



Somatoform disorders in out-patient psychiatric setting: An overview

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Abstract

Background: The somatoform disorders are a group of psychiatric disorders that present with unexplained physical symptoms.

Aims: This study aimed at assessing the prevalence and risk factors of somatoform disorders (SD) and their types among patients attending a major psychiatric clinic in Duhok Governorate/Kurdistan Region of Iraq. Our secondary aim was to assess the common presenting symptoms of conversion disorder (CD).

Method: 637 subjects were randomly selected from the outpatient psychiatric clinic at Azadi Teaching Hospital in Duhok Governorate/Kurdistan Region of Iraq. Structured Clinical Interview for DSM-IV Axis I Disorders-Patient Edition (Version 2.0) was applied to diagnose patients with SDs.

Results: In our sample the prevalence of SD was 24%. CD comprised the vast majority of SD at 75.8%, followed by somatization disorder at 7.8% and undifferentiated SD at 5.2%. SD was most common (60.1%) in adolescents and young adults (ages 15-25 y.o.); ($p < 0.05$), and female gender comprised most of the SD in our sample (75.8%; $p < 0.001$)

Although, more than two-third of the cases were from lower educational levels (illiterate and primary educational level) (67.3%), more than fifty percent were married (52.3%), majority were housewives (39.2%) and more than half of the cases were from urban areas (52.3%), but no significant association were found between SD and educational level, marital status, occupation, and residence (p -values were 0.218, 0.659, 0.072, 0.090 respectively). Regarding the symptomatic presentation of CD, vast majority of the cases presented with pseudo-seizures which comprised (81%), followed by motor symptoms which comprised (17.2%), and sensory symptoms which constituted (1.7%) only.

Limitations: The method of sample selection and identification in overcrowded out-patient psychiatric clinic, using the Structured Clinical Interview for DSM-IV Axis I Disorders-Patient Edition (SCID-I/P) diagnostic exam were the main limitations of the study.

Conclusions: SD was highly prevalent among patients attending a major outpatient psychiatric clinic in Duhok Governorate/Kurdistan Region of Iraq, and CD was the most common presenting form of SD. Younger age (adolescents and young adults) and female gender comprised the majority of cases. Interestingly, the most common presenting symptom of CD in our sample was pseudo-seizures.

Key words: Somatoform disorders, prevalence, risk factors, conversion disorders

1.Introduction

The common feature of SD is the presence of physical symptoms that suggest a general medical condition and hence the term somatoform (American Psychiatric Association, 2000). Some persons when exposed to the anxiety that results from exposure to stress or trauma, "somaticize" instead of developing anxiety or depressive disorders; they experience anxiety as fatigue, body aches, headaches, gastrointestinal problems, and different other somatic manifestations (Boeree, 2007).

Lipowsky (1988) defined somatization as a tendency to experience and express psychological distress in the form of somatic symptoms that individuals misinterpret as serious physical illness, and thus they seek medical help. Somatization poses a major medical, social, and economic problem.

Studies suggest that there is no single theory that can adequately explain somatization, which is not only multifactorially determined but is an exceedingly complex phenomenon. The contributions of the various etiological factors differ from one individual to another (Robert, 1990). However, according to Claudia et al. (2010) individuals with decreased emotional awareness often fail to experience affective arousal as feelings and instead experience emotional distress somatically.

Historically, an Egyptian medical papyrus that dates back to 1600 B.C., discussed "hysteria," a term previously used to describe somatoform symptoms. Similarly, Hippocrates believed that a wandering uterus caused pain and disease in women (Phillips, 2001).

The 3rd edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III) introduced SD as a speculative diagnostic category for somatic symptoms that is not explained by a medical condition. (Mayou et al., 2005).

Whereas DSM-IV classifies SD in to the following diagnoses: somatization disorder, undifferentiated SD, SD not otherwise specified (NOS), conversion disorder, pain disorder, body dysmorphic disorder, and hypochondriasis (American Psychiatric Association, 1994). However, the assessment of SD is complicated by persistent theoretical and practical questions of classification and assessment (Henningsen et al., 2005).

The lifetime prevalence of SDs is 32% (Grabe et al., 2003). While Groß et al. (2012) stated that 12 out of 100 people suffer from a SD in the course of their lives. These conditions are often comorbid with other mental and physical disorders and particularly prevalent in primary care setting (Janca et al., 2006). However, an accurate assessment of the prevalence and specific categorization of SD is complex. For example, conflicts between

patient's subjective experiences and physician's objective findings, coupled with the fear of blaming the patient may underestimate the diagnosis of SD (Epstein et al., 1999).

