

SEPARATION ANXIETY

Ana Figueroa, Cesar Soutullo, Yoshiro Ono
& Kazuhiko Saito



Ana Figueroa MD

Director, Child & Adolescent
Psychiatry Unit, Hospital
Perpetuo Socorro, Las Palmas,
Gran Canaria, Spain

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Speaker: Eli Lilly, Janssen,
Shire, Spanish National Health
Service

Cesar Soutullo MD, PhD

Director, Child & Adolescent
Psychiatry Unit, Department
of Psychiatry & Medical
Psychology, University of
Navarra Clinic, Pamplona,
Spain

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funding from Abbott, Alicia
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Anxiety disorders are probably the most common psychopathology in youth, with prevalence estimates ranging from 5% to 25% worldwide, but a much lower percentage receive treatment (Boyd et al, 2000; Costello et al, 2003). Separation anxiety disorder (SAD) accounts for approximately half of the referrals among all anxiety disorders (Cartwright-Hatton et al, 2006). Most pediatric anxiety disorders have the same diagnostic criteria as those in adults except SAD, currently classified in DSM and ICD as one of the disorders usually diagnosed in infancy, childhood, or adolescence (Krain et al, 2007).

SAD is characterized by an abnormal reactivity to real or imagined separation from attachment figures that significantly interferes with daily activities and developmental tasks. To meet DSM-IV-R diagnostic criteria, the anxiety must be beyond what is expected for the child's developmental level, last longer than four weeks, begin before age 18 and cause significant distress or impairment (American Psychiatric Association, 2000).

SAD can cause marked distress and impairment, can lead to several negative psychosocial outcomes, and is predictive of adult psychiatric disorders, especially panic disorder. In spite of this, the disorder has seldom been studied, and children are not usually clinically assessed until SAD results in school refusal or marked somatic symptoms. Available effective treatments include psychotherapy and medications.

CLINICAL PRESENTATION

SAD has a heterogeneous clinical presentation. The cardinal symptom is a significant or developmentally inappropriate *distress*, or excessive and unrealistic fears, upon *separation* from attachment figures (usually parents) or the home (American Psychiatric Association, 2000). There are three key characteristics of separation anxiety disorder:

- Excessive and persistent fears or worries before and at the time of separation.
- Behavioral and somatic symptoms before, during and after the separation, and
- Persistent avoidance or attempts to escape the separation situation.

The child *worries* that something may happen to his parents (e.g., that they will disappear, get lost or forget about him) or that the child will get lost, kidnapped or killed if he is not near his parents. *Behavioral symptoms* include crying, clinging, complaining upon separation, and searching or calling for the parent after their departure. *Physical symptoms* are similar to those in a panic attack or somatization disorder, such as:

- Headaches
- Abdominal pain
- Fainting spells, lightheadedness, dizziness
- Nightmares, sleep difficulties
- Nausea, vomiting
- Cramps, muscle aches
- Palpitations, chest pain.

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Yoshiro Ono MD, PhD

Director, Wakayama Prefecture Mental Health & Welfare Center, Wakayama, Japan

Conflict of interest: none declared

Kazuhiko Saito MD

Director, Department of Child Psychiatry, Kohnodai Hospital, National Center for Global Health and Medicine, Japan

Conflict of interest: none declared

Due to these physical symptoms, SAD is a frequent cause of school absenteeism and multiple visits to the family doctor or pediatrician to rule out a medical problem. Symptoms only appear on school days and usually disappear as soon as the parents decide the child will stay at home.

Clinical presentation differs according to the patient's age. Young children describe having nightmares about separation themes more often than older children. Also, compared to adolescents, children show more often extreme distress upon separation. They frequently display oppositional behaviors such as temper tantrums in separation situation. Adolescents with SAD have physical complaints more often on school days. Situations in which separation anxiety symptoms can appear are when the child:

- Is left at daycare
- Enters school
- Gets on the school bus
- Is asked to go to bed
- Is left at home with baby sitters
- Begins summer camp
- Moves households
- Stays overnight with friends or relatives
- Confronts parental separation or divorce.

Separation anxiety symptoms appear more frequently in situations such as a change of school, starting a new school term (after summer vacation, or when starting high school), changing friends, experiencing adverse events such as being bullied, or suffering a medical illness.

The boundaries for clinical significance of symptoms vary depending on cultural factors. Different cultures have different expectations about autonomy, level of supervision, sleeping practices, housing characteristics (e.g., availability of rooms, size of the house), and the role of parents in child care (e.g., taking care of the child themselves or leaving the child in daycare) (Hanna et al, 2006).



Click on the picture to view a short video on separation anxiety.

Marina is a nine year old girl who lives in a large city with her parents and her four year old brother. She is doing 4th grade at a private school. Since she started kindergarten at the age of two, her teachers noted she was shy and would only start relating to her class mates by the end of the school year. During the first months of the school year she spent as much time as possible with her tutor, even avoiding contact with the rest of the teachers. Transition to pre-school had been difficult but she managed to make some friends by the last trimester. After that, although she appeared distressed at the beginning of each school year, she managed to relate normally to her classmates.

At the age of nine, Marina had the flu, which made her stay in bed for two weeks. When she got better and was allowed to attend school, she cried impatiently clinging to her mother while begging her not to go. After a few days she managed to return to school without excessive crying. However, in the middle of the morning she began complaining of abdominal pain and had to return home. Her pediatrician found no evidence of abdominal pathology. Another day she felt very tired at school, dizzy and with headaches. Again, the pediatrician found no evidence of pathology that would explain her symptoms, but her parents were worried about Marina's problems and went to see a different doctor who conducted more tests that were all negative. She never experienced these physical problems on weekends but when Sunday night arrived she became anxious about presenting the same symptoms at school again on Monday.

Comment: this clinical vignette highlights the symptoms of social anxiety that often precede SAD, the viral infection that triggers the onset of SAD, the problems with separation and the non-explained medical symptoms upon separation.

