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ATTENTION-DEFICIT HYPERACTIVITY DISORDER AND POSTTRAUMATIC STRESS DISORDER: DIFFERENTIAL DIAGNOSIS IN CHILDHOOD SEXUAL ABUSE

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ABSTRACT. *Attention-deficit hyperactivity disorder (ADHD) and posttraumatic stress disorder (PTSD) are the most commonly diagnosed disorders in sexually abused children (SAC). There is a high degree of symptom overlap and comorbidity between these disorders, and differential diagnosis can be confusing. Current diagnostic criteria do not include PTSD as a differential diagnosis for ADHD, nor do existing assessment guidelines address these diagnostic similarities. This may have serious implications for SAC. This literature review describes the psychological impact of child sexual abuse and possible consequences for misdiagnosing ADHD in SAC. A comparison of criteria from the Diagnostic and Statistical Manual of Mental Disorders, fourth edition (American Psychiatric Association, 1994) criteria for ADHD and PTSD is presented, and commonalities are discussed. On the basis of this comparison, recommendations are made for improving clinical decision-making and for facilitating differential diagnosis. Routine inquiry about trau-*

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matic experiences in children presenting with ADHD symptoms is suggested to increase accuracy in differential diagnosis. © *2000 Elsevier Science Ltd.*

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ATTENTION-DEFICIT HYPERACTIVITY DISORDER (ADHD; American Psychiatric Association, 1994) is a complex clinical entity that has proven difficult to diagnosis and assess. ADHD has been assigned to large numbers of children in recent years; the estimated prevalence of this disorder has been reported to range from 1 to 20% (Barkley, 1991a, 1997, 1998; Cohen, Riccio, & Gonzalez, 1994). Problems experienced by children with ADHD include academic underachievement in mathematics (Hynd et al., 1991); developmental reading and mathematical disorders (Hynd et al., 1991); aggressiveness toward peers, uncooperative behavior (Campbell & Paulauskas, 1979); and behavioral problems marked by disruption and inattention (McGee, Partridge, Williams, & Silva, 1991).

The American Psychiatric Association (1994) has established specific criteria for the diagnosis of ADHD, requiring six or more symptoms of inattention or of hyperactivity-impulsivity that have persisted for at least 6 months to a degree that is "maladaptive and inconsistent with developmental level" (American Psychiatric Association, 1994, p. 83).

The conceptualization and development of ADHD diagnosis has a very long history. Diagnosing ADHD is not a clear-cut enterprise; there have been significant changes in the diagnostic criteria for children with attentional, impulsive, and hyperactive problems over the past 60 years. In the 1930s, impulsive and hyperactive children were believed to be suffering from brain damage syndrome (Bradley, 1937). This was subsequently replaced by Strauss syndrome (Strauss & Lehtinen, 1947), and followed by the proliferation of an abundance of psychiatric terms in the 1960s, including minimal brain dysfunction (Clements & Peters, 1962), hyperkinetic behavior syndrome (Laufer & Denhoff, 1957), hyperkinetic impulse disorder (Menkes, Rowe, & Menkes, 1967), and hyperactive child syndrome (Stewart, Pitts, Craig, & Dieruf, 1966).

The *Diagnostic and Statistical Manual of Mental Disorders*, second edition (*DSM-II*; American Psychiatric Association, 1968) subsequently categorized a common set of symptoms and labeled them Hyperkinetic Reaction of Childhood or Adolescence. This was later replaced by nomenclature allowing the diagnosis of subtypes, that is, with and without hyperactivity (*DSM-III*; American Psychiatric Association, 1980). The diagnosis was restructured in *DSM-III-R* (American Psychiatric Association, 1987), this time in order to be more inclusive of the *DSM-III* categories of attentional disorders. The most recent change occurred in the *DSM-IV* (American Psychiatric Association, 1994) in which ADHD was once again divided into subtypes, this time reflecting the combination or singularity of symptoms. In *DSM-IV*, the subtypes consist of ADHD, Combined Type, with symptoms of inattention, hyperactivity, and impulsivity; ADHD, Predominantly Inattentive Type, with symptoms of inattention only; and ADHD, Predominantly Hyperactive-Impulsive Type, with symptoms of hyperactivity and impulsivity but not inattention (American Psychiatric Association, 1994). Thus, clinicians have a common language set of criteria by which to describe and assign the diagnosis. However, these ongoing changes in diagnostic criteria and nomenclature, while reflecting advances in the classification of the disorder, have also complicated clinicians' understanding of the diagnosis of ADHD.

