Anxiety and mood disorders in children and adolescents: A practice update

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Anxiety and mood disorders are among the most common disorders in children and adolescents. They presage later emotional difficulties and disabilities. An understanding of the disorders' presentation, common contributing factors and methods of intervention will enable paediatricians and family doctors to provide optimal support to these children and their families. The present paper briefly reviews the epidemiology of anxiety and mood disorders in children and adolescents. Phenomenology is referred to according to the major diagnostic categories for anxiety and depression. Contributing factors, including genetic and environmental components and their possible interaction, are discussed. The management of the disorders, including common strategies for encouraging coping responses, stress reduction and medication, is also described.

Key Words: *Adolescents; Anxiety disorders; Children; Mood disorders*

Les troubles anxieux et les troubles de l'humeur chez l'enfant et l'adolescent : Une mise à jour de la pratique

RÉSUMÉ : Les troubles anxieux et les troubles de l'humeur font partie des pathologies les plus courantes chez l'enfant et l'adolescent. Ils présagent des problèmes et des incapacités émotifs à l'âge adulte. S'ils en comprennent la présentation, les facteurs adjuvants courants et les modes d'intervention, les pédiatres et les médecins de famille pourront apporter un soutien optimal à l'enfant touché et à sa famille. Le présent article examine brièvement l'épidémiologie des troubles anxieux et des troubles de l'humeur chez l'enfant et l'adolescent. La phénoménologie est présentée selon les principales catégories diagnostiques pour l'anxiété et la dépression. Les facteurs adjuvants, y compris les éléments génétiques et environnementaux et leurs interactions possibles, sont abordés. La prise en charge des troubles est également décrite, y compris la réduction du stress, les médicaments et des stratégies courantes pour favoriser des réactions d'adaptation.

EPIDEMIOLOGY

Anxiety and mood disorders are among the more common emotional disorders in youth. Depending on the methods of case ascertainment used, anxiety disorders affect 5% to 15% of children and adolescents (for a recent review see Bernstein et al [1]). Although depression is less common in younger children, by adolescence it may affect about 10% to 15% of patients (2). Anxiety and mood disorders affect boys and girls more or less equally, but adolescent girls are much more vulnerable to depression than boys. Suicidal ideation is not uncommon in adolescents, affecting as much as 50% of youth. However, actual suicide attempts are less common and occur disproportionately more frequently in female adolescents than in male adolescents. Males, however, are more likely to complete suicide. Children and adolescents with anxiety or mood disorders are vulnerable to anxiety and mood disorders, as well as increased cardiac, and other somatic problems, in adulthood (3,4).

PHENOMENOLOGY

The most common anxiety disorders in children and adolescents include separation anxiety disorder, social phobia, generalized anxiety disorder, obsessive-compulsive disorder (OCD), panic disorder and phobias. The diagnostic criteria for these disorders are available in the *Diagnostic*

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and Statistical Manual of Mental Disorders, Fourth Edition: DSM-IV (5) or in *The Classification and Statistical Manual for Primary Care (DSM-PC) Child and Adolescent Version* (6). A feature of the recent DSM diagnostic revisions has been an emphasis on disturbance or dysfunction associated with anxiety or mood symptoms. Such dysfunction has been shown to be predictive of later difficulty (7). It appears that anxiety disorders precede mood disorders in most situations (8).

Although major affective disorder is the main diagnostic category of mood disorders, many children and youth have a dysthymic condition that may not meet all of the criteria for a major affective disorder, but they appear to be chronically unhappy and require intervention.

Anxiety and mood disorders are commonly comorbid with other anxiety or mood disorders. It is relatively uncommon for a child or adolescent to have only one disorder. Disruptive behaviour disorders co-occur in over 30% of youth with anxiety and mood disorders, and evidence of conflicted interaction between parents and child is very common (2,7,9).