DIAGNOSTIC CRITERIA

Diagnostic criteria for SAD include:

- Presence of at least 3 out of the 8 possible anxiety symptoms that appear during separation situations (e.g., separation from home or from major attachment figures; fear of losing or possible harm befalling to major attachment figures; reluctance or refusal to go to school, or be alone or without major attachment figures, etc.)
- Symptoms must be present during at least four weeks, and must start before the age of 18.
- Symptoms cause at least moderate impairment and are not better explained by another psychiatric disorder.

The main modification proposed for DSM-V is that SAD be moved from the category of “disorders usually present in infancy, childhood or adolescent” to the general category of “anxiety disorders” along with the rest of anxiety disorders that are diagnosed in children and adults.

In ICD-10, SAD is called “separation anxiety of childhood”. It is included in the section of “emotional disorders with onset specific to childhood” that includes phobic anxiety disorder of childhood and social anxiety disorder of childhood, among others.

EPIDEMIOLOGY

Few epidemiological studies have been published and most have methodological limitations and biases, so data is scarce. SAD has an early age of onset, the peak onset is between 7 and 9 years of age (Costello & Angold, 1995). Prevalence is 3%-5% in children and adolescents, and it decreases with increasing age (Costello & Angold, 1995). In the recently published national comorbidity survey study, Kessler et al (2011) found that anxiety disorders were the most common disorders in all time frames (followed by behavior, mood, and substance use disorders), and that SAD was the most common anxiety disorder in children but the seventh most common lifetime disorder because it often resolves before adolescence. Sub-threshold SAD is much more common. One study estimated that 50% of 8-year-olds suffered SAD symptoms that did not cause significant impairment. Some investigators suggest SAD in the US may be slightly more common in females, African-Americans and families with low socioeconomic status.

Age of onset and course

Anxiety symptoms upon separation from parents or major attachment figures are developmentally normal in children (see Chapter A.2). Distress about separation from attachment figures in infants is one of the most strongly preserved evolutionary behaviors (Shear et al, 2006). Separation anxiety symptoms usually peak between nine and 13 months of age, decrease usually after two years of age, with increasing levels of autonomy by the age of three. Separation anxiety symptoms may increase again by age four to five, usually when the child starts school (Costello et al, 2005; Mattis & Pincus, 2004; Krain et al, 2007). The presence of an anxiety disorder in one of the parents facilitates the persistence of normal separation anxiety (via genetic transmission and because anxious parents

may reduce exposure to separations, decreasing the chance of improvement). Because separation anxiety symptoms are developmentally normative before the age of five, a clinical diagnosis of SAD is rarely justified before then.

Longitudinal studies show that child SAD may be a risk factor for other anxiety disorders; it specifically increases the risk for panic disorder and agoraphobia in adults, mainly due to their similar clinical presentation (Biederman et al, 2005). This is supported by physiological studies, which show an increased sensitivity to carbon dioxide exposure in children with SAD as well as in patients with panic disorder (Pine et al, 2000). Other investigators suggest SAD increases vulnerability for a broad range of anxiety and mood disorders.

Approximately one-third of childhood cases of SAD persist into adulthood if untreated. A child with SAD may significantly limit his peer interactions, which could lead to impairment in social functioning or isolation during adulthood (e.g., remaining single or experiencing marital conflict) (Shear et al, 2006). According to the Child/Adolescent Anxiety Multimodal Study (CAMS; see treatment section below) predictors of remission are: younger age, nonminority status, lower baseline anxiety severity, absence of other internalizing disorders (e.g., anxiety, depression), and absence of social phobia.

The DSM-IV describes SAD as a childhood disorder that seldom persists into adulthood. However, several studies have found that the prevalence of *adult* SAD is around 6%, even higher than childhood SAD. According to one study, more than 70% of adult cases of SAD started in adulthood; so it might be a much more common condition than previously recognized (Shear et al., 2006).

ETIOLOGY

The etiology of SAD is complex and partly unknown. Studies demonstrate that both biological and environmental factors play a role, environmental factors might have a stronger influence in SAD than in other childhood anxiety disorders. Most proposed etiological factors are associated with anxiety disorders in general rather than SAD specifically. There is broad agreement that an interaction between different factors, biological and environmental, increases the risk for anxiety disorders. For example, the interaction of a mother with low anxiety tolerance and a child with behavioral inhibition is likely to result in anxiety in the child.

Biological factors

Genetic

SAD heritability varies from very low to moderate according to different studies. A large scale twin study suggested a significant genetic influence for SAD, accounting for a heritability of around 73% (Bolton et al, 2006). Most studies suggest anxiety disorders run in families (Pine, 1999), and that a person can inherit vulnerability for any anxiety disorder rather than for a specific anxiety disorder. Children with anxious parents are five times more likely to present an anxiety disorder. Some researchers have reported an association between panic disorder in parents and SAD in offspring (Biederman et al, 2004) though this has not been confirmed.

- Prevalence of SAD is approximately 5% in children, decreasing in adolescence. Prevalence of adult SAD is around 6%
- SAD is the most common anxiety disorder in the pediatric population.
- Around 50% of eight year olds suffered separation anxiety symptoms that did not cause significant impairment
- Peak onset is between seven and nine years of age
- Because separation anxiety is developmentally normative before the age of five, a diagnosis of SAD is rarely justified before then
- SAD is a risk factor for other anxiety and psychiatric disorders.
- Approximately one-third of childhood cases of SAD persist into adulthood if left untreated.

Psychological

Psychobiological processes such as fear conditioning are the underpinnings of anxiety disorders. These are the product of genes and environment on the functioning of brain regions involved in fear and reward circuits (amygdala, orbitofrontal cortex, and anterior cingulate cortex).

Dysfunction of some brain areas

The amygdala is one of the main areas implicated in anxiety (Beesdo et al, 2009).

Environmental

Many of the environmental risk factors are derived from cross-sectional epidemiological studies (that can not demonstrate a cause-effect relationship) (Pine & Klein, 2008).