The exact etiology of SD is unclear, and there is evidence that both genetic predisposition and traumatic events in childhood increase the risk (Groß et al., 2012). Some believe that SD are not strictly mental events, but rather are maladaptive neuro-hormonal responses. For example, Riefa and Barskya (2005) emphasized the role of stress hormones, neurotransmitters, and immune responses. Yet, others suggest that SD are linked to a diminished capacity to consciously experience and differentiate affects and express them in an adequate or healthy way (Waller & Scheidt, 2006).

Despite their high prevalence SD have received relatively little attention and remain poorly understood. Possible reason includes their diagnostic ambiguity leading to misdiagnosis or underdiagnoses in clinical practice, and the low acceptance of symptoms by patients (Bouman & Eifert, 2009). Furthermore, psychiatrists' current preoccupation with so-called 'serious mental illness' gives SD low priority. Some health planners have erroneously equated severity with diagnosis rather than level of need and disability. As a consequence the development of psychiatric services has been neglected (Bass et al., 2001).

This study aimed at assessing the prevalence and risk factors of SD and their types among patients attending a major psychiatric clinic in Duhok Governorate/Kurdistan Region of Iraq. Our secondary aim was to assess the common presenting symptoms of CD.

2. Patients and methods

We conducted a cross sectional study of 637 patients aged 18 and older who were selected randomly from the outpatient psychiatric clinic in Azadi Teaching Hospital, a major referral center in Duhok Governorate/Kurdistan Region of Iraq between 1st of July 2011 and 2nd of July 2012. The verbal consent was obtained from patients before participation.

Structured Clinical Interview for DSM-IV Axis I Disorders-Patient Edition (SCID-I/P) (Version 2.0) was applied to diagnose and classify SD (First et al., 1996).

Scientific approval was obtained from the scientific committee at College of Medicine - University of Duhok and the ethical approval from the ethical committee in Duhok Directorate General of Health before starting the study.

Statistical Package for the Social Sciences (SPSS), version 21, was used for data analysis. Pearson's Chi-Squared test and Fisher's Exact test were used to assess the association between the two categorical variables. A P -value ≤ 0.05 was considered statistically significant.

3. Results

The prevalence of SD in our sample was 24% (153 out of 637 patients) among those who attended the outpatient psychiatric clinic.

CD comprised the vast majority of SD at 75.8% (116 cases), followed by Somatization Disorders at 7.8% (12 cases) and Undifferentiated SD at 5.2% (8 cases).

Most of the SD cases were females 116 (75.9%, $p < 0.001$ vs male gender). Most cases were adolescents and young adults (15-25 y.o., representing 60.1% (92 cases) of our sample, ($p = 0.024$ vs older age).

The number of cases distributed roughly equally between patients from urban and rural residence and between those who are married and singles. About two-third of the cases (67.3%) were from lower educational levels (illiterate and primary educational level), and among those, the majority were housewives (39.2%). However, in our sample, no significant association was found between SD and educational level, marital status, occupation, or residence (p -values were 0.22, 0.66, 0.07, 0.09 respectively).

Regarding the clinical presentation of CD, the vast majority of the cases presented with seizure-like activity (pseudo-seizures) or fainting. These two presentations comprised 81% of cases, followed by motor symptoms, such as abnormal jerky movements or paralysis (17.2%), and sensory symptoms, such as parasthesias (1.7%)..

4. Discussion:

4.1. Prevalence:

Our data suggest that SD are common among patients presenting to a major outpatient psychiatric clinic in Duhok Governorate/Kurdistan Region of Iraq, and account for a significant proportion of clinical services.

In the current study, the prevalence of SD in our outpatient psychiatric clinic was 24%. However; lower rates were reported by Garyfallos et al. (1999) in a study conducted in Greece, in which only 12.1% of psychiatric outpatients received a diagnosis of a SD.

This higher prevalence of SD in our study could explain by sociocultural differences among populations. For example, it is reported that the most frequent manifestation of anxiety is somatization especially in non-western countries (Boeree, 2007). In addition, it is possible that the discordance in prevalence of SD could be due to the different methodological procedures used in each study and the sociocultural impacts on the expression of the effects of stress. Kay & Tasman (2006), reported that it is not surprising that assessments of the frequency of this category of disorders in clinical settings are inconsistent if not nonexistent.

Compared to other psychiatric disorders, there is scarce research data on SD among individuals seeking care in psychiatric clinics. Interestingly, most of the research about this group of disorders was conducted in the primary care setting and general medical wards. For instance, 1 in 5 inpatients in the internal medical wards fulfilled the DSM-IV diagnostic criteria of SD according to Fink et al. (2004). Whereas, lower rate were reported by Hansesn et al. (2001), in which the main diagnoses were SD in 17.6% of internal medical inpatients. Strikingly, on final follow-up assessment of general hospital inpatients, 31% were diagnosed as having SD, in which they had not been diagnosable as somatoform on initial assessment according to Snyder & Strain, 1989.

