

## PREVALENCE AND PSYCHIATRIC COMORBIDITY OF SOMATIC SYMPTOM DISORDER IN A TERTIARY CARE MEDICINE OUTPATIENT DEPARTMENT: A CROSS-SECTIONAL STUDY

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### ABSTRACT

**Background:** In tertiary primary care, there is a substantial challenge in diagnosing somatic symptom disorder (SSD) as many patients seek care for persistent, unexplained physical symptoms rather than for their psychological distress. Patients are misdiagnosed for a prolonged period and subsequently overuse the healthcare system as a result. The objective of this research was to examine the prevalence of SSD, any demographic variation of those that are diagnosed, and any psychiatric co-morbidity of patients diagnosed with SSD in an outpatient medicine clinic. **Materials and Methods:** This cross-sectional single-center study was conducted at Shri Ram Murti Smarak. Institute of Medical Sciences, Bareilly, Uttar Pradesh, from March 2025 to February 2026 among 170 adults presenting with somatic symptom-related complaints in the medicine outpatient department. After institutional approval and written informed consent, eligible participants were recruited consecutively. Detailed demographic, clinical, medical, and psychiatric assessments were performed using a structured case record form. Participants were evaluated for persistent headache syndromes, generalized body pain, functional gastrointestinal symptoms, fatigue syndrome, cardiorespiratory symptoms, conversion disorder, and Dhat syndrome. Data were categorized according to age and gender and analysed using SPSS version 27 with descriptive statistics, Chi-square test, and Fisher's Exact test, considering  $p < 0.05$  as statistically significant. **Results:** Among 170 participants, generalized body pain and musculoskeletal disorders were the most prevalent comorbidity (24.1%), followed by fatigue and weakness syndrome (18.2%) and persistent headache syndromes (17.1%). Females demonstrated significantly higher prevalence of persistent headache syndromes (22.4% vs. 11.8%;  $p = 0.048$ ) and generalized pain disorders (31.8% vs. 16.5%;  $p = 0.019$ ) compared to males. Dhat syndrome was observed exclusively among males (14.1%;  $p < 0.001$ ), while younger participants showed higher prevalence of fatigue syndrome and Dhat syndrome. **Conclusion:** The study concluded that somatic symptom disorder is highly prevalent among patients attending the tertiary care medicine outpatient department, with generalized body pain and musculoskeletal disorders being the most common presentations. The study concluded that the female patients demonstrated a higher burden of chronic pain-related symptoms, whereas Dhat syndrome was predominantly observed among younger male participants.

## INTRODUCTION

The DSM-5 has changed how we understand somatic medicine by taking away the term "Somatoform Disorders" and replacing it with Somatic Symptom Disorder (SSD) and by eliminating the need for patients to present with only medically unexplained symptoms to meet diagnostic criteria.<sup>[1]</sup> The diagnosis now is based on three sets of positive

criteria: cognitive-behavioral characteristics (B-criteria), that is, disproportionately maladaptive or dysfunctional thoughts or behaviours related to bodily symptoms, excessive worry about health, or excessive attention to or behaviour related to bodily symptoms that have been present for longer than the past 6 months, regardless of the presence of any underlying medical problem.<sup>[1]</sup> The estimated prevalence of SSD is 4.5% of the general population;

25.2% of patients in primary care; and 33.5% of patients in specialty clinics. Additionally, it was found that 7.7% of patients met full DSM-5 criteria for SSD, showing there was considerable functional impairment in these patients.<sup>[2,3]</sup>

Outpatient services have acted as the entry point for patients suffering from severe somatization syndromes who are experiencing multiple bodily symptoms. Such patients generally will seek out convenient access to specialized evaluation of possible organic causes of their numerous bodily symptoms through attendance at an outpatient specialty or tertiary care location.<sup>[4,5]</sup> One multicentre hospital-based study showed a dramatic effect on resource utilisation and medical costs incurred for patients with somatoform presentations compared to other patients attending an outpatient specialty clinic. In SSD, the normal presence of parallel mental health disorders contradicts the usual occurrence of typical conditions affecting those affected by SSD.<sup>[2,6]</sup> Co-occurrence of depressive disorder, generalized anxiety disorder and health anxiety has been shown to be very likely through meta-analysis and other large clinical reviews that demonstrate a considerably higher level of affective symptoms in individuals with SSD than control groups.<sup>[2]</sup>