Adding to the diagnostic complexity of ADHD is the overlap in symptoms between ADHD and other behavioral disorders. For example, conduct disorder (CD; American Psychiatric Association, 1994) and oppositional defiant disorder (ODD; American Psychiatric Association, 1994) are both marked by impulsive, disruptive behavior (Paternite, Loney, & Roberts, 1995; Rapport, 1998; Searight, Nahlik, & Campbell, 1995). In addition, some symptoms of ADHD overlap with posttraumatic stress disorder (PTSD; American Psychiatric Association, 1994), both of which may be characterized by difficulty concentrating, restlessness or irritability, and impulsivity (Blank, 1994). In addition to overlap in symptoms, psychiatric comorbidity also complicates diagnosis of ADHD. More specifically, ADHD has been found to occur with mood disorders, anxiety disorders, learning disabilities (Biederman, Newcorn, & Sprich, 1991), and PTSD (Famularo, Fenton, Kinscherff, & Augustyn, 1996; Famularo, Kinscherff, & Fenton, 1992).

PTSD is a relatively recent diagnosis, first recognized in the *DSM-III* (American Psychiatric Association, 1980) and revised to include criteria specific to children in the *DSM-III-R* (American Psychiatric Association, 1987). The overlap of symptoms that exists between ADHD and PTSD makes differential diagnosis a difficult and sometimes confusing process. Some persistent symptoms of increased arousal in PTSD overlap with ADHD symptoms, including sleeplessness, irritability or anger, difficulty concentrating, hypervigilance, and exaggerated startle response. Misdiagnosis may easily occur in the absence of careful differential diagnosis that is supported by a detailed history. There is evidence that "the symptoms resulting in the diagnoses of ADHD and ODD may have been caused by maltreatment," and may actually be part of the anxiety associated with PTSD (Famularo et al., 1992, p. 866). While the diagnostic interview for PTSD typically attempts to identify a specific traumatic event triggering the symptoms, assessment of ADHD is more likely to focus on behavioral problems. Thus, misdiagnosis may occur as a result of inadequate history taking. In fact, some literature suggests that sexually abused children may be at heightened risk for the development of PTSD (Davidson & Smith, 1990; McLeer, Callaghan, Henry, & Wallen, 1994; Wolfe, Gentile, & Wolfe, 1989), though they are more often diagnosed as ADHD than PTSD (McLeer et al., 1994).

Sexually abused children have been found to be at a high risk for developing PTSD, and to have secondary diagnoses of ADHD (Famularo et al., 1992; McLeer, Deblinger, Henry, & Orvaschel, 1992; Rowan & Foy, 1993). For example, Merry and Andrews (1994) found both a high rate of PTSD among these children within 12 months of disclosure of abuse, and an "unexpectedly high rate of attention-deficit hyperactivity disorder, with rates double those in the community sample" (p. 942). Moreover, McLeer et al. (1992) found ADHD to be the second most frequently diagnosed disorder among a population of sexually abused children who carried a primary diagnosis of PTSD. Estimates of the prevalence of ADHD among this population range from 14% (Merry & Andrews, 1994) to 46% (McLeer et al., 1992, 1994).

The high prevalence of ADHD and the high rates of diagnostic comorbidity among sexually abused children may have major implications for the provision of services for this population. Even when comorbidity does not exist, the behavioral and emotional correlates of ADHD, PTSD, and sexual abuse are diagnostically complex. The challenge for clinicians increases greatly when these children present with symptom overlap and comorbidity. This complexity may complicate the assessment process and may thus increase the potential for misdiagnosis. The consequences of misdiagnosis may include inappropriate or inadequate treatment. For example, a child who has been

sexually abused may be misdiagnosed with ADHD, when a diagnosis of PTSD would be more appropriate. As a result, treatment interventions that focus on ADHD may be inappropriate or even harmful if a PTSD diagnosis would have been more accurate.