In the outpatient setting, Smith et al. (2005) reported that 23.3% of patient population were "DSM somatoform-positive". Similarly, Steinbrecher et al. (2011) reported that the 12-months prevalence of SD was 22.9%, and Maj et al. (2005) reported a similar prevalence of 21.9%. However, lower rate had been estimated 18% in Anseau et al. (2004) study and 16.1% by De Waal et al. (2004). Whereas, Roca et al. (2009) reported a higher rate (28.8%), and Fink et al. (1999) reported a much higher rate (57.5%). The prevalence of CD in the general population ranged between 5-10%. For example, the 12-month prevalence in a community sample was 5.3-11% according to Wittchen and Jacobi (2005). Similarly, Leiknes et al. (2007) study reported an overall SD prevalence of 10.2% in the general population.

In neurology services, more than one third of the first time referral cases fulfilled the DSM-IV diagnostic criteria for SD (Fink & Hansen, 2005).

To sum up, the different rates of SD reported among different studies are likely attributed to the methodological differences, the type of population studied, and the sociocultural differences among different populations and their effects on the expression of the response to stresses.

4.2.Risk factors:

With regard to the etiology and risk factors of SD, they are mostly obscure, and generally the systematic knowledge is lacking (Bouman & Eifert, 2009).

In current study, the results showed high statistical significant association of the female gender to SD. Similarly, in Wool and Barsky (1994) and Yimam et al. (2014) studies, the females appeared high significant risk factor for SDs, whereas Wittchen and Jacobi (2005) reported that SDs are more common in women. Similar result reported by Hansen et al. (2001), in which, the prevalence of SD among medical inpatients was high and increased in women. Furthermore, Kurt and Spitzer. (1998) stated that somatoform symptoms were more frequent in women, and Snyder and Strain (1989) noticed that somatoform patients were more likely than others to be female. Whereas, Hanel et al. (2009) reported that SD patients diagnosed by their GPs were more often female.

These results showed that women do somatize more than men, though, the exact role of gender in somatizing remains unclear (Wool and Barsky, 1994).

However, Martin et al. (1998) attributed the higher prevalence of SD among females to the diagnostic biases that females exposed when physician consider somatic symptoms presented by them as more possibly to be psychological than organic in nature. Whereas, (Corney, 1990) attributed it to the evidences that females are more likely to seek medical services. Furthermore, Beebe (1995) stated that women tend to focus more on their bodies. Moreover, Stewart et al. (1997) pointed that women are more fearful of their bodily sensations which further increase the risk for developing SD.

Younger age group appeared significant risk factor for SD. Similarly, Hilderink et al. (2013) reported that the prevalence rate for SD in general population appeared higher in younger (11-21%) and middle-aged (10-20%) and lower among older age group (1.5 – 13%). Whereas, Hanel et al. (2009) reported that patients diagnosed by their general practitioners with SD were significantly older.

Although SD were more common among lower educational level (illiterate and primary), married, housewives and those from urban areas, still no significant association appeared between the development of SD and the educational level, marital state, occupation and residence.

Married and housewives carry higher responsibilities including taking care of the family and hence they are under more stress which could appear in the form of more serious psychiatric conditions like MDD and it seems that the somatization depends on the type and quality of the stresses. In addition to the pressure from the husbands and his family on the housewives whenever they experience somatization in our culture. Similar hypothesis can be applied to patients with lower educational level and their response to different kind of psychosocial stresses according to their severity and kinds. However, the way of defining urban areas in this study as it only included the centers of the districts, in addition to the similarity (to a degree) of living standards and social communication patterns between the center of districts and sub-districts and villages in Duhok Governorate could explain why residence is not risk factor for SD.

However, Yimam et al. (2014) reported that low educational status was significantly associated with common mental disorders including SD. Similarly, Hanel et al. (2009) indicated that patients diagnosed with SD were significantly less educated. Furthermore, lower level of education regarded as risk factor SD (Mayo Clinic Staff, 2015).

Whereas, somatization in general population was associated with female gender, age above 45, lower educational level, and rural area in Hiller et al. (2006) study.

4.3.Types:

Reliable information about the prevalence of these disorders is usually limited; despite that DSM-IV-TR provides some information in this regard. This is mostly due to the fact that earlier studies often did not adequately differentiate between somatoform and related

disorders (e.g., anxiety and depression). In addition to that, epidemiological studies have used different diagnostic criteria and various samples drawn from the general population or specific medical settings (Bouman & Eifert, 2009).

