SOMATOFORM DISORDERS

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The Sick Child. Gabriel Metsu (c1660) Rijksmuseum, Amsterdam

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Physical (somatic) symptoms are extremely common in children and adolescents, who often find it difficult to express their feelings and emotions through language. Because of this, psychological distress may be expressed 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 minimize the importance of these symptoms and try and find out the cause. This tactic aids children to learn to cope with everyday stresses. However, despite this, sometimes symptoms persist. It is thought that 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. 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 cause little difficulty, however sometimes they lead to distress, impairment in functioning and healthcare-seeking behavior, as in somatoform disorders.

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 nursery school age, those who present with frequent somatic symptoms are significantly more likely than children without symptoms to have associated behavioral 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, in reality, no illness is purely physical or psychological – 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 will focus on psychiatric disorders that present with physical symptoms. Table I.1.1 summarizes the broadly different ways in which physical and psychological aspects are linked.

WHAT IS SOMATIZATION?

Somatization describes a constellation of clinical and behavioral features indicating that a person is experiencing and communicating psychological distress through physical (somatic) symptoms not accounted for by pathological findings; the person attributes these symptoms to a physical illness and this leads to seeking medical help. In somatization, the production of symptoms is usually *not* under conscious control, however, in children and adolescents it is particularly difficult to establish the level of conscious control.

Somatoform disorders

The current diagnostic manuals (DSM-IV and ICD-10) are under revision and it is thought that in the new versions (expected to be available in 2013), somatoform disorders will be redefined. The following describes their present classificatory status.

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

DSM-IV describes somatoform disorders as having:

(i) Physical symptoms suggesting a medical condition; however, no medical disease, substance misuse or another mental disorder can be found to account for the symptoms

(ii) The symptoms cause significant distress or impairment in social, occupational or other areas of functioning

(iii) The physical symptoms are not intentionally produced.

DSM-IV subdivides somatoform disorders into *somatization disorder*, *undifferentiated somatoform disorder*, *conversion disorder*, *pain disorder*, *hypochondriasis*, *body dysmorphic disorder* and *somatoform disorder not otherwise specified* (includes unexplained physical complaints, e.g., fatigue). Dissociative disorders (those where there is a disruption in the usually integrated functions of consciousness, memory, identity, perception) are categorized separately.

ICD-10 describes somatoform disorders as having:

(i) Repeated presentations of physical symptoms, with

(ii) Persistent requests for medical investigations despite negative findings and medical reassurance, and

(iii) The patient often resists attempts to discuss the possibility of psychological causation.

ICD-10 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) and *neuraesthenia* (chronic fatigue syndrome), are categorized separately in ICD-10.

Of all these somatoform disorders, the most commonly seen in children and adolescents are *persistent somatoform pain disorder, dissociative /conversion disorder* and *chronic fatigue syndrome* (*neurasthenia*). A summary of the specific criteria for these disorders are outlined in Table I.1.2.

Table I.1.2 Criteria for diagnosis of somatization disorders common in children and adolescents

