

## Review Article

# Somatoform Disorders in Children and Adolescents

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## Abstract

*Somatoform disorders remain one of the most neglected areas in child and adolescent psychiatry. Somatoform disorders among children and adolescents cause impairment in educational and social functioning and generate a great deal of psychosocial distress. Patients with these disorders typically present to general medical settings rather than to mental health settings. Early referral to mental health professional is required to avoid unnecessary investigations and delay in diagnosis of somatoform disorders in children (German J Psychiatry 2014; 17(1): 19-24).*

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## Introduction

Somatoform disorders remain one of the most neglected areas in child and adolescent psychiatry. Physical symptoms or painful complaints of unknown aetiology are fairly common in children and adolescents (Kelly et al., 2010). These medically unexplained physical symptoms in children and adolescents account for as many as 50% of new medical outpatient visits. Children and adolescents find it difficult to express their feelings and emotions through language. Because of this, psychological distress may be expressed as physical (somatic) symptoms. 2%-10% of children in the general population complain of aches and pains (e.g., stomach aches, joint pains, headaches) that are likely to be medically unexplained, but these complaints are usually transient and do not affect the child's overall functioning (Garralda, 2010). The somatoform disorders represent the severe end of a continuum of somatic symptoms.

Somatoform disorders are characterized by multiple physical symptoms (gastrointestinal, painful, sexual, pseudo neurological) as well as recurrent ones that cannot be explained by a medical problem or by the effect of a substance (Garralda, 1992). They are not intentionally produced or feigned and they are believed to be associated to psychological factors. Functional impairment can occur in children with medically

unexplained somatic symptoms at any age and at various levels of severity, and the symptoms, especially when multiple, tend to be associated with psychological problems. There is evidence that, even in very young children who are of school age, those who present with frequent somatic symptoms are significantly more likely than children without symptoms to have associated behavioural and emotional problems (Domenech et al., 2004). These children may also be at increased risk of experiencing further physical symptoms and psychological difficulties later in childhood or adolescence. Patients with such symptoms can place significant burden on the healthcare delivery system, with heavy utilization of resources through repeated hospitalizations, consultations from different specialists, and ineffective investigations and treatments (Sumathipala et al., 2008).

## Classification

The diagnostic criteria for the somatoform disorders were established for adults and are applied to children for lack of child-specific research base and a developmentally appropriate alternative system. Different forms of somatoform disorders found during the course of childhood and adolescence are not uniform and that the clinical patterns of presentation

in adolescence bear a much greater resemblance to adult disorders than is the case in earlier childhood. ICD-10 (World Health Organization, 1992) subdivides these disorders into somatization disorder, undifferentiated somatoform disorder, hypochondriacal disorder, somatoform autonomic dysfunction, persistent somatoform pain disorder, and other somatoform disorders. Other disorders, which also have somatization as a key feature, such as dissociative disorders (conversion disorder in DSM-IV-TR) and neurasthenia (chronic fatigue syndrome), are categorized separately in ICD-10. Of all these somatoform disorders, the most commonly seen in children and adolescents is persistent somatoform pain disorder. Recently, in DSM-5 (American Psychiatric Association, 2013) somatoform disorders are now called 'somatic symptom and related disorders'. Diagnoses of somatization disorder, hypochondriasis, pain disorder, and undifferentiated somatoform disorder were deleted in DSM-5. In DSM-5, people with chronic pain could be diagnosed with somatic symptom disorder with predominant pain; or psychological factors that affect other medical conditions. Somatization disorder and undifferentiated somatoform disorder were combined to become somatic symptom disorder, a diagnosis which no longer requires a specific number of somatic symptoms.

## Epidemiology

Little is known about the exact incidence or prevalence of the different somatoform disorders in children and adolescents. However, the epidemiology of somatic complaints in general, psychosomatic factors and medically unexplained symptoms is better documented. In a child psychiatric outpatient study (Lieb et al., 2000), rates of somatic complaints ranged from 1.3 to 5%. In a general population study, somatic complaints were found in 11% of girls, and 4% of boys (Fritz et al., 1997).

Most pain and undifferentiated disorders start in childhood or early adolescence. Abdominal symptoms increase in frequency from three to nine years of age and then steadily increase up to adolescence. Headaches are less common in preschoolers than in older children or in adolescents (Lieb et al., 2000). In females, pain disorder has an age at onset of 11–19 years, whereas males have an age at onset under 13. The prevalence of symptoms associated with somatization in the pediatric population is high: recurrent abdominal pain accounts for 5% of pediatric office visits, and headaches have been reported to affect 20% to 55% of all children, with 10% of teenagers reporting frequent headaches, chest pain, nausea, and fatigue.