CONTRIBUTING FACTORS

There are several genetic contributions for each disorder; the amount of variance that is explained by genetic factors often approaches 50%. In addition to a common genetic factor (which is most likely related to stress reactivity), there are also specific genetic factors that may relate to the uniqueness of specific anxiety and mood symptoms (10-13). (See also Bradley [14] for a discussion of this interaction). It is also clear that, in addition to the genetic factors, there are individual, specific environmental factors that contribute to the development of the disorders. These environmental factors most likely reflect the stresses perceived by an individual, may vary within families, and may be affected by a child's ordinal position, sex and temperament. Lastly, attachment and parenting variables generally play a role in a child's sense of security, and capacity to manage feelings and regulate behaviour.

A child learns to manage feelings through his or her interactions with parents, siblings and peers. Children who tend to avoid challenging or emotionally difficult situations may miss out on opportunities to learn how to manage feelings in adaptive ways. Children who are genetically vulnerable to anxiety and mood disorders tend to be avoidant in situations that they perceive to be challenging. This avoidance reduces opportunities to learn coping strategies through exposure to situations that induce some discomfort but that are mastered through exposure and repetition of coping strategies. Conflict with parents, because of the tendency to avoid challenge, may induce greater insecurity and contribute to anxiety (15). Stress reactive children tend to be quite sensitive to criticism and conflict, and may perceive the irritability of parental depression as anger directed at them, or they may be very hurt by parental frustration related to the child's oppositional or avoidant behaviour. As indicated earlier, depression tends to occur in a child who is vulnerable to anxiety and may represent the effect of continued stress in a situation that the child perceives as being hopeless (14).

DIAGNOSIS

DSM-IV (5) criteria are the gold standard for diagnosis, but may be cumbersome in paediatric and primary care settings. *DSM-PC* (6) provides a simplified framework for assessing common anxiety and mood symptoms. Because anxiety and mood symptoms are common in children and adolescents, the assessment of impairment is most important. Even when a child does not meet symptom criteria, significant impairment may suggest the need for intervention (7). Most importantly, symptoms that interfere with a child's attendance at school and the capacity to participate in normal peer activities, that consume inordinate amounts of time because of worry or performance of rituals, or that cause conflict within important relationships should be addressed. Suicidal risk is a key issue in the assessment of a child or adolescent with a mood disorder, but it is also important in the assessment of adolescents with severe anxiety that interferes with the ability to participate in normal activities, such as may occur with prolonged panic disorder or social phobia.

Young children with OCD may develop symptoms in conjunction with a streptococcal throat infection. The relationship between the infection and the onset of symptoms has suggested an autoimmune etiology that is now referred to as paediatric autoimmune neuropsychiatric disorder associated with streptococcal infection, for some cases. Throat swabs and monitoring for the presence of streptococcal infection may be useful. In more resistant cases, plasmapheresis and intravenous immunoglobulin have been used to reduce the severity of symptoms. The extent to which this proposed etiology is relevant in the majority of cases remains unclear (16,17).

MANAGEMENT

The psychoeducation of a child and family about the genetic vulnerability and sensitivity of anxious children, and the exacerbation of symptoms through environmental stressors can help parents and their child to understand both the development of the child's difficulties and how the proposed intervention will alleviate problems. Management includes impairment and risk assessment, as well as an assessment of the child and parents' motivations for treatment, and the availability of different types of intervention. Several books that are available may provide parents with an understanding of and strategies for helping their anxious child (18,19).

Impairment assessment should direct attention to the aspects of a disorder that require priority with respect to intervention. Refusal to attend school by a separation anxious child suggests that a return to normal function in this domain should precede concern about sleepovers, camp, etc. Because conflict within the family is a common

factor that contributes to a disorder but is also exacerbated by the disorder, addressing this factor is usually vital to the success of treatment. Sometimes, parental frustration with their sensitive child will diminish with an understanding of the child's sensitive nature and support with respect to child management strategies (20).

