

# MANAGEMENT GUIDELINES FOR ANXIETY DISORDERS IN CHILDREN AND ADOLESCENTS

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Anxiety disorders represent one of the most common categories of psychopathology in children and adolescents. Apart from separation anxiety disorder, a well recognized problem of childhood, it is now widely accepted that generalized anxiety disorder, social phobia, specific phobia, posttraumatic stress disorder, obsessive compulsive disorder and panic disorder all occur during the childhood and adolescent years. Numerous studies examining the nature and treatment of anxiety disorders have appeared during the recent years. Significant advances in this area include the investigation of pharmacological agents and development of effective psychosocial interventions. Prevalence rates for having at least one childhood anxiety disorder vary from 6% to 20% over several large epidemiological studies (Costello et. al., 2004). Co-morbidity is extremely common among children and adolescent suffering from anxiety disorders. A recent study of children aged 8 - 13 years, having a primary diagnosis of anxiety disorder revealed that 79% of the sample also had another co-morbid anxiety disorder, mood disorder or behavior disorder (Kendall et. al., 2001). In view of such findings, consideration needs to be given to co-morbidities as their presence will guide selection of specific treatments.

The objective of these guidelines is to provide up-to-date information about management of anxiety disorders. Literature was reviewed by a computerized search in the month of June 2007 using the keywords child, adolescent, anxiety disorder, treatment, and management. The search covered a period of 10 years (1997 through 2007). Articles retrieved and their relevant references were reviewed for the purpose of framing these guidelines. The information has been presented in two sections - Assessment and Treatment. Certain statements in this guideline are followed by abbreviations MS or CG. MS stands for minimal standards and reflects that the statement is based on rigorous empirical evidence while CG stands for clinical guidelines indicating that the statement is based on empirical evidence and/or strong clinical consensus.

## ASSESSMENT

Defining the boundary between extremes of normalcy and psychopathology is a dilemma that pervades all psychiatry. In many cases of childhood anxiety disorder this dilemma is at its zenith. The defining point for caseness is often ambiguous as many childhood anxieties are not only common but also have an adaptive role in human development. It is strongly recommended that psychiatric assessment of children and adolescents should routinely include screening questions about anxiety symptoms [MS]. If the screening indicates significant anxiety, then the clinician should do a formal evaluation to determine subtype of anxiety disorder, the severity of anxiety symptoms and functional

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impairment [MS] (Connolly et. al., 2007). Anxiety may be considered symptomatic when it is impairing and prevents / limits developmentally appropriate adaptive behavior. A useful rule for determining diagnostic threshold is the child's ability to recover from anxiety and to remain anxiety-free when the provoking situation is absent. The child's lack of flexibility in affective adaptation is an important pathological indicator. In addition, the degree of distress and dysfunction associated with anxiety also help in reaching a diagnosis. Anxiety disorders impair emotional, cognitive, physical and behavioral functioning in multiple areas and are usually chronic in nature. Hence, the child needs to be evaluated in context of his family, school, community, and culture. Important areas of assessment include history of onset and development of anxiety symptoms, associated stressors, medical history, school history, family psychiatric history and mental status examination. The psychiatric assessment should always consider differential diagnosis of physical conditions & psychiatric disorders that may mimic anxiety disorders [MS]. Early detection and effective treatment may reduce the impact of anxiety on academic and social functioning in youth and may reduce the persistence of anxiety into adulthood.

### **INSTRUMENTS FOR ASSESSMENT**

Earlier, determination of childhood anxiety largely relied on rating scales or interviews inquiring about multiple unrelated fears and worries generating a count without a clear clinical meaning (Lapouse & Monk, 1958). The emphasis has now shifted to the study of diagnostic groups that reflect explicit clinical criteria. A comprehensive evaluation should include a detailed structured or semi structured psychiatric interview to establish the anxiety disorder diagnosis and detect co-morbid psychiatric disorders. In addition, clinical rating scales, self report scales and parent report instruments may be used to determine the type and severity of anxiety symptomatology. This practice also allows for monitoring of these symptoms over time.

Over the last two decades there has been a proliferation of instruments to determine the presence of anxiety disorders in children or quantify levels of anxiety. Assessment instruments include paper-and-pencil scales for children, parents and teachers, as well as child and parent interviews. Interested readers are referred to a review of commonly used instruments by Brooks & Kutcher, 2003. An overview is provided below.

#### **Rating scales:**

Rating scales serve diverse purposes. They are used to screen large groups, to examine the relative contribution of genetics and environment, to assess severity and as outcome measures of treatment efficacy. Rating scales that anteceded the present nosology of anxiety disorders were designed to assess a plethora of factors such as worry, physiological anxiety, fear of bodily harm, etc. rather than anxiety syndromes. These include the Revised Children's Manifest Anxiety Scale (RCMA; Reynolds & Richmond, 1985), the State Trait Anxiety Inventory for Children (STAIC; Spielberger, 1973) and the Revised Fear Survey Schedule for Children (FSSC-R; Scherer and Nakamura 1968; Ollendick 1983). In addition, the Child Behavior Checklist (CBCL; Achenback 1991) which generates a non specific factor of emotional disturbance, called the "internalizing factor" may be used as a rating scale.