Related to the child's family

- Low parental warmth
- Parenting behaviors that discourage child autonomy (see Ginsburg et al, 2004, for a review). Overprotective and over-involved parents appear to be a specific risk factor for SAD.
- Insecure attachment, above all with the mother. An anxious-resistant attachment is associated with anxiety disorders (Warren et al, 1997). Children of anxious mothers often exhibit anxiety about separation (Beidel et al, 1997; Biederman et al, 2001), not only because children's fears about their own security, but also about their mother's safety during separation
- Severe parental discord
- Separation or divorce
- Physical illness in a parent
- Mental disorder in a parent, such as panic disorder and major depression
- Father who is egocentric, immature, instable or with antisocial behaviors.

Early experiences

- Stressful life events are broadly associated with pediatric psychopathology in general
- Being involved in a major disaster or crime
- Exposure to family violence
- Parent losing a job
- Birth of a sibling

Child's temperament and characteristics

- Behavioral Inhibition reflects a consistent tendency to display fear and withdrawal in unfamiliar situations which the child tries to avoid. Behaviorally inhibited children are introverted, easily embarrassed or socially avoidant. It is usually evident by age two. These children are more likely than non-inhibited ones to exhibit significant levels of anxiety of various kinds, including SAD (Kagan et al, 1988; Biederman et al, 1993; Anthony et al, 2002)

- Low tolerance for humiliation
- Fear of failure
- Depression
- Gender. Females have higher rates of almost all anxiety disorders.

Related to the school

- Being bullied
- Failure to perform at the expected level in exams, sports or other academic activities.

COMORBIDITY

Childhood anxiety disorders are frequently comorbid with each other and with other forms of psychopathology. Thus it is common that children with SAD also present with other anxiety disorders or other conditions such as depression or disruptive behavior disorders (Krain et al, 2007). Compared to children with generalized anxiety and social phobia, children with SAD more frequently show other anxiety disorders, increasing the overall severity (Kendall et al, 2001); suffer comorbid specific phobias more often (Verduin et al, 2003); and are more likely to avoid school, resulting in school refusal (*futoko* in Japan).

Children with SAD more frequently present also with:

- Major depression (Angold et al, 1999)
- Bipolar disorder (Wagner, 2006), and
- Attention-deficit hyperactivity disorder. Girls with the inattentive subtype of ADHD may have higher rates of comorbid SAD (Levy et al, 2005).

DIAGNOSIS

In DSM-IV and ICD-10, SAD is the only anxiety disorder classified in the section of "disorders usually diagnosed in infancy, childhood, or adolescence", and not included with the other anxiety disorders (although this is likely to change in DSM-5).

Diagnostic evaluation

School refusal and excessive somatic complaints in the context of actual or anticipated separations are the most common reasons for parents to seek treatment for SAD (Krain et al, 2007).

The diagnostic assessment of SAD requires a multi-informant, multi-method approach involving the child, parents and, if appropriate, school teachers or other significant caregivers (see Chapter A.5). The final diagnosis will be based on information from all these sources. While the gold standard is a structured or a semi-structured clinical interview where children and their parents are interviewed separately, structured interviews are often impractical in everyday clinical work.

Several semi-structured diagnostic interviews are available:

- *The Anxiety Disorder Interview Schedule for DSM-IV Child and Parent Version* (ADIS-IV-C/P; Silverman & Albano, 1996). The ADIS is designed for youth aged six to 17 years of age; it assesses DSM-

IV anxiety, mood, externalizing, tic, substance use and pervasive developmental disorders.

- *The Kiddie Schedule of Affective Disorders and Schizophrenia for School age children, Present and Lifetime version* (K-SADS-PL) is used for patients six-18 years of age to assess all Axis I diagnosis, except pervasive developmental disorders.

The majority of childhood anxiety assessment measures are developed for and validated with school-aged children, leaving disorders of early childhood relatively unexplored. *The Preschool Age Psychiatric Assessment* (PAPA), is a structured parent interview used to diagnose psychiatric disorders in children aged two to five.

During the interviews, clinicians should assess the three key groups of anxiety symptoms:

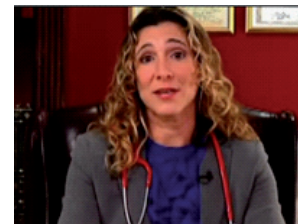
- Behaviors
- Thoughts
- Physical symptoms.

The clinician should explicitly ask about their presence currently and in the past, timing, frequency, how they interfere with daily functioning, and what function they may be serving. It is also important to gather information about early SAD symptoms their development over time, and assess their possible association with major life transitions or stressors. Anxious children tend to report more physical symptoms, while parents usually emphasize the avoidant behaviors. If possible, it is helpful for the clinician to actually see the patient in an anxiety provoking situation (i.e., entering school). Often children show intense SAD symptoms in the doctor's office when they are required to separate from his parents.

As with any other psychiatric disorders, evaluation should include past psychiatric history, family psychiatric history, medical history and developmental history (see Chapter A.5).

Somatic symptoms generally have no physical origin. However, a careful physical examination with appropriate blood work is recommended to rule out physical causes, including anemia, streptococcal infection (search for anti-streptococcal antibodies), hyperthyroidism, hypothyroidism (ask for T3, T4, and TSH), mitral valve prolapse, asthma, gastrointestinal infection, inflammation, bleeding, or ulceration. Also, urine screening for drugs in adolescents is advisable. In some cases a clinician can suspect the presence of diabetes mellitus. Rarer conditions that could mimic SAD symptoms are: babesiosis, Lyme disease, and rickettsial infection. This is important in patients with a history of fever, rash, or sore throat with incomplete or no treatment with antibiotics, and a history of acute change in personality or anxiety or obsessive symptoms. Blood levels of lead and mercury can be measured to rule out heavy metal poisoning (especially in patients with abdominal pain). If other information suggests brain tumor or seizure disorder, the clinician should perform appropriate imaging studies.

