

# SOMATIC SYMPTOM, BODILY DISTRESS AND RELATED DISORDERS IN CHILDREN AND ADOLESCENTS

2019 edition

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Sick Girl.  
Christian Krogh,  
(1880/1881) National  
Gallery of Norway

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Physical (somatic) symptoms are extremely common in children and adolescents. Children and adolescents often find it difficult to express their feelings and emotions through language. Because of this, expression of psychological distress can manifest as physical (somatic) symptoms.

Parents are usually aware that their children may sometimes experience somatic symptoms if they are worried about something or trying to avoid something. Most parents will naturally minimise the importance of these symptoms and try and find out the cause. This tactic usually aids the child to learn to cope with everyday stresses. However, despite this, sometimes the symptoms persist.

It is thought that about 2-10% of children in the general population complain of bothersome aches and pains (e.g. stomach aches, joint pains, headaches) that are likely to be medically unexplained. The term *medically unexplained symptoms* refer to all bothersome or recurrent bodily symptoms that do not have a recognized medical illness explanation. Unexplained physical symptoms may lead to distress, impairment in functioning and health care seeking behavior, as in somatizing conditions, such as DSM-5 *somatic symptom disorder* (American Psychiatric Association, 2013) and ICD-11 (World Health Organisation, 2018) *bodily distress and related disorders*. These were previously known as “somatoform disorders.”

Functional impairment can occur in children with medically unexplained somatic symptoms at any age and at various levels of symptom 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 nursery school aged, those that present with frequent somatic symptoms are significantly more likely than children without symptoms to have associated behavioural and emotional problems, to miss nursery and to attend clinics. (Domenech-Llaberia et al, 2004). These children may also be at increased risk of experiencing further physical symptoms and psychological difficulties later in childhood or adolescence.

There are many ways in which physical and psychological symptoms interact and, really, no illness is purely one or the other, after all one cannot separate the body from the mind. In patients who present repeatedly with physical symptoms especially, but not exclusively, if these are medically unexplained, it is vital to consider underlying psychological distress. This chapter focuses on psychiatric disorders that present with physical symptoms. Table I.1.1 summarises the different ways in which physical and psychological aspects may be linked.

## WHAT IS SOMATIZATION?

This term describes a constellation of clinical and behavioral features indicating the experience and communication of psychological distress through physical (somatic) symptoms unaccounted for by pathological findings, and for these symptoms to be attributed to a physical illness, thus leading the patient to seek medical help. The production of symptoms is usually *not* under conscious control; however, in children and adolescents it is often particularly difficult to establish the level of conscious control. Table I.1.1 below summarises the broader different ways in which physical and psychological aspects may be linked.

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Children with somatic  
symptom disorder are  
often distressed by their  
symptoms but not much by  
having an actual illness,  
whereas their parents often  
are concerned about them  
having an illness.

**Table I.1.1** Ways in which physical and psychological aspects of illness are linked

| Nature of Association   | Example   |
|---|---|
| Psychological distress / Psychiatric disorders can present with physical symptoms | Child presenting with recurrent abdominal pain of non-organic origin                      |
| Physical complications of psychiatric problems                                    | Child presenting with liver failure after self-harming with a paracetamol overdose        |
| Psychiatric consequences of physical illness and treatment                        | Child with sickle cell disease developing depression due to deteriorating physical health |
| Effects of psychiatric disorder on physical illness                               | Child with diabetes and needle phobia refusing treatment leading to disease progression   |

## DIAGNOSTIC CRITERIA

DSM-5 describes *somatic symptom and related disorders* as encompassing disorders which have prominent somatic symptoms associated with significant distress and impairment. The diagnosis of somatic symptom disorder emphasizes the presence of positive symptoms and signs (i.e., distressing somatic symptoms plus abnormal thoughts, feelings and behaviors in response to these symptoms) rather than the absence of a medical explanation of the symptoms. A distinctive feature is not the somatic symptom per se, but rather the way the individual presents and interprets it. It is important to note that somatic symptom disorder can exist alongside a diagnosed medical disorder. Medically unexplained symptoms remain a key feature of the related conversion disorder (dissociative disorder) and pseudocyesis (false or phantom pregnancy) where the somatic symptoms are explicitly not consistent with medical pathophysiology. In DSM-5, conversion disorder (now also called *functional neurological symptom disorder*) is categorized together with *somatic symptom and related disorders*, as are *illness anxiety disorder* and *factitious disorders*.

In somatic symptom and related disorders, there are physical symptoms suggesting a medical condition; however, no medical disease, substance misuse or other mental disorder can be found to account for the level and impact of the physical (somatic) symptoms. The symptoms cause significant distress or impairment in social, occupational or other areas of functioning. The physical symptoms are usually not intentional, with the exception of factitious disorder where there is deliberate falsification of physical or psychological symptoms.

ICD-11 categorizes somatizing under the heading of *disorders of bodily distress or bodily experience*. This is described as having bodily symptoms which the individual finds distressing and to which excessive attention is directed. Unlike DSM-5, ICD-11 disorders of bodily distress do not include conversion disorder, which is integrated within a separate category of *dissociative neurological*

**Table I.1.2 Characteristics of various somatization disorders according to ICD-11 and DSM-5**

| ICD-11   | DSM-5   |
|--|---|
| <b>Disorders of Bodily Distress</b>  | <b>Somatic Symptom Disorder</b>   |
| <ul style="list-style-type: none"> <li>• Bodily symptoms that are distressing to the individual. Typically, there are multiple symptoms that may vary over time; however, a single symptom may be present (e.g., fatigue or pain)</li> <li>• Excessive attention directed towards the symptoms</li> <li>• Most patients have repeated contact with primary and specialist medical services during which many negative investigations may have been carried out</li> <li>• If another condition is causing or contributing to the symptom, then the degree of attention is excessive in relation to its nature and progression</li> <li>• Excessive attention is not alleviated by appropriate examination, investigation and reassurance</li> <li>• Bodily symptoms are persistent, present most days for several months</li> <li>• Often associated with disruption of social, interpersonal, and family functioning</li> </ul> | <ul style="list-style-type: none"> <li>• One or more somatic symptoms cause significant distress or impairment</li> <li>• Excessive thoughts, feelings, or behaviours related to these symptoms</li> <li>• The physical symptoms are not caused intentionally</li> <li>• No diagnosable medical condition can fully account for the symptoms. However, they can coexist with physical illness</li> <li>• Symptoms may be specific (e.g., localised pain) or relatively nonspecific (e.g., fatigue).</li> </ul>  |
| <b>Dissociative Neurological Symptom Disorder</b>  | <b>Conversion Disorder<br/>(Functional Neurologic Symptom Disorder)</b>   |
| <ul style="list-style-type: none"> <li>• Motor, sensory, or cognitive symptoms that imply an involuntary discontinuity in the normal integration of motor, sensory or cognitive functions.</li> <li>• Symptoms are not consistent with a recognized disease of the nervous system, other mental health or other health condition or due to effects from medication use or substance misuse. Medical examination and investigation do not reveal the presence of any known physical or neurological disorder.</li> <li>• The possibility of the later appearance of serious physical or psychiatric disorders should always be kept in mind.</li> </ul>   | <ul style="list-style-type: none"> <li>• One or more symptoms or deficits affecting voluntary motor or sensory function that suggest a neurological or other general medical condition</li> <li>• Stressful life events are often, but not always present. There may be a history of maladaptive personality traits and childhood abuse/neglect.</li> <li>• The symptom /deficit is not intentionally produced or feigned</li> <li>• The symptom /deficit: <ul style="list-style-type: none"> <li>» Cannot, after investigation, be explained by a medical condition, substance abuse or a culturally sanctioned behaviour or experience</li> <li>» Causes clinically significant distress or impairment in social, occupational, or other important areas of functioning or warrants medical attention</li> <li>» Is not limited to pain, and is not better accounted for by another medical disorder</li> </ul> </li> </ul> |

| ICD-11   | DSM-5   |
|--|---|
| <b>Factitious Disorder</b>   | <b>Factitious Disorder</b>  |
| <ul style="list-style-type: none"> <li>Intentionally feigning medical, psychological or behavioral signs and symptoms</li> <li>Pre-existing disorder/disease may be present; however, the individual intentionally aggravates existing symptoms or falsifies or induces additional symptoms.</li> <li>Individuals seek treatment or present themselves to another person as ill, injured or impaired based on these symptoms</li> <li>Deceptive behavior not solely motivated by obvious external rewards (in contrast to malingering where clear external incentives motivate the behavior).</li> <li>Symptoms can be imposed on others*</li> </ul> | <ul style="list-style-type: none"> <li>Falsification of physical/psychological symptoms/signs or inducing injury, with associated identified deception</li> <li>Individuals presents themselves as unwell, impaired or injured</li> <li>Deceptive behaviour is evident even in the absence of obvious external rewards</li> <li>Behaviour is not better explained by another mental disorder (e.g., delusional disorder).</li> <li>When symptoms are imposed on another person it is known as “factitious disorder imposed on another” *</li> </ul> |
| *Also known as Munchausen syndrome by proxy.   |   |

*symptom disorders* (in which there is a disruption of and/or discontinuity in the normal integration of consciousness, memory, identity, emotion, perception, body representation, motor control and behavior). The full ICD-11 is not yet available; however, we present the most recent information, provided in the [December 2018 version](#).

