Managing anxiety disorders
in children and adolescents

A child or adolescent presenting with school refusal, physical symptoms like headaches or stomach aches, or speech problems may have an anxiety disorder.

SLOANE MADDEN
MB BS, FRANZP

Dr Madden is Child and Adolescent Psychiatrist and Deputy Head, Department of Psychological Medicine, The Children's Hospital at Westmead, Westmead, NSW.

Anxiety disorders are among the most common psychiatric disorders affecting children and adolescents. While figures vary, the rate of these disorders is thought to be around 9%.[1] Despite this high rate and the significant impairment that anxiety disorders cause, they are highly treatable, with a growing evidence base supporting the safety and effectiveness of treatments such as cognitive behavioural therapy (CBT), family therapy and medication.

Anxiety and anxiety disorders

Anxiety is a normal and useful emotion important in maintaining safety and improving performance. Specific anxieties are part of normal child development, such as separation anxiety in infants and young toddlers. Anxiety disorders are not simply too much anxiety; rather they are developmentally inappropriate concerns characterised by irrational fears and the avoidance of situations associated with these concerns. Anxiety disorders lead to impairment of day-to-day functioning and prolonged and intense distress.

Children and adolescents are prone to the same anxiety disorders as adults but the various disorders tend to present first at different ages. In children, the most common anxiety disorders are separation anxiety disorder, selective mutism and post-traumatic stress disorder (PTSD). In adolescents, the most common are generalised anxiety disorder, social phobia, agoraphobia and panic disorder.

When faced with feared situations, children may experience physical symptoms such as a racing heart, difficulty breathing, nausea, dizziness, sweating and shaking. These symptoms resolve rapidly once the child is away from the feared situation, which indirectly encourages avoidance.

One-third of all children presenting with anxiety disorders will have two or more such disorders, and one-third will also have a major depressive disorder.

IN SUMMARY

- **Anxiety disorders are among the most common psychiatric disorders affecting children and adolescents.**
- **Untreated anxiety disorders in children and adolescents are associated with high rates of impairment in educational and social development during adolescence, and with adult anxiety disorders, substance abuse, unemployment and social isolation.**
- **Anxiety disorders are highly treatable with psychological therapies (including cognitive behavioural and family therapy) and antidepressant medications.**
- **Common anxiety presentations in children and adolescents include separation anxiety with school refusal and somatisation (headaches, abdominal pain), anxiety about school performance and social anxiety.**

Causes of anxiety disorders

While the exact cause of anxiety disorders remains unknown, we do know that genetics and environment both play a role. Studies of families have shown that children with anxiety disorders are much more likely to have parents or siblings with anxiety disorders. In adults, twin and adoption studies have confirmed a strong genetic contribution to anxiety disorders. It is, however, the tendency towards anxiety that is inherited rather than specific anxiety disorders, and this tendency responds to, and is shaped by, life experiences.

Types of anxiety disorders

Separation anxiety disorder

Separation anxiety disorder is the most common anxiety disorder in children, with rates of between 2.4 and 4.7%, mainly in the under-12s. This type of anxiety affects both sexes equally, and the most common age of onset is 6 to 8 years.[2]

Separation anxiety disorder is characterised by excessive fears about being apart from those people most important to the child. The primary fear for affected children is that harm may come to their carers or themselves. For example, children fear that their parents may become the victims of an accident or a murder.

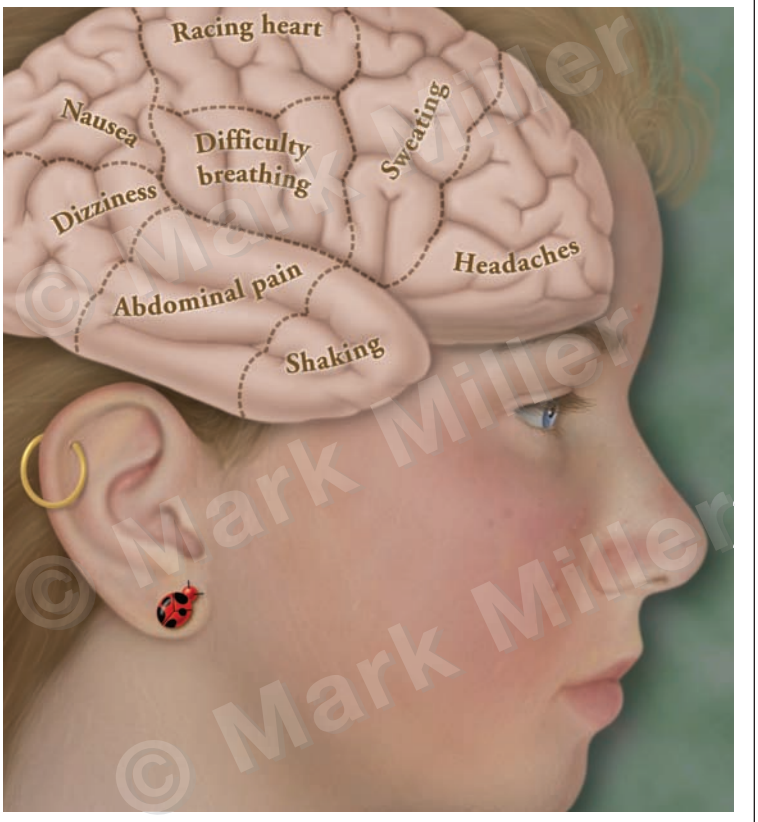
Children with separation anxiety disorder are often unable to go to school, stay at friends' homes, attend school camps, or even sleep alone. They complain of nightmares and often have multiple physical complaints, including headaches and stomach aches. Nearly three-quarters of children with separation anxiety disorder have associated school refusal.[2]