As previously mentioned, to meet DSM-IV criteria for SAD, anxiety symptoms must be beyond what is expected for the child's developmental level, last longer than four weeks, begin before age 18, and cause significant distress or impairment (APA, 2000). Anxiety has to be exclusively related to separation



Click on the picture to watch the video "Understanding separation anxiety"

from home or attachment figures, and the patient must have at least three of the following:

- Recurrent excessive distress in separation situations
- Persistent and excessive worry about losing, or about possible harm befalling major attachment figures (e.g., health, accidents, death)
- Persistent and excessive worry that an untoward event will lead to separation from a major attachment figure (e.g., getting lost or being kidnapped)
- Persistent reluctance or refusal to go to school, work, or elsewhere because of fear of separation
- Persistent and excessive fear about or reluctance to be alone or without major attachment figures
- Persistent reluctance or refusal to go to sleep without being near a major attachment figure or to sleep away from home
- Repeated nightmares involving the theme of separation
- Repeated complaints of physical symptoms (such as headaches, stomachaches, nausea, or vomiting) when separation from major attachment figures occurs or is anticipated.

The current diagnostic criteria have been criticized because examples are restricted to untoward events happening to the child, but fail to capture untoward events to attachment figures that may lead to loss, such as worries about death and dying; the need for more studies to test the cut off of four weeks, which is arbitrary.

Rating Scales

Rating scales used in clinical practice or in research are completed by the patient, parents and or teachers; they provide valuable information to confirm the diagnosis, quantify the severity of symptoms and monitor treatment response. However, they should never be used as *diagnostic instruments* (see Chapter A.5).

Anxiety symptoms in children can be assessed by general psychopathology rating scales such as the *ASEBA* instruments (Achenbach, 2009) or specific scales such as the *State-Trait Anxiety Inventory for Children* (STAIC; Spielberger, 1973). The latter is probably more helpful to evaluate separation anxiety symptoms in children of all ages. All of the scales mentioned below have shown reasonably good validity and reliability.

Other widely used rating scales for anxiety symptoms in children and adolescents include the *Fear Survey Schedule for Children-Revised* (FSSC-R; Ollendick, 1983), the *Revised Child Manifest Anxiety Scale* (RCMAS; Reynolds, 1980), the *State-Trait Anxiety Inventory for Children* (STAIC; Papay & Spielberger, 1986), and the *Social Phobia and Anxiety Inventory for Children* (SPAI-C; Beidel et al, 2000).

Differential diagnosis

Anxiety symptoms can be the manifestation of:

- Normal developmental anxiety (e.g., normal fears during the first few days of school), in this case symptoms would be self-limiting
- Medical illness (e.g., hyperthyroidism, Cushing syndrome, brain tumor). Symptoms would not be restricted to situations involving

Table F.2.1 Scales* to rate separation anxiety symptoms

Scale	Rater	Patient's age	Recommended for screening	SAD subscale	Comments
SCAS (Spence, 1997)	Child, (Parent version)	8-12	✓	✓	<ul style="list-style-type: none"> • 44 items, uses a 4-point scale • 6 subscales: separation anxiety, panic/agoraphobia, social anxiety, generalized anxiety, obsessions/compulsions, and fear of physical injury • Preschool scale for 2.5-6.5 years of age • Available in 16 languages
SAAS-C/P (Eisen & Schaefer, 2007)	Child, Parent			✓	<ul style="list-style-type: none"> • 34 items, some specific of SAD • 4 dimensions: fear of being alone, fear of abandonment, fear of physical illness, and worry about calamitous events. • Also contains a "frequency of calamitous events subscale" and "safety signals index".
SCARED-R (Muris et al, 1998)	Child (parent version)	7-18	✓✓✓	✓	<ul style="list-style-type: none"> • Total of 66 items including all DSM-IV anxiety disorders, 8-items specifically assess SAD. • Available in 8 languages
PARS (Research Units on Pediatric Psychopharmacology Anxiety Study Group, 2002)	Clinician				<ul style="list-style-type: none"> • Requires interviews with parents and child
RCADS (Chorpita et al, 2000)	Child, Parent	6-18		✓	<ul style="list-style-type: none"> • 47 items, self-report questionnaire. • Includes all anxiety disorders and major depression • It yields a total anxiety score and a total internalizing score. There is also a parent version. • Available in 5 languages.
The Preschool Anxiety Scale (Spence et al, 2001)	Parent	2-6			<ul style="list-style-type: none"> • Parent self-report. • A preschool version of the SCAS.

*Non-proprietary: free for clinical use.

separation from attachment figures and the child would present other medical signs, such as vision or coordination impairment in the case of brain tumors

- Anxiety disorders different from SAD, such as generalized anxiety or social phobia (worries about "everything" or social situations, respectively, not fear about separation specifically), and the presence of an attachment figure does not alleviate symptoms (see Chapter F.1)
- Other psychiatric disorders such as depression
- In adolescents, alcohol and substance use such as cannabis, cocaine or caffeine. Symptoms would occur when under the effect of the substance or upon withdrawal
- Adverse environmental circumstances such as inappropriate academic placement, fear of violence at school (e.g., gang-related violence), being bullied, grief reaction. Symptoms would typically start acutely and worsen when exposed to these situations.
- Truancy. The adolescent would deliberately not attend school.

TREATMENT

There are multiple treatment options for children and adolescents suffering from SAD. The clinician should select the most appropriate therapeutic option for each specific patient after considering factors related to the disorder (severity, duration, dysfunction due to symptoms), the patient and his family (chronological and developmental age, insight, treatment preferences, family motivation and availability, financial resources), and the clinician (availability, skills and experience). Most data about effectiveness of treatment refer to non-pharmacological treatments: psychoeducation, behavioral management and different forms of cognitive behavioral therapy. Thus, these should be the clinician's first choice.