Clearly, there is a need for increased attention to differential diagnosis of ADHD and PTSD in sexually abused children, yet there has been no review of this issue. The purpose of this article is to survey the relevant literature and diagnostic criteria for ADHD and PTSD for sexually abused children (SAC). This review will first provide a brief description of factors related to degree of trauma experienced, followed by an overview of the magnitude and psychological impact of CSA as described in the literature. This article will review literature addressing diagnostic criteria common to ADHD and PTSD in SAC, including a comparison of *DSM-IV* (American Psychiatric Association, 1994) symptom criteria for these disorders. Possible consequences of ADHD misdiagnosis in SAC will be discussed briefly. This will be followed by an examination of the clinical decision-making process for differential diagnosis of ADHD and PTSD. Finally, recommendations will be made for improving the effectiveness of diagnosis and assessment for SAC. It is hoped that such a review will contribute to clinicians' understanding of the diagnostic complexity and overlap of ADHD and PTSD, and lead to appropriate and adequate treatment for this population.

REVIEW OF THE LITERATURE ON THE PSYCHOLOGICAL IMPACT OF CHILD SEXUAL ABUSE

SAC are at high risk for developing a variety of serious psychological problems (Browne & Finkelhor, 1986; Conte, 1985). There is evidence that traumatic experiences may confuse and profoundly threaten these children (Terr, 1991; van der Kolk, 1987), with subsequent harmful and disruptive impact on their emotions and behavior (Conte, 1985; Tufts' New England Medical Center, Division of Child Psychiatry, 1984). Children have been observed to respond in a variety of ways to sexual abuse as a "function of specific characteristics of the victim and the incident" (Kiser, Heston, Millsap, & Pruitt, 1991, p. 776). The consequences of CSA have been described in the literature as ranging from being significantly harmful (Burgess & Holmstrom, 1975, cited in Tufts' New England Medical Center, Division of Child Psychiatry, 1984) to having an absence of negative impact on children (Bender & Grugett, 1952; Landis, 1956, cited in Tufts' New England Medical Center, Division of Child Psychiatry, 1984). In general, however, considerable research suggests the effects may be pervasive and long-lasting (Terr, 1991), leading to increased risk for adjustment difficulties and mental health problems in adulthood (Browne & Finkelhor, 1986; Terr, 1991).

The manifestations of CSA take many forms and may impair multiple areas of a child's life functioning. Disturbances in this population have been noted in sexually abused preschool and school-aged children, and adolescents (Dubowitz, Black, Harrington, & Verschoore, 1993; Gomes-Schwartz, Horowitz, & Sauzier, 1985; Tufts' New England Medical Center, Division of Child Psychiatry, 1984). In preschool children, serious cognitive disabilities have been found, including deficits in intellectual, physical, and social development (Tufts' New England Medical Center, Division of Child Psychiatry, 1984). In addition, many of these children evince symptoms of immaturity, reflecting either "failure to attain age appropriate motor and social skills or regression to more childish behaviors because of stress" (Tufts' New England Medical Center, Division of Child Psychiatry, 1984, p. 169). In sexually abused school-aged children and

adolescents, heightened levels of psychopathology have been observed, including severe fears in response to a wide range of situations (Tufts' New England Medical Center, Division of Child Psychiatry, 1984).

Psychological problems in SAC also have differing degrees of emotional and behavioral impact. These effects appear to vary as a function of the characteristics and type of abuse. The literature has identified several sequelae of sexual abuse thought to have the most serious effects on children.

The types of sexual abuse found to be most damaging involve force (Browne & Finkelhor, 1986; Goodwin, Cormier, & Owen, 1983), genital contact, and situations in which the perpetrator was a father-figure (Browne & Finkelhor, 1986). Use of force by an abuser was found by Browne and Finkelhor (1986) to be the best predictors of a victim's overall negative reactions, and is one of the few variables associated with a child's initial reaction to sexual abuse (Tufts' New England Medical Center, Division of Child Psychiatry, 1984). Children subjected to coercive sexual experiences manifest considerable hostility toward others and fearfulness of aggressive behavior directed at them (Tufts' New England Medical Center, Division of Child Psychiatry, 1984). Degree of behavioral disturbance manifested in SAC has been found to be directly related to whether the child was physically injured during sexual abuse (Tufts' New England Medical Center, Division of Child Psychiatry, 1984). Moreover, the use of physical force has been found to correlate with both internalizing and externalizing symptoms (Friedrich, Urquiza, & Beilke, 1986).

Type of sexual activity has also been found to be related to the degree of trauma in victims. Molestation involving more intimate contact has been shown to be more traumatic than less intimate contact (Browne & Finkelhor, 1986). Genital contact appears to have the greatest traumatic impact overall in SAC. Furthermore, Beitchman, Zucker, Hood, DaCosta, and Akman (1991) argue that sexual abuse involving penetration appears to be the most detrimental in terms of long-lasting effects on the child.