In both, DSM-5 and ICD-11, the somatizing disorders most commonly seen in children and adolescents are:

- Somatic symptom disorder
- Disorder of bodily distress
- Dissociative disorders
- Conversion disorder and
- Chronic fatigue syndrome.

Conditions categorized in previous classifications as somatoform disorder or somatization disorder would now be included under the categories of *disorders of bodily distress/somatic symptom disorder*. *Chronic fatigue syndrome* shares key features with somatic symptom disorder but is not included in DSM-5 as a separate category. It is classified in ICD-11 under “other disorders of the nervous system” as “post viral fatigue syndrome.” This category includes the illnesses termed *benign myalgic encephalitis* and *chronic fatigue syndrome*. If the fatigue is not associated with a virus it is recommended to consider coding it within *disorders of bodily distress*, which can present with a single symptom (e.g., fatigue) or multiple symptoms (e.g., fatigue, pain, aches). A summary of the specific criteria for some of these disorders is outlined in Table I.2.2.

### Chronic Fatigue Syndrome

This condition, earlier described as “neurasthenia” and “post viral fatigue” in ICD-10, was not included in DSM-IV nor DSM-5. It is classified in ICD-11 under “other disorders of the nervous system” as “post viral fatigue syndrome.” This category includes the illnesses termed “benign myalgic encephalitis” and “chronic fatigue syndrome.” If the fatigue is not associated with a virus, it is recommended to consider coding it within “disorders of bodily distress,” which can present with a single symptom (e.g., fatigue) or multiple symptoms (e.g., fatigue, pain, aches). Criteria for diagnosis for post viral fatigue include:

- Presence of a viral infection pre-dating the illness onset
- Either persistent and distressing complaints of increased fatigue after mental effort, or persistent and distressing complaints of bodily weakness and exhaustion after minimal effort
- May have associated feelings of muscular aches/pains, dizziness, headaches, sleep disturbance, inability to relax, irritability, dyspepsia
- Autonomic or depressive symptoms present are not sufficiently persistent and severe to fulfil the criteria for any other disorder

Patient groups with this condition often object to the psychological approach to its understanding and management (Cohen, 2015), as has been the case in the past for patients with somatoform disorders. In addition there are different views as to how it should be named. As for other disorders in this chapter, disease mechanisms are likely to be complex, with both biological (infectious, immunological, genetic) and psychosocial factors contributing to the development and maintenance of symptoms (Brurberg et al, 2014).

All of these conditions encompass:

- Repeated presentations of physical symptoms with
- Persistent requests for medical investigations despite negative findings and medical reassurance and
- The patient often resists attempts to discuss the possibility of a psychological causation.

For completeness, we will also describe the criteria for *factitious disorders*, which have similarities in presentation and management. In factitious disorder, individuals may deliberately injure themselves to simulate illnesses and describe symptoms they are not experiencing in order to seek medical care, prolong medical treatment, and receive attention. For example, in a case report, a 12-year-old girl was thought to suffer from a mysterious fever until she was 17; she was found to be faking thermometer readings. In other cases, children and adolescents have inflicted serious harm upon themselves or deceived doctors into prolonged hospital stays and repeated surgical procedures (DeNoon, 2000). It is often hard in clinical practice to make a distinction between what is a conscious manipulation in factitious disorder and what is a psychosomatic presentation, particularly in children.

A special instance of factitious disorder is when it is *imposed on another*, typically a parent on a child. This condition, previously known as *Munchausen syndrome by proxy*, occurs when a caregiver elicits healthcare on a child’s behalf without justification. It can involve actions to actually produce symptoms or falsely reporting concerns about both the physical and mental health of a child (McNicholas et al, 2000; Bass & Glaser, 2014); for example, a mother bruises her child leading physicians to suspect and investigate a rare hematological disorder, a caregiver starves her child because she suspects multiple food allergies, a parent smears their child’s wounds with dirt causing infection and preventing healing.

In factitious disorder and factitious disorder imposed on another, diagnosis is often difficult and may take years. This problem is not restricted to a particular culture; Feldman and Brown (2002) identified 122 cases in 24 countries speaking nine different languages. In factitious disorder, there may be a history of attachment

difficulties and abuse but this is not always the case. In some circumstances there is a lack of personal resources in the child and a predicament (e.g., major school failure or abuse outside the family) that is resolved by attention to the fabricated problems (Fiertag & Eminson, 2014). Factitious disorder imposed on another is a serious form of child abuse that has physical implications for the child (e.g., repeated procedures, school absences, serious illness or injury) and psychological effects (e.g., the child may develop a distorted view of their health and may become anxious about it).

## BURDEN

Somatic symptom and related disorders tend to present repeatedly to primary care practitioners and pediatricians rather than psychiatrists due to the presenting symptoms being physical and the families tending to attribute the symptoms to organic, not psychological causes. The medical-seeking behavior that usually accompanies somatic symptoms often leads to numerous—potentially painful or even harmful—medical investigations and treatments before a diagnosis is made and appropriate management initiated.

Families can be skeptical about the usefulness of a psychiatric or mental health assessment and may continue to pursue investigation of an organic pathology. Over-investigation reinforces the belief in the patients and their families that there is an underlying physical cause. All of this can result in a huge burden on the patients, families as well as on medical services. Children will miss school to attend multiple appointments and parents may need to take time off work to care for their child and take them to appointments.

## EPIDEMIOLOGY

Little is known about the incidence or prevalence of the different somatizing conditions. However, the epidemiology of somatic complaints in general, psychosomatic factors, and medically unexplained symptoms is better documented.

### **Somatic Complaints, Medically Unexplained Symptoms and Psychosomatic Factors**

About 10% of children attending general practitioners or pediatric clinics are reported as having medically unexplained symptoms. However, when considering all children attending with any kind of physical presentation, where doctors identify associated or contributing psychological factors, these are seen in 25-50% of cases.

Surveys from different countries have found that approximately one in four children complain of at least one set of somatic symptoms weekly or fortnightly. The most common are abdominal pain, headaches, and muscular or joint pains. Recurrent and troublesome somatic symptoms occur in under 10% of children and adolescents (Garralda, 2005; Rask et al, 2018).

### **Somatoform and Pain Disorders**

Note that these two conditions are now subsumed under the diagnostic categories of “somatic symptom disorder” and “disorder of bodily distress.”

The German Early Developmental Stages of Psychopathology Project documented somatoform disorders in adolescence and young adulthood amongst a large sample of 14-24-year-olds. It found that 12% suffered during their lifetime from at least one somatoform disorder. Having a somatoform disorder was linked to low socioeconomic status except in the case of pain disorder, which was more likely in those with higher education (Lieb et al, 2000).

### **Chronic Fatigue Syndrome**

In the US the population rate of chronic fatigue syndrome-like symptoms in children and young people was estimated to be 2%, but the full syndrome is much rarer (0.19 % in the UK) (Chalder et al, 2003; Garralda & Chalder, 2005). There appears to be an uneven distribution of chronic fatigue syndrome across countries with more cases described in Northern and Western countries.

### **Conversion Disorder**

Prevalence rates of conversion disorder across the world is unknown. A study of Australian children under 16 years of age seen by pediatric specialists with a diagnosis of conversion disorder indicates that it was rare (incidence of 2.3-4.2 per 100,000 children) (Kozłowska et al, 2007). This is supported by a national surveillance study in the UK that found a 12-month incidence of 1.3 per 100,000 children under 16 (Ani et al, 2013).