The limitations of the older rating scales and increasing interest in childhood anxiety disorders has led to development of more sensitive and diagnostically relevant measures of childhood anxiety. Recent efforts reflect the classification of anxiety disorders and a move towards specificity of content, with relevance to diagnostic grouping. Newer scales devised with these considerations include the Social Anxiety Scale for Children (La Greca et.al., 1988; La Greca & Stone, 1993) and for Adolescents( La Greca & Lopez, 1998), the Multidimensional Anxiety Scale for Children (MASC; March et. al., 1997; March & Albano,1998) and the Screen for Child Anxiety Related Emotional Disorders (SCARED), which has a parent version also (Birmaher et. al.,1997; Monga et. al., 2000). The MASC and SCARED appear to be promising for clinical purpose according to Research Unit on

Pediatric Psychopharmacology Anxiety group study, 2001.

A major clinical challenge is to differentiate between anxiety and depression. Anxiety scales do not adequately distinguish between children with anxiety disorders and those with other diagnosis (Klein, 1994). Therefore, though anxiety scales may provide an overall estimate of anxiety levels, they cannot be viewed as contributing to the diagnosis of anxiety disorders, and clinicians would be unwise to rely on them only for differential diagnostic decisions.

### **Diagnostic Interviews:**

Several systematic diagnostic interviews for children and for parents as informants have been devised to meet different purposes and vary accordingly. The Diagnostic Interview Schedule for Children (DISC; Shaffer et al, 1996) was developed for use in epidemiological studies. It is highly structured and can be used even by individuals who have no clinical training. A computer based version is also available. The Diagnostic Interview for Children and Adolescents (DICA; Herjanic & Reich, 1982; Reich et al., 1991) is another highly structured instrument. The Child and Adolescent Psychiatric Assessment (CAPA; Angold & Costello, 1995) also devised for epidemiological studies, requires adequate training as it is less structured than DISC. The CAPA, in comparison to other instruments, additionally covers assessment of functioning in school, social relationship, etc. along with specific symptoms, allows for clarification of questions and more closely resembles usual clinical interview. The Kiddie Schedule for Affective Disorder and Schizophrenia (K-SADS) has been developed from a clinical perspective. Its present and lifetime version allows full latitude of inquiry. (Chambers et al. 1985, Kaufman et al, 1997). The Anxiety Disorder Interview Schedule for Children (ADIS) originally prepared to assess anxiety disorders has been expanded to provide diagnosis for other major disorders. This can be employed to collect detailed information in a flexible clinical fashion (Silverman & Albano 1996).

All the instruments described above have demonstrated modest to adequate test-retest reliability with anxiety disorders faring no better or worse than most other diagnosis. There is little to guide selection of instruments in terms of better reliability or validity but the DISC is the most widely used worldwide. In Lucknow K-SADS-PL (Kaufman et al, 1997) is the preferred tool. We understand that many of the above mentioned tools not be available easily, others might not be suitable for use in Indian population due to variety of reasons. The authors recommend use of K-SADS for diagnostic assessment, CGI for severity evaluation and CGAS (Shaffer et al, 1983) for global assessment of functioning as a minimal standard. Additionally, DOTES may be used for monitoring medication side-effects (Campbell et al, 1985). Although conceived for research purposes, diagnostic interviews may be useful to clinicians as they provide a comprehensive coverage of symptomatic status, are excellent teaching tools and allow comparisons. In the end it needs to be said the though many instruments are available all of them have not been conclusively shown to distinguish between various anxiety disorders or anxiety disorders and other child psychiatric disorders. As such, a sufficient level of precision for diagnostic classification has not been reached. Available evidence only supports the diagnostic validity of social phobia but not other disorders.

## **OUTLINE OF DIAGNOSTIC ASSESSMENT**

### **A. Obtain history from parents, patient, and other pertinent informants.**

1. Note onset and development of symptoms and the context in which symptoms occur and are maintained.
  - a. DSM - IV target symptoms, with particular attention to the following:
    - i. Determination of whether anxiety is stimulus specific, spontaneous, or anticipatory.
    - ii. Evaluation for avoidant behavior (degree of constriction of daily life).