The presence of these affective disorders influences the extent to which individuals with SSD have a decreased physical tolerance to somatic pain and increase the perception of somatic pain through negative effects and a sustained bias towards one's own internal bodily sensations.<sup>[6]</sup> Since the co-occurrence of SSD and major depression predict impairment of quality-of-life on a global basis, the co-occurrence of SSD and major depression creates an additional burden, therefore, structured screening should occur on a regular basis to eliminate the overshadowing of a diagnosis and implement integrated cognitive behavioral and/or pharmacological treatment.<sup>[2,6]</sup> Somatic symptoms are often used as a culturally accepted way to express distress, and can therefore obscure the underlying psychological pain that may carry significant social stigma in India. As a result, patients will typically go to medical clinics for treatment, rather than seek help through psychiatric services. However, there is currently a lack of modern, systematic, cross-sectional data on somatic symptom disorder or DSM-5/ DSM-5-TR criteria for Indian tertiary medicine out patients. The aim of this study is to fill the gap in current knowledge by assessing the prevalence and patterns of associated psychiatric disorders and establishing a baseline to help refine current models of consultative psychiatry for the local populations.

## MATERIALS AND METHODS

### Study Design and Setting

A cross-sectional, single-centered study was carried out in Shri Ram Murti Smarak (SRMS) Institute of

Medical Sciences, Bareilly, Uttar Pradesh. The study was conducted from March 2025 to February 2026.

### Eligibility Criteria and Participant Selection

The inclusion criteria of the study were:

1. Patients attending the primary care setting during the study period.
2. Participants aged more than 18 years.
3. Individuals presenting with somatic symptom-related complaints.
4. Patients willing to provide informed consent for participation.
5. Both male and female participants were included in the study.

The exclusion criteria of the study were:

1. Patients with severe cognitive impairment or inability to communicate effectively.
2. Individuals with severe acute medical or surgical emergencies requiring immediate intervention.
3. Patients with previously diagnosed severe psychiatric illnesses such as schizophrenia or bipolar disorder.
4. Participants unwilling to provide consent for participation.
5. Incomplete clinical or demographic data records.

### Patient Enrollment and Consent Process

Participants received a thorough description of the clinical aspect, the academic nature, and the main goals of the study. Each participant was given a private space for studying within the medicine outpatient area to protect their confidentiality. Written informed consent was obtained from each patient who passed the eligibility requirements before they were given any research tools. Participants were also reassured that their choice to participate or not would not affect their future clinical care or relationship to the tertiary healthcare facility.

### Procedure of the study

The present study was conducted as a hospital-based cross-sectional observational study among 170 participants attending the medicine department with various somatic symptom-related complaints. After obtaining institutional permission and informed consent from the participants, eligible individuals were recruited consecutively during the study period. A detailed clinical interview was carried out using a predesigned and structured case record form to collect demographic information including age, gender, educational status, occupation, marital status, family type, and living arrangements. Each participant underwent comprehensive medical and psychiatric evaluation to identify the presence of psychiatric and somatic comorbidities. Particular emphasis was placed on identifying common somatic symptom disorders such as persistent headache syndromes, generalized body pain and musculoskeletal pain disorder, functional gastrointestinal somatic symptoms, fatigue and weakness syndrome, cardiorespiratory somatic symptoms, conversion disorder or functional neurological symptom disorder, and Dhat syndrome. Clinical findings and symptom profiles were documented systematically for all participants. The

collected data were subsequently categorized according to demographic variables such as age group and gender to assess distributional patterns of the disorders. All information was entered into a database and subjected to statistical analysis using descriptive and inferential statistical methods. Comparative analyses were performed to evaluate associations between demographic characteristics and psychiatric or somatic comorbidities, and the findings were presented in tabular form for interpretation.

#### Statistical Analysis

The study used SPSS 27 for effective analysis. The statistical analysis was performed using appropriate descriptive and inferential statistical methods. Categorical variables were expressed as frequency and percentage distributions. Comparative analysis of psychiatric and somatic comorbidities across different age groups and gender categories was carried out using Fisher's Exact Test and Chi-square test wherever applicable. P-values less than 0.05 were considered statistically significant. The analysed data were presented in tabular format to evaluate

demographic characteristics and the distribution of psychiatric and somatic comorbidities among the study participants.