Somatic symptoms and somatoform disorders generally occur more commonly in females than males with a ratio of 5:1 (Aro, 1987). Studies of prepubertal children report an equal ratio in boys and girls; in post-puberty, however, the female incidence increases. In the majority of studies, girls have been found to report symptoms at increasing rates during adolescence, while reporting levels by boys fall during this time. Therefore, with increasing age it seems that boys attend to, and consistently report, fewer physical symptoms (Kin & Coles, 1992). Presumably, cultural factors in the socialisation of the different genders are also relevant. In some, but not all,

studies the onset of pubertal development and the menarche is associated with increased symptom reporting in girls.

Somatoform disorders are believed to occur more often in less sophisticated or less educated populations and lower SES groups (Haugland et al., 2001; Alfvén, 1993).

## Clinical features

Persistent somatoform pain disorder is the most common type among all variants of somatoform disorder in children and adolescents. The most common somatic symptoms are recurrent abdominal pain, musculoskeletal pain and headaches, but multiple symptoms can coexist.

## Somatization disorder

The criteria for somatization disorder were designed for adults, and attempts have been made to apply the criteria to the pediatric population. Nevertheless, this diagnosis is rarely made in the children and adolescent population, mainly because of the time requirement of several years that is needed to meet the symptom criteria.

Unfortunately, the clinical examples in ICD-10 (World Health Organization, 1996) are atypical of childhood and adolescence; for example, genito-urinary symptoms are rare. Nevertheless, these patients will be found attending most paediatric specialities, often with gastrointestinal complaints, joint and other pains and neurological symptoms.

## Persistent somatoform pain disorder

Abdominal pain, headaches, joint pains and other aches and pains may constitute persistent somatoform pain disorder when the pain is persistent, severe, distressing and occurs in association with enough psychosocial stressors to have etiological significance. Typically, functional abdominal pain presents as a diffuse or periumbilical intense pain. The pain tends to be worse during the day and does not occur at night or in school holidays. There may be accompanying altered bowel habit, vomiting, headache, lethargy and the child may look pale, which can reinforce the family's belief of an organic pathology. Headaches are more likely than not to be characterized as tension headaches (frequent, bilateral, typically frontal pain like a band) but these can sometimes coexist with migraine attacks (a periodic, severe, unilateral pain with an accompanying aura, nausea and family history).

Recurrent abdominal pain is the most common recurrent pain complaint of childhood. Recurrent abdominal pain has been defined by intermittent pain with full recovery between episodes lasting more than 3 months (Schulte & Petermann, 2011). Epidemiological studies suggest that recurrent abdominal pain affects 8–25% of school-age children aged 9–12 years, is more prevalent among girls, and accounts for 2–4% of paediatric office visits (Dufton et al., 2009). There is a

strong relation between recurrent abdominal pain and anxiety in children. The lifetime prevalence of anxiety disorders in children with recurrent abdominal pain is substantially higher than would be expected in the general population. Studies show that parents dealing with recurrent abdominal pain rated their children significantly higher than healthy children on measures of anxiety, affective problems, and somatic symptoms.

## Undifferentiated somatoform disorder

Children and adolescents are more likely to meet criteria for an undifferentiated somatoform disorder or somatoform disorder NOS than for a somatization disorder (DeMaso & Beasley, 1998). This condition emerges during adolescence, causing significant impairment. Multiple severe symptoms of at least 6 months duration are required to make the diagnosis. Complaints include, but are not limited to, pain syndromes, gastrointestinal or urogenital complaints, fatigue, loss of appetite, and pseudo neurologic symptoms.

## Hypochondriasis

Preoccupation with fears of having or the idea that one has a serious disease based on misinterpretation of bodily symptoms. This preoccupation persists despite appropriate medical evaluation and reassurance. Hypochondriasis is distinguished by a set of beliefs and attitudes about illness. There is poor supporting literature for hypochondriasis as a childhood disorder, and it is more commonly seen in late adolescence and adulthood (Silber, 2011). Patients with hypochondriasis have been found to have high correlations with depression, anxiety, and somatic symptoms. Comorbid OCD is common, with an 8% lifetime prevalence of OCD in those with hypochondriasis (compared to 2% in the general population) (Shaw et al., 2010). Individuals with this disorder are frequent users of medical services but often report dissatisfaction with the care they receive.