ICD-10	DSM-IV
Somatoform disorders	
• Multiple, recurrent and frequently changing physical symptoms of at least two years' duration • Most patients have a long and complicated history of contact with both primary and specialist medical care services, during which many negative investigations may have been carried out • Symptoms may be referred to any part or system of the body • The course of the disorder is chronic and fluctuating • Often associated with disruption of social, interpersonal, and family behavior.	• Physical symptoms suggest a medical condition. However, no medical disease, substance misuse or another mental disorder can be found to account for the symptoms • The symptoms cause significant distress or impairment in social, occupational or other areas of functioning • The physical symptoms are not intentionally produced • No diagnosable medical condition can fully account for the symptoms.
F45.4: Persistent somatoform pain disorder	**Pain disorder (Associated with psychological factors: 307.80; Associated with psychological factors and a general medical condition: 307.89)**
• The predominant complaint is of persistent, severe and distressing pain • It cannot be explained fully by a physiological process or a physical disorder • It occurs in association with emotional conflict or psychosocial problems that are sufficient to allow the conclusion that they are the main causative influences • The result is usually a marked increase in support and attention, either personal or medical.	• Pain in one or more anatomical sites is the predominant clinical presentation and is of sufficient severity to warrant clinical attention • The pain causes clinically significant distress or impairment in social, occupational, or other important areas of functioning • Psychological factors are judged to have an important role in the onset, severity, exacerbation, or maintenance of the pain. • The symptom or deficit is not intentionally produced or feigned • The pain is not better accounted for by a mood, anxiety or psychotic disorder.
F44: Dissociative [conversion] disorders	**300.11: Conversion disorder**
• A partial or complete loss of the normal integration between: memories of the past, awareness of identity and immediate sensations, control of bodily movements (There is additional specific guidance for clinical features occurring in each type of dissociative disorder: e.g., dissociative amnesia, fugue, stupor and motor dissociative disorders) • Medical examination and investigation do not reveal the presence of any known physical or neurological disorder • There is evidence for psychological causation, in the form of clear association in time with stressful life events and problems or disturbed relationships (even if denied by the individual) • *The possibility of the later appearance of serious physical or psychiatric disorders should always be kept in mind.*	• One or more symptoms or deficits affecting voluntary motor or sensory function that suggest a neurological or other general medical condition • Psychological factors are judged to be associated with the symptom or deficit because their initiation or exacerbation is preceded by conflicts or other stressors • The symptom or deficit is not intentionally produced or feigned • The symptom or deficit cannot, after investigation, be explained by a medical condition, substance abuse or a culturally sanctioned behavior or experience • The symptom or deficit causes clinically significant distress or impairment in social, occupational or other important areas of functioning, or warrants medical attention • The symptom or deficit is not limited to pain, does not occur exclusively during somatization disorder and is not better accounted for by another medical disorder.

Table I.1.2 (continuation)

ICD-10	DSM-IV
F48 : Neurasthenia (chronic fatigue syndrome)	
• Either persistent and distressing complaints of increased fatigue after mental effort, or persistent and distressing complaints of bodily weakness and exhaustion after minimal effort • At least two of: muscular aches/pains, dizziness, tension headaches, sleep disturbance, inability to relax, irritability, dyspepsia • Any autonomic or depressive symptoms present are not sufficiently persistent and severe to fulfill the criteria for any of the more specific disorders • Considerable cultural variations occur in the presentation of this disorder.	

Burden

Somatoform disorders tend to present repeatedly to primary care practitioners and pediatricians rather than psychiatrists because their presenting symptoms are physical and families tend to attribute the symptoms to organic, not psychological, causes. The medical help-seeking behavior that usually accompanies the symptoms often leads to numerous (potentially painful) medical investigations and treatments before their psychological nature is identified. Families are often skeptical about the usefulness of a psychiatric or mental health assessment and may continue to pursue investigation of an organic pathology. Over-investigation tends to reinforce the belief in the patient and family that there is an underlying physical cause. All of this can result in a huge burden on patients, their families as well as wastage of resources. 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. Expertise is needed in the assessment and management of these cases to avoid the huge potential implications for patients, families, services and wider society.

EPIDEMIOLOGY

Little is known about the exact incidence or prevalence of the different somatoform disorders. 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

Ten percent of children attending general practitioners or pediatric clinics are reported as having medically unexplained symptoms. However, when considering all children presenting with any physical complaint where doctors identify associated or contributing psychological factors, psychosomatic factors are seen in 25%-50% of them.

Surveys from various countries have found that approximately one in four children complain of at least one set of somatic symptoms weekly or fortnightly.

The most common somatic symptoms are abdominal pain, headaches and muscular or joint pains. Recurrent and troublesome somatic symptoms occur in 2%-5% of children and adolescents (Garralda, 2005).

Somatoform disorders

The German Early Developmental Stages of Psychopathology project examined the occurrence of somatoform disorders amongst 14-24 year olds finding 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 educational status – university) (Lieb et al, 2000).