- b. Biopsychosocial stressors.
  - c. Co morbid psychopathological symptoms, maladaptive personality traits, and internal conflicts.
  - d. Impact of symptoms on the daily life of the patient and family.
  - e. Social and familial reinforcers of symptoms.
2. Emphasize developmental history with special consideration of the following:
    - a. Temperament
    - b. Ability to sooth self or be soothed.
    - c. Quality of attachment.
    - d. Adaptability.
    - e. Stranger and separation responses.
    - f. Childhood fears.
  3. Obtain medical history, especially noting the following:
    - a. Numbers of visits to physician or emergency room for these or other symptoms.
    - b. Medications taken by the patient that could produce anxiety symptoms.
    - c. Medical disorders
  4. Obtain school history.
    - a. Academic, athletic, social and behavioral functioning.
    - b. Disparity between potential and actual achievement.
    - c. Patterns of attendance.
  5. Obtain social history.
    - a. Environmental stressors such as disorganized home, presence of child abuse (physical, emotional or sexual) or neglect, mental or physical illness or death in family members, or exposure to danger or violence.
    - b. History of separations and losses.
    - c. Degree of involvement with peer group and social competence.
  6. Obtain family history with particular attention to the following:
    - a. Patient's past and present role in the context of family functioning.
    - b. Family stresses, resources, and coping style.
    - c. Family psychiatric history with emphasis on the following:
      - i. Anxiety disorders (including obsessive compulsive disorders).
      - ii. Mood disorders.
      - iii. ADHD.
      - iv. Psychoactive substance use disorders.
      - v. Tic disorders.
      - vi. Psychotic disorders.
      - vii. Suicidal behavior.

**B. Interview the patient, including a mental status examination with special note of the following:**

1. Patient's reports of symptoms, including self-assessment of impairment.
2. Objective signs of anxiety, including motor tension, autonomic hyperactivity, vigilance and scanning, variations in speech patterns and production and separation difficulty.
3. When developmentally appropriate, communication of anxiety through play and drawings. Play techniques can be used to understand a child fears and reasons for anxiety.

**C. Conduct family assessment.**

1. Evaluation of family interactions and dynamics.
2. Assessment of parent -child relationship.

**D. Administer structured or semi structured interview for anxiety and comorbid diagnosis.**

**E. Administer clinical, self-report, and parent-report instruments for severity of anxiety symptoms.**

**F. Refer for IQ and psychological testing if indicated clinically and for learning disability, and speech and language testing if required and facilities are available.**

**G. Conduct physical evaluation of the child or adolescent.**

1. Physical examination.
2. Consultation and collaboration with family practitioner, pediatrician or other specialties as per need.
3. Evaluation of medical and neurological conditions as indicated. (See sec II.A below)

## **DIFFERENTIAL DIAGNOSIS**

**A. Consider physical conditions that may mimic anxiety disorders.**

1. Documented hypoglycemic episodes.
2. Hyperthyroidism.
3. Cardiac arrhythmias
4. Caffeinism.
5. Pheochromocytoma.
6. Seizure disorders.
7. Migraine.
8. Central nervous system disorders (e.g., delirium or brain tumors).
9. Medication reactions: antihistamines, antiasthmatics, sympathomimetics, steroids, SSRIs, anti-psychotics (akathisia), and nonprescription preparations, including diet pills and cold medicines.

**B. Screen for psychiatric disorders that may be comorbid with or misdiagnosed as anxiety disorders.**

1. Mood disorders.
2. ADHD.
3. Adjustment disorder.
4. Substance use disorders, including alcohol, nicotine, marijuana, cocaine, stimulants, inhalants, and hallucinogens.
5. Borderline or other personality disorders.
6. Eating disorders.
7. Somatoform disorders.
8. Tic disorders.
9. Trichotillomania.
10. Reactive attachment disorder.
11. Pervasive developmental disorders.
12. Schizophrenia.
13. Sleep Terror Disorder.

**C. Establish diagnosis of specific type of anxiety disorder. More than one may be present.**

1. Anxiety disorder beginning in childhood and adolescence: separation anxiety disorder.
2. Anxiety disorders affecting children, adolescents and adults.
  - a. Generalized anxiety disorder (inclusive over-anxious disorder of childhood).
  - b. Specific phobia.
  - c. Social phobia.
  - d. Panic disorder.
  - e. Obsessive - compulsive disorder.
  - f. Posttraumatic stress disorder.

### **Treatment**

The evidence that childhood anxiety disorders cause suffering and impairment and may entail long term liability highlight the need for effective treatments. Some interventions, such as CBT, are based on theoretical models of anxiety while others such as medication, follow demonstrated efficacy in adult anxiety disorders. Child and adolescent psychiatrists usually employ an integration of several approaches in treating patients with anxiety disorders. In general, treatment planning should consider severity of and impairment produced by the anxiety disorder. A multimodal approach is advisable and psychotherapy should be considered an integral part of the management of childhood anxiety disorder [CG] (Connolly et. al., 2007). Literature is replete with case reports and studies evaluating various approaches. Wherever controlled studies are available, case reports have not been considered in framing the recommendations. We initially brief the different approaches followed by disorder-specific recommendations.

### **BEHAVIOR THERAPY:**

Behavior therapy targets the patient's overt behavior and emphasizes treatment in context of family and school instead of focusing on intrapsychic conflicts. (Bernstein et. al., 1997). Etiology is not the focus of attention (Kazdin, 1991). Two comparative studies demonstrate efficacy of behavior therapy (systematic desensitization) in treatment of children with school refusal. (Miller, 1972; Blagg and Yule, 1984).