## Body dysmorphic disorder

Body dysmorphic disorder is defined as the preoccupation with an imagined defect in appearance or excessive concern over a slight physical anomaly. The distressing preoccupation may involve any part of the body; however, it most often involves imagined or slight flaws of the face or head such as acne, scars, thinning hair, facial asymmetry, or excessive facial hair. There has been little written about this disorder in the child and adolescent literature because most patients are secretive about their symptoms and are reluctant to seek psychiatric treatment. The onset often occurs during adolescence, with the male-to-female ratio being almost equal, unlike many other somatoform disorders (Shaw & DeMaso, 2006). Many of these patients have had consultations with surgeons and dermatologists and often seek cosmetic surgery but are poor candidates because they are unlikely to be satisfied with the results (Didie et al., 2006).

A high proportion of individuals with body dysmorphic disorder report a history of childhood maltreatment, including physical, sexual, and emotional abuse and physical neglect. Comorbid psychiatric disorders include but are not limited to depression, obsessive-compulsive disorder (OCD), social phobia, delusional disorder, anorexia nervosa, gender identity disorder. BDD is also associated with high rates of suicidal ideation and attempts, with 24–28% having attempted suicide (Phillips & Kelly, 2009).

## Screening

A thorough psychiatric interview is key to diagnosing these disorders (DeMaso et al., 2009). Some rating scales for children have been developed to aid in the assessment of physical symptom clusters and somatization. The Children's Somatization Inventory (CSI) (Walker et al., 2009) is a 35-item self-report scale with child and parent versions. This screen provides information about pediatric somatic symptoms over the 2 weeks prior to assessment (Campo & Fritz, 2001) and may be used in children as young as 7 years. The Functional Disability Inventory (FDI) can be used along with the CSI to assess severity of symptoms. The FDI correlates with both school absences and somatic symptom reports. Illness Attitude Scales and Soma Assessment Interview (SAI) are parental interview questionnaires (Rask et al., 2009).

## Comorbidity

Comorbid psychiatric disorders may precede the development of somatic symptoms but often develop during the course of the somatoform disorder. Among children presenting to services, one third to one half may have a comorbid psychiatric disorder. In school age children, anxiety and depression are the most common comorbidities (Shaw et al., 2010). Comorbid attention deficit hyperactivity disorder and oppositional defiant disorder are also frequent, especially in boys. Somatic complaints appear to be twice as common in children and adolescents who meet DSM-IV TR criteria for depression than in control subjects (McCauley et al., 1991), with the somatic symptoms arising as long as 4 years after the onset of the depression (Zwaigenbaum et al., 1999). Anxiety disorders (e.g., separation anxiety, posttraumatic stress disorders) can present with somatic complaints (e.g., headaches, stomach-aches, nausea, vomiting) (Ibeziako & Bujoreanu, 2011). Thus, it is critical to consider comorbid psychiatric illnesses (e.g., anxiety, depression) in any pediatric patient presenting with medically unexplained symptoms.

## Treatment

### General management strategies

Following from assessment, and once physical and psychiatric disorders have been addressed or excluded, management of the somatoform disorder should be planned. The following strategies may be helpful:

- Make an effort to understand the family's beliefs about the illness, level of conviction for physical causes, satisfaction with investigations, and views about the mental health referral and treatment.
- Do not question the reality of the symptoms.
- Acknowledge that patients have a real illness disrupting their life and impacting on the family.
- Explore alternative explanations for the symptoms.
- Fully discuss any physical concerns preoccupying the family and the results of the physical investigations carried out.
- Discuss fully the physiological mechanisms contributing to symptoms.
- Do not convey a sense of embarrassment when communicating a diagnosis of somatoform disorder or other psychiatric diagnoses.
- Emphasize that it may take time to recover but the majority of young people do very well.
- Help the family and child develop ways of coping with the symptoms and reduce functional impairment.

### Specific management strategies

There is a lack of evidenced-based practices related to the treatment of somatoform disorders in children and adolescents (Campo & Fritz, 2001). There are number of controlled studies of pharmacotherapy and psychotherapy for somatoform disorders in adults. Controlled trials in adults showed the strongest and most consistent evidence supporting the efficacy of CBT across several types of somatoform disorders (Jackson et al., 2006; Allen et al., 2006; Sumathipala et al., 2000). A randomized, controlled treatment trial by Allen et al, 2006 on the efficacy of CBT for somatization disorder showed that with a 10-session manualized, individually administered CBT regimen, somatization symptoms improved significantly. The treatment protocol included relaxation training, activity regulation, facilitation of emotional awareness, cognitive restructuring, and interpersonal communication. Amelioration of somatic symptoms was observed immediately after the intervention phase and persisted for 12 additional months. This study showed that CBT can result in long-term improvements in the symptomatology, functioning, and health care utilization in patients with somatization disorder. Other randomized controlled trials (Speckens et al., 1995a; Escobar et al., 2007; Sumathipala et al., 2000) examining the

efficacy of CBT for somatoform disorder with patients presenting with both severe and mild levels of somatization show individual CBT produced greater reductions in somatic complaints than did standard medical care. Overall, the literature on the treatment of somatization disorder supports the use of 6–16 sessions of CBT administered by a mental health professional.