## RESULTS

The demographic and economic information found in Table 1 shows the characteristics of those within the study (N=170) and shows that there were equal proportions of men (n=85) and women (n=85) among these individuals, as well as the vast majority of subjects being Hindu (n=161), with 58.8% (n=100) being 40 years old or younger at time of evaluation. Based on structural social background, the majority (72.4%; n=123) were married and the majority were living in a joint/nuclear family (54.1%) arrangement. Overall, 50.0% (n=85) of the subjects had completed primary school, while a substantial majority (62.4%; n=106) were employed through short-term and/or seasonal jobs. Of the women surveyed, 51.8% (n=44 out of 85) were stay-at-home moms.

**Table 1: Demographic details of study sample**

Parameter	n	%
<b>Gender</b>		
Male	85	50.0%
Female	85	50.0%
<b>Age (in years)</b>		
<30	58	34.1%
31-40	42	24.7%
41-50	39	22.9%
>50	31	18.2%
<b>Educational Qualification</b>		
Primary	85	50.0%
Secondary	48	28.2%
Higher secondary	25	14.7%
Graduate	12	7.1%
<b>Occupation</b>		
Employed	74	43.5%
Self-employed	32	18.8%
Housewife	44	25.9%
Retired	3	1.8%
Student	13	7.6%
Unemployed	4	2.4%
<b>Marital Status</b>		
Single	41	24.1%
Married	123	72.4%
Divorced	1	0.6%
Widowed	5	2.9%
<b>Family Type</b>		
Nuclear	92	54.1%
Joint	25	14.7%
Extended nuclear	6	3.5%
Staying single	47	27.6%
<b>Living Status</b>		
Not applicable	49	28.8%
Not together	7	4.1%
Together	114	67.1%

From the distribution of comorbidity of psychiatric and somatic disorders in the 170 patients who were assessed, there were multiple signs of chronic and multi-systemic problems (Table 2). The 41 musculoskeletal (24.10%) and generalized body pain (24.10%) were the most commonly reported

symptoms, followed closely by fatigue (18.20%) and weak syndrome (31), as well as persistent headache syndrome (17.10%) indicating very high levels of constitutional and neurological distress among patients receiving care for primary care. There are also significant clinical presentations with 26 patients

experiencing functional GI symptoms (15.30%) and 18 experiencing symptoms of cardiorespiratory somatic complaints (10.60%). There also existed functional neurological symptom disorder/conversion disorder (n=13; 7.60%) and Dhat syndrome culturally bound (n=12; 7.10%). As

evidenced by the wide range of symptom presentations, somatic symptom presentations are highly heterogeneous and occur primarily as diffuse pain, exhaustion and discomfort in the neural systems; thus the need for holistic, comprehensive, multidisciplinary screening systems.

**Table 2: Diagnosis made among the included patients**

Psychiatric / Somatic Comorbidity	n	%
Persistent headache syndromes	29	17.10%
Generalized body pain and musculoskeletal pain disorder	41	24.10%
Functional gastrointestinal somatic symptoms	26	15.30%
Fatigue and weakness syndrome	31	18.20%
Cardiorespiratory somatic symptoms	18	10.60%
Conversion disorder / Functional neurological symptom disorder	13	7.60%
Dhat syndrome	12	7.10%
<b>Total</b>	<b>170</b>	<b>100%</b>

The distribution of the 170 participants' (Table 3) age-stratified cross-country data can provide insight into the presence of most somatic and psychiatric comorbidities across clinical life spans; however, there are differences in diagnosis by age within specified age ranges. Generalized pain and musculoskeletal disorders are present throughout age ranges; however, they are most concentrated in the two youngest groups (31 - 40 years, 28.6% and 41 - 50 years, 28.2%). Fatigue and weakness syndrome is also clearly represented by participants under 30 years of age (20.7%). Increasingly continually throughout the age range, cardiorespiratory somatic symptoms exhibit a gradual upward increase in incidence, with the percentage of individuals experiencing cardiorespiratory somatic symptoms

rising from 8.6% for each individual below age 30 to a maximum of 16.1% at age over 50. The most significant finding was with Dhat syndrome; Dhat syndrome is strongly restricted to the youngest population (< 30 years of age), with a prevalence of 13.8% of participants suffering from Dhat syndrome under the age of 30 compared to the negligible number of participants with Dhat syndrome in the remaining age groups, leading to the difference in the Fisher's exact test p-values noted in the mid-career cohort. In summary, Fisher's exact tests by each section show that somatic symptom disorder phenotypes have a relatively stable, multi-system distribution across adulthood, but should be regularly screened for in younger primary care patients for culturally bound conditions. [Table 3]