Psychoeducation

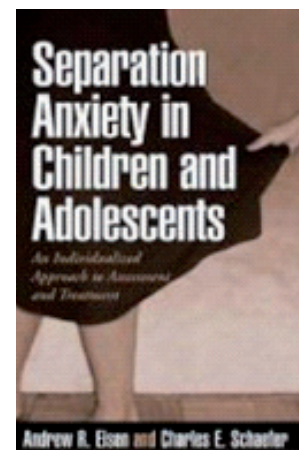
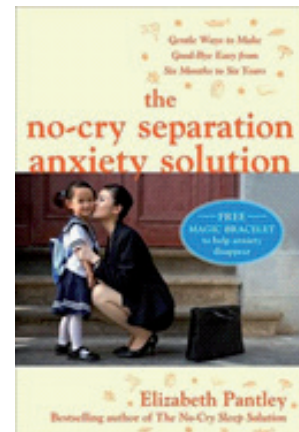
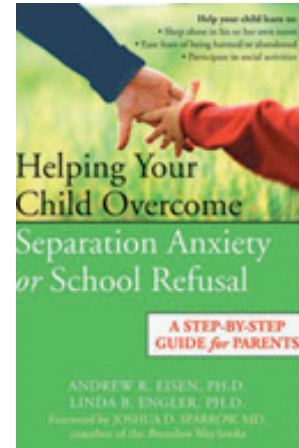
In all cases, it is essential to build a good therapeutic alliance between the patient (and family) and the clinician. This is best developed in the context of psychoeducation, which is also fundamental in all treatment processes. Educating the family and the child (according to their developmental age), increases insight and motivation. Understanding the nature of anxiety and how it is experienced by the child will help parents and teachers sympathize with a child's struggles.

Psychoeducation should always cover:

- Anxiety as a normal emotion, at all developmental stages
- Factors that may cause, trigger or maintain anxiety symptoms
- The natural course of SAD
- Treatment alternatives, including their advantages and disadvantages
- Prognosis

There is a multitude of books and much (good and bad) information in the Internet about anxiety disorders. Some of the most useful can be found in side boxes.

Clinicians may recommend books or websites to obtain more information, for example:



Behavioral management

Behavioral management is indicated in all cases. It consists of informing family members and significant caregivers, how to manage mild symptoms and maladaptive attitudes such as avoidant behaviors or cognitive biases. It may be the only treatment required in cases of mild separation anxiety (which generally occur during pre-school). This should be combined with other therapies if there is no improvement or symptoms are moderately severe, or cause moderate dysfunction or distress. The main objective of behavioral management is to provide the child a flexible and supportive environment to overcome his separation anxiety symptoms.

The clinician may recommend parents to:

- Listen to the child's feelings empathically
- Keep calm when the child becomes anxious (to model the child's behavior)
- Remind the child that he had survived similar anxious situations before
- Teach simple relaxation techniques such as deep breathing, counting to 10, or visualizing a relaxing scene. Learning how to relax gives the child a sense of control over his body
- Plan transitions, such as getting to school in the morning or preparing for bed at night
- Help the child prepare a list of possible strategies in case anxiety appears in "difficult" situations
- Support the child's prompt return to school (long absences make return to school more difficult)

Interventions at home

A parent may read a specialized book with the anxious child, while reassuring that it is fine for the child to feel that way and that nothing will happen. There are many books for this purpose, such as "The good-bye book" by Judith Viorst; "The Kissing Hand" by Audrey Penn; "Even if I Spill My Milk" by Anna Grossnickle Hines; "Benjamin Comes Back" by Amy Brandt; "When Mama comes home" by Eileen Spinelli; "The invisible string" by Patrice Karst.



When symptoms of separation anxiety result in the child rejecting school, a parent can share books that specifically discuss this such as: "I don't Want to Go to School" by Nancy Pando.

- Encourage the child's participation in activities outside the home, without attachment figures (promote *exposure*). Do not let him stay at home to avoid distress (do not allow *avoidance*)
- Praise the child's efforts (not only his results) to address symptoms (reinforce repeatedly during his way to success)
- Assure the child/adolescent that somatic symptoms are indicators of a problem that requires attention, just not a physical problem.

Interventions at school

The clinician can recommend teachers to:

- Initiate a plan to promote the child's return to school as soon as possible
- Maintain frequent meetings with parents to facilitate collaboration in strategies to help the child normalize schooling
- Assess the cause of the child's school refusal and address it (e.g., problems with friends, fear of a teacher)
- Supervise the child's arrival to school, preferably the same person every time
- Allow an attachment figure to initially accompany the child
- Allow a shorter school day and lengthen it gradually
- Identify a safe place where the child can go to reduce anxiety during stressful periods
- Identify a safe adult to whom the child can ask for comfort at all times, most of all during stressful periods
- Promote practicing relaxation techniques developed at home
- Provide alternative activities to distract the child from physical symptoms
- Encourage small group interactions. This can start with only one classmate. With time, the child will increase his competency and the group may be enlarged progressively. Provide assistance with these peer interactions.
- Reward a child's efforts
- Allow extra time for transitioning to different activities.

Cognitive Behavior Therapy (CBT)

Several randomized controlled studies have shown the short and long term effectiveness of CBT in ameliorating childhood anxiety disorders, including SAD. CBT is currently the treatment with the most evidence supporting its efficacy (Barrett et al, 1996; Kendall et al, 1997). Thus, CBT has become the initial treatment of choice. The exception is when anxiety symptoms are too severe to allow working with the child in therapy. In that case, medication or both treatments concurrently would be indicated.

There are several manualized CBT programs, mostly based on classical and operant principles and social learning. The duration of CBT depends on the severity, treatment design and patient's response.

The targets of CBT are to:

- Gain insight about the presence and the origin of anxiety symptoms
- Control worries

- Reduce arousal
- Confront the feared situations.

To achieve those objectives, CBT usually includes the following:

- Psychoeducation
- Cognitive restructuring (reducing negative self-talk and addressing negative thoughts, among other strategies)
- Improving problem solving skills
- Relaxation training (to address physical symptoms)
- Modeling
- Contingency management
- Exposure and response prevention.

Exposure and response prevention are the key element of CBT for anxiety disorders, which is included in all programs in different forms. First the child is helped to list the top anxiety-provoking situations. This serves as an initial description of the symptoms, and will be used later as a measure of treatment progress. The child rates each situation for *level of fear* and *degree of avoidance*, on a 0 (not at all) to 10 (extreme) Likert scale (specifically designed for the child's developmental stage or cognitive level such as a "fear thermometer"). Some programs only grade the level of fear/anxiety, but the inclusion of an *avoidance rating* may help in designing exposure experiences. Therapist and parents may assist in performing the rating.