Risk assessment usually focuses on suicidal risk, but may also include an assessment of the risk of having a child develop further impairment if a condition is not addressed; for example, extreme social phobia that interferes with the child's capacity to relate to peers. The assessment of suicidal risk includes whether the child has a suicide plan; the potential for the implementation of that plan, for example, the availability of firearms; the lethality of the plan; the extent to which the child feels hopeless about the situation; and the capacity of the family to provide support and ensure the safety of the child (9). When the severity of risk is unclear, sometimes asking the child what keeps him or her from acting on a plan can provide helpful clues as to protective factors that can be used in supporting the child during a crisis period.

An assessment of the motivation for treatment includes the assessment of which interventions are appropriate given the child and parents' understanding of the problem. Some families will perceive the child's behaviour as an extension of normal fears and worries, and may do best in interventions that emphasize learning improved coping strategies to deal with anxieties. In more severe situations, parents may see their child as being very disabled physiologically and believe that medication will be more helpful. Many parents wonder about an 'underlying earlier and unexpressed trauma or fear' that must be understood before the child can become less anxious. In such situations, it helps parents to understand that anxious symptoms are not usually related to a hidden trauma, but generally represent the reaction of a sensitive child who feels stressed in a current situation. Some parents tend to see their child as being largely oppositional and may need support to understand the anxiety that accompanies the oppositional behaviour.

Lastly, the interventions that are available in a specific community may dictate the plan for intervention. Some interventions, such as cognitive behavioural therapy (CBT), are not widely available and may be expensive, unless they are covered through employee assistance plans.

GOALS OF INTERVENTION

The first goal of intervention is to reduce the stress that is perceived by a child. This often involves helping the family to understand that engaging in conflict with respect to the child's avoidant behaviour worsens the situation. Teaching the family ways of managing the child's resistance that do not involve high levels of frustration is important. This may involve the use of rewards and consequences for attempting exposure to the situation being avoided, and supporting the parents in acknowledging the child's efforts. Parents may also need direct advice with respect to controlling their own reactions to the child's avoidance or oppositional behaviour. If the stressful situations involve teachers or peers, these interactions also need to be addressed.

Anxious behaviours generally lessen when the individual exposes himself or herself to the avoided or feared situation and remains in that situation until the feeling of anxiety diminishes. This exposure needs to be repeated until the situation no longer evokes significant anxiety. Being able to confront the feared situation may require that the individual learn self-soothing or anxiety relieving strategies such as deep breathing, muscle relaxation or self-talk (18,21). In the case of compulsive rituals, exposure to a stimulus, such as dirt, evokes an urge to engage in rituals that are perceived as warding off perceived danger. Interventions aim to prevent the use of the ritual when the individual is in the feared situation. This approach is called response prevention and is generally effective, if practised. For depressed individuals, encouragement to re-engage in normal activities is an important part of treatment. Because there often is a significant anxiety component in depression, assessment of anxious behaviours that interfere with daily activities may be important in achieving a return to more normal activities. For exposure to be effective, it is necessary that the individual practice the above strategies until a level of comfort in that situation develops. Occasional exposure or activity is unlikely to achieve the goal of anxiety reduction.

Although the above broad goals may be understood by parents and youth, they may be difficult to achieve. Specific therapies and medication can help in fostering the efforts of the child and family toward obtaining the goals.

SPECIFIC INTERVENTIONS

The following psychotherapies have been shown to be effective in reducing anxiety and mood problems in children and adolescents: CBT (22); interpersonal psychotherapy (IPT) (23); supportive interventions; and behavioural family interventions (24). (Roth and Fonagy [25] provide a recent overview of the effectiveness of interventions for both children and adults.) CBT provides the individual with coping strategies to deal with anxious or depressive thoughts. Patients are encouraged to use these strategies to expose themselves to feared or avoided situations. With practice, the anxiety usually diminishes, and the child presumably continues to employ these tools in subsequent anxiety-provoking situations. Although generally effective over the short term, the stability and generalization of these techniques is not well established in children.

IPT aims to help the individual to identify interpersonal conflicts that contribute to his or her distress and to provide supportive strategies to remediate these conflicted interactions. It has been evaluated largely in depression and has been shown to be effective with depressed adolescents, as well as adults. Both CBT and IPT are brief interventions, typically lasting 12 to 16 sessions.