**Table 3: Age-wise Distribution of Psychiatric and Somatic Comorbidities among Participants**

Diagnosis	Age Group (Years)			
	<30 (n=58)	31-40 (n=42)	41-50 (n=39)	>50 (n=31)
Persistent Headache Syndromes n (%)	9 (15.5%)	8 (19.0%)	7 (17.9%)	5 (16.1%)
Generalized Body Pain & Musculoskeletal Pain Disorder n (%)	11 (19.0%)	12 (28.6%)	11 (28.2%)	7 (22.6%)
Functional Gastrointestinal Somatic Symptoms n (%)	8 (13.8%)	7 (16.7%)	6 (15.4%)	5 (16.1%)
Fatigue & Weakness Syndrome n (%)	12 (20.7%)	8 (19.0%)	6 (15.4%)	5 (16.1%)
Cardiorespiratory Somatic Symptoms n (%)	5 (8.6%)	3 (7.1%)	5 (12.8%)	5 (16.1%)
Conversion Disorder / Functional Neurological Symptom Disorder n (%)	5 (8.6%)	3 (7.1%)	3 (7.7%)	2 (6.5%)
Dhat Syndrome n (%)	8 (13.8%)	1 (2.4%)	1 (2.6%)	2 (6.5%)
Fisher's Exact Test	0.842	0.038	0.917	0.214
P-value	0.839	0.041	0.988	0.673

Table 4 shows that the gender distribution of the 170 participants revealed sharp differences in how male and female multiple somatic and psychiatric comorbidities manifest; with most diagnosis categories being statistically skewed. Women experienced higher rates of chronic pain (22.4% vs. 11.8%; P=0.048) persistent headache syndrome; and generalized pain/musculoskeletal disorder (31.8% vs. 16.5%; P=0.019) than men, which identifies differential sex (gender) in that women experience significantly greater burden of chronic pain phenotype. There were higher rates (not statistically significant) for female participants for functional gastrointestinal symptom (17.6% vs. 12.9%),

fatigue/weakness syndrome (22.4% vs. 14.1%), and conversion disorder (10.6% vs. 4.7%) compared to males. Conversely, males show higher rates of cardiorespiratory somatic symptoms (12.9% vs. 8.2%) than females and Dhat syndrome is confined to male participants (14.1% vs 0.0% P<0.001) exhibiting a level of statistical significance. Overall, these data indicate that while some forms of somatic signs cross genders, chronic pain and neurological discomfort are more common among females; whereas the cluster of syndrome are restricted to male participants, indicating that gender considerations need to be included when triaging patients.

**Table 4: Gender-wise Distribution of Psychiatric and Somatic Comorbidities among Participants**

Psychiatric / Somatic Comorbidity	Male (n=85) n (%)	Female (n=85) n (%)	Total n (%)	P-value*
Persistent headache syndromes	10 (11.8%)	19 (22.4%)	29 (17.1%)	0.048
Generalized body pain & musculoskeletal pain disorder	14 (16.5%)	27 (31.8%)	41 (24.1%)	0.019
Functional gastrointestinal somatic symptoms	11 (12.9%)	15 (17.6%)	26 (15.3%)	0.392
Fatigue & weakness syndrome	12 (14.1%)	19 (22.4%)	31 (18.2%)	0.161
Cardiorespiratory somatic symptoms	11 (12.9%)	7 (8.2%)	18 (10.6%)	0.312
Conversion disorder / Functional neurological symptom disorder	4 (4.7%)	9 (10.6%)	13 (7.6%)	0.148
Dhat syndrome	12 (14.1%)	0 (0.0%)	12 (7.1%)	<0.001

## DISCUSSION

Studies conducted in Indian Outpatient Departments (OPDs) show that a significant number of patients have medically unexplained physical symptoms (MUPS) that have a close relationship to their specific sociodemographic and psychiatric characteristics.<sup>[2,3]</sup> Among 200 patients (mean age 36.51 ± 9.82 yrs; 67.5% female), many patient's complaints were found to fall into one of three highly prevalent areas of complaint including general (96.3%), musculoskeletal (91.7%), and gastrointestinal (81.7%) symptoms. Furthermore, somatic severity was found to correlate highly ( $p < .001$ ) with depressive symptoms, moderate anxiety (41.5%) and those patients experiencing a higher frequency of stressful life events.<sup>[2]</sup> In a similar study of 245 MUPS patients found that out of 976 individuals screened, 75 % of MUPS patients had somatic severity levels that were significantly associated with females ( $p \leq .001$ ), rural dwelling ( $p = .035$ ), lower education ( $p = .003$ ) and lower socioeconomic status ( $p = .001$ ).<sup>[3]</sup>