The degree of traumatic effect experienced by SAC following abuse may also be impacted by the relationship of the abused child to the offender. Browne and Finkelhor (1986) contend that sexual abuse by a close relative may be more traumatic than abuse by someone outside the family. Sexual abuse perpetrated by a biological father or stepfather has been associated with greater trauma in child victims than abuse involving other types of perpetrators (Friedrich et al., 1986; McLeer, Deblinger, Atkins, Foa, & Ralphe, 1988; Sirles, Smith, & Kusama, 1989).

Parental reactions to children's disclosure of sexual abuse may impact a child's subsequent adjustment (Beitchman et al., 1991; Browne & Finkelhor, 1986). For example, Tufts' New England Medical Center, Division of Child Psychiatry (1984) found that children manifested more behavioral disturbances when mothers reacted to their children's disclosure of the abuse with anger and punishment. However, the same study did not find positive responses by mothers to be systematically related to better adjustment. While negative responses seemed to exacerbate traumatic impact, supportive responses did not have an ameliorative effect on the trauma (Tufts' New England Medical Center, Division of Child Psychiatry, 1984).

A child's age at the onset of sexual abuse may also be related to degree of trauma subsequently experienced, although controversial views have been noted in the literature (Beitchman et al., 1991; Browne & Finkelhor, 1986). Some researchers claim that younger children are more vulnerable to trauma due to their impressionability (Browne & Finkelhor, 1986) and show greater symptomology as a result of sexual abuse (Wolfe et al., 1989). Others claim that young children's naiveté serves as a pro-

tective device, especially if children are unaware of the social stigma associated with the type of victimization they have suffered (Browne & Finkelhor, 1986). Still others (e.g., Kiser et al., 1991; Tufts' New England Medical Center, Division of Child Psychiatry, 1984) argue that age of onset of the abuse has no systematic relationship with degree of disturbance. A possible explanation for these controversial findings is that new symptoms may emerge as a child matures, even though the full extent of detrimental effects may not be evident (Beitchman et al., 1991).

Psychological Impact of CSA: Behavioral and Emotional Manifestations

The detrimental impact of CSA has been documented extensively in the literature. Sexual abuse may affect children's psychological, behavioral, and emotional functioning. Individual responses to CSA tend to be specific to the situation and seem to be a function of specific characteristics of the victim and the incident (Friedrich et al., 1986; Kiser et al., 1991). It has been argued that children who are sexually abused are not a homogeneous group (Krener, 1985). A wide range of victim responses (Sirles et al., 1989; Tufts' New England Medical Center, Division of Child Psychiatry, 1984) and symptomatology (Deblinger, McLeer, Atkins, Ralphe, & Foa, 1989) suffered by CSA victims has been noted in the literature, with varying degrees of behavioral and emotional manifestations (Conte, 1985). SAC exhibit more behavioral problems and more stressful emotional reactions than children in the general population, and this is especially true for those whose abuse has been recent (Tufts' New England Medical Center, Division of Child Psychiatry, 1984). "There is little doubt that incestuous abuse constitutes a major trauma for the child, one which confuses and profoundly threatens" (Gelinas, 1983, p. 315). Several literature reviews point to the growing evidence of serious problems in the majority of CSA victims (Browne & Finkelhor, 1986; Conte, 1985; Rowan & Foy, 1993; Tufts' New England Medical Center, Division of Child Psychiatry, 1984).

SAC exhibit more behavioral problems than their nonabused peers (Dubowitz et al., 1993), some of which include aggression, depression, hyperactivity, sleep and somatic complaints, and sexual problems. Elevated internalizing and externalizing behavior has been found in these children (Dubowitz et al., 1993), and has been found to be related to various sequelae of the abuse (Friedrich et al., 1986). For example, children who are sexually abused often cope with the trauma through repetition of the assault in dreams, fantasy, aggressive play, self-destructive behavior, and delinquency (Kiser et al., 1991). Signs of immaturity and impulsivity have been observed in preschool and school-aged SAC (Gomes-Schwartz et al., 1985). Behavioral problems include sexualized behavior, substance abuse, acting out, self-destructive and suicidal behavior, school problems, running away, regressive behaviors, withdrawal, and disruptive relationships (Tufts' New England Medical Center, Division of Child Psychiatry, 1984). Obviously, these symptoms clearly raise the concern that the normal development of sexually abused children and adolescents may be disrupted.