### **COGNITIVE BEHAVIOUR THERAPY:**

CBT is the most well studied intervention. It integrates the behavioral approach with an emphasis on changing the cognitions associated with the patient's anxiety. The basic notion is that distorted cognitions about the dangerousness of the environment underlie anxiety symptoms. The aim is to replace negative beliefs with more neutral realistic ones. The technique encourages the patients to restructure their thoughts into a more positive framework resulting in more assertive and adaptive behavior (Bernstein et. al., 1997). Cognitive interventions include identifying anxious feelings and thoughts, recognizing somatic responses to anxiety, and devising a plan to deal with these symptoms. Behavioral interventions include modeling, role-playing, relaxation techniques, exposure and rewards. CBT has been used for a variety of childhood anxiety disorders and is said to be effective (Roblek & Piacentini, 2005; Cartwright-Hatton et. al., 2004). Another major advantage of CBT is availability of treatment manuals that allow comparison across studies. The controlled studies of CBT may be divided into those that have used a no-treatment waiting list control group, and those that have compared CBT to a non-specific control intervention. Early trials often used waiting list controls. The problem with this methodology was that this confirms to patients that they require treatment, but withholds it. Another limitation is that this control does not reveal the specific usefulness of an intervention, because there is no way of determining whether treatment was effective because of its particular nature, or because of non-specific factors such as therapist's interest and concern, or the family mobilizing itself to bring the child for treatment. Even if control psychotherapy is used, it should be equivalently appreciated by recipients, so that treatment effects

are not due to difference in treatment credibility. The most informative studies are those which rely on a comparison treatment that is reasonable and credible i.e. use attention controls. CBT was examined in two systematic studies by Kendall (Kendall 1994, Kendall et al. 1997) and he reported that the group receiving CBT had significantly better outcome. However, two other studies of CBT using attention controls reported no difference in efficacy (Last 1998; Silverman et. al., 1999). Other studies have examined parental involvement (Bernstein et. al.,2005, Spence et. al., 2000, Mendlowitz et. al. 1999) and report benefits of the same. In a study on family cognitive behavioral therapy for childhood anxiety disorders Wood et. al., 2006 report that family CBT may provide additional benefit over and above child-focused CBT. These findings provide preliminary support and encourage further research in parental participation in treatment for childhood anxiety. Many other studies are available, most of them suffer from methodological limitations, but there is evidence of improvement which is sustained over time (Kendall et al. 1996, Barrett et al.2001, Kendall et al. 2004). A recent review of CBT studies concluded that cognitive behavioral therapy appears an effective treatment for childhood and adolescent anxiety disorders in comparison to waiting list or attention control. There was no evidence for a difference between an individual, group or parental/family format. CBT can be recommended for the treatment of childhood and anxiety disorders, although with only just over half improving, there is a need for further therapeutic developments (James et. al., 2005).

#### **PSYCHOANALYSIS AND PSYCHODYNAMIC PSYCHOTHERAPY:**

Clinical data on psychoanalysis consists largely of case reports and most accounts report favorable results. Systematic studies of psychoanalysis (Heinicke and Ramsey-Klee, 1986; Target and Fonagy,1994) relevant to childhood anxiety disorders report improved capacity for relationships, frustration tolerance, balanced use of defenses and improvement in adaptation.

Psychodynamic psychotherapy is a derivative of psychoanalysis with modifications such as less frequent appointments, greater participation of parents in treatment, and more explicit use of active support, practical guidance and environmental interventions (Bemporad, 1991). Anxious children generally benefit from mastering themes of separation, autonomy, self-esteem, and age appropriate behavior (Bernstein et al., 1997). Studies documenting efficacy in children are available (Muratori et. al.2003, Baret et. al., 1998, Hampe et al 1973, Miller et al, 1972). Overall, it is an effective but time consuming approach. Until recently this approach was widely practiced and accepted but has been overtaken by CBT now.

#### **PARENT CHILD INTERVENTIONS AND FAMILY THERAPY:**

Early temperamental traits of passivity, shyness, behavioral inhibition, fear & withdrawal in unfamiliar situations and insecure mother-child relation have been associated with increased risk of developing anxiety disorders during childhood (Capsi et al, 1995; Kagan et al 1988; Biederman et al, 1993; Warren et al, 1997; Prior et.al. 2000; Williams et. al. 1990). Therefore, attention to temperament and parent- child relationship is vital. Parent child interventions include helping parents encourage the child to face new situations, refraining from excessive criticism and intrusiveness, responding to child's emotional needs and encouraging child to engage in activities despite anxiety (Ginsburg et. al.,2002; Barrett P M, 1996; Crawford et. al. 2001).

Family theory views anxiety symptoms in interpersonal terms and postulates that anxiety symptoms reflect problems in the family system (Last et. al. 1991). Bernstein et al .1990 in a study of 76 families identified family difficulties in areas of role performance, values and norms. It has been suggested that working with the family is a key to decrease anxiety symptoms experienced by the child. The aim of the therapy is to disrupt the dysfunctional family interactions that promote insecurity and to support areas of family competence (McDermott et. al. 1989).