### **Functional Abdominal Pain**

In his classical study, Apley (1975) found that 10 % (12% female, 9% male) of children in the general population had at least three episodes of functional abdominal pain severe enough to affect activity and function over a 3-month period, though only some of these children were severely affected to the degree expected in clinical somatoform disorders. Comparable rates have since been reported in the UK (Vila et al, 2012).

## **AGE OF ONSET AND GENDER RATIO**

Most pain and somatic symptom disorders start in childhood and early adolescence. However, conversion disorder tends to arise later, at a median age of 16 years (Lieb et al, 2000). Abdominal symptoms increase in frequency from three to nine years of age and then steadily increase up to adolescence. Headaches are less common in preschool than in older children or in adolescents. In females, pain disorder has an age of onset 11 to 19 years, but under 13 years for males.

Somatic symptoms occur more commonly in females than males. Girls report more symptoms as puberty and adolescence progresses (LeResche et al, 2005). In the majority of studies, girls have been found to report symptoms at increasing rates during adolescence, whereas reporting levels by boys of some somatic symptoms (e.g., abdominal pain) fall during this time (LeResche et al, 2005).

Although this is the general age and gender pattern, there are variations across types of somatizing. Puberty has also been found to be a more important marker than age alone. Karin et al (2011) found that pubertal status was associated with some, but not all, functional somatic symptoms, suggesting that biological factors are differentially involved in the etiology of somatizing.

## ETIOLOGY

A variety of individual, family, biological, and environmental factors have been proposed as predisposing, precipitating, or perpetuating in somatizing disorders. However, which factors are relevant will vary in each individual case, and none of these factors are on their own necessary or sufficient to trigger such a presentation. Each individual will have their unique vulnerability factors; understanding this is vital when tailoring individual management plans (Rask et al, 2018).

### Individual Factors

Individuals with a sensitive, conscientious, anxious temperament are more vulnerable to developing somatizing symptoms. Those with a history of anxiety and emotional lability are also at increased risk. Precipitating factors may include social stressors, such as harsh comments on school work or relationships, and may be evidenced by a temporal link between these stressors and the development of symptoms. Stressors on the child may not objectively be particularly severe; however, in combination with a sensitive and anxious temperament, they may be perceived in a more extreme way and be sufficient to precipitate an episode of illness. Even common life events may play a role. For example, preschoolers with frequent somatic symptoms have been found to experience an excess of ordinary life events (e.g., birth of a sibling) in comparison to children without somatic symptoms. Careful consideration should also be given to whether there is indication of other stressors, such as abuse or school stress, impacting on the child. Previous abuse may also predispose or precipitate an episode of illness, although this seems to be more of a risk factor for adults than for young people.

Maintenance of somatizing symptoms may be mediated by personal traits in the child (e.g., hypersensitivity, anxiety) and the child having subsequent difficulties adjusting to everyday issues due to these emotional and temperamental factors.

**Table I.1.3 Risk factors for somatization in children and adolescents\***

|                    |   |
|--------------------|---|
| <b>Individual</b>  | <ul style="list-style-type: none"> <li>• Personal experience of physical illness</li> <li>• Enhanced focus on physical sensations</li> <li>• Conscientious, vulnerable, sensitive, anxious personalities</li> <li>• Particular concerns about peer relationships</li> <li>• High achievement orientation</li> </ul> |
| <b>Family</b>      | <ul style="list-style-type: none"> <li>• Physical health problems</li> <li>• Mental health problems</li> <li>• Parental somatization</li> <li>• Emotional over-involvement</li> <li>• Limitations in the ability to communicate about emotional issues</li> </ul>   |
| <b>Environment</b> | <ul style="list-style-type: none"> <li>• Life stresses e.g. school, teasing or bullying,</li> <li>• Academic pressure.</li> </ul>   |

\* Adapted from Gledhill & Garralda (2009)

## Family Factors

Families with prominent anxiety, over-protectiveness, emotional over-involvement, and high levels of maternal distress may predispose a child to develop somatizing symptoms. In families where there are health problems, the child's unexplained medical symptoms may mirror other family member's illnesses (e.g., loss of mobility in a child may occur in a family where a parent has suffered paralysis through an accidental injury). In addition to this, if there are physical health problems or somatizing illness in family members, or frequent medical health-seeking behavior within the family, this may contribute to the child's symptoms through attention being given to this type of behavior and through the behavioral learning mechanism of modelling.

Parental ill health (physical, somatizing, or other psychiatric symptoms), chronically stressful situations (e.g., marital disharmony, ongoing school difficulties) may be associated with the maintenance of unexplained or recurrent symptoms in the child. Parental distress about the child's symptoms and frequent reporting of these symptoms are likely to increase attention to them, reduce the use of alternative coping strategies, such as distraction, and reinforce the child's behavior in experiencing and reporting the somatizing symptoms. Parents of children with somatizing illness tend to be less punitive, disappointed and angry in their responses to their child's complaints, compared to the parents of children who do not experience recurrent somatizing symptoms. This type of parenting style may contribute to perpetuating the illness. Family beliefs may be dominated by thinking there is an underlying organic cause and, if the families do not consider psychological explanations, they may be resistant to psychosocial treatment, increasing the likelihood of the persistence of somatizing symptoms.

The effect of somatisation in a child is likely to impact on the daily functioning of the wider family unit as well as the child. For example, it may result in parents having less leisure time or having to take time off work with the subsequent financial implications. Families may need to reorganize themselves in their activities of daily living to accommodate caring for the sick child, which may increase overall family tension.

## Biological Factors

In some cases, somatizing disorders may appear to follow a recent physical illness (e.g., gastroenteritis being followed by severe functional abdominal pain; glandular fever being followed by chronic fatigue syndrome; physical injury preceding loss of function of a limb in conversion disorder; fainting episode occurring prior to developing pseudo-seizures).

Genetics have been found to play a role in sensitivity to pain and other bodily sensations. Diatchenko et al (2005) found that the experience of pain is influenced by the heritable polymorphism in the catechol-O-methyltransferase (COMT) gene. A genetic basis has been suggested for the relationship between depression and life adversity (Caspi et al, 2003) and functional somatic symptoms (Yeo et al, 2004; Campo 2012).

## Environmental Factors

Concerns about school in terms of academic pressure, peer problems, relationship with teachers and, in particular, bullying are common in children

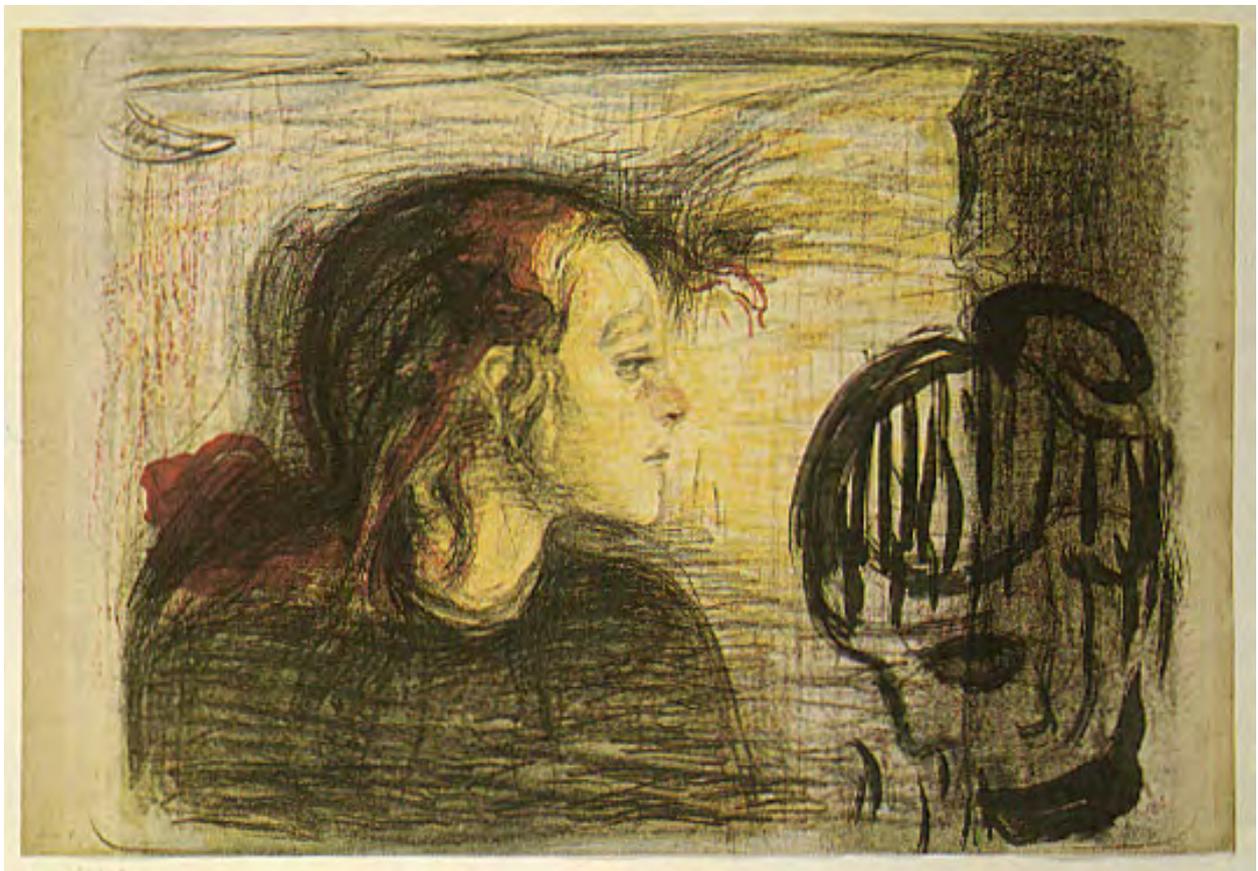
with somatizing symptoms and may be predisposing or precipitating risk factors. Children with somatizing symptoms often are particularly sensitive to social interactions and may have high educational expectations. They may express their concern as an inability to perform educationally because of their symptoms, school absence making them worse. They often feel embarrassed, angry and misunderstood as well as sensitive about assumptions from others that they are trying to miss school. These concerns often lead to non-attendance and once they have stopped attending the child may become very anxious at restarting, which may maintain the problem (see Table I.1.2).