SAC also manifest a variety of emotional symptoms as a result of the abuse. "Clinical reports describing sexually abused children of various ages have highlighted a broad spectrum of symptoms related to emotional distress" (Tufts' New England Medical Center, Division of Child Psychiatry, 1984, p. 159). The emotional sequelae may be both immediate and lasting for children who are sexually abused (Krener, 1985). Some of these emotional disturbances include depression, guilt, anxiety, phobias, anger, hostility, sexual identity confusion, and impaired trust (Tufts' New England Medical Center, Division of Child Psychiatry, 1984).

A major source of distress exhibited in SAC is heightened anxiety, which may include hypervigilance, impaired impulse control, and socially inappropriate behavior, dreams, and fantasy (Browne & Finkelhor, 1986; Friedrich & Einbender, 1983). Other symptoms of elevated anxiety may be evidenced by frequent nightmares, phobias, low self-esteem, and a strongly polarized reaction to boys and men (Krener, 1985). In a review of the literature, Alter-Reid, Gibbs, Lachenmeyer, Sigal, and Massoth (1986) found SAC to develop phobias and panic attacks, heightened irritability and alertness, and problems with peers and schoolwork. Alterations between numbing and denial, accompanied by repetitive intrusions, are also common to victims of CSA (Gelinas, 1983). These alterations may be manifested in dissociation as either affective states or as vivid recollections (Gelinas, 1983), and may be evidenced by a substantial degree of intrusive thoughts and/or global adjustment problems (Wolfe et al., 1989).

Depression is another emotional disturbance manifested in SAC (Tufts' New England Medical Center, Division of Child Psychiatry, 1984), and may include feelings of helplessness, impaired self-concept, and depressive affect (Browne & Finkelhor, 1986; Friedrich & Einbender, 1983). Other emotional difficulties related to depression may include guilt, shame, anger, and hostility (Browne & Finkelhor, 1986; DeFrancis, 1969). While some researchers describe SAC as expressing guilt about the occurrence of the incest through self-blame (Gelinas, 1983), others argue that guilt appeared to be related more to the problems created by disclosure than about the sexual abuse per se (Browne & Finkelhor, 1986). Guilt is also described in part as an expression of SAC's loyalty to their parents, as recognition that at times they enjoyed the attention, and as the belief that they either allowed the incest to continue beyond the point when they could have first stopped it or at times played a more active role in it (Gelinas, 1983). Hostility may be directed inwardly or outwardly (Tufts' New England Medical Center, Division of Child Psychiatry, 1984), and may be manifested as active defiance, disruptive behavior within the family, and quarreling or fighting with classmates or siblings (DeFrancis, 1969).

Finally, somatic complaints are common to SAC, and may include appetite disturbances, sleep problems, hysterical symptoms, psychomatic complaints, pain, enuresis, and/or encopresis (Tufts' New England Medical Center, Division of Child Psychiatry, 1984).

Many researchers have attempted to distinguish between short-term and long-term effects of CSA, and a range of terminology has been used to describe the duration of the disturbing manifestations. In fact, "whether children who have been sexually abused suffer from long- or short-term emotional damage is a topic of considerable debate" (Tufts' New England Medical Center, Division of Child Psychiatry, 1984, p. 157). Initial effects are described as reactions which occur within 2 years of the termination of abuse (Browne & Finkelhor, 1986). Other researchers (e.g., Beitchman et al., 1991) have referred to reactions occurring within this time frame as short-term effects, however, Browne and Finkelhor (1986) argue that using short-term effects implies that the reactions do not persist. Initial effects vary as a function of the characteristics of the abuse. Studies do not seem to identify a pattern that is common to all children. Initial effects may include emotional and behavioral manifestations (e.g. fear, anger and hostility, aggression and antisocial behavior, guilt and shame, depression, low self-esteem, active defiance, disruptive behavior within the family, and fighting with siblings and classmates) (Browne & Finkelhor, 1986). Other initial effects may include inappropriate sexual behavior and effects on social functioning, for example, difficulties at school, truancy, running away from home, and early marriage by

adolescent victims (Browne & Finkelhor, 1986). Still other initial effects may include those that are physical or somatic in nature, for example, sleep and eating disturbances, changes in eating habits, and adolescent pregnancy (Browne & Finkelhor, 1986).