A recent randomized controlled trial assessed the acceptability and effectiveness of mindfulness-based cognitive therapy (MBCT) for patients with persistent medically unexplained symptoms (Fjorback et al., 2013). Patients undergoing MBCT reported a significantly greater improvement in mental functioning at the end of treatment, in particular with regard to vitality and social functioning. Another meta-analysis indicated a small to moderate positive effect of MBCT in reducing pain, symptom severity, depression, and anxiety associated with somatization disorders, and improving quality of life in patients with this disorder (Lakhan et al., 2013). So MBCT is a feasible option for frequently attending patients with persistent medically unexplained symptoms in primary care.

Psychotherapeutic interventions other than CBT (e.g., interpersonal therapy, problem-solving therapy, brief psychodynamic therapy) as well as treatments outside of what are traditionally considered “psychological” (e.g., optimizing analgesics, the use of pain self-management programs) merit further study for somatoform disorders.

Several control trials assessing the efficacy of different antidepressants in somatoform disorder in adults have been done. In 12-week, multicenter, randomized, double-blind study evaluated efficacy and tolerability of extended-release venlafaxine (venlafaxine ER) in adult primary care outpatients with multisomatoform disorder (MSD) and comorbid major depressive disorder, generalized anxiety disorder, or social anxiety disorder (DSM-IV criteria). This study showed venlafaxine ER is effective in relieving somatic physical symptoms, particularly pain, in patients with depression and/or anxiety disorders (Kroenke et al., 2006).

In an 8-week, randomized double-blind placebo-controlled study, fluoxetine had a better analgesic effect than a placebo in treating persistent somatoform pain disorder, and was considered a safe treatment; its analgesic effect may be related to an antidepressant effect (Luo et al., 2009).

A randomized, 12-week, open-label trial of fluoxetine (10-60 mg/d) and sertraline (25-350 mg/d) in patients with undifferentiated somatoform disorder (USD) showed that both agents have a potential role in the treatment of USD and both were well tolerated and no serious adverse event was reported (Han et al., 2008c). A double-blind, placebo-controlled trial and/or head-to-head comparison study with larger samples are required to draw more definite conclusions.

A multicenter, randomized, 6-week, placebo-controlled clinical trial was performed in a total of 200 patients suffering from somatoform disorders according to ICD-10. Opipramol (200 mg/day) was statistically more effective than placebo. The results of this first-placebo-controlled study in somatoform disorders suggest efficacy of opipramol in this indication but need replication (Volz et al., 2000).

The above studies showed that several antidepressants are beneficial in somatoform disorder, but whether their effect is mediated through reduced depression and anxiety or a specific effect on somatic symptoms needs to be better ascertained.

Specific treatments for children and adolescents may involve individual psychological work, family work, liaison with school and with social services. Treatment should aim to develop partnerships with the child, family and all professionals involved, including teachers. Specific strategies will vary depending on the exact nature of the somatoform disorder.

Specific psychological treatment and frequency of contact will vary depending on the nature of the disorder. Interventions will involve the following:

- An emphasis on reducing impairment.
- Motivational techniques tailored to stimulate ambivalent children.
- Collaboratively finding a way to get better that is acceptable to the child.
- The use of diaries to monitor variations in symptoms, impairment and progress. This may motivate the patient and family to engage further with treatment.
- Acknowledgment that rehabilitation may worsen symptoms initially and address concerns around this.
- Developing techniques to deal with specific symptoms and impairments (e.g., distraction, muscular relaxation for headaches, graded physical exercise for muscular problems and fatigue).
- Developing active, problem focused, coping strategies and attitudes.
- Sleep hygiene and dietary advice
- Psychological interventions, such as cognitive behavioral therapy for co morbid emotional disorders.
- Gradually shifting the burden of responsibility from clinician to parent and patient.
- Use of family work to deal with family factors that may be contributing to the symptoms or interfering with their resolution.

## Conclusions

Somatoform disorders among children and adolescents cause impairment in educational and social functioning and generate a great deal of psychosocial distress. The diagnosis of such disorders is complex due to the fact that they may appear as medical conditions. Patients with these disorders typically present to general medical settings rather than to mental health settings. Early referral to mental health professional is required to avoid unnecessary investigations and delay in diagnosis of somatoform disorders in children. Sound empirical research on treatment of somatoform disorders is relatively lacking, further research is needed regarding treatment for children with a somatoform disorder and their families.

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