Generalised anxiety disorder

Generalised anxiety disorder, previously known as overanxious disorder, is the second most common anxiety disorder of children, with rates ranging from 2.9 to 4.6%.[3] It is characterised by excessive worrying about future events, social acceptability, personal adequacy and competency.

Children with generalised anxiety disorder often appear overly mature, attempting to carry out tasks and responsibilities perfectly. They regularly seek reassurance for their worries and doubts, are overly sensitive to criticism and frequently present with a variety of physical symptoms.

Anxiety disorders in children and adolescents



Anxiety disorders affect almost one in 10 children and adolescents, and may cause significant impairment and distress. Fortunately these disorders respond well to cognitive behavioural therapy and medications. Selective serotonin reuptake inhibitors are the medications of choice.

Social phobia

Social phobia, which was previously known as avoidant disorder in children, affects around 1.0% of children and adolescents.[1] It is characterised by avoidance of social or performance situations for fear of being negatively judged or doing something embarrassing. While some children may have very specific fears, such as eating or writing in public, most will fear many different types of social situations. Commonly feared situations include public speaking or performing (such as reading in class), social gatherings and interactions with strangers. Untreated social phobia has a high association with substance abuse in late adolescence and adulthood.

Table. Cognitive behavioural therapy

Central beliefs of CBT

- Thoughts influence behaviours and feelings
- Unhelpful thoughts generating anxiety can be identified and challenged
- By replacing these unhelpful thoughts with more realistic ones, behaviours and feelings can be changed.

CBT interventions for anxiety

- Relaxation
- Slow breathing to control panic symptoms
- Graded exposure to anxiety provoking situations
- Problem solving
- Social skills
- Assertiveness training
- Cognitive restructuring (challenging anxious thoughts)

Post-traumatic stress disorder

Made famous in Vietnam War movies, PTSD is also seen in children exposed to a variety of life threatening or potentially life threatening events. Exposure is usually but not always unexpected. In Australia and similar countries, exposure to chronic abuse or domestic violence is a common cause of PTSD, and similarly for children in war zones exposure to trauma is often expected.

PTSD involves the constant reliving of the traumatic event and avoidance of similar situations. Children with PTSD experience nightmares, recurrent intrusive thoughts and flashbacks. They are chronically overaroused, reacting to situations of even minor threat with either explosive rage or complete shutdown.

Events leading to PTSD in children include physical and sexual abuse and domestic violence and also witnessing of house fires, natural disasters such as bushfires, and vehicle accidents. The more severe the event, the more likely someone is to develop symptoms. However, some individuals develop symptoms after minor trauma and others do not develop symptoms despite exposure to major trauma.

Selective mutism

Selective mutism is characterised by the absence of speech in specific situations and the presence of speech in others. The condition is similar in many ways to social phobia but is less common. Community studies have identified rates of this disorder of 0.1%, mainly affecting younger children who often are from bilingual backgrounds.[4] Affected children tend to be reluctant to speak to strangers and when they are in places away from the family home, such as at school. Transient selective mutism is often seen in children when they start school (0.71%).[5]

Treating anxiety disorders

The treatment of child and adolescent anxiety disorders falls into two broad categories: psychological therapies and medication management.

Cognitive behavioural therapy

CBT is the psychological therapy best supported by studies, and is regarded as the first line treatment of anxiety disorders in children and adolescents. It is a talking based therapy arising from the link between thoughts, feelings and behaviour. The central beliefs of CBT and interventions for anxiety are listed in the Table. CBT in children can take place in a group setting or on an individual basis, with or without parental involvement.

Randomised controlled trials of the use of CBT in the treatment of social phobia, generalised anxiety disorder and separation anxiety disorder have shown CBT to be significantly superior to no treatment in the management of these conditions.[6-9] These trials, of 12 to 16 weeks' duration, involved either individual or group therapy. Three compared child-only CBT with parent and child CBT and demonstrated a probable advantage in the involving of parents.[7-9]

Family therapy

Family based interventions in childhood anxiety disorder have focused on parents and children participating together in CBT. Parental participation enables the parents, particularly those of younger children, to develop an understanding of their child's illness as well as learn strategies to assist their child during anxious episodes. Also, since CBT needs regular practice of intervention strategies (often referred to as homework), involving parents helps maintain children's motivation, thus maximising outcomes. Parental involvement has been shown to be beneficial in maintaining remission over time, particularly in families where parents themselves are anxious.[9]

Selective serotonin reuptake inhibitors

Selective serotonin reuptake inhibitors (SSRIs) are the medications of choice for treating anxiety disorders in children and adolescents because of their demonstrated efficacy and safety.