In a comprehensive review, Gelinas (1983) reported the typical clinical symptoms and the persisting negative effects of sexual abuse manifested in child incest victims. The most common long-term disturbances found were sexual dysfunctions, promiscuity, prostitution and/or running away, and increased risk of adolescent pregnancy. Other long-term clinical symptoms include depression, intense guilt, markedly poor self-esteem, self-destructive drug and/or alcohol abuse, anxiety, somatic complaints, learning difficulties, marital difficulties, increased risk of physical and emotional abuse toward the children of incest victims, and an increased intergenerational risk of incest among children of the victim by their spouses or partners.

The literature clearly indicates that CSA negatively impacts children's emotions and behavior. The harmful effects manifest themselves in many forms and are often pervasive. While there are some similarities in victim response to sexual abuse, the manifestations vary somewhat as a function of characteristics of the individual person as well as characteristics of the abuse.

PTSD in SAC

SAC have been found to develop a wide diversity of psychiatric disorders, including PTSD, ADHD, oppositional defiant disorder, anxiety disorders, depressive disorders, and adjustment disorders (Merry & Andrews, 1994). In a study of psychiatric disturbance in SAC, McLeer et al. (1992) found the predominant diagnosis to be PTSD (44.4%), followed by ADHD (33.3%), conduct disorder (25.9%), simple phobias and oppositional disorders (7.4%), and dysthymia and overanxious disorders (3.7%). More recently, McLeer et al. (1994) found the most frequent diagnosis of SAC to be ADHD (46%), followed by PTSD (42.3%). Furthermore, the most common comorbid diagnoses given were PTSD with ADHD, noted in 23.1% of SAC in one study (McLeer et al., 1994). Other researchers have also found a substantial portion of SAC to develop PTSD (e.g., Kiser et al., 1991; Wolfe et al., 1989), with percentages ranging from 20.7 to 90% (Deblinger et al., 1989; Kiser et al., 1988, 1991; McLeer et al., 1988, 1992, 1994).

Clearly, SAC appear to be at heightened risk for developing PTSD (McLeer et al., 1994). Documented symptoms of PTSD in SAC include intrusive thoughts about the trauma, reduced involvement with the external world, hypervigilance, and sleep disturbance (Krener, 1985). The literature indicates these children also experience intensification of symptoms during exposure to situations reminiscent of the traumatic event (Krener, 1985). Other symptoms may include multiple fears, excessive worry, mistrust, nightmares, denial, rage, unremitting sadness, psychic numbing, and social withdrawal (Kiser et al., 1988). A substantial percentage of SAC meets partial criteria for PTSD, with 86.5% exhibiting one or more symptoms of reexperiencing behaviors, 52.4% exhibiting three or more avoidant behaviors, and 72% exhibiting two or more symptoms of autonomic hyperreactivity (McLeer et al., 1992).

Diagnostic criteria for PTSD generally consist of three clusters of persistent symptoms: hyperarousal, reexperiencing phenomena, and avoidance (American Psychiatric Association, 1994). When compared with physically abused and nonabused populations, SAC exhibit more symptoms in each of these clusters (Deblinger et al., 1989). Hyperarousal symptoms can manifest in ways that are both dramatic and disruptive, and may present as anxiety, sleeplessness, irritability or anger, difficulty concentrating, hy-

pervigilance, and/or startle reaction (Friedrich et al., 1986; Kiser et al., 1991; Tomb, 1994; Tufts' New England Medical Center, Division of Child Psychiatry, 1984). Hypervigilance is a form of hyperarousal evidenced by distractibility, restlessness, and/or impulsivity (Kiser et al.). Hyperarousal symptoms also overlap with other psychiatric symptoms (e.g., generalized anxiety, hyperactivity), and may be less specific to PTSD (Deblinger et al., 1989). Another symptom of increased arousal includes interference with developmental achievements, evidenced by enuresis and encopresis, appetite change, stomachaches and headaches, and elevated aggression and antisocial behavior (McLeer et al., 1988; Tufts' New England Medical Center, Division of Child Psychiatry, 1984).