### ASSESSMENT

Consider somatic symptom and related disorders when the following are present:

- There is a time relationship between psychosocial stressor and physical symptoms
- The nature and severity or handicap from the symptom are out of keeping with the pathophysiology
- There is a concurrent psychiatric disorder.

The primary care doctor is likely to be the first port of call for most children. Usual assessment, investigations, and reassurance that there is no treatable medical condition by the family doctor will often relieve enough concerns for the child to



The Sick Child. Edvard Munch (1885), the Munch Museum, Oslo.

improve and to ensure an adequate level of functioning, without need for further intervention. However, sometimes symptoms persist.

Children and families with frequent, persistent symptoms and high anxiety levels about them may be referred to a specialist pediatric or medical service. Because of the nature of these problems, assessment at this stage needs to take particular note of both physical and psychosocial contributory and maintaining factors. The best approach is to use a bio-psycho-social framework, whereby the relative contribution of biological, psychological, family and social factors is considered. However, if the symptoms persist even after this level of assessment and intervention, which includes targeting the identified biopsychosocial factors, or if the symptoms are particularly severe, or if there is diagnostic uncertainty, the child should be referred to a mental health service.

Referral to mental health services needs to be done in a sensitive manner with acknowledgement of the symptoms, as many children and families fear that they are not being taken seriously, and that referral to mental health services means their symptoms are not believed to be real. During the mental health assessment, ascertaining the child and parental views of the illness is extremely important. Many parents may still be pursuing organic causes; therefore, it is important to address all the physical symptoms, find out what medical disorders have been excluded, explore possible physiological explanations, and be aware that physical and psychological causes can coexist. Psychiatric assessment should include developmental and psychiatric history, mental state and family functioning. Psychometric assessments may be helpful especially in determining if there is a disparity between the child's educational expectations and actual abilities. A detailed school history is needed including days missed off school because of the symptoms.

### **Parents' Perspective of a Child Presenting With Co-Existing Somatising and Physical Illness**

Sarah had a sudden and complete loss of movement in her arms and legs and headaches. She was diagnosed with conversion disorder despite the presence of an operable brain tumor. All her symptoms resolved following a joint medical and mental health intervention prior to surgery – the surgeons were not prepared to operate until all symptoms had resolved, which fortunately they did, and fully. Below is a quote from her parents:

“Our daughter was approaching her 15<sup>th</sup> birthday and seemed to be enjoying life. She had plenty of friends, was doing well at school and displayed a wide-ranging and vivid enthusiasm for learning and playing. After a family holiday in a foreign country came complaints of severe back pain. This developed into intermittent headaches and an inability to move her arms and legs. Upon admission to hospital it was clear that some of her symptoms did not have a physical origin. This did not mean that the problem was less real, only more problematic.

We were at a loss as to what may have triggered this behavior. There were none of the obvious causes; a grandparent had died but some years previously and of reasonably old age, and there was no evidence of abuse or trauma. All we were left with were the concerns that are peculiar to puberty and adolescence, which are not part of the open discourse between parents and children. So, we were standing on the edge of a half forgotten sea, half remembered from our own adolescence but unknown with this individual and at a loss as to how it could relate to these symptoms.

It ought to be stressed that there was huge support from the medical team. Our daughter had physiotherapy, frequent reviews from the pediatric team and numerous interviews with the child psychiatrist. Her life was explored from a psychological, family and social perspective. Eventually a physical event was found: a brain tumor. This diagnosis led to a rapid mitigation of symptoms. It is possible – or probable – that the diagnosis of a physical illness gave her a face-saving way to retreat from her symptoms. What is sure is that her symptoms served a purpose. Certainly, we started the process with symptoms and no physical cause and we ended with a physical cause but no symptoms; a strange sequence.”

This example illustrates the complexities of many of these disorders and the fact that a diagnosis such as conversion disorder can coexist with a physical illness, where the physical illness is not congruent with the symptoms, and psychosocial contributory factors are identified on the psychiatric assessment.

Even after mental health assessment and intervention has been commenced, many families of children with somatic symptom and related disorders may be unreceptive to psychological explanations and may want to continue seeking further investigation of organic pathology. Engaging the family early on in the assessment process and working with them to achieve a common view is vital before effective treatment can be instituted. Prompt accurate identification and naming of somatization can improve prognosis, whereas misdiagnosis or delay can lead to negative impacts on the individual's prognosis, family and societal burden.

## CLINICAL FEATURES

The most common somatic symptoms are recurrent abdominal pain, musculoskeletal pains and headaches, however different symptoms can coexist.

### Persistent Pain

Abdominal pain, headaches, joint pains and other aches and pains, may constitute *somatic symptom disorder with predominant pain* when the pain is persistent, severe, distressing, and occurs in association with psychosocial stressors that are sufficient to have etiological significance.

Characteristically, functional abdominal pain presents as a diffuse or peri-umbilical, intense pain. The pain tends to be worse during the day, is likely not to occur at night or during school holidays. There may be also altered bowel habit, vomiting, fever, headache, lethargy, and the child may look pale, which can reinforce family beliefs 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).

### Chronic Fatigue

It is classified in ICD-11 under “disorders of bodily distress” or “post viral fatigue” if it develops following a viral infection. This syndrome commonly starts with an acute flu-like illness or glandular fever. It can have an insidious onset and fluctuating course. Chronic fatigue is characterized by physical and mental fatigue and exhaustion after comparatively minor mental or physical effort. The fatigue is not relieved by rest and is associated with a decline in the ability to cope with, and withdrawal from daily activities. The child is likely to complain of headaches, sleeping problems, aches and pains, poor concentration, dizziness, physical weakness, moodiness and worry about decreasing physical and mental health. The fatigue is chronic and is not related to an ongoing medical illness. There is often comorbid psychopathology particularly anxiety and depression. The child's family may have sought numerous medical opinions and the child may have received multiple diagnoses by the time of assessment. The functional impairment is often prolonged, with marked school absence and lengthy periods of bed rest (Garralda, 1996, Garralda & Chalder, 2005; Roma et al, 2019).

### Conversion Disorder

Also called in DSM-5 “functional neurological symptom disorder,” this condition involves partial or complete loss of bodily sensations or movements



[Click on the picture to hear 15 year old Sophie describe her chronic fatigue syndrome.](#)

not explained by a neurological or medical disease. When this disorder occurs in children, loss or disturbance of motor function is the most common presentation. Psychogenic nonepileptic seizures may also be the presenting symptom. Less commonly in children, it may present with loss of sight, hearing, touch, consciousness, fugue or mutism. To make a diagnosis, there must be clinical findings showing that symptoms are incompatible with neurological illness and take into consideration the overall clinical picture, not just the symptoms. The traditional phenomenon of *belle indifférence*, which refers to lack of concern about the symptoms, is not particularly helpful in diagnosis in children. Symptoms are often brought on by a traumatic trigger and usually remit after a few weeks or months.