Since 1990 there have been four double-blind randomised placebo-controlled trials of SSRIs in children and adolescents.[10-13] These trials involved 242 children with a range of anxiety disorders, and showed fluoxetine, sertraline and fluvoxamine to be significantly superior to placebo, and that these drugs were well tolerated and safe.

Choosing an SSRI

Concerns have been raised recently about a link between SSRIs and suicidal behaviour. This concern has been highlighted in the use of SSRIs for depression in children and adolescents; however, the link remains controversial and questionable. No suicides have been recorded among more than 2000 children involved in randomised controlled trials of SSRIs in the treatment of depression. Additionally, no

trial has shown a statistically significantly higher rate of suicidal ideation in children treated with SSRIs compared with those treated with placebo. To date, no link has been shown between SSRI use in the treatment of anxiety in children and adolescents and suicidal ideation or behaviour.[14]

Most evidence exists for the efficacy of fluoxetine (Auscap, Fluohexal, Lovan, Prozac, Zactin) in the treatment of depression and anxiety. As previously mentioned, there is also evidence of the efficacy of sertraline (Xydep, Zoloft) and fluvoxamine (Faverin, Luvox, Movox) in this group of disorders. The main differences between these medications are in their half-lives and preparations. Fluoxetine has a half-life of up to two weeks compared to one day or less for sertraline and fluvoxamine, which is particularly useful in adolescents where medication is often missed or forgotten. Also, fluoxetine is available in a liquid form (Lovan), allowing small doses to be more simply given.

SSRI dosages and side effects

Up to 80% of children and adolescents prescribed SSRIs will experience mild transient side effects, the most common being abdominal discomfort, headache and sleep disturbance. While most side effects settle within three to four days, up to one in 12 children will experience behavioural agitation or hypomania necessitating cessation of medication. These complications can be minimised by using low starting doses of medication, with gradual increases as needed.

Generally, most adolescents would start on half the normal adult starting dose of an SSRI and prepubertal children would start on one-quarter. In most adolescents, the dose will need increasing to a standard adult dose. As in adults, SSRIs are not lethal in overdose in children and adolescents.

Two other important side effects in children and adolescents taking SSRIs are sexual dysfunction and withdrawal symptoms on medication cessation. Sexual dysfunction in adolescents taking SSRIs is a clinically significant phenomenon, particularly in young males who are unlikely to remain compliant with medication or discuss this problem should it occur.

Withdrawal phenomena are experienced with rapid cessation of SSRI treatment, and include agitation, restlessness, poor concentration, fatigue and insomnia. Also of concern is the possible increased risk of relapse associated with rapid cessation. Ceasing medication over a two-week period reduces withdrawal symptoms.

Concurrent medical illness

In general, SSRIs are safe in chronically

medically ill patients. They are largely metabolised by the liver and their metabolites are excreted by the kidneys. Dosages should, therefore, be reduced in children and adolescents with renal and liver impairment. Theoretically, SSRIs may marginally decrease seizure threshold, but in practice this is not a significant consideration in patients with epilepsy. These medications have no impact on cardiac conduction, heart rate or blood pressure.

Tricyclic antidepressants

There have been five double-blind randomised controlled trials of tricyclic antidepressants (TCAs) in child and adolescent anxiety disorders since 1970, all in children with school refusal.[15] Only two of these trials showed TCAs to be significantly superior to placebo.

As evidence for the efficacy of TCAs remains equivocal, they are at best a second-line treatment for childhood anxiety disorders, with use confined to specialist clinics. This is particularly so given that TCAs have been associated with seven unexplained sudden deaths in the USA and are potentially lethal in overdose.

Benzodiazepines

There have been four controlled trials of benzodiazepines in children and adolescents with anxiety, and these involved either clonazepam or alprazolam.[16,17] These trials have not demonstrated a significant difference between benzodiazepines and placebo. Given the problems of sedation, dependence, tolerance and withdrawal associated with benzodiazepine use, there is little role for these drugs in the treatment of child and adolescent anxiety.

Conclusion

Anxiety disorders are common in children and if left untreated may persist into adolescence and adulthood. They respond well to treatment and the evidence is accumulating that CBT and medication can be helpful. There is a tendency for affected children not to present with anxiety but with school refusal, physical symptoms and sometimes speech problems.

Anxiety disorders can also be anxiety provoking for doctors if we are unfamiliar with the treatments available. Treating anxiety in childhood is both rewarding and valuable in the long term for helping prevent the problems the condition can cause in later life. MT

A list of references is available on request to the editorial office.

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