Some manifestations of reexperiencing phenomena include: recurrent and intrusive recollections of the event found in repetitive play; recurrent distressing dreams; feeling or acting as if the traumatic event were recurring; repetitive sexualized play or talk; sexually abusive behaviors toward younger children; and other inappropriate sexual behavior (American Psychiatric Association, 1994; Deblinger et al., 1989). Reexperiencing phenomena have been attributed to a significantly higher rate of inappropriate sexual behaviors displayed by CSA victims (Deblinger et al., 1989). According to Friedrich et al. (1986), such attribution is consistent with findings that inappropriate sexual behaviors appear to be a common symptom among SAC. Sexual acting out may be evidenced by children engaging in sexual activity, simulating intercourse with other children, displaying sexually provocative behavior, or demonstrating unusually precocious sexual knowledge (Kiser et al., 1988). SAC may also display great distress over any affectionate behavior observed between their parents (Kiser et al., 1988).

Avoidance behaviors may include fears that are specifically related to the trauma (e.g., fear of red lipstick or of men) or which appear to be mundane (e.g., fear of the dark) (Deblinger et al., 1989; Kiser et al., 1988). SAC suffering from PTSD may demonstrate increased anxiety, which appears to be associated with trauma-related fears (Kiser et al., 1991). Other avoidance responses may include fearfulness exhibited in nightmares, fearfulness of rapists and intruders, and fearfulness during family fights (Goodwin et al., 1983).

Clearly, the range of PTSD symptoms in SAC is extensive. Given this wide range, it seems logical that PTSD would have high symptom overlap with other disorders in SAC. This conclusion is consistent with studies reporting high rates of psychiatric comorbidity with PTSD in SAC (e.g., Cuffe, McCullough, & Pumariega, 1994; Famularo et al., 1992; McLeer et al., 1994). It is also consistent with evidence previously cited in this paper showing high prevalence of ADHD and other psychiatric comorbidity among SAC (Famularo et al., 1992; McLeer et al., 1992). In fact, it has been recently suggested that PTSD may be an important differential diagnosis in children presenting with ADHD (Glod & Teicher, 1996).

Differential Diagnosis of PTSD and ADHD

In general, there appears to be considerable overlap between symptoms of PTSD and other psychiatric disorders, and high rates of comorbidity in PTSD patients have been noted in the literature (Tomb, 1994). In particular, there is high symptom overlap between PTSD and ADHD. For example, one study reported 54% of SAC diagnosed with PTSD also met diagnostic criteria for ADHD (McLeer et al., 1994).

A closer review of the literature suggests there may be at least three ways in which PTSD symptoms may resemble ADHD and thereby complicate differential diagnosis. First, symptoms of PTSD may closely resemble or even mimic those of ADHD (Famu-

laro et al., 1992). Second, symptoms of ADHD and PTSD may actually co-occur (Blank, 1994). Third, specific symptoms (e.g., difficulty with concentration, restlessness or irritability, and impulsivity) may be common to both disorders (Blank, 1994). According to Blank (1994), "To some extent, it appears that what the DSM codifies as PTSD is a generic post-traumatic process and collection of symptoms, which occurs alone, but also is found to be 'embedded' in other disorders" (p. 352).

Interestingly, the *DSM-IV* (American Psychiatric Association, 1994) does not include PTSD as a differential diagnosis of ADHD. In order to address this lack, a comparison of *DSM-IV* criteria for PTSD and ADHD was conducted by this author (see Table 1). ADHD symptoms were grouped into three logically occurring categories. Most obvious are those reflecting the two subtypes of the disorder, inattention and hyperactivity/impulsivity. The third category consists of other observable, or externalizing behaviors. PTSD symptoms were then assigned to ADHD categories on the basis of likely behavioral manifestations or outcomes that might contribute to diagnostic confusion. In other words, PTSD symptoms likely to be diagnostically confused with ADHD symptoms were grouped respectively alongside each of these categories. The following summary of this comparison illustrates the diagnostic confusion that may occur.