### **PHARMACOLOGICAL TREATMENT:**

Pharmacotherapy should preferably be used as adjunct to behavioral or psychotherapeutic interventions rather than as a sole intervention. This approach is important to prevent symptom return after discontinuation of medications. SSRI's have been extensively used for adult anxiety disorders and have documented safety and efficacy. Although several open trials of SSRI's in children have appeared, the most important study till date is a large multicentric, placebo controlled study (Research Unit on Pediatric Pharmacology Anxiety Group, 2001) documenting efficacy of fluvoxamine in children with mixed anxiety disorders (Social phobia, separation anxiety and generalized anxiety disorder), without major depression. 79% of the children on medication improved, as compared to 28% on placebo over a period of 8 weeks. Williams & Miller, 2003 after reviewing evidence state that the serotonin selective reuptake inhibitors should be considered first-line pharmacological treatment for anxiety disorders in children and adolescents [CG]. However, medications other than SSRIs may also be considered for treatment of anxiety disorders in children and adolescents [CG]. Klein, 1994 in his review of literature on TCAs states that the support for the efficacy of TCAs in children with separation anxiety is inconsistent. Bernstein et. al., 2000 reported efficacy of imipramine compared to placebo in adolescents with school refusal and anxiety disorders. Although there are reports supporting efficacy of benzodiazepines in childhood anxiety disorders, the safety profile of SSRIs and evidence of their recent usefulness weaken consideration of benzodiazepines. However, they may be used on short term basis for immediate respite from anxiety symptoms. Less commonly buspirone and  $\beta$ -blockers may be employed if required. At this time, there are no specific dosing guidelines for children and adolescents with anxiety disorder. Experts recommend starting at low doses, monitoring side effects closely, and then increasing the dose slowly on the basis of treatment response and tolerability. Clinicians need to appreciate that anxious child and anxious parents may be especially sensitive to any worsening in the child's somatic symptoms or emergence of even transient side effects of medications. Selection of medication is guided by several factors, primarily co morbidity and side effect profile (Connolly et. al., 2007).

### **DISORDER SPECIFIC RECOMMENDATIONS**

#### **Separation Anxiety Disorder, Generalized Anxiety Disorder and other Anxiety Disorders:**

Majority of pharmacological studies of children and adolescents with anxiety disorders enroll a mixed diagnostic group including with SAD, GAD and/or Social phobia. Several trials support efficacy of SSRIs in treatment of anxiety disorders in children. Efficacy and safety of fluvoxamine & Paroxetine in children and adolescent with SAD, GAD and/or social phobia, of sertraline for youth with GAD, and of fluoxetine for youth with SAD, GAD and/or social phobia has been documented in well designed trials (Reinblatt et.al.,2007; Seidel et.al.,2006; Muller et. al., 2005; Wagner et.al.,2004; Birmaher et. al. 2003; Brent D A, 2003; Pine DS, 2002; RUPP study, 2001; Rynn et. al. 2001). The most common side effects reported were abdominal discomfort and headache. No major problems were reported. Currently, an SSRI is the first line choice medication for children and adolescent with anxiety disorders, including those with SAD. Fluoxetine has also been reported to be clinically effective as maintenance treatment of anxiety disorders in children and adolescents (Clark et. al., 2005). Preliminary findings from controlled trials of extended release venlafaxine in treatment of youths with generalized anxiety disorder (Rynn et. al.2002, Rynn et. al.2007) and social phobia (Tourian et.al.2004) suggest it may be well tolerated and effective. Tricycles antidepressants are an alternative choice. However, scientific data for this group is much less convincing than that for SSRI's. Controlled studies for TCA's in SAD and/or school refusal report contrasting findings (Bernstein et. al. 1996). A study comparing CBT + Imipramine and CBT + placebo for adolescent school refusal with co-morbid anxiety and depression reported response rate of 70% and 28% respectively after 8 weeks of treatment. The point to be noted is that these patients did not suffer from pure anxiety problems (Bernstein et. al. 2000). Use of BZD's in treatment of youth with anxiety disorders is backed by limited

data. Due to dependence potential this class of medications is reserved for short term use, typically in combination with an SSRI's or TCA while waiting for the onset of therapeutic effect of SSRI / TCA. It has been recommended that the SSRI should be continued for approximately one year after remission of target symptoms. Subsequently, during a low stress period a watchful medication free trial may be given. If relapse occurs SSRI should be immediately reinstated (Pine D S, 2002).

In terms of psychotherapeutic interventions, CBT has the greatest empirical support (Albano et. al., 2002; Bernstein et. al., 2000; Dadds et. al. 2001; Velting et. al. 2004; Barrett PM, 1998; Kendall et. al. 1996; Last, 1998). The common components are 1. Education about nature of anxiety. 2. Activities to increase recognition of anxious thoughts and feelings. 3. Coping strategies such as adaptive self talk (cognitive-modification), progressive muscular relaxation and diaphragmatic breathing, and 4. Exposure to anxiety-provoking stimuli. The role of family therapy as a positive addition has also been documented along with efficacy in group format for SAD, GAD and social phobia (Barrett et. al. 1996; Dadds et. al. 2001; Kearney et. al. 2003). Data strongly supports short term efficacy of group/individual CBT and SSRI's for youth with anxiety disorders. In anxiety disorders of mild severity, CBT should be initiated first, followed by SSRI in case of non-response. In practice, the two approaches are often combined for severe, impairing anxiety disorders. In cases of Generalized Anxiety Disorder CBT or CBT plus medication both are appropriate approaches based on severity of the case. Medication alone is not recommended. In mild to moderate cases CBT alone usually suffices (Connolly et. al., 2007).