However, most of the SD appear to be relatively common in a diverse array of clinical settings, still they often go unrecognized and undiagnosed (Phillips, 2001).

In current study, CD comprised the vast majority type of SDs 75.82%, followed by Somatization disorder 7.84%, Undifferentiated somatoform disorder 5.22%, Pain Disorder 4.57%, Somatoform Disorder Not Otherwise Specified 3.92%, and Hypochondriasis 2.61%.

However, the Somatoform disorder NOS diagnosis appeared to be the most common SDs in psychiatric population (60%) followed by pain disorders (8%) in Altamura et al. (1998) study. Whereas, CD appeared the commonest SD 39.5% in consultation-liaison psychiatry according to Thomassen et al. (2003). In contrast, Asmundson et al. (2012) stated that the least common SDs are Somatization disorder and CD. Whereas, the one-year prevalence figures of SDs in a community survey showed that Undifferentiated SD was the commonest type 13.8% followed by hypochondriasis 4.5% and the Conversion disorder was the least prevalent 0.3% according to Faravelli et al. (1997).

Strikingly, no case of Body dysmorphic disorder (BDD) was reported in current study, this could be explained by the shame and humiliation that BDD patients suffer, that made them undisclosed their main complaints. This had been asserted by Grant et al. (2001), when stated that 13.1% of psychiatric inpatients were diagnosed as having BDD, none of them had been diagnosed with BDD during hospitalization and all subjects reported that they would not raise the issue with their physician unless specifically asked due to feelings of shame, this will make the rate of (BDD) in psychiatric settings and the nature of the presenting complaints is unknown, and unless this disorder is not specifically screened for, BDD would be underdiagnosed.

This wide difference in the prevalence of various kinds of SD among different cultures support the hypothesis of the impact of sociocultural norms on the somatic expression and various presentations of SD. Furthermore, Kirmayer and Young (1998) supported this assertion when stated that somatic sensations are common in all cultural and among all communities; however, presentation varies widely depending on sociocultural norms.

4.4. Conversion disorder:

Conversion disorder appeared the commonest type of SD in current study, its prevalence was 75.82% among SD and (18.2%) among the selected sample who attended out-patient psychiatric clinic. The predestined prevalence rate (18.2%) is higher than what is indicated by Sadock et al. (2015) which was (5-15%), Kay and Tasman (2006) was (nearly 10%) and Okasha (2004) (11.2%). Whereas much lower rates had been reported by Hahn et al. (2006), Hall (2010) was up to 3% in both and Treece and Barnhill (2009) was (0.01–0.02%).

The immensely different estimates of prevalence of CD possibly attributed to the methodological differences among studies, including the changing definition of CD, ascertainment procedures and populations studied. In addition, higher rates reported in developing countries (in comparison to developed), as countries develop, there may be a declining incidence, which may relate to increasing levels of education, and medical and psychological sophistication. (Kay & Tasman, 2006)

Regarding the presenting symptoms of CD there was similarity between females and males, the commonest symptom being seizures or convulsions (81%) (Included: unresponsiveness which described falling attacks with prolonged loss of consciousness not associated with abnormal movements, pseudoseizure, which described the falling attack with short period of loss of consciousness associated with abnormal movement and fainting attacks, which described short loss of consciousness without abnormal movement) followed by motor symptoms (17.2%) (Included: Abnormal movements, mutism and aphonia, paralysis and weakness and globus hystericus) while the sensory symptoms comprised only (1.7%) which included paresthesia and blindness. These results carries some similarity with the results of Khan et al. (2006) and Syed et al. (2001) studies in which the unresponsiveness was the commonest presenting symptom. It is also similar to Kuloglu et al. (2003) study where the commonest presentation was non-epileptic seizure and to Najim et al. (2011) study in which the pseudo-fits was the most frequent presentation.

Whereas it disagree with the results of Sar et al. (2009) who revealed that dizziness and fainting were the most prevalent conversion symptoms, while non-epileptic seizures was the tenth presenting symptom. This result contradicts Sadock et al. (2015) who stated that paralysis, blindness, and mutism are the most common presenting symptoms in CD and Mousavi et al. (2008) study in which aphonia was the commonest presenting symptom followed by paresia.

This differences in presentation of CD could be explained by methodological differences among the studies, especially the selected sample studied, in addition, CD presents differently in different cultures and is affected by prevalent traditional believes (Syed et al., 2001).

Eventually, it's worth mentioning, that most researches on SD confounds mechanisms of symptom production with factors that influence help seeking. Longitudinal community studies are needed to explore the interactions of personality with illness experience and the stigmatization of medically unexplained symptoms (Kirmayer et al., 1998).