### Psychogenic Nonepileptic Seizures

These tend to be seen in Western countries and may be more common in certain cultures. Psychogenic nonepileptic seizures are seizures with movements or convulsions inconsistent with the features of a real epileptic seizure and without an abnormal EEG. In a review of 883 patients in one pediatric epilepsy clinic, 15% had paroxysmal nonepileptic events. Of these, the rates with pseudo-seizures were 3% in preschoolers, 43% in the 5-12-year-olds, and 87% in the 12-18 age group (Kotagal et al, 2002). Psychogenic nonepileptic seizures and epilepsy can coexist but those with both conditions form a small proportion of the children with true epilepsy—1.5% of those with true epilepsy according to Kotagal (2002). The presenting symptoms may be similar to epileptic seizures, leading to delays in diagnosis. Psychogenic nonepileptic seizures can occasionally be part of complex clinical presentations (e.g., Chandra et al, 2017). Children with psychogenic nonepileptic seizures are at high risk for psychopathology, particularly depression and anxiety (Reilly et al, 2013).

## DIFFERENTIAL DIAGNOSIS

Symptoms found in somatizing conditions such as physical complaints and school non-attendance could be an indicator of various underlying psychiatric disorders. Therefore, it is important to bear in mind the following differential diagnoses:

- School phobia and refusal
- Anorexia nervosa
- Depressive disorder
- Anxiety disorders and separation anxiety
- Elective mutism
- Factitious illness

## COMORBIDITY

Comorbid psychiatric disorders may precede the development of somatic symptoms but often also develop over the course of the somatic symptom disorder. Among children presenting to services, one third to one half may have a psychiatric comorbidity. This may be intermittent and, in severe chronic fatigue syndrome, over the course of a year as many as three quarters may experience a depressive or anxiety disorder.

In school age children, anxiety and depression are the most common comorbidities. Comorbid ADHD and oppositional defiant disorder may also be present, especially in boys. In preschoolers, ADHD adjustment disorders, separation anxiety, feeding and elimination disorders may coexist.

The Early Developmental Stages of Psychopathology Study (Lieb et al, 2000) showed that, in older adolescents and young people, conversion disorders were associated with eating disorders and pain disorders were associated with depression, panic disorder, and post-traumatic stress. Degree of impairment was shown to increase with increasing comorbidities.

Research diagnostic criteria for conditions such as chronic fatigue syndrome make the presence of primary mental disorders (e.g., anorexia nervosa) exclusion criteria. However, somatic symptom disorders and somatizing conditions can coexist with other psychiatric diagnoses. Somatic symptom disorder is the primary diagnosis when the following occurs:

- The physical symptoms are more prominent than the emotional or behavioral ones
- The physical symptoms are the main cause of functional impairment
- There are unwarranted beliefs about the presence of a medical disorder and repeated medical help-seeking behavior.

Somatic symptom disorders can also coexist with organic disorders. If there is a medical illness, it is important to establish what physical symptoms are congruent with the organic illness and what are more likely to be attributed to identified psychosocial stressors.

Differentiating between various potential diagnoses, establishing comorbidities, and initiating management can be complex, especially in cases where biological and psychological symptoms coexist. For example, in a child who has coexisting psychogenic nonepileptic seizures and epileptic seizures.

## RATING SCALES AND DIAGNOSTIC INSTRUMENTS

Instruments to measure physical symptoms and functional impairment can be useful both for assessment purposes and to monitor ongoing progress.

| <b>Rating Scale</b>                               | <b>What does it measure?</b>   | <b>Comments</b>  |
|---|--|--|
| <a href="#">Child Somatization Inventory</a>      | 35 symptoms and their severity in the two weeks prior to assessment  | Identifies somatization disorder-related symptoms and their severity |
| <a href="#">Functional Disability Index</a>       | Functional disability in walking, travelling, daily chores, social and leisure activities, sleeping and eating | Rates the presence and severity of related impairment                |
| <a href="#">Chalder Fatigue Self-Report Scale</a> | Features of physical and mental fatigue  | Rates fatigue symptoms   |

\*Click on the name of the scale to access it

Symptom diaries tailored to the individual presentation can also be helpful. By using a symptom diary to document severity and frequency of symptoms over time, a visual improvement may be noticeable to the patient prior to the subjective experience of getting better. Visualization may help to maintain therapeutic optimism and motivation. In addition, the use of scales may help facilitate further engagement with treatment and rehabilitation. Specific rating scales that may be helpful include the Children's Somatic Symptom Inventory, Functional Disability Index—Fatigue Scale, and the Chalder Fatigue Self-Report Scale (Chalder et al, 1993) (see Table E.1.3). It may also be helpful to measure changes in anxiety and depressive symptoms through appropriate scales, when these symptoms are present.

## TREATMENT

### General Strategies

Following on from assessment, and once physical and psychiatric disorders have been addressed or excluded, treatment for the somatic symptom disorder should be planned. The first step is to engage the family. The following strategies may be helpful to facilitate engagement during treatment (many of these strategies will also be helpful in the assessment stage):

- Make an effort to understand the family's beliefs about the illness, level of conviction about 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
- Investigate 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 (e.g., contractures secondary to immobilization)
- Make families aware of the high prevalence of medically unexplained symptoms (2-10%). This may reassure parents about the absence of an organic cause
- Do not convey a sense of embarrassment when communicating a diagnosis of somatic symptom and related disorder or other psychiatric diagnosis
- 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.

### Management Setting

As already mentioned, assessment and initial treatment is typically initiated by the primary care/general practitioner or pediatrician, and use of the bio-psycho-social framework is encouraged from an early stage. When the symptoms do not respond to this assessment and intervention, a psychiatric referral should be made. A psychiatric referral may be particularly helpful when there is diagnostic uncertainty, if there is a comorbid psychiatric disorder, and when major family problems are

affecting resolution of symptoms. If a psychiatric referral is recommended, the clinician should establish the family's attitudes towards a psychiatric assessment and discuss this with the family, addressing their concerns prior to the referral.

### Specific Management Strategies

Specific treatments may involve individual psychological work, family work, liaison with school and with social services. Coordination of all therapists and professionals involved is vital to ensure everyone is working towards similar goals. Treatment should aim to develop partnerships with the child, family and all professionals involved, including teachers, especially where school attendance is an issue. Specific strategies will vary depending on the exact nature of the somatoform disorder (see box on the side for information about specific treatment in psychogenic nonepileptic seizures).

The management of factitious disorders is similar to that for somatic symptom and related disorders. Emphasis on engaging the parents is crucial to reduce the risk of becoming punitive or disengaging when the factitious nature of the presentation becomes known. Young people with severe factitious symptoms often live in a family with interpersonal problems, communication difficulties, and substance misuse, which make family work challenging (Fiertag & Eminson, 2014).

### Psychological Interventions

The specific psychological treatments and frequency of contact will vary depending on the nature of the disorder. However, certain features will be common to, and can be effective for all somatic symptoms disorder and somatizing conditions (Bonvanie et al, 2017). The interventions may be provided by a variety of professionals such as primary care clinicians, pediatricians, psychiatrists or other mental health workers. Most treatment strategies will involve the following:

- Work at a pace the family can tolerate
- Emphasize reducing impairment
- Use motivational techniques tailored to encourage ambivalent children
- Collaboratively find a way to get better that is acceptable to the child
- Use diaries to monitor variations in symptoms, impairment and progress. This may motivate the patient and family to engage further with treatment
- Acknowledge that rehabilitation may *temporarily* worsen symptoms and address concerns around this
- Develop techniques to deal with specific symptoms and impairments (e.g., distraction, muscular relaxation for headaches, graded physical exercise for muscular problems and fatigue, practical management of pseudo-seizures)
- Develop active, problem focused coping strategies and attitudes
- Create a goal-based, gradual rehabilitation program with achievable, consistent, and agreed aims
- Explore expectations on ultimate goals as they may be unrealistically high
- Encourage sleep hygiene and give dietary advice
- Use psychological interventions such as CBT and mindfulness



[Click on the picture to view a short presentation about pseudo-seizures or psychogenic nonepileptic seizures \(3:53\)](#)

- Use family work to deal with family factors that may be contributing to the symptoms or interfering with their resolution.