#### **Social Phobia:**

CBT and SSRIs are the first line treatments. To our knowledge there is no published study examining efficacy of SSRIs in a sample of pure social phobia. However, studies of CBT in such samples are available and report CBT to be effective (Dadds et. al. 2001; Velting et. al. 2004; Beidal et. al. 2000). Depending on presentation, treatment may begin with CBT alone or CBT plus an SSRI (Mancini C. et. al., 2005). CBT here consists of social skills training, increased social opportunities, relaxation techniques, adaptive self-talk (cognitive restructuring), exposure and response prevention. Individual, group and school-based all interventions have found to be effective (Albano et. al. 1999; Masia et. al. 2001; Baer et. al. 2005)

#### **Specific Phobia:**

Treatment for specific phobias differs from CBT of SAD, GAD and social phobia. It primarily involves graded exposure to the feared stimuli, imaginary or actual, according to hierarchy constructed by the child progressing gradually from mild to most significant fears (Velting et. al. 2004). When exposure is paired with relaxation the technique is referred to as systematic desensitization. Other treatments include modeling, and cognitive exercises to facilitate adaptive thoughts. These also can be paired with graded exposure. Outcome studies report significant and sustained improvement with these approaches (Muris et. al. 1999; Bernstein et. al. 2005; Silvermann et. al. 1999; Berman et. al. 2000).

#### **Panic Disorder:**

CBT again is the first line of treatment. Components include 1. Education about the physical experience associated with panic attacks. 2. Breathing and relaxation exercises. 3. Interceptive exposure (i.e. exposure to cues associated with panic). 4. In vivo exposure. 5. Cognitive modification to reduce catastrophic misinterpretation. Ollendick, 1995 reported efficacy of this approach in a multiple-baseline design analysis. In practice an SSRI may be added to CBT (Masi et. al. 2001). Masi et. al. 2006 after reviewing the empirical evidence of pharmacotherapy in early-onset panic disorder, including selective serotonin re-uptake inhibitors, benzodiazepines and tricyclics conclude that the data supporting efficacy are still limited, and no controlled studies are available. Research in this area is wanting.

### **Posttraumatic Stress Disorder**

Although only some of the children and adolescents exposed to traumatic life events develop full-blown posttraumatic stress disorder, many others experience some PTSD symptoms and associated functional impairments. A variety of psychopharmacological and psychosocial treatments are currently available for this group of anxiety disorders but the effectiveness of most of those interventions has not been adequately evaluated. Only trauma-focused cognitive behavioral interventions and SSRIs enjoy empirical evidence of efficacy.

### **Psychotherapeutic treatments:**

**Trauma-Focused CBT:** Widely regarded as the first line treatment for PTSD. Several RCTs proving trauma focused CBT to be superior to other treatment are available. It decreases PTSD, depressive and behavioural symptoms, and /or functional impairment in traumatized children. Majority of research has been done on sexually abused children (Cohan et al, 2004). Typically 10-16 treatment sessions are given. The major components of this treatment are

- Psycho education about traumatic reactions and PTSD
- Stress-inoculation- including affective modulation, muscle relaxation, focused breathing, thought stopping, and cognitive coping techniques.
- Gradual exposure- consisting of carefully calibrated efforts to encourage the child to recall and describe increasing details about the traumatic events as well as thoughts, feelings and physical sensations experienced at the time of the original trauma as well as during retelling.
- Cognitive processing
- Parental treatment component

**Eye Movement Desensitization And Reprocessing (EMDR):** Variant of trauma focused CBT, in which exposure and cognitive reprocessing interventions are paired with directed eye movements; fewer sessions are required.

**Crisis Intervention:** Consist of one to three sessions provided in the immediate aftermath of a traumatic event. It is often provided in a community setting and includes encouragement to discuss feelings, provision of emotional support and psycho education about common reaction to stress and advice about managing these reactions.

**Play Therapy:** Therapists do not direct the form or content of child's play but rather interpret themes in it thought to be representative of certain inner conflicts.

### **Other Techniques**

Psychodynamic & psychoanalytical technique

Parent-child interaction therapy

Dialectical behaviour therapy

Relationship based conjoint parent-child treatment

### **Pharmacological treatment:**

The data supporting efficacy of pharmacotherapy in early-onset panic disorder, including selective serotonin re-uptake inhibitors, benzodiazepines & tricyclics is limited (Masi et. al.,2006). Only one randomized trial has been conducted. This study evaluated the comparative impact of imipramine vs chloral hydrate on development of PTSD in acutely burnt children and demonstrated the efficacy of imipramine (Robert et. al, 1999). Several open trials have demonstrated clinical improvement with adrenergic blockers (PPNL), clonidine, dopamine antagonists (risperidone) and opiates. In practice SSRI's, TCA's, venlafaxine, bupropion or any of the above mentioned medications may be used. No information is available with regard to optimal length of treatment, need for maintenance treatment or use of multiple medications in treatment of childhood PTSD.