Better recognition of the importance of SDs will only occur if high quality research and education receive priority among specialties concerned with psychiatric disorders, and if they continue to press for increasing public awareness of their importance (Bass et al., 2001).

5. Conclusions:

The prevalence of SD was high representing about quarter of our randomly selected sample of patients attending a major outpatient psychiatric clinic in Duhok Governorate/Kurdistan Region of Iraq. CD comprised the vast majority cases of SD, and strikingly no cases of Body dysmorphic disorder were reported. The risk factors for SD included being female and young. Regarding the presenting symptoms of CD, pseudo-seizures comprised the vast majority.

Conflict of interest:

The author reports no conflicts of interest.

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References

Altamura A, Carta M., Tacchini G, Musazzi A, Pioli MR (1998) Prevalence of somatoform disorders in a psychiatric population: an Italian nationwide survey . *European Archives of Psychiatry and Clinical Neuroscience* 248(6): 267–271. DOI: 10.1007/s004060050048

American Psychiatric Association (1994) *Diagnostic and Statistical Manual of Mental Disorders* 4th ed. American Psychiatric Association, Washington, DC

American Psychiatric Association (2000) *Diagnostic and Statistical Manual of Mental Disorders*, 4th ed. Text rev. American Psychiatric Association, Washington, DC

Ansseau M, Dierick M, Buntinx F, Cnockaert P, De Smedt J, Van Den Haute M, Vander Mijnsbrugge D (2004) High prevalence of mental disorders in primary care. *Journal of affective disorders* 78(1):49-55. [http://dx.doi.org/10.1016/S0165-0327\(02\)00219-7](http://dx.doi.org/10.1016/S0165-0327(02)00219-7)

Asmundson GJG, Thibodeau MA, Pelus DL (2012) Somatoform disorders. In: Hersen M, Beidel DC. *Adult Psychopathology and Diagnosis*. 6th ed. John Wiley & Sons. Ltd, Chichester

Bass C, Peveler R, House A (2001) Somatoform disorders: severe psychiatric illnesses neglected by psychiatrists. *The British Journal of Psychiatry* 179 (1): 11-14. DOI: 10.1192/bjp.179.1.11

Beebe DW (1995) The Attention to Body Shape Scale: A New Measure of Body Focus. *Journal of Personality Assessment* 65(3): 486-501
http://dx.doi.org/10.1207/s15327752jpa6503_8

Boeree CG (2007) Somatoform Disorders. Available from:
<http://webpace.ship.edu/cgboer/somatoform.html>

Bouman TK, Eifert GH. Somatoform Disorders (2009). In: Blaney PH, Millon T. *Oxford Textbook of Psychopathology*. 2nd ed. Oxford University Press, New York

Claudia SW, Beutel ME, Knebel, Lane ADP, Richard D (2010) Theory of Mind and Emotional Awareness Deficits in Patients With Somatoform Disorders. *Psychosomatic Medicine* 72(4): 404-411. DOI: 10.1097/PSY.0b013e3181d35e83

Corney RH (1990) Sex differences in general practice attendance and help seeking for minor illness. *Journal of Psychosomatic Research* 34(5):525–534.
[http://dx.doi.org/10.1016/0022-3999\(90\)90027-2](http://dx.doi.org/10.1016/0022-3999(90)90027-2)

De Waal MWM, Arnold IA, Eekhof JAH, Van Hemert AM (2004) Somatoform disorders in general practice, Prevalence, functional impairment and comorbidity with anxiety and depressive disorders. *The British Journal of Psychiatry* 184 (6):470-476. DOI: 10.1192/bjp.184.6.470

Epstein RM, Quill TE, McWhinney IR (1999) Somatization Reconsidered Incorporating the Patient's Experience of Illness. *Archives of Internal Medicine* 159(3):215-222. DOI:10.1001/archinte.159.3.215

Faravelli, C., Salvatori, S., Galassi, F. et al. (1997) Epidemiology of somatoform disorders: a community survey in Florence. *Social Psychiatry and Psychiatric Epidemiology* 32 (1): 24-29. DOI: 10.1007/BF00800664

Fink P, Hansenb MS, Oxhojb ML (2004) The prevalence of somatoform disorders among internal medical inpatients. *Journal of Psychosomatic Research* 56 (4): 413–418.
[http://dx.doi.org/10.1016/S0022-3999\(03\)00624-X](http://dx.doi.org/10.1016/S0022-3999(03)00624-X)

Fink P, Hansen MS, Søndergaard L (2005) Somatoform disorders among first-time referrals to a neurology service. *Psychosomatics* 46 (6):540-8.
<http://dx.doi.org/10.1176/appi.psy.46.6.540>