The effectiveness of family-based CBT has been demonstrated for recurrent abdominal pain. Randomized controlled studies have shown that this helps to achieve greater pain reduction, lower interference with daily activities, fewer relapses, and increased parental satisfaction (Sanders et al, 1994; Robins et al, 2005). In chronic fatigue, several adult trials suggest that CBT and graded exercise programs are beneficial (Whiting et al, 2001) and modifying this CBT approach for children via involving the family is recommended. There are suggestions also that internet delivered CBT is effective with adolescents (Crawley, 2018). Examples of specific CBT techniques are mentioned in the list above and include symptom diaries, limiting attention to the symptoms, graded exposure to activities, relaxation, and psychoeducation around the links between physical and psychological pain.

### **Family Work**

It is vital to engage families to facilitate the implementation of an effective management; therefore, throughout the management process, families need to have their concerns addressed. Families play a key role in helping the child learn new coping strategies and in reducing family behaviors that may be reinforcing the symptoms. Parental psychopathology, family dysfunction, and family stress that might be contributing to maintaining the child's difficulties can be dealt with in family work. Some family issues may not be apparent in the initial phase of treatment so regular assessment and adding appropriate intervention as needed is required.

### **Medication**

Medication can be considered although no psychotropic drug is licensed specifically for somatic symptom and related disorders and the available evidence is limited. Selective serotonin reuptake inhibitors may be helpful if there is an associated major depression—the majority of children suffering from somatizing conditions are low in mood or in a state of anxiety at some time in their illness. Medication can in some children make the rehabilitation process easier to implement. Occasionally benzodiazepines (keeping in mind their shortcomings) may be helpful for short term use in treating associated anxiety, for example whilst waiting for selective serotonin reuptake inhibitors to take effect (Campo, 2008).

### **School Liaison**

Close liaison with school to reduce school related stress and to address conflicting expectations between the child, family and teachers is important. Tailoring a school program and setting up strategies to help the child cope with symptoms within the school (e.g., a reduced timetable) is an important part of treatment. If psychogenic nonepileptic seizures are a symptom, a clear management plan that includes ways of reducing their dramatic impact within the school, needs to be instituted. In severe cases where children have been absent from school, a gradual reintegration should be arranged, with consideration of admission to a pediatric or psychiatric unit with educational facilities if available.

**Table I.1.5 Elements of Cognitive Behavioral Family Intervention**

- Discuss investigations and rationale for pain management
- Encourage self-monitoring of pain
- Reinforce well behavior
- Develop healthy coping skills: relaxation, positive self-talk, distraction, positive imagery
- Teach problem solving skills
- Encourage participation in everyday activities
- Reduce attention from parents in relation to physical symptoms
- Increase attention when symptom free by instituting pleasant joint activities

## Hospitalization

Consider hospital admission if:

- The child is severely impaired
- Observation is needed (e.g., in the case of seizures)
- There is significant associated psychopathology
- Outpatient treatment has not been successful.

Hospitalization may help break the excessive anxiety and dependence of the child on parents and focus on rehabilitation. Specific inpatient interventions through a multidisciplinary approach may include physiotherapy, diet advice, occupational therapy, family intervention, and more intensive psychological and psychiatric work.

Young people are usually admitted to a pediatric or psychiatric ward as joint pediatric and psychiatric wards are rare. Families may be reluctant to allow psychiatric admission; thus, it is important to discuss their concerns and attitudes to enable the best possible package of care to be instituted.

## Liaison with Social Services

Always consider child abuse and safety issues—the safety of the child must be the uppermost consideration. In rare instances the somatoform disorder will be the expression of severe family dysfunction or child abuse. Close cooperation and communication between all the professionals involved are essential to avoid differing opinions being relayed to the patient and family. If families are unwilling to engage in any type of treatment for the child, clinicians should consider whether it would be in the best interests of the child to be treated away from the family. This is a difficult issue to assess and would require close collaboration between clinicians and child protection personnel.

## Patient Support Groups

These can be helpful sources of support to families. However, some groups may hold views contrary to the management team recommendations, which may be unhelpful if they undermine the treatment.

**Saira**

Saira was a 12 year old girl of Pakistani background who had been diagnosed as suffering from epilepsy at the age of five. She had been treated with anti-epileptic medication and had been seizure free for four years. Saira presented to the local outpatient clinic with a recurrence of her fits. Her earlier convulsions had been grand-mal seizures, mostly occurring during the night, accompanied by incontinence. Her current episodes were not consistent with epilepsy, were occurring during the day and were prolonged, lasting half an hour at a time.

A stressor was identified; the family had decided that as Saira had completed her primary school education there was no need for her to continue with her schooling, she would stay at home to look after her youngest sibling so that her mother could return to attend to the family's livestock. A poor harvest meant that the family was under financial stress.

Treatment consisted of psychoeducation for Saira and her family, highlighting the close relationship of the body and the mind, and the co-occurrence of physical symptoms with psychological stresses. In individual meetings and later in family meetings, Saira was able to talk about her distress at the proposed plan, which would result in the loss of her friendships at school as well as the positive relationships she had with her teachers. Although financial considerations meant that no immediate change could be made to the planned arrangements, the family agreed amongst themselves to try and support her in continuing her education once the financial pressures had eased. They were happy to support her in continuing to meet with her friends. Saira's seizures subsided soon after.

**Effectiveness of Treatment**

Although there is some evidence of the efficacy of psychological treatments for children with somatic symptom and related disorders (Bonvanie et al, 2017; Rask et al, 2018), there is limited evidence of the effectiveness of treatment in the more severe somatic symptom disorders. However clinical reports from pediatricians and child psychiatrists support the beneficial effects of the approaches described in this chapter even for severely affected children.

When pain is an issue, helping patients and families understand the links between psychological and physical pain tends to be greatly appreciated by them and is thought to be crucial in reducing pain and in helping patients manage it. The best evidence of effectiveness for unexplained abdominal pain is from cognitive behavioral family interventions (Robins et al, 2005; Bonvanie et al, 2017), which lead to a larger reduction in the level of pain, lower relapse rates, and lessens interference with daily activities as well as increased parental satisfaction.

In chronic fatigue syndrome, there are promising results from the use of cognitive family interventions and internet delivered CBT (Crawley, 2018). In adults with this condition, a number of controlled trials have shown CBT and graded exercise to be beneficial (Whiting et al 2001; Prins et al 2001; Larun et al, 2017).

In factitious disorder, particularly when imposed on another, the main priority is to make sure the child is safe, now and in the future. Local child protection procedures need to be adhered to, and cooperative work between healthcare, social services and police is vital. The therapeutic needs of the child, caregiver and family, including siblings, have to be assessed and addressed (Bass & Glaser, 2014). Treatment should take place in the least restrictive setting possible.

The case of Janine highlights many of the features of assessment and management described in this chapter. In addition, this case illustrates that, when considering psychiatric referral, it is important to keep in mind that the family may feel "sent" and not "customers" of therapy (De Shazer, 1985; Iveson, 2002). Family may attend because they are asked to do so by their pediatrician rather than

## Janine

Janine, a 10 year old girl, was referred because of a one-year history of weekly presentations to casualty for multiple pains in all joints. Despite extensive investigations, including X-rays and MRI scans, no organic pathology had been identified. Janine had been in a plaster cast and wheel chair bound on five occasions despite no fractures being identified; as a result she had missed a lot of school. At the initial psychiatric appointment Janine was extremely distressed by:

- Severe aches and pains throughout her body (giving the pain a score of nine out of 10)
- One year history of bullying (mentioned for the first time at the assessment)
- Weight gain
- Deep sadness at the death of grandfather three years earlier ("It is as if it has happened yesterday").

As a result of her aches and pains Janine had missed a lot of school. Her mother's believed that Janine had a physical illness yet to be identified and was unhappy about being "sent" to see a psychiatrist. Both Janine and her mother described not communicating much as "talking makes things worse". Hence, Janine had remained silent about the bullying and about her feelings about her grandfather's death. Her mother dealt with stress by "burying her head in the sand" and used alcohol on occasions (following the example of some of her relatives).

The child psychiatrist knew that many people contributed to Janine's care, and all needed to be kept in mind. In addition to the family doctor who had referred her, school staff, emergency room staff and the physiotherapist, all needed to work together with Janine and her family. In spite of the family believing that Janine was suffering from a yet to be discovered physical illness, the child psychiatrist and

the others involved in Janine's care, worked with Janine and her family in a model that incorporated the psychological, biological, family and social factors. Janine was offered individual therapy sessions using cognitive behavioral techniques, as well as facilitating emotional expression (including writing a letter to her deceased grandfather), positive self-talk, exploring alternative explanations for her pain, anger management, problem solving skills, relaxation exercise, and distraction when in pain. Alongside this, family sessions were arranged to encourage Janine's mother to reinforce well-behavior, to spend time helping Janine cope with stress, to problem solve with Janine, to have non-pain based talk with Janine, and to learn how to assess the seriousness of symptoms.