Chronic fatigue syndrome

In the US, the population rate of chronic fatigue syndrome-like symptoms in children and young people is estimated to be 2% (Jordan et al, 2000; Garralda & Chalder, 2005) 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 Western countries in the Northern hemisphere.

Conversion disorder

Prevalence of conversion disorder across the world is unknown. However a national surveillance study of Australian children under16 years seen by pediatric specialists with a diagnosis of conversion disorder indicates that it is rare (incidence of 2.3-4.2 per 100,000 children) (Kozlowska et al, 2007).

Functional abdominal pain

Apley's (1975) study 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 affected to the degree expected in clinical somatoform disorders.

Age at onset and gender

Most pain and undifferentiated disorders start in childhood or early adolescence. However conversion disorder tends to arise later, with a median age of onset of 16 years. 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. In females, pain disorder has an age at onset of 11-19 years, whereas males have an age at onset under 13 (Lieb et al, 2000). Somatic symptoms and somatoform disorders generally occur more commonly in females than males.

ETIOLOGY

Somatization is likely to be caused by a combination of factors. A variety of individual, family and environmental factors have been proposed as predisposing, precipitating or perpetuating in somatization; these are summarized in Table I.1.3.

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

Individual	• Personal experience of physical illness • Enhanced focus on physical sensations • Conscientious, vulnerable, sensitive, anxious personalities • Particular concerns about peer relationships • High achievement orientation
Family	• Physical health problems • Mental health problems • Parental somatization • Emotional over-involvement • Limitations in the ability to communicate about emotional issues
Environment	• Life stresses e.g. school, teasing or bullying, • Academic pressure.

* Adapted from Gledhill and Garralda (2009)

Individual factors

People with a sensitive, conscientious or anxious temperament are more vulnerable to developing somatization symptoms in childhood. Those with a history of anxiety and emotional lability are also at increased risk. Precipitating factors include social stressors such as harsh comments about schoolwork or relationships evidenced by a temporal link between these stressors and the development of symptoms. Objectively, stressors may not be particularly severe; however, in combination with a sensitive and anxious temperament, they are interpreted in a more extreme way and are enough 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 common life events (e.g., birth of a sibling) in comparison to children without somatic symptoms. In some cases, somatization 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). Careful consideration should also be given to the existence of other stressors, such as abuse or school-related 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 somatization symptoms may be mediated by temperamental traits in the child (e.g., sensitivity, anxiety) and the child having subsequent difficulties adjusting to everyday issues due to them.

Family factors

Anxious, over-protective, emotionally over-involved families with high levels of maternal distress may predispose a child to develop somatization 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 family where

a parent has suffered paralysis through an accidental injury). In addition, if there are physical health problems, somatization illness in family members, or frequent medical health care-seeking behavior within the families, this may contribute to the child's symptoms through attention being given to this type of behavior and through modeling.

Chronically stressful family situations (e.g., marital disharmony, ongoing school difficulties) may contribute to maintaining the child's unexplained symptoms or their recurrence. Parental distress about the child's symptoms and frequent reporting increase attention to the symptoms, reduce the use of alternative coping strategies such as distraction, and reinforce the child's somatizing behavior. Parents of children with somatization 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 somatization symptoms. This type of parenting style may contribute to perpetuating the illness. Families' beliefs may be dominated by the thought that there is an underlying organic cause for the problems and if the families do not consider psychological explanations they may be resistant to psychosocial treatment, increasing the likelihood that symptoms will persist.

The effect of somatization in a child is likely to impact on the functioning of the family unit as well as the child. For example, it may result in parents having decreased leisure time, having to take time off work and 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 stress.