The socio-cultural beliefs of patients greatly influence the types of providers they seek out for treatment, how they describe their symptoms to their medical provider and how much money they spend to get better in Indian patients who are diagnosed with somatic symptom disorder (SSD) and common mental disorders (CMDs).<sup>[4,5]</sup> A cross-sectional study evaluating 100 Indian patients with SSD revealed that patients had an average age of 38.62 (sd = 10.59) with 51% of them being female. Patients experienced chronic illness, with an average duration of 7.28 years, and reported an average of 21.95 different physical symptoms caused primarily by low energy (81%) and neck/shoulder pain (79%).<sup>[4]</sup> The additionally costly nature of CMDs manifests itself when 220 CMD patients (including 52 patients with somatoform conditions) took part in a cost-of-illness study and calculated that their median annual out of pocket costs were ₹21,620 (\$425) for each patient. The majority of this cost (82%) was attributed to indirect costs due to decreased productivity caused by illness limitations and was found to correlate positively with disease severity and disability levels.<sup>[5]</sup>

In a network study of 2796 Indian primary care attendees, it was found that depressed mood, panic and fatigue are "central bridges" between depression, anxiety and somatisation as well as being interwoven

in a dynamic fashion without obvious common mental disorder "subclusters".<sup>[7]</sup> The phenomenon of panic is found to be highly central in resource constrained public healthcare settings, while fatigue is noted to be a more central presentation in private healthcare settings, suggesting that there are significant socioeconomic differences in the way illnesses develop in these two types of settings.<sup>[7]</sup> Culturally specific idioms of distress also serve to amplify this feed forward loop; for example, in a guild-directed multi-centric study of male subjects across India involving 780 subjects, it was found that Dhat syndrome is associated with a heavy somatic burden, and is comprised of excessive weakness (78.2%) and low energy (75.9%) associated with culturally-specific beliefs regarding semen loss.<sup>[8]</sup>

While one-third (32.8%) of the subjects with Dhat syndrome had no comorbidities, 51.3% had comorbid sexual dysfunction, 20.5% had a depressive disorder, 20.5% had a neurotic or somatoform disorder, and 22.6% had both affective and sexual dysfunctions.<sup>[9]</sup> Also, a comparative analysis of 70 chronic patients with medically unexplained physical symptoms (MUPS) versus matched patients with medically explained physical symptoms (MEPS) controls in North India found that there are significantly more psychiatric morbidity, health anxiety, health care utilisation, and rates of disability in patients with MUPS than those with MUPS compared to those with MEPS. The large degree of overlap between medically explained and medically unexplained symptoms increases the risk of clinicians developing tunnel vision or suffer from diagnostic overshadowing when the healthcare system is understaffed. Failure to investigate the psychological aspects of a patient leads to care being fragmented and an increased rate of undetected psychiatric conditions.<sup>[10]</sup> Integrated screening protocols, collaborative models of care, as well as providing culturally appropriate psychoeducation directly within medical outpatient departments will mitigate the clinical and economic hardships.

## CONCLUSION

The study concluded that somatic symptom disorder is highly prevalent among patients attending the tertiary care medicine outpatient department, with generalized body pain and musculoskeletal disorders being the most common presentations. The study concluded that the female patients demonstrated a

higher burden of chronic pain-related symptoms, whereas Dhat syndrome was predominantly observed among younger male participants.

Significant psychiatric and somatic comorbidities such as fatigue syndrome, persistent headache syndromes, functional gastrointestinal symptoms, and conversion disorder were frequently observed among the participants. Female patients demonstrated a higher burden of chronic pain-related symptoms, whereas Dhat syndrome was predominantly observed among younger male participants. The findings emphasize the importance of early psychiatric evaluation and multidisciplinary screening in tertiary care settings for timely identification and comprehensive management of somatic symptom disorders. The degree of comorbidity between somatic symptom disorder and the following diseases: depression and anxiety, illustrates that many individuals will experience their feelings of psychological distress through the lens of a physically acceptable form of expression, which causes overlap in diagnoses and leads to excessive use of the healthcare system above what it is designed to provide. Therefore, delivering a broad, multi-faceted approach to screening, active collaboration among multiple disciplines and culturally responsive psychoeducation within the outpatient medical setting will be a critical component in addressing the limitations caused by functional disability, maximizing the use of resources, and delivering timely, comprehensive care to individuals living with somatic symptom disorder.

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