Soon after the first session, the previous weekly attendance to the emergency department stopped. Therefore, unnecessary use of medicines and procedures ended. When Janine was asked what had changed since starting treatment, she described that she had acquired an emotional language. She felt safe to speak to people about her fears about bullying and said she knew that talking was helpful as her aches and pains had got "half better". Writing a letter to her late grandfather as if he were still alive, about how much he had meant to her, helped her grief. She said that her aches and pains got better because "I had done activities more often". She was able to keep going "despite the pain" and she started to enjoy physical activities again, helped by using the distraction and relaxation techniques she had learnt. She said she was accepting "a bit of pain", which went away after a day following exercise. Janine's mother added that exercise had kept her joints working even though it hurt her. She spoke about how they had turned the TV off, started talking and playing together.

believing this is the right thing to do, potentially resulting in feelings of rejection and anger towards the doctor for being asked to see a mental health professional. In relation to management, this case illustrates that treatment not only helps children and their parents manage the symptoms better, but also to communicate more effectively about psychological matters.

## PROGNOSIS

Reassuringly, the majority of children with somatic symptom and related disorders seen in specialist services recover in the short term. However, symptoms can persist and some patients develop psychiatric disorders subsequently (e.g., eating disorders or anxiety disorders). Symptoms may continue into adulthood.

In chronic fatigue syndrome, the majority of even those markedly affected eventually make either a complete recovery or improve sufficiently to lead near normal lives (Rangel et al, 2000). Nevertheless, school absence may last longer than a year and it may take more than three years for full recovery. Additionally,

there are indications that, after recovery, sufferers have a greater likelihood of developing further psychiatric disorders (Garralda & Chalder, 2005).

Similarly, a study of childhood conversion disorder showed that, even though 85% had recovered, a third had a mood or anxiety disorder at four years follow-up (Pehlivanurk & Unal, 2002).

Indicators of favorable outcome include:

- Specific medical precipitants
- Good premorbid personality
- Good parental psychiatric adjustment
- Favorable social circumstances.

## PREVENTION

Childhood somatic symptom disorders are associated with a history of somatic symptoms in the family and with school non-attendance in the child. A tendency to somatize can be observed in children as young as preschoolers and throughout childhood, adolescence and adulthood. Therefore, identifying families with high levels of somatic symptoms in the parents as well as the children, and identifying those with frequent school absences, may provide an opportunity for early intervention. This could be done via (i) primary care practitioners identifying parents who regularly attend with somatic complaints and providing guidance regarding strategies for coping with their own and their children's somatic symptoms (e.g., distraction techniques) and (ii) teachers and medical professionals identifying children who miss a lot of school because of physical symptoms and supporting them in developing coping strategies and feel in control of situations they find difficult. In children with established symptoms, addressing personality vulnerabilities and excessive academic and behavioral expectations may help prevent relapse.

## CROSS CULTURAL PERSPECTIVES

Traditionally it was thought that somatic symptom disorders occurred mainly in non-Western countries. However, more recent research has identified them as a universal phenomenon. A WHO study looked at somatization presentations in primary care in 14 countries (Turkey, Greece, Germany, The Netherlands, Italy, India, Nigeria, China, Japan, France, Brazil, Chile, the UK and USA) and found that somatization symptoms were common across all these countries and frequently associated with comorbid depressive and anxiety disorders (Gureje et al, 1997).

A cross cultural perspective is particularly important in the evaluation of somatic symptom disorders in terms of how symptoms are understood by the family in the context of their cultural beliefs:

- Although headaches, musculoskeletal pains and abdominal pains are the most common symptoms in somatic symptom disorders overall, there are culture- or geographic area-specific symptoms. For example, “numbness” and “feelings of heat” in Africa, “burning hands and feet” in India, and “fatigue” in Western countries
- Awareness of the cultural influence on how symptoms are understood or described is important because certain symptoms may be an

**Kofi**

Kofi is an 8 year old boy from a Nigerian family who presented with abnormal movements affecting all his limbs. At the same time he would suddenly stop responding to questions from others, make scary noises, sometimes stare at his family in a frightening way and he even attacked his family occasionally. The abnormal movements and associated behaviors lasted about 20 minutes at a time. His maternal grandmother suffered from generalized tonic-clonic seizures.

The family were concerned that he may be suffering from epilepsy but were equally concerned that Kofi's disturbed behavior resulted from being possessed by evil spirits. The family described Kofi as being cursed after an elderly man in their community had looked at him with an evil eye. They were keen to consult with a priest to perform an exorcism.

Psycho-social stressors included financial difficulties, housing problems, parental separation, peer relationship difficulties at school, poor school attendance and Kofi experiencing symptoms of anxiety.

Kofi's difficulties resolved with interventions involving the family, medical consultation to exclude seizures (including EEG), help with housing and financial support, liaison with the priest to ensure religious rituals did not harm the child and, finally, meetings with the school to support Kofi's attendance and reintegration with peers.

accepted mode of expression of cultural or religious activities in some societies; thus, they may be interpreted as a sign of spiritual or other non-medical process. This may result in families seeking help from alternative medicine practitioners or healers instead of, or in addition to medical practitioners. In cases where medical help has been sought, these patients are more likely to disengage from a traditional medical approach.

It is important to address family attitudes and beliefs about the symptoms within the appropriate cultural context, find out what interventions have already been tried, including culture-specific interventions, and spend time with them discussing alternative explanations and engaging them in the treatment process. The case of Kofi (see case vignette) is an example of this. However, the cultural differences in the interpretation of symptoms, the broad types of etiological stressors (e.g., everyday school stressors such as bullying, or everyday family stressors such as financial problems) are comparable across cultures (see the case of Saira).

### **Barriers to Implementation of Evidence-Based Medicine in Low Income Countries**

A number of barriers to the implementation of evidence-based practice for child and adolescent mental health problems have been described in the context of low-income countries (Knapp et al, 2006; Keiling et al, 2011) and are of relevance for the management of somatic symptom disorders. Low-income countries allocate a proportion of their gross domestic product to health but, as this is low, the allocated resources are considerably fewer than the need. There is, moreover, little government funding available for professional regulation, allowing healthcare providers to offer treatments with limited or no evidence, without fear of challenge or withdrawal of their registration. In the absence of comprehensive governmental provision of care, patients and families need to self-fund their treatment. Poverty and lack of knowledge makes them vulnerable to unregulated providers.

The medical and nursing brain drain from low- to high-income countries has meant that there are insufficient human resources to meet the local needs for health professionals. Those remaining are often not trained in using audit to improve care or in critically evaluating available evidence. In addition, low-income countries often do not have a well-developed and comprehensive primary healthcare system, and there is poor integration of mental healthcare within primary healthcare, leading to fragmentation of care.

Of direct relevance to somatic symptom disorders, there is a paucity of trained professionals to meet the mental health needs of children and adolescents, and barriers to care include poor identification and lack of specialized personnel. Hence attention needs to be focused on the training and supervision of professionals who are usually the first port of call for families, such as primary care physicians and pediatricians.

## CONCLUSION

Recurrent, unexplained physical symptoms are common in children and adolescents. When severe, impairing, related to psychological factors, and if they result in frequent medical help-seeking behavior, they form the basis of somatic symptom disorders. In these cases, families tend to attribute the somatic symptoms to underlying physical pathology despite absence of medical evidence for this. In some cultures, families may explain the physical symptoms in religious or culturally specific ways.

Psychiatric comorbidity commonly occurs and this, together with the child's personality traits, family health problems, family response to the symptoms, and problems in communicating effectively about emotionally-laden issues, may contribute to the maintenance of the disorder.

Medical examination and investigations, recognition of parental and child attitudes to the symptoms and strategies to help reduce impairment, are central to successful management. Psychiatric treatment of comorbidities and instituting a child and family rehabilitation program are required.

The best evidence of efficacy comes from the use of family CBT. However, helping families communicate about, and manage stressors for the child is often clinically efficacious. Engaging families during every step of assessment and treatment is important and will aid recovery.

The lack of pediatric mental health facilities may impede this work in developing countries with low levels of investment in child mental healthcare, but psychoeducation by primary healthcare workers and educators may still be an effective means of preventing and managing these disorders across different countries and cultures.