Environmental factors

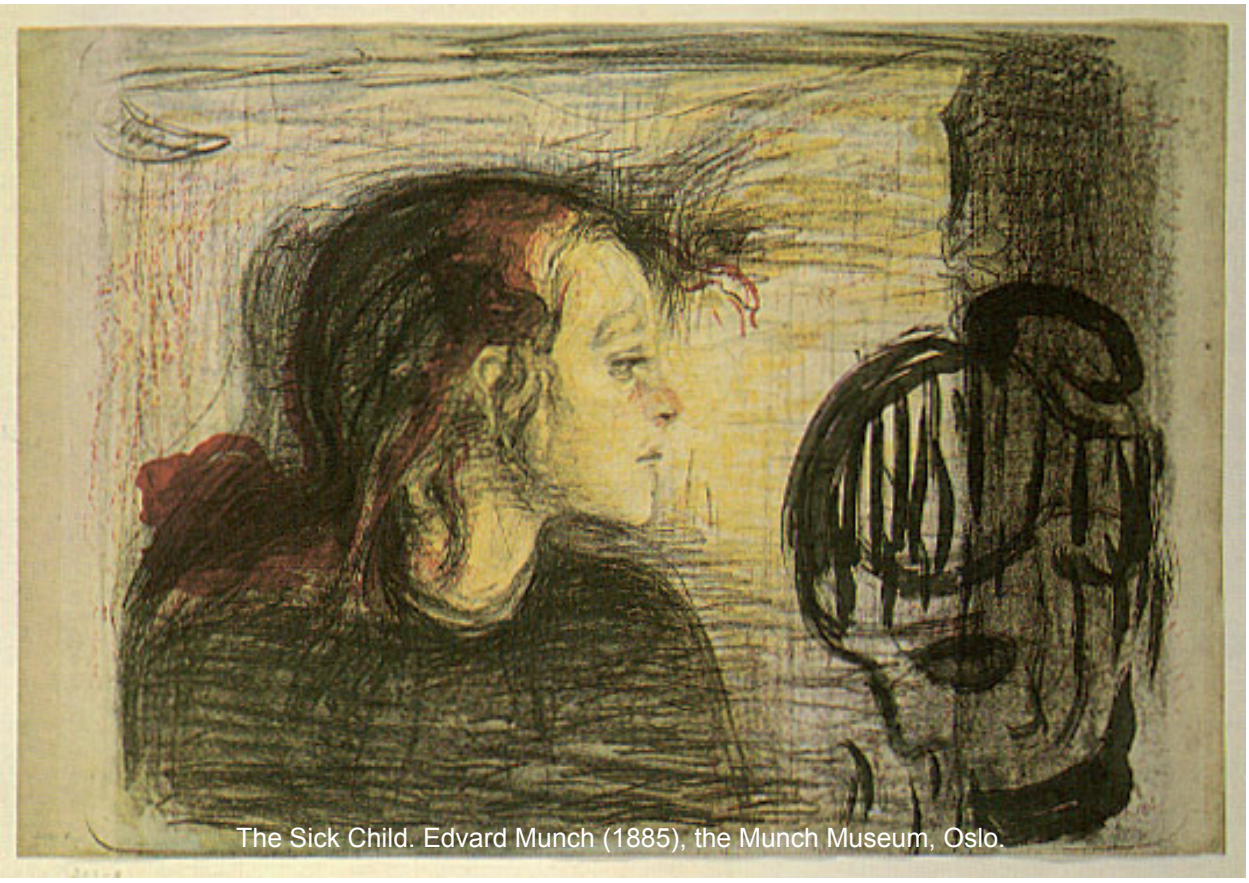
Concerns about school in terms of academic pressure, peer problems, relationship with teachers and, in particular, bullying are common in children with somatization symptoms and can be predisposing or precipitating factors. These children are often sensitive to social interactions and have high educational expectations. This stress may manifest itself 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 by others that they are trying to miss school. These concerns often lead to further non-attendance and, once they have stopped attending, the child may become very anxious about resuming school, which maintains the problem.

ASSESSMENT

Consider somatization if:

- There is a time relationship between psychosocial stressors and physical symptoms
- The nature, severity of the symptom or its resulting handicap is out of keeping with the pathophysiology
- There is a concurrent psychiatric disorder.