Fink P, Sørensen L, Engberg M, Holm M, Munk-Jørgensen P (1999) Somatization in Primary Care: Prevalence, Health Care Utilization, and General Practitioner Recognition. *Psychosomatics* 40(4) :330–338 [http://dx.doi.org/10.1016/S0033-3182\(99\)71228-4](http://dx.doi.org/10.1016/S0033-3182(99)71228-4)

Garyfallos G, Adamopoulou A, Karastergiou A, Voikli M, Ikonomidis N, Donias S, et al. (1999) Somatoform disorders: comorbidity with other DSM-III-R psychiatric diagnoses in

Greece. *Comprehensive psychiatry* 40(4):299-307. [http://dx.doi.org/10.1016/S0010-440X\(99\)90131-1](http://dx.doi.org/10.1016/S0010-440X(99)90131-1)

Grabe HJ , Meyer C, Hapke U .et al. (2003) Specific Somatoform Disorder in the General Population. *Psychosomatics* 44 (4): 304-311

Grant JE, Kim SW, Crow SJ (2001) Prevalence and clinical features of body dysmorphic disorder in adolescent and adult psychiatric inpatients. *The Journal of Clinical Psychiatry* 62(7):517-522

Groß B, Wiborg J, Herzog A, Voigt K, Mora MS , Löwe B (2012) Somatoform disorders. Available from: <http://www.psychenet.de/en/mental-health/knowledge/somatoform-disorders.html>

Hahn RK, Albers LJ, Reist C (2006) *Current Clinical Strategies Psychiatry*. 7th ed. Current Clinical Strategies Publishing, USA

Hall R (2010) *Somatoform Disorders*. In Azzam A, Yanofski J, Kaftarian E. *First aid for the psychiatry boards*. McGraw-Hill Companies, USA

Hanel G, Henningsen P, Herzog W, Sauera N, Schaefer R, Szecsenyi J, et al. (2009) Depression, anxiety, and somatoform disorders: Vague or distinct categories in primary care? Results from a large cross-sectional study. *Journal of Psychosomatic Research* 67 (3):189–197. <http://dx.doi.org/10.1016/j.jpsychores.2009.04.013>

Hansen MS, Fink P, Frydenberg M, Oxhøj ML, Søndergaard L, Munk-Jørgensen P (2001) Mental disorders among internal medical inpatients: prevalence, detection, and treatment status. *Journal of Psychosomatic Research* 50(4):199-204. [http://dx.doi.org/10.1016/S0022-3999\(00\)00230-0](http://dx.doi.org/10.1016/S0022-3999(00)00230-0)

Henningsen P1, Jakobsen T, Schiltenswolf M, Weiss MG. (2005) Somatization Revisited: Diagnosis and Perceived Causes of Common Mental Disorders. *Journal of Nervous and Mental Disease* 193(2): 85-92

Hilderink PH, Collard R, Rosmalen JGM, Oude Voshaar RC (2013) Prevalence of somatoform disorders and medically unexplained symptoms in old age populations in comparison with younger age groups: A systematic review. *Ageing Research Reviews* 12(1): 151–156. <http://dx.doi.org/10.1016/j.arr.2012.04.004>

Hiller W, Rief W, Brähler E (2006) Somatization in the population: from mild bodily misperceptions to disabling symptoms. *Social Psychiatry and Psychiatric Epidemiology* 41(9):704-12. DOI: 10.1007/s00127-006-0082-y

Janca A., Isaac M., Ventouras J (2006) Towards better understanding and management of somatoform disorders. *Journal International Review of Psychiatry* 18(1). [dx.doi.org/10.1080/09540260500466766](https://doi.org/10.1080/09540260500466766)

Kay J, Tasman A (2006) *Essentials of Psychiatry*. John Wiley & Sons, Ltd, Chichester

Khan S, Ladha A, Khan SK, Khan SF, Malik AA, Memon Z , et al. (2006) Presentation and features of Conversion Disorder at Tertiary Care Hospital In Karachi. *Pakistan Journal of Neurological Sciences* 1(3):128-31

Kirmayer LJ, Robbins JM, Joel P (1994) Somatoform disorders: Personality and the social matrix of somatic distress. *Journal of Abnormal Psychology* 103(1):125-136. <http://dx.doi.org/10.1037/0021-843X.103.1.125>

Kirmayer LJ, Young A (1998) Culture and Somatization: Clinical, Epidemiological, and Ethnographic Perspectives. *Psychosomatic Medicine*: 60 – (4): 420-430

Kuloglu M, Atmaca M, Tezcan E, Gecici O, Bulut S (2003) Sociodemographic and clinical characteristics of patients with Conversion Disorder in Eastern Turkey. *Soc Psychiatry Psychiatr Epidemiol* 38(2):88-93