**Obsessive Compulsive Disorder:**

It is now being increasingly appreciated that although OCD in children is often chronic and can be severe, the outlook for patients receiving prompt diagnosis and appropriate treatment is quite positive. Considerable progress has been made in testing and refinement of both pharmacological and psychosocial treatments. Both forms of treatment are very effective in symptom relief and produce improvements in functioning. Clinical consensus suggests that combined treatment has added benefits. Treatments should begin with educating the family of the child about how to handle their child's behavior, which may be disrupting family life. On the internet [www.ocdresource](http://www.ocdresource) is a useful source of information about the disorder. If the disorder is hampering school performance, teachers need to be told about the child's problem and if possible be involved in the child's behavioral program. Choice of first line therapy depends on the symptom pattern, severity, and the patient's and family's preference. Whatever is used, it is important to urge flexibility, as combination therapy may be eventually required.

**Cognitive-Behavior Therapy:**

The technique of CBT needs to be modified in accordance with the developmental age of the child. CBT for pediatric OCD basically encompasses three techniques

1. Exposure and Response prevention
2. Cognitive therapy and
3. Relaxation training.

ERP is the most recommended and effective approach. Cognitive therapy, which involves changing false beliefs, challenging reality of obsessions and necessity of compulsions, is usually ineffective as a sole treatment for OCD. However, it is a useful complement in most cases. Relaxation therapy is primarily used to manage anxiety produced by exposure but has no direct affect on O.C. Symptoms. Older children and adolescents respond well to CBT modeled on approaches used for adult OCD. However, younger children require a number of modifications. These include additional efforts to educate child and family about the nature of excessive anxiety and the role of treatment, sensitizing the child to the impact of OCD on his/her life and fostering motivation for change through his/her cooperation and perseverance in treatment, building a shared language to better communicate the nature of associated feelings or cognitions, and including behavioral rewards for maintaining engagement in treatment. Manuals for modified CBT for OCD suitable for children are available. Methodology, though undergoing continued refinement currently involves.

1. Daily exposure to cues avoided because of associated discomfort and rituals, and
2. Maintaining exposure and not ritualizing for at least an hour or until discomfort subsides.

Developmentally modified forms of CBT for children appear to confer similar benefits in children as observed for adult population (O'Kearney et. al., 2006). Uncontrolled trials of CBT appear highly promising, with excellent response in up to 75% of the patients. Although, gains from ERP persist beyond discontinuation, booster treatment may help long term progress, and additional treatment may be needed for relapses brought on by stress. O'Kearney et. al., 2007 after reviewing evidence on benefits of cognitive-behavioural therapy for children and youth with obsessive-compulsive disorder report that CBT should be regarded as a first line equivalent to anti-OCD medication with the potential to lead to better outcomes when combined with medication than medication alone can provide. Additional studies are needed to further clarify CBT's benefits and to investigate how it can be made more available as a treatment option for children and youth who suffer from OCD.

**Pharmacological Treatment:**

Although pediatric trials of SSRIs have lagged behind those in adults, there is now extensive substantiation of the utility of pharmacotherapy in pediatric OCD. An initial trial of Serotonin Reuptake

Inhibitor (SRI), most often an SSRI is the treatment of choice. If there is inadequate response at 10-12 weeks, another SSRI may be tried.

#### **Serotonergic Agents:**

Clomipramine was the first agent shown to be effective in O.C.D. A meta-analysis suggested that it may possess greater efficiency for pediatric OCD than the SSRIs (Allen, 1994; Practice Parameters for OCD, 1998). De Veugh-Geis et.al, 1992 documented the efficacy of clomipramine in pediatric O.C.D in randomized controlled trial. However, being a tricyclic, it is associated with significantly greater risk of side effects and therefore is relegated to a second or third line treatment choice in children and adolescent with OCD. The evidence base supporting the efficacy and safety of SSRIs has considerably strengthened over the last few years (Geller et. al. 2004; Geller et. al. 2003; Practice Parameters for OCD, 1998). Anti-obsessive efficacy of fluoxetine, fluvoxamine and sertraline has been reported by controlled trials (March et.al.1998 Geller et. al. 2002; Liebowitz et. al. 2002, Riddle et. al. 2001). Similar benefits have been reported for Paroxetine (Geller et. al. 2003) and for Citalopram (Mukkades et. al. 2003). Low initial doses, with slow upward titration, are the rule. Patients should be told trials of more than one agent may be required, at times with augmenting agents. In controlled trials reduction in baseline symptom rating with treatment of upto 16 weeks has been relatively consistent, although modest, ranging from 18 to 44 percent (Geller et. al. 2003; Geller et. al. 2002; Liebowitz et. al. 2002; Riddle et. al. 2001). Studies including long term observation report continued symptom reduction upto one year. Data suggests that treatment benefits with SSRIs are stable and can be expected to strengthen in many with continued treatment. Overall, SSRIs have been found to be well tolerated by child and adolescent patients with OCD. However, almost 50% of the children and adolescents treated with an SSRI continue to have interfering symptoms and may require trials of alternative SSRIs, combined pharmacotherapy and addition of psychotherapeutic interventions.