The family doctor, general practitioner or pediatrician is likely to be the first port of call for most children. The usual assessment, investigations and reassurance that there is no treatable medical disorder will often relieve concerns enough for the



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

child to improve without the need for further intervention. However, sometimes symptoms persist.

Children and families with frequent, persistent symptoms and high anxiety levels may be referred to a specialist 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 symptoms persist even after this level of assessment and intervention, which includes targeting the identified bio-psycho-social factors, or if symptoms are particularly severe, or there is diagnostic uncertainty, the child should be referred to a mental health service.

Referral to a mental health service needs to be done in a sensitive manner with acknowledgement of the symptoms – many children and families in these circumstances fear that they are not being taken seriously and that referral to mental health services means their symptoms are not believed. 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 of the ability for physical and psychological causes to coexist. Psychiatric assessment should include developmental and psychiatric history, mental state examination 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.

Even after mental health assessment and intervention has been commenced, many families may not be receptive to psychological explanations and may want to continue seeking further investigations. Engaging the family early in the assessment process and working with them to achieve a common view is vital before effective treatment can be instituted. Prompt and accurate identification and naming of somatization can improve prognosis, whereas misdiagnosis or delay can lead to a negative impact on prognosis, family and societal burden.

Main clinical features

The most common somatic symptoms are recurrent abdominal pain, musculoskeletal pain and headaches, but multiple symptoms can coexist.

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).

Chronic fatigue syndrome or neurasthenia

Click on the picture to hear 15 year old Sophie describe her chronic fatigue syndrome.

Chronic fatigue syndrome commonly starts with an acute flu-like illness or glandular fever. It can have an insidious, gradual onset and fluctuating course 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 young person 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 explained by a medical illness, as it would be in fatigue related to concurrent medical disease. There is often comorbid psychopathology, particularly anxiety and depression. Typically, the family has sought multiple medical opinions and the child has received several diagnoses by the time of assessment. The functional impairment is often unusually long with lengthy school absence and prolonged periods of bed rest (Garralda, 1996; Garralda & Chalder, 3005).

Dissociative (conversion) disorders

These disorders involve partial or complete loss of bodily sensations or movements; loss or disturbance of motor function and pseudo-seizures being the most common presentations. Less frequently, children may present with loss of sight, hearing, sensation, consciousness, fugue or mutism. Symptoms are often

brought on by a traumatic event and usually remit after a few weeks or months. However, *belle indifference,* which refers to a lack of concern about the symptoms, is not particularly common in children.

Pseudo-seizures

Pseudo-seizures are seizures that do not have the typical features of an epileptic fit and are not accompanied by an abnormal EEG. Pseudo-seizures tend to be seen in Western countries and may be common in certain cultures. In a review of 883 patients in a pediatric epilepsy clinic, 15% had paroxysmal non-epileptic events. Of these, the numbers with pseudo-seizures were 3% in preschoolers, 43% in 5-12 year olds and 87% in 12-18 year olds. Pseudo-seizures and epilepsy can coexist but those with both conditions form a small proportion of patients with epilepsy. For example, Kotagal et al (2002) reported that 11 (1.5%) out of 746 children with epilepsy had psychogenic seizures. Pseudo-seizures can be similar to epileptic seizures leading to delays in diagnosis.

Fugue

Fugue is extremely rare in childhood. Dissociative fugue or psychogenic fugue is a rare disorder characterized by a total or partial, reversible inability to recall (amnesia) one's personal identity and memories. Fugue typically presents as unplanned travelling or wandering away from home. The state is usually short-lived (ranging from hours to days), but can last months or longer.

Differential diagnosis

Symptoms found in somatoform disorders, e.g., physical complaints and school non-attendance, occur in numerous psychiatric disorders such as:

- Separation anxiety disorder, school phobia and refusal and other anxiety disorders
- Eating disorders (e.g., anorexia nervosa)
- Depressive disorder
- Elective mutism
- Factitious illness (Munchasuen by proxy, fabricated and induced illness).