Kurt K, Spitzer RL (1998) Gender Differences in the Reporting of Physical and Somatoform Symptoms. *Psychosomatic Medicine* 60(2) : 150-155

Leiknes, K.A., Finset, A., Moum, T. et al. (2007) Current somatoform disorders in Norway: prevalence, risk factors and comorbidity with anxiety, depression and musculoskeletal disorders. *Social Psychiatry and Psychiatric Epidemiology* 42 (9):698–710. DOI: 10.1007/s00127-007-0218-8

Lipowski ZJ (1988) Somatization: the concept and its clinical application. *American Journal of Psychiatry* 145 (11): 1358-1368. <http://dx.doi.org/10.1176/ajp.145.11.1358>

Maj M., Akiskal HS., Mezzich J., Okash A (2005) *Somatoform Disorder*. John Wiley & Sons., Ltd, Chichester

Martin R, Gordon EE, Lounsbury P (1998) Gender disparities in the attribution of cardiac-related symptoms: contribution of common sense models of illness. *Health Psychology* 17(4):346. <http://dx.doi.org/10.1037/0278-6133.17.4.346>

Mayo Clinic Staff (2015) Diseases and Conditions: Somatic symptom disorder. Available from: <http://www.mayoclinic.org/diseases-conditions/somatic-symptom-disorder/basics/risk-factors/con-20124065>

Mayou R, Kirmayer LJ, Simon G, Kroenke K, Sharpe M (2005) Somatoform Disorders: Time for a New Approach in DSM-V. *American Journal of Psychiatry* 162 (5): 847-855. <http://dx.doi.org/10.1176/appi.ajp.162.5.847>

Mousavi SG, Rahimi J, Afshar H (2008) Comparison of Four Different Treatment Options in the Management of Acute Conversion Disorder. *Iranian Journal of Psychiatry and Behavioral Sciences* 2 (1): 21-25

Najim H, Al-Habbo DJ, Sultan KO (2011) Trends of admissions of conversion disorder in Mosul Iraq. *Psychiatr Danub* 23 (1): 29-31

Okasha A (2004) Focus on psychiatry in Egypt. *Br J Psychiatry* 185 (3) 266-272. DOI: 10.1192/bjp.185.3.266.

Phillips KA (2001) *Somatoform and Factitious Disorders*. American Psychiatric Publishing. Washington, DC

Riefa W, Barskya AJ (2005) Psychobiological perspectives on somatoform disorders. *Psychoneuroendocrinology* 30 (10) : 996–1002. <http://dx.doi.org/10.1016/j.psychneu.2005.03.018>

Rober K (1990) Somatization: Theories and Research. *Journal of Nervous & Mental Disease* 178 (3)

Roca M , Gili M, Garcia-Garcia M, Salva J, Vivesa M, Campayo JG, et al. (2009) Prevalence and comorbidity of common mental disorders in primary care. *Journal of Affective Disorders* 119(1–3):52–58. <http://dx.doi.org/10.1016/j.jad.2009.03.014>

Sadock BJ, Sadock VA, Ruiz P (2015) *Kaplan and Sadock's Synopsis of Psychiatry: Behavioral Sciences/Clinical Psychiatry*. 11th ed., Wolters Kluwer, Philadelphia

Sar V, Akyüz G, Doğan O, Oztü E (2009) The Prevalence of Conversion Symptoms in Women From a General Turkish Population. *Psychosomatics* 50(1):50-8. DOI: 10.1176/appi.psy.50.1.50.

Snyder S, Strain JJ (1989) Somatoform disorders in the general hospital inpatient setting. *General Hospital Psychiatry* 11(4): 288–293. [http://dx.doi.org/10.1016/0163-8343\(89\)90078-9](http://dx.doi.org/10.1016/0163-8343(89)90078-9)

Steinbrecher N, Koerber S, Frieser D, Hiller W (2011) The Prevalence of Medically Unexplained Symptoms in Primary Care. *Psychosomatics* Volume 52, (3): 263–271. <http://dx.doi.org/10.1016/j.psym.2011.01.007>

Stewart SH, Taylor S, Baker JM (1997) Gender differences in dimensions of anxiety sensitivity. *Journal of anxiety disorders* 11(2):179-200. [https://doi.org/10.1016/S0887-6185\(97\)00005-4](https://doi.org/10.1016/S0887-6185(97)00005-4)

Syed EU, Atiq R, Effendi S, Mehmud S (2001) Conversion disorder: difficulties in diagnosis using DSM-IV/ICD-10. *J Pak Med Assoc.* 51(4):143-5