Supportive interventions are generally less well described in the literature because they are seldom 'manualized' (ie, specified clearly in a manual). They consist of varying amounts of encouragement to engage a child or adolescent in exposure to a situation and developing an understanding of the factors that may contribute to the child or adolescent's stress. The interventions may be more or less effective, depending on the extent to which they succeed in having a person engage in exposure to a situation, return to normal activities or use strategies that promote more adaptive interactions with others (25).

Behavioural family interventions aim to assist parents in managing their child's oppositional behaviour with less conflict. This reduction of stress within the parent-child relationship may reduce the child's insecurity and permit the parents' efforts at encouraging normal behaviours to overcome the anxious avoidance.

There are almost no randomized controlled trials of medication involving children with anxiety or mood disorders, and relatively few such studies involving adolescents. Despite this lack of evidence, many practitioners use the selective serotonin reuptake inhibitors (SSRIs) in the treatment of such disorders (26-28). There is clear evidence of the efficacy of these medications in reducing anxiety and depression in adults, and emerging evidence that they are also useful, primarily as adjuncts, in the treatment of child and adolescent anxiety and mood conditions. Much of the evidence is derived from anecdotal reports or open trials. (Green [29] provides clinical guidelines.) Generally, SSRIs appear to assist in reducing anxiety to permit other approaches to be effective. They may allow a child to engage in efforts at exposure or to increase the activity to engage in more normal tasks.

The usual rule is to start at a low dose, such as 5 to 10 mg of fluoxetine or its equivalent, and to increase the dosage gradually over four to six weeks to 20 mg or equivalent of another SSRI, if the child tolerates the medication and continues to exhibit anxious behaviours or depression. Although the evidence is lacking, many practitioners believe that a trial of four to six weeks at an adequate dose is necessary before concluding whether the medication is effective. In some instances, behavioural improvement may occur within a few weeks, but may also require several months for maximum effects. The American Academy of Child and Adolescent Psychiatry has developed an algorithim for the treatment of major depressive disorder in children and adolescents (30). The progression is from one SSRI to another, if the first agent is ineffective. If trials of two SSRIs do not produce therapeutic benefit, trials of other antidepressants, such as bupropion, venlafaxine or the tricyclics, are advised. (See also Findling et al [31,32] for information about the pharmacokinetics of paroxetine and nefazodone in children and adolescents.) Caution in the use of the tricyclics is required because of their effects on cardiac rhythm (33). With continuing therapeutic failure, augmentation with lithium or trials of monoamine oxidase inhibitors or electroconvulsive therapy is warranted.

Clearly, for treatment of resistant depression, consultation with a child psychiatrist expert in mood disorders is necessary. For treatment-resistant anxiety disorders, augmentation with clonazepam, lorazepam or buspirone is sometimes useful. For OCD, there is a larger evidence base, and the American Academy of Child and Adolescent Psychiatry has developed guidelines that build on the SSRIs as initial treatment options; however, the guidelines include augmentation strategies with atypical antipsychotic agents such as risperidone (34). Recent guidelines developed by the Ontario Program for Optimal Therapeutics (35) for anxiety disorders in primary care, although directed largely at the care of adults, provide useful information, especially for the care of adolescents.

Generally, medications should be used after trials of behavioural and psychotherapeutic interventions have failed to achieve optimal results; however, in some instances, they may be used adjunctively from the start of treatment. It is important that the same general aims (ie, stress reduction, exposure to an avoided situation and practising coping strategies) be pursued with or without medication because they appear to be the processes through which change occurs.

SUMMARY

Anxiety and mood disorders in children and adolescents are prevalent conditions that may become chronic, and may carry a risk of current and later functional impairment. Their etiology is multifactorial and often involves a negative interaction of a stress reactive individual within a stress-provoking situation. Treatment goals are stress reduction, exposure to the avoided or feared situation and practising strategies for anxiety reduction. A broad range of interventions are effective in reducing both anxiety and depression, and need to be tailored to the needs of the child and family.

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