As explained, there are many CBT programs. Here, we mention two of them: *The Coping Cat* and the *Friends* programs.

The Coping Cat program

The Coping Cat (Kendall, 2000) is a manualized, proprietary intervention for youth with anxiety disorders, including SAD. The program incorporates cognitive restructuring and relaxation training followed by gradual exposure to anxiety-provoking situations applying learned coping skills. It has been shown to be effective in SAD (and also in generalized anxiety and social phobia). Randomized clinical trials have achieved remission rates as high as 66% (Kendall et al, 1997). Follow-up assessments at three and 7.5 years showed that treatment gains were maintained over time (Kendall & Southam-Gerow, 1996; Kendall et al, 2004).

The "Friends" program

The *Friends* program is a 10-session CBT intervention delivered in a group format for children with anxiety disorders, with two levels: treatment and universal preventive intervention. FRIENDS is the acronym for: F—Feeling worried?; R—Relax and feel good; I—Inner thoughts; E—Explore plans, N—Nice work so reward yourself; D—Don't forget to practice; and S—Stay calm, you know how to cope now. The program has all the essentials of CBT programs including cognitive restructuring for parents. Also, parents are encouraged to practice the skills daily and are given positive reinforcement for doing so. The program encourages families to develop supportive social networks, and children to develop friendships among group members by talking about difficult situations and learning from peers' experiences. It also incorporates some elements of interpersonal therapy. Shortt et al (2001) conducted a RCT applying the Friends program in children 6-10 years

old, with SAD, generalized anxiety or social phobia, obtaining remission rates of 69%. Therapeutic gains were maintained one year later.

Camp-like CBT

Camp-like CBT is an intensive intervention for school-age girls with SAD delivered in the context of a one-week camp-like setting. A potential benefit of a camp-based group approach for SAD is the incorporation of children's social context into treatment (away from parents), thus allowing a more naturalistic exposure regarding typical separation situations, such as group field trips, activities and sleepovers. The program also includes parents, whom clinicians educate on the management of SAD symptoms. A RCT suggested significant reductions in SAD severity and treatment gains (Ehrenreich et al, 2008).

The role of the family in CBT

Family involvement is essential because parents often play a role in the maintenance of children's separation fears and should support the treatment plan by consistently applying the behavioral management at home. Some programs, also CBT based, emphasize family involvement, such as *Parent-Child Interaction Therapy* (PCIT).

Parent-Child Interaction Therapy (Brinkmeyer & Eyberg, 2003) has been adapted for children aged four to eight with SAD (Choate et al, 2005; Pincus et al, 2005) but requires considerable resources often not available in many services, even in high income countries. PCIT has three stages:

- Child-directed interaction: teaches parents to be warm and praiseful, to promote the child's feeling of security in order to facilitate separation from the parent
- Bravery-directed interaction: the therapist works with both the parents and the child to develop a list of situations the child is fearful of or currently avoiding, in order of severity. The family creates a reward list to reinforce the child's efforts.
- Parent-directed interaction: parents learn how to manage the child's misbehavior based on operant principles of behavior change (such as consistent positive and negative consequences). Also, parents learn not to reinforce the child's anxious behaviors, for example not giving the child more attention when he skips class (Eisen et al, 1998).

During all three stages, parents are actively coached on how to apply the skills. Coaching may take place through a one-way mirror, using walkie-talkies or an ear-piece microphone. Mastery is measured by the number of times the parents use a specific skill. Preliminary analyses in as yet unpublished controlled trial to assess the efficacy of PCIT in children with SAD suggest a clinically significant improvement, with continued improvement over time.

CBT for pre-schoolers

Most CBT programs are designed for children aged six years or older. Hirshfeld-Becker et al (2010) examined the efficacy of a developmentally appropriate parent-child CBT program for anxiety disorders in children aged four to seven. The response rate was 69% (versus 32% in controls) and gains were maintained at one year follow-up.

Also available for preschoolers is the *CALM* program (Comer et al, 2012), a form of parent-child interaction therapy, for children aged three to eight with SAD, social anxiety disorder, generalized anxiety, or specific phobias. A controlled trial has shown promising results of live parent coaching in this population (Comer et al, 2012).

Pharmacological treatment

Medication should always be used *in addition* to behavioral or psychotherapeutic intervention. Medication is not generally recommended as a first line treatment for SAD. However, it is a useful strategy when CBT achieves no response or partial response, or when the child is significantly impaired. No medication has been specifically approved for SAD. However, various medications have been investigated for childhood anxiety disorders, such as selective serotonin reuptake inhibitors (SSRIs), tricyclic antidepressants (TCAs), benzodiazepines, buspirone, serotonin and noradrenaline reuptake inhibitors (SNRI), propranolol, clonidine, atypical antipsychotics, antihistamines and melatonin. All medications should be started, stopped or adjusted under the supervision of a trained clinician.

SSRIs

There are numerous RCTs assessing the efficacy of SSRIs in children and adolescents with SAD, generalized anxiety and social phobia (Reinblatt & Riddle, 2007). In those studies SSRIs have proved to be effective and have a favorable adverse effect profile. Thus, they are considered the first choice medication in anxiety disorders, including SAD (Reinblatt & Riddle, 2007). In fact, SSRIs may be more effective in anxiety disorders than in major depression (Bridge et al, 2007). In spite of the clinical evidence, no SSRI has been approved by the US Food and Drug Administration (FDA) for the treatment of anxiety disorders in children and adolescents. Thus, when clinicians prescribe an SSRI to a patient under 18 years old with SAD, they are doing so "off-label" in the US – the situation may be different in other countries (several SSRIs are approved for the treatment of obsessive compulsive disorder, see Table F.2.2). In June 2003 the FDA recommended that paroxetine not be used in children and adolescents with depression. The other SSRIs appear to be of similar effectiveness.

