and, finally, the patient accepting the treatment. However, Malik (1991) also reports that there could be patient drop out if not treated initially by medication (Malik, 1991). As discussed earlier, the follow-up study by Grover, Gupta, and Avasthi (2016) also reports 'not prescribing' as a significant reason for dropouts. Hence individualized treatment choices using the patient-centered approaches would help construct management plans rather than imposing the same (Grover et al., 2016).

However, while prescribing medications, one should take adequate care not to compound the already existing problems by commonly occurring side effects of the prescribed medication. SSRI-induced erectile dysfunction may be one to be kept in mind. SSRIs' early activating effects, such as Fluoxetine and Sertraline, may worsen anxiety and restlessness. Sedation, daytime drowsiness, worsening of fatigue, giddiness, and cognitive symptoms can happen with potent and long-acting benzodiazepines. Other classes of medications are not commonly used and hence rational and judicious use of medications and the shaping effect of combined psychotherapies would result in a better outcome.

Conclusion

Many studies on Dhat syndrome focus mainly on historical concepts, evolution, variants,

Table 3: Summary of pharmacological management

Class of Medications	Target Symptoms	Conflicting adverse effects to be watched for
Antidepressants		
SSRIs and SNRIs	Primary target symptoms are anxiety, depressive and also somatic. Also helps in Premature ejaculation	Sexual adverse effects like Erectile dysfunction, loss of libido, delayed ejaculation/orgasms Activating early effects may worsen anxiety, restlessness and sleep disturbances
Tricyclics	Somatic (especially body aches), Depressive and Anxiety symptoms May be of help in cases of insomnia, weight loss May help in Premature Ejaculation	Sexual side effects like ejaculatory disturbances, reduced libido Anticholinergic side effects, weight gain, sedation, orthostatic hypotension - may worsen the fatigue or giddiness
Others		
Benzodiazepines and other hypnotic/sedatives	Primarily anxiety and insomnia	Cognitive side effects, day time drowsiness, giddiness, fatigue, rebound anxiety and insomnia (in case of shorter acting drugs), dependence in case of long term use, abuse potential.
Nutraceuticals	Somatic and sexual, cognitive symptoms No significant evidence May help in case of Erectile dysfunction, fatigue and weakness – are of doubtful value and cost-benefit needs to be analyzed.	No significant side effects

epidemiological aspects, and phenomenology. However, fewer studies focus on management, and further, lesser studies have attempted controlled trials with various interventions. Most of the studies have fewer sample sizes and single study sites. Larger samples involving multiple centers with a wider range of interventions would shed more light on management aspects. However, obtaining a homogenous group may be difficult due to highly variable presenting symptoms and unique styles of thinking and attribution towards the symptoms and disease model. A person-centered approach with

individualized management will prove beneficial when it comes to clinical management. A patient and empathetic, non-judgmental listening would help understand underlying schemas and cognitive distortions. While doing so, on the other hand, symptoms, and comorbidities have to be addressed using various approaches. Hence an integrated and patient-centric approach with combined pharmacotherapy and psychotherapy would be beneficial in managing Dhat syndrome.

Acknowledgment: None

Conflict of interest: None

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