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 chronic fatigue this may be as much as three quarters. In school age children, anxiety and depression are the most common comorbidities. Comorbid attention deficit hyperactivity disorder and oppositional defiant disorder are also frequent, especially in boys.

The Early Developmental Stages of Psychopathology study (Lieb et al, 2000) reported (a) that conversion disorders were associated with eating disorders and (b) pain disorders were associated with depression, panic disorder and post-traumatic stress disorder in older adolescents and young adults. Degree of impairment was shown to increase with the number of comorbidities.

Research diagnostic criteria for conditions such as chronic fatigue syndrome make the presence of mental disorders such as anorexia nervosa an exclusion criterion. However, somatoform disorders often coexist with other psychiatric diagnoses. Somatoform disorder should be the primary diagnosis when:

- The physical symptoms are more prominent than the emotional or behavioral symptoms

- The physical symptoms are the main cause of functional impairment
- There are unwarranted beliefs in the presence of a medical disorder and there is repeated medical help-seeking.

Somatoform disorders can also coexist with organic conditions. If there is a physical illness, it is necessary to establish what symptoms are congruent with the illness and which ones are more likely to be attributed to the psychosocial stressors or disorder.

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 pseudo-seizures and epileptic seizures.

Rating scales

Instruments to measure physical symptoms and functional impairment are useful both for assessment and to monitor progress. Symptom diaries tailored to the individual's presentation are helpful also. By using a symptom diary to document severity and frequency of symptoms over time, a chart can be plotted to visually show to the patient that there has been improvement even before this is noticed subjectively. Visualizing this may help to maintain therapeutic optimism and motivation. In addition, the use of scales may help further engagement with treatment and rehabilitation. Some of the scales are listed in Table I.1.4. It may also be helpful to measure anxiety and depressive symptoms through appropriate scales if these symptoms are present.

Sarah

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 fifteenth 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.

Table I.1.4 Rating scales

Rating Scale	What does it measure?	Comments
Child Somatization Inventory	35 symptoms and their severity in the two weeks prior to assessment	Identifies somatization disorder-related symptoms and their severity
Functional Disability Index	Functional disability in walking, travelling, daily chores, social and leisure activities, sleeping and eating	Rates the presence and severity of related impairment
Chalder Fatigue Self-Report Scale (Chalder et al, 1993)	Features of physical and mental fatigue	Rates fatigue 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 first step is to engage the family. The following strategies may be helpful (many of these strategies will have also been helpful during the assessment process – see assessment section above):

- 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, 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 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.

Management setting

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

when there is a comorbid psychiatric disorder, and when major family problems are affecting the resolution of symptoms. If a psychiatric referral is recommended, the referring 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.

Psychological interventions

The specific psychological treatment and frequency of contact will vary depending on the nature of the disorder. Interventions may be provided by primary care clinicians, pediatricians, psychiatrists or other mental health workers. However, certain features are common to all; most 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, practical management of pseudo-seizures)
- Developing active, problem focused, coping strategies and attitudes
- A goal based, gradual rehabilitation program with achievable, consistent and agreed aims
- Exploration of expectations on ultimate goals as they may be unrealistically high
- Sleep hygiene and dietary advice
- Psychological interventions, such as cognitive behavioral therapy for comorbid 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.

Click on the picture to view a short presentation about pseudo-seizures or psychogenic non-epileptic seizures (3:53)

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

Family work

It is vital to engage families to facilitate an effective management plan; therefore, families need to have their ongoing concerns addressed at all times. The family plays a key role in aiding the child to 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 addressed in family work. Some family issues may not be apparent initially, so regular reviews and adding interventions as needed is required. Cognitive behavioral family therapy has been shown to be effective in recurrent abdominal pain.

Medication

There is no medication specifically licensed for use in somatoform disorders, although medication could be indicated to treat some comorbid disorders. For example, selective serotonin reuptake inhibitors may be helpful if there is associated depression or anxiety, which is often, and can make the rehabilitation process easier to implement in some children.