Different controlled trials have investigated different SSRIs: fluvoxamine (e.g., Research Units on Pediatric Psychopharmacology Anxiety Study Group, 2001); fluoxetine (e.g., Birmaher et al, 2003); sertraline (e.g., Walkup et al, 2008). However, there are no studies assessing the long term effectiveness in pediatric populations with SAD.

Table F.2.2 US Food and Drug Administration approved SSRIs for children and adolescents

SSRI	Indication	Patient's age
Escitalopram	Depression	12-17
Fluoxetine	Depression	8-17
Fluoxetine	OCD	7-17
Fluvoxamine	OCD	8-17
Sertraline	OCD	6-17

Table F.2.3 Summary of the characteristics of commonly used SSRIs

SSRI	Initial dose (mg/day)	Target dose (mg/day)	Comments
Citalopram	5	10-40	
Escitalopram	5	10-30	
Fluoxetine	5	10-80	<ul style="list-style-type: none"> • Long half life • Can decrease appetite and sexual function
Fluvoxamine	10	50-300	
Paroxetine	5	10-60	<ul style="list-style-type: none"> • Very short half life • Less effective in children (FDA discourages its use) • Frequent side effects
Sertraline	25	50-200	<ul style="list-style-type: none"> • Few interactions • Few side effects

The Child/Adolescent Anxiety Multimodal Study (CAMS), one of the most comprehensive trials of anxiety disorders in youngsters is a good example of the studies available. This multisite trial included 488 children and adolescents (ages 7-17 years) with SAD, generalized anxiety or social phobia. Patients were randomized to 12-week treatment in one of these four arms: (a) sertraline, (b) cognitive behavioral therapy (CBT), (c) a combination of sertraline and CBT, and (d) clinical management with pill placebo. After 12 weeks of treatment all active therapies were superior to placebo. Remission rates (that is, achieving a nearly symptom-free state) were highest for the combined group (46% to 68%), followed by sertraline (34% to 46%), followed by CBT (20% to 46%), and lastly for placebo (15% to 27%). Rates of response (i.e., a clinically significant improvement) were significantly higher than rates of remission. The main conclusion was that CBT alone and sertraline alone were effective short term treatments but there was a clear advantage in combining both (Walkup et al, 2008).

Practical issues about prescribing SSRIs in children and adolescents

Prescribers should start with a low dose and titrate it weekly, monitoring clinical response and side effects. To achieve maximum benefit children may need as high a dose as adults. Table F2.3 presents initial and target doses. SSRIs can be administered daily in the morning. Evening dosing is possible if treatment does not disrupt sleep. SSRIs usually begin to be effective in two to four weeks. Up to 12 weeks may be required to determine whether the medication is effective for a specific patient. It can take up to 16 weeks to achieve significant clinical improvement. However, if a patient does not show any benefit by week eight, a different SSRI should be tried. Even when patients improve they frequently remain symptomatic. In that case, the clinician should assess the need to increase the dose if the patient tolerates it well. Most studies report additional benefit accruing over 6-12 months (Connolly et al, 2007). Thus, it is recommend continuing treatment at least for one year after achieving full remission. However, there is no specific evidence supporting this recommendation. Advantages of maintaining

pharmacotherapy include:

- Helping the child consolidate behavioral gains
- Increasing the synergistic effect of combination therapy (SSRI + CBT)
- Reducing the probability of relapse.

Deciding when to stop treatment may be difficult. It is not advisable to discontinue medication at the start of a new school year, while at camp, during final exams, or even during vacations. A discontinuation trial is advisable when the patient can be monitored closely and is in a stable environment at school and at home, that is, not in a novel situation. As with all medications, dose should be tapered progressively, avoiding abrupt discontinuation to prevent withdrawal effects. It is also important not to mistake withdrawal symptoms for a recurrence of the illness. If symptoms return, medication should be restarted back to the dose that resulted in remission.

Patients usually tolerate SSRIs well. Common side effects include: drowsiness, abdominal pain/discomfort, headaches, and feelings of restlessness. Apathy can be

Table F.2.4 Second line medications* for anxiety disorders in children and adolescents

Medication	Possible indication	Comments
SNRIs: (e.g., venlafaxine, duloxetine)	• Refractory to SSRIs and CBT	• No compelling evidence of effectiveness in anxiety disorders • More side effects than SSRIs
TCA: (e.g., imipramine, clomipramine)	• Refractory to SSRIs and CBT	• More side effects than SSRIs • Requires baseline and periodic ECG monitoring • Potentially lethal in overdose
Benzodiazepines: (e.g., clonazepam, clorazepate)	• Short term treatment of acute anxiety (rapid solution needed)	• Potential abuse and dependence • Risk of paradoxical reaction in children
Bupirone	• Refractory to SSRIs and CBT	• Effectiveness not demonstrated in children
Propranolol	• Intense autonomic response	• Should not be used by asthmatics or with antihypertensive agents
Clonidine	• Intense autonomic response • Comorbid PTSD or acute stress reactions	• More side effects than SSRIs • Potentially lethal in overdose • Requires baseline and periodic ECG and blood pressure monitoring
Antihistamines	• Insomnia	• Can provoke somnolence, increased appetite
Melatonin	• Insomnia	• Unknown long term side effects

*None of these medications are FDA approved for the treatment of anxiety disorders in children.

a late-onset side effect and it is less known because it is infrequent. Clinicians often misinterpret it as a symptom. Side effects, when present, are generally mild and usually dissipate after the first days or weeks of treatment. If these are marked or persistent the clinician should lower the dose. If they persist, the clinician should discontinue the medication and try another SSRI. There are anecdotal cases of new-onset easy bleeding or bruising. In most cases coagulation tests and bleeding times are either delayed or normal. Rarely, a patient may suffer a (hypo)manic switch or episode, characterized by changes in mood (elevated, euphoric or irritable) or behavior (grandiosity, fast speech, higher level of energy and activity), and possible psychotic symptoms (See Chapter E.2). Should this occur the medication must be discontinued and the clinician should assess a diagnosis of bipolar disorder. As is the case with depression, suicide risk should be monitored closely, particularly early during treatment. There is no need to routinely run laboratory testing or ECG at baseline or during follow-up, if the patient is asymptomatic.