#### **Augmenting Strategies and Adjunctive agents:**

Up to 50% childhood OCD cases show no or partial response to SRI treatment, even if two different SRIs are used (Geller et.al, 2003). Hence, augmentation strategies may be required. There are no randomized controlled trials of the utility of augmentation strategies in Pediatric OCD. However, based on experiences in adult patients, augmentation of an SRI might be considered for pediatric patients with a partial response or intolerance to higher doses. In adults, three agents, Clonazepam, Haloperidol, and Risperidone (Mc Dougle et.al., 1995; Pigott et.al.,1992) have been shown to be effective in controlled trials. These agents are worth a try. Another strategy, addition of a second concurrent SRI, has been used to a limited extent in children. An open table trial of six adolescents (Simeon et.al. 1990) combined fluoxetine and clomipramine and reported decreased doses requirement for both medications and fewer side effect. Figueroa et.al., 1998 described an open series of seven patients given clomipramine and SSRI (fluoxetine, sertraline or paroxetine) and followed through 5-22 months. Combination therapy appeared to be more effective than monotherapy for all cases. Adjunctive treatment may be indicated for children and adolescent with OCD with comorbidities. The comorbidity of tic disorders may require the addition of  $\alpha$ -agonists or neuroleptics. Co-morbid anxiety symptoms are benefited by addition of BZDs or Buspirone. Depressive Symptoms may improve with lithium addition.

#### **Treatment Planning:**

Many experts and consensus guidelines recommend CBT as the first line approach for the majority of children and adolescents with OCD. However, more severe symptoms, comorbid depression or limited cooperation may prompt the clinician to consider medication alone or in combination with CBT. One half or more of the young patients with OCD usually require combined therapy at some point of

time to achieve complete remission. OCD is often chronic and long-term medication treatment is often required to maintain symptom control (Leonard et.al. 1991). Whenever discontinuation is attempted, tapering should be gradual usually over several weeks. Long term (indefinite) drug maintenance is suggested after 2-4 relapses. Concomitant CBT has been observed to assist medication discontinuation in some patients (Stanley & Turner 1995; Wever & Rey 1997). Periodic resumption of CBT may be necessary to combat symptom exacerbation in response to stress or development transitions. In general, OCD in children & adolescent is very responsive to treatment. Majority of patients should experience significant relief and return to functioning. Reducing delays in diagnosis and aggressive treatment, often with combined approaches goes a long way in minimizing impact of the disorder on children development.

#### **Selective Mutism:**

Data on treatment of selective mutism is mostly limited to single case studies. Controlled trials are lacking. In spite of this, the conviction that behavioral techniques are an essential component of management of selective mutism is widespread. Reports describe successful use of techniques such as contingency management, stimulus fading, systematic desensitization, negative reinforcement and shaping. A combination of behavioral techniques is probably the most common and successful treatment approach (Anstending K, 1998; Dow et. al. 1995; Holmbeck et. al. 1992; Watson et. al. 1992). A hierarchy of situations in which the child has difficulty speaking is prepared. Then, the child is guided to systematically engage in speaking- related behaviors (e.g. mouthing speech, making sounds, whispering and so on.) in increasingly more difficult situations. With repeated attempts, associated anxiety dissipates through autonomic habituation. When the feared consequences of speaking fail to occur anxiety is further reduced. Typically, child is given rewards after attempts to engage in desired behaviors. The young age of most children with selective mutism and the fact that most of these children initially do not speak to the therapist necessitates parental involvement in treatment. Traditional anxiety-reducing behavioral techniques like shaping, gradual exposure and reinforcement are often used in initial sessions. Involvement of school personnel for providing regular communication and support in school is also highly recommended.

#### **Other Psychosocial therapies:**

Although behavior therapy is most commonly employed, accounts of successful treatment of selective mutism with use of play therapy, family therapy, psychodynamic therapy, and group therapy are also available (Watson et.al. 1992; Tatem et.al. 1995; Dow et. al.; Bozigar & Hansen, 1984; Anstendig et. al. 1998). These strategies may be used as per need. It is common for children with selective mutism to have some degree of speech or language difficulties which exacerbate speech-related anxiety. In such cases speech therapy should be considered as an adjunct to other interventions.

#### **Pharmacological Treatments:**

SSRI medications appear to be effective. A double-blind, placebo controlled trial of fluoxetine in children with selective mutism indicated significant benefit (Black & Uhde, 1995). In addition, fluvoxamine was also found to be efficacious in a large multicentric study of anxiety disorders (RUPP Anxiety Group Study, 2001). Several open trials and case reports also support the use of SSRIs for selective mutism (Cartson et.al. 1999; Dow et. al. 1995). As of now, behavior therapy when available and practical should be considered the initial intervention strategy. In resistant cases, a combination treatment may be used.

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