Thomassen R, van Hemert AM, Huyse FJ, van der Mast RC, Hengeveld MW (2003) Somatoform disorders in consultation-liaison psychiatry: a comparison with other mental disorders. *General Hospital Psychiatry* 25 (1):8–13. [http://dx.doi.org/10.1016/S0163-8343\(02\)00248-7](http://dx.doi.org/10.1016/S0163-8343(02)00248-7)

Treece CA, Barnhill JW (2009) Somatoform and Factitious Disorders. In Ferrando ST. *Psychiatry in-Review Study Guide.* ETAS,USA

Waller E, Scheidt CE (2006) Somatoform disorders as disorders of affect regulation: A development perspective. *International Review of Psychiatry* 18(1):13-24. <http://dx.doi.org/10.1080/09540260500466774>

Wittchen HU, Jacobi F (2005) Size and burden of mental disorders in Europe--a critical review and appraisal of 27 studies. *Eur Neuropsychopharmacol* 15 (4):357-76. DOI: 10.1016/j.euroneuro.2005.04.012

Wool CA, Barsky AJ (1994) Do Women Somatize More Than Men?: Gender Differences in Somatization. *Psychosomatics* 35(5):445–452. [http://dx.doi.org/10.1016/S0033-3182\(94\)71738-2](http://dx.doi.org/10.1016/S0033-3182(94)71738-2)

Yimam K, Kebede Y, Azale T (2014) Prevalence of Common Mental Disorders and Associated Factors among Adults in Kombolcha Town, Northeast Ethiopia. *J Depress Anxiety* S1:007. doi:10.4172/2167-1044.S1-007

Tables:

Table 1 shws the prevalence of Somatoform disorders

Results	Somatoform Disorders	
	No.	%
Positive	153	24
Negative	484	76

Total	637	100
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Table 2 shows the prevalence of the types of Somatoform disorders

Somatoform disorders	Positive Within SDs		Positive Within selected sample	
	No.	Percent	No.	Percent
Conversion Disorder	116	75.8%	116	18.2%
Somatization Disorder	12	7.8%	12	1.9%
Undifferentiated Somatoform Disorders	8	5.2%	8	1.3%
Pain Disorders	7	4.6%	7	1.1%
Somatoform Disorder Not Otherwise Specified	6	3.9%	6	0.9%
Hypochondriasis	4	2.6%	4	0.6%
Total	153	100%	153	24%

Table 3 shows the association between socio-demographic characteristics and Somatoform disorders

Variables	Somatoform Disorders		Total	P- value
	Positive No. (%)	Negative No. (%)		
Gender				
Female	116 (75.8)	242 (50)	358	<0.001*
Male	37 (24.2)	242 (50)	279	
Age (Years)				
18-25	92 (60.1)	227 (46.9)	319	0.02**
26-33	26 (17)	131 (27.1)	157	
34-41	20 (13.1)	55 (11.4)	75	
42-49	7 (4.6)	31 (6.4)	38	
≥ 50	8 (5.2)	40 (8.3)	48	
Educational level				
Illiterate (0 years)	55 (35.9)	183 (37.8)	238	0.22**
Primary (1-6 years)	48 (31.4)	127(26.2)	175	
Secondary (7-12 years)	40 (26.1)	117 (24.2)	157	
Higher (≥13 years)	10 (6.5)	57 (11.8)	67	
Marital status				
Married	80(52.3)	229 (47.3)	309	0.66**
Single	69 (45.1)	245 (50.6)	314	
Widow	2 (1.3)	6 (1.2)	8	
Divorced	2 (1.3)	4 (0.8)	6	

Occupation				0.07**
Housewife	60 (39.2)	164 (29.7)	198	
Student	38 (24.8)	123 (22.3)	143	
Employed	18 (11.8)	78 (14.1)	96	
Unemployed	27 (17.6)	128 (23.2)	135	
Self-employed	9 (5.9)	53 (9.6)	59	
Retired	1 (0.7)	6 (1.1)	6	
Residence				0.09*
Urban	80 (52.3)	292 (60.3)	372	
Rural	73 (47.7)	192 (39.7)	265	
Total	153 (100)	484 (100)	637	

*Fisher's Exact Test

** Pearson Chi-Square

Table 4 shows Presenting symptoms of Conversion Disorder

Type of Symptoms	Both genders No. (%)	Females No. (%)	Males No. (%)
Pseudoseizures or fainting	94 (81)	75 (64.6)	19 (16.3)
Motor symptoms or deficits	20 (17.2)	17 (14.7)	3 (2.6)
Sensory symptoms or deficits	2 (1.7)	1 (0.9)	1 (0.9)
Total	116 (100)	93 (80.2)	23 (19.8)