School liaison

Close school liaison to reduce school related stress and to deal with conflicting expectations between the child, family and teachers is important. Tailoring a school program to help the child cope with their symptoms within school (e.g., reduced timetable) is helpful. In case of pseudo-seizures, a clear management plan that includes ways of reducing their dramatic impact within school needs to be instituted. In severe situations where a child has been absent from school, a gradual reintegration should be arranged, with consideration of admission to a pediatric or psychiatric unit with educational provision.

Click on the picture to hear about the management of recurrent abdominal pain; it highlights the importance of school liaison in the treatment (8:30)

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 cycle of 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, more intensive psychological work and family intervention.

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. In rare cases the somatoform disorder will be the expression of severe family dysfunction or child abuse. Close cooperation and communication between all professionals 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.

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.

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 contradictory views, which may be unhelpful if they undermine the management strategy.

Effectiveness of treatment

The number of studies examining the effectiveness of treatment in somatoform disorders is limited. Case reports from pediatricians and child psychiatrists provide anecdotal support for the beneficial effects of the approaches described in this chapter. Helping patients and families understand the links between psychological and physical pain, tends to be greatly appreciated by parents and is thought to be crucial in reducing pain and helping patients manage it. Cognitive behavioral family interventions for unexplained abdominal pain have the best evidence of effectiveness; one study showed that, when compared with standard medical care, a cognitive behavioral family intervention achieved better pain reduction, lower relapse rates and lower interference with daily activities as well as increased parental satisfaction (Robins et al, 2005). In chronic fatigue syndrome several controlled trials in adults have shown cognitive behavioral therapy and graded exercise therapy to be beneficial (Whiting et al, 2001), which is promising.

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 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 help children and their parents manage the symptoms better, but also to communicate more effectively about psychological matters.

Prognosis

Recurrent physical symptoms in childhood have been linked to adult psychopathology and an increased prevalence of psychiatric disorders. Reassuringly, the majority of children with somatoform disorders seen in specialist services recover in the short term. However, symptoms can persist in some patients who subsequently may develop other psychiatric disorders (e.g., eating disorders, anxiety disorders). In a small proportion, symptoms continue into adulthood.

The majority of young people with chronic fatigue syndrome, even those markedly affected, eventually make either a complete recovery or improve sufficiently to lead near normal lives (Rangel et al, 2000). Nevertheless absence from school can last longer than a year and it may take longer than three years to achieve full recovery. Additionally, there are suggestions that these patients are at greater risk of developing further psychiatric disorders after recovery (Garralda & Chalder, 2005).

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.

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

Indicators of favorable outcome include:

- Specific medical precipitants
- Good pre-morbid personality
- Good parental psychiatric adjustment
- Favorable social circumstances

PREVENTION

Childhood somatoform disorders are associated with a history of somatic symptoms in the family and to 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 somatization occurred mainly in non-Western countries. However, more recent research has identified it as a universal

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 fits 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.

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 somatization in terms of how symptoms are understood by the family within the context of their cultural beliefs:

- Although headaches, musculoskeletal pains and abdominal pains are the most common symptoms in somatoform 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 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 with 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 is an example of this.

Although 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 evidenced 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 somatoform disorders. Low-income countries allocate a proportion of their gross domestic product to health but as this is low, the allocated resources are also considerably less than the need. There is moreover, little government funding available for professional regulation, allowing healthcare providers to offer treatments with limited 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 care. 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 need 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 the somatoform 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 they are severe, impairing, related to psychological factors and result in frequent medical help seeking behavior, they form the basis of somatoform disorders. In these cases, families tend to attribute the somatic symptoms to underlying physical pathology despite the 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 on emotionally laden issues, may contribute to the maintenance of the disorder.

Medical examination and investigation, recognition of parental and child attitudes to the symptoms and management strategies to help reduce impairment are core 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 cognitive behavioral therapy. However, helping families communicate about and manage stressors for the child is often clinically efficacious. Engaging families during every step of the 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.

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