- Do you have questions?
- Comments?

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## REFERENCES

- American Psychiatric Association. (2013). *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing.
- Ani C, Reading R, Lynn R et al (2013) Incidence and 12-month outcome of non-transient childhood conversion disorder in the UK and Ireland. *British Journal of Psychiatry* 202:413–418.
- Apley J (1975) *The Child with Abdominal Pains*. 2<sup>nd</sup> edition. Oxford, Blackwell Scientific.
- Bass C, Glaser D (2014) Early recognition and management of fabricated induced illness in children. *The Lancet* 383:1412–21.
- Bonvanie IJ, Kallesoe KH, Janssens KAM et al (2017) Psychological interventions for children with functional somatic symptoms: a systematic review and meta-analysis. *The Journal of Pediatrics* 187:272–281.e.17
- Campo JV (2008) Disorders primarily seen in medical settings. In RL Findling (ed) *Clinical Manual of Child and Adolescent Psychopharmacology*. American Psychiatric Publishing pp375–423.
- Campo JV (2012) Annual research review: Functional somatic symptoms and associated anxiety and depression – developmental psychology in pediatric practice. *Journal of Child Psychology and Psychiatry* 53:575–592.
- Caspi A, Sugden K, Moffitt TE et al (2003) Influence of life stress on depression: moderation by a polymorphism in the 5-HTT gene. *Science* 301:386–389.
- Chalder T, Goodman R, Hotopf M et al (2003) The epidemiology of chronic fatigue syndrome and self reported ME in 5–15 year olds: A cross sectional study. *British Medical Journal* 327:654–655.
- Chalder T, Berelowitz G, Pawlikowska T et al (1993) Development of a fatigue scale. *Journal of Psychosomatic Research* 37:147–153.
- Chandra P, Kozłowska K, Cruz C et al (2017) Hyperventilation-induced non-epileptic seizures in an adolescent boy with pediatric medical traumatic stress. *Harvard Review of Psychiatry* 25:180–190.
- Claar RL, Walker LS (2006). Functional assessment of pediatric pain patients: Psychometric properties of the Functional Disability Inventory. *Pain* 121:77–84.
- Crawley E (2018) Paediatric chronic fatigue syndrome: current perspectives. *Pediatric Health Medicine and Therapeutics*
- DeNoon DJ. Some kids cry out in language of illness. WebMD February 14, 2000 <https://www.webmd.com/children/news/20000214/some-kids-cry-out-language-illness?printing=true#1>
- De Shazer S (1985). *Keys to Solution In Brief Therapy*. New York: Norton.
- Diatchenko L, Slade GD, Nackley et al (2005) Genetic basis for individual variations in pain perception and the development of a chronic pain condition. *Human Molecular Genetics* 14:135–143
- Domenech-Llaberia E, Jané C, Canals J et al (2004) Parental reports of somatic symptoms in preschool children: prevalence and associations in a Spanish sample. *Journal of the American Academy of Child and Adolescent Psychiatry* 43: 598–604.
- Feldman MD, Brown RM (2002) Münchausen by proxy in an international context. *Child Abuse and Neglect* 26:509–24.
- Fiertag O, Eminson M (2014) Somatising: Management and outcomes. In S Huline-Dickens (Ed) *Clinical Topics in Child and Adolescent Psychiatry*, pp.201–217. Cambridge: Royal College of Psychiatrists.
- Garralda ME (1996). Somatisation in children. *Journal of Child Psychology and Psychiatry* 37:13–33
- Garralda ME (2005) Functional somatic symptoms and somatoform disorders in children. In: Gillberg C, Harrington R, Steinhausen HC (eds). *A Clinician's Handbook of Child and Adolescent Psychiatry*. Cambridge University Press, pp246–268.
- Garralda ME, Chalder T (2005) Practitioner review: chronic fatigue syndrome in childhood. *Journal of Child Psychology and Psychiatry* 46:1143–1151.
- Gureje O, Simon GE, Ustun TU et al (1997) Somatization in cross-cultural perspective: A World Health Organization study in primary care. *American Journal of Psychiatry* 154:989–995.
- Larun L, Brurberg KG, Odgaard-Jensen J et al (2017) Exercise therapy for chronic fatigue syndrome. *Cochrane Database of Systematic Reviews* 4:1–138. The Cochrane Collaboration, John Wiley and Sons.
- LeResche L, Mancl LA, Drangsholt MT et al (2005) Relationship of pain and symptoms to pubertal development in adolescents. *Pain* 118:201–209
- Iveson C (2002). Solution-focused brief therapy. *Advances in Psychiatric Treatment* 8:149–156.
- Knapp M, Funk M, Curran C et al (2006) Economic barriers to better mental health practice and policy. *Health Policy & Planning* 2:157–170.
- Keiling C, Baker-Henningham H, Belfer M et al (2011) Child and adolescent health worldwide: evidence for action. *The Lancet* 378:1515 – 1525.
- Kotagal P, Cota M, Wyllie E et al (2002) Paroxysmal non epileptic events in children and adolescents. *Pediatrics* 110: e46.
- Kozłowska K, Nunn KP, Rose D et al (2007) Conversion disorder in Australian pediatric practice. *Journal of the American Academy of Child and Adolescent Psychiatry* 46:68–75.

- Lieb R, Pfister H, Mastaler M et al (2000) Somatoform syndromes and disorders in a representative population sample of adolescents and young adults. Prevalence, comorbidity and impairments. *Acta Psychiatrica Scandinavica*, 101:194- 208.
- McNicholas F, Slonims V, Cass H (2000) Exaggeration of symptoms or psychiatric Munchausen's syndrome by proxy? *Child and Adolescent Mental Health* 5: 69–75.
- Pehlivanurk B, Unal F (2002) Conversion disorder in children and adolescents. A 4 year follow up study. *Journal of Psychosomatic Research* 52:187-191.
- Prins JB, Bleijenberg G, Bazelmans E et al (2001) Cognitive behaviour therapy for chronic fatigue syndrome: a multicentre randomised controlled trial. *Lancet* 357:841-847.
- Rangel LA, Garralda ME, Levin M et al (2000) The course of chronic fatigue syndrome. *Journal of the Royal Society of Medicine* 93:129-134.
- Rask CU, Bonvanie IJ, Garralda ME (2018) Risk and protective factors and course of functional somatic symptoms in young people. In *Understanding Diversity, Individual Differences and Interventions for Child and Adolescent Mental Health*. M Hodes, S Gau and P de Vries(eds). Academic Press/ Elsevier, London. pp 77-113.
- Reilly C, Menlove L, Fenton V et al (2013) Psychogenic nonepileptic seizures in children: A review. *Epilepsia*. <https://onlinelibrary.wiley.com/doi/full/10.1111/epi.12336>
- Robins PM, Smith SM, Glutting JJ et al (2005) A randomised controlled trial of a cognitively behavioural family intervention for pediatric recurrent abdominal pain. *Journal of Paediatric Psychology* 30:397-408
- Roma M, Marden CL, Flaherty MAK et al (2019) Impaired health-related quality of life in adolescent myalgic encephalomyelitis/chronic fatigue syndrome: The impact of core symptoms. *Frontiers in Paediatrics* 7:1-11. doi: 10.3389/fped.2019.00026
- Sanders MR, Shepherd RW, Cleghorn G et al (1994). The treatment of recurrent abdominal pain in children: a controlled comparison of cognitive-behavioural family intervention and standard pediatric care. *Journal of Consulting and Clinical Psychology* 62:306-314.
- Stone AL, Walker LS, Heathcote LC et al (2019). Somatic symptoms in paediatric patients with chronic pain: proposed clinical reference points for the Children's Somatic Symptoms Inventory (Formerly the Children's Somatisation Inventory). *The Journal of Pain*, 0, 1-9.
- Vila M, Kramer T, Obiols J et al (2012) Abdominal pain in British young people: associations, impairment and health care use. *Journal of Psychosomatic Research* 73:437-442
- Whiting P, Bagnall AM, Sowden AJ et al (2001) Interventions for the treatment and management of chronic fatigue syndrome: A systematic review. *Journal of The American Medical Association* 286:1360 – 1368.
- World Health Organisation (2018) ICD-11 for mortality and morbidity statistics. 29 March 2019.
- Yeo A, Boyd D, Lumsden S et al (2004). Association between a functional polymorphism in the serotonin transporter gene and diarrhoea predominant irritable bowel syndrome in women. *Gut* 53:1452-1458.