Second line medications for SAD

Some patients do not tolerate SSRIs or do not show (sufficient) clinical response with them. In those cases, a clinician can indicate second line medications. These are listed in Table F.2.4.

SPECIFIC CROSS-CULTURAL SYNDROMES RELATED TO SEPARATION ANXIETY DISORDER

tokokyohi (school refusal) and *futoko* (school non-attendance)

Broadwin introduced the concept of “school refusal” in 1932, although he used the term “truancy”. Until then, truancy referred to school non-attendance associated with antisocial behavior, Broadwin being the first to use the term to describe non-delinquent school absenteeism. In 1941 Johnson used the term “school phobia” to refer to long-term school absenteeism attributed to separation anxiety. Subsequently, experts described other causes for long term school absenteeism different from SAD. In 1948 Warren described this situation as “refusal to go to school”; since then, it was commonly designated “school refusal” (Hersov, 1960). In Japan, the concept of school phobia was introduced in the latter half of the 1950s. In the 1960s it was called “school refusal” (*toko kyohi* in Japanese). In the 1990s, experts used the term school non-attendance (*futoko* in Japanese). However both concepts are very similar and *toko kyohi* and *futoko* virtually describe the same symptoms, so we will use the term “school refusal” to refer to both, unless otherwise specified.

Berg (1980) defined “school refusal” as:

1. Severe difficulty attending school usually amounting to prolonged absenteeism.
2. Severe emotional distress when going to school, or anticipating the idea of going. Symptoms include excessive fearfulness, temper tantrums, feelings of misery, and physical complaints without an objective organic cause.
3. Staying at home in school hours, with parental knowledge.
4. Absence of significant anti-social behavior such as stealing, lying, running away, and destroying property.



Japanese school children with backpacks, Fukuoka, Japan

Photo: Blog of Andy HoboTraveler.com

Characteristics 2, 3 and 4 clearly distinguished the novel concept of “school refusal” from “truancy” and considered it a distinct disorder. Atkinson and Quarrington (1985) argued that School refusal should not be considered a mental disorder but a symptom or a socio-psychological phenomenon. Therefore they proposed that school refusal should be understood as *“long-term absenteeism characterized by the presence of fear, rejection, or anger vis-à-vis participation in school, combined with a strong sense of guilt concerning absenteeism itself, and concomitant conflict with life withdrawn into the home”* (Atkinson & Quarrington, 1985).

Unlike SAD, school refusal is not a DSM diagnosis. In the past school refusal was often used interchangeably with *school phobia*. We know now that not all children who refuse to go to school suffer from SAD. However, in young children the most frequent cause of school refusal is SAD, and should always be ruled-out. In 10 to 15 year olds, school refusal is generally due to generalized anxiety or social phobia (for a description of these disorders see Chapter F.1). In adolescents with school refusal an underlying panic disorder may be present, but also depression, obsessive-compulsive disorder, or somatoform disorder. Other reasons for adolescents refusing to go to school are violence in the home and excessive use of internet combined with social phobia / withdrawal (*hikikomori*). Unlike younger children, during early adolescence SAD is less often the cause

and school refusal often leads to long-term absenteeism. However, it is possible that school refusal is not accompanied by any psychiatric disorder; the etiology of school refusal can be very heterogeneous (Egger et al, 2003). Kearney and Albano (2004) conducted a study with 143 youth aged 5-17 with primary school refusal. Up to 22% had SAD, the most frequent psychiatric diagnosis, but 33% did not have any psychiatric diagnosis.

Recent reviews suggest a prevalence of school refusal between 1% and 5% in non-clinic referred and clinic-referred children, respectively. Peak onset occurs when at 5 to 6 and 10 to 11 years of age, coinciding with the transition to kindergarten and middle school respectively. Other high risk times for the onset of school refusal are moving to a different community or to a new school and after major social events or holidays.

Approximately 25% of cases of school refusal remit spontaneously or are successfully dealt with exclusively by parents. In adolescents, referral can be delayed because somatic complaints may not coincide exactly with separation situations (unlike in younger children), thus hindering diagnosis.

Longitudinal studies indicate that school refusal can lead to serious short-term problems such as academic decline, alienation from peers and family conflict (Kearney & Bensaheb, 2006) and long term consequences such as increased risk of psychiatric disorders and social and employment difficulties. Saito (2000) reported the results of a 10 year follow-up of 106 students who had been hospitalized for treatment of school refusal after graduating from a junior high school. By their mid-twenties, 73% were socially well adjusted while 27% were not. Further, half of the latter also showed social withdrawal (*hikikomori*).

KEY POINTS

- SAD is the most common childhood anxiety disorder, with a prevalence of around 5% in children, and it is associated with high levels of impairment.
- The key symptom of SAD is inappropriate distress or excessive and unrealistic fear upon separation from attachment figures or the home
- SAD is the most frequent cause of school refusal in young children, while generalized anxiety and social phobia are more often the cause in older youth
- Etiology of SAD includes biological and environmental factors
- Frequently children with SAD also suffer from other anxiety disorders or other psychiatric disorders such as depression or disruptive behavior disorders
- There are multiple, effective treatment options available.
- Psychoeducation and behavioral management should always be the starting point.
- CBT is the initial treatment of choice when children do not improve with psychoeducation and behavioral management
- Medication is indicated when CBT achieves no response or partial response, or when the child is significantly impaired. Medication and CBT should always be used in addition to psychoeducation and behavioral management
- The most effective treatment is the combination of CBT and medication
- Currently, no medication is approved by the FDA for children and adolescents with SAD (this may not be the case in other countries). However, clinicians often use SSRIs, which have been shown to effective and well tolerated
- If left untreated, SAD is associated with elevated risk for other internalizing disorders as well as impairments in educational attainment and social functioning.

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