TABLE 1. Comparison of DSM-IV for Criteria for ADHD and PTSD

ADHD Category	PTSD Manifestation
Inattention	Acting or feeling as if the traumatic event were recurring
	Intense psychological distress at exposure to cues resembling an aspect of the trauma
	Reexperiencing trauma
	Problems concentrating
	Hypervigilant to perceived fear stimuli
	Avoiding stimuli associated with trauma
Hyperactivity/impulsivity	Acting or feeling as if the traumatic event were recurring
	Intense psychological distress at exposure to cues resembling an aspect of the trauma
	Inability to appropriately inhibit response due to hypervigilance
	Physiological reactivity when exposed to cues symbolizing an aspect of the trauma
	Irritability/anger outbursts
Externalizing behaviors	Acting or feeling as if the traumatic event were recurring
	Intense psychological distress at exposure to cues resembling an aspect of the trauma
	Avoiding activities, places, people
	Markedly diminished interest/participation in activities
	Feeling detached/estranged (e.g., if uncooperative/nonparticipating)
	Restricted range of affect (e.g., unable to show feelings of happiness)
	Exaggerated startle response
	Repetitive play with trauma themes
	Irritability/anger outbursts

DSM-IV = Diagnostic and Statistical Manual of Mental Disorders (4th ed.); ADHD = attention-deficit hyperactivity disorder; PTSD = posttraumatic stress disorder.

Table 1 shows that some PTSD symptoms may be misperceived in all categories of ADHD. These may include acting or feeling as if the traumatic were recurring, and feeling intense psychological distress during exposure to cues resembling the trauma. It seems feasible that a child who feels profound psychological disturbance subsequent to feeling as if a traumatic event were recurring might manifest what appears to be ADHD symptoms of inattention, hyperactivity/impulsivity, or overt externalizing behaviors.

In summary, an examination of both *DSM-IV* (American Psychiatric Association, 1994) criteria and the literature (e.g., Blank, 1994; Tomb, 1994) point to considerable symptom overlap, symptom co-occurrence, and symptom resemblance between ADHD and PTSD. Many PTSD symptoms may be misinterpreted as ADHD symptoms of externalizing behaviors or problems with inattention, hyperactivity, or impulsivity. Given the possibility for diagnostic confusion, differentiation between these disorders is vital for accurate diagnostic decision making. However, the *DSM-IV* appears to overlook this by excluding PTSD from the differential diagnosis of ADHD and vice versa. This lack of emphasis given to differential diagnosis may have implications for clinical assessment of PTSD and ADHD. Misdiagnosis may easily occur in the absence of careful differential diagnosis, with serious implications for the children involved.

Possible Consequences of ADHD Misdiagnosis in SAC

There are several potentially serious consequences for SAC when misdiagnosis occurs. Perhaps of greatest concern are implications related to treatment. In general, treatment interventions for ADHD children predominantly consist of behavior management, social skills training, and stimulant or other medication (Barkley, 1990, 1998). In contrast, treatment interventions for children with PTSD generally consist of management and alleviation of emotional distress using play, psychodynamic (Lyons, 1987), and cognitive behavioral (Klein & Slomkowski, 1993) therapy modalities. Relaxation techniques (Klein & Slomkowski, 1993) and hypnosis (Lyons, 1987) have also been effective in treatment of PTSD in children. Though no clear drug treatment exists for PTSD, the more successful pharmacotherapy treatments appear to be monoamine-oxidase inhibitors and selective serotonin reuptake inhibitors (Maxmen & Ward, 1995).

Clearly, treatment interventions for ADHD and PTSD are distinct, and misdiagnosis may lead clinicians to use inappropriate interventions. Mismedication may be an important concern. For example, side effects experienced by ADHD children on stimulant medication may include difficulty falling asleep, lack of appetite, irritability, headaches, stomachaches, nausea, dizziness, tachycardia, muscle tics or twitches, slowed physical growth, and skin rashes (Pelham, 1993). The literature indicates side effects may also include such central nervous system effects as rebound symptoms of increased restlessness, overstimulation, dysphoria, mood lability, and irritability (Thomas, 1991). Unfortunately, the long-term effects of using stimulant medication with children have not been well studied (Barkley, 1990, 1998). However, concern about deleterious effects has been expressed. For example, there is evidence stimulants may precipitate or exacerbate psychosis (Thomas, 1991) and involuntary motor symptoms, such as tics and Tourette's disorder (Pelham, 1993; Thomas, 1991). In addition, there is some evidence that moderate growth suppression may occur (Roche et al., 1979, cited in Thomas, 1991). Cognitive overfocusing and social withdrawal may also occur in children taking stimulants, resulting in what is referred to as the zombie effect of

medication (Pelham, 1993). Moreover, in a discussion on limitations of stimulant medication, Thomas (1991) reported significant concerns about the potential for addiction and abuse of stimulants, as well as the potential for street value. Given the potentially deleterious side effects associated with stimulant medication in ADHD children, what then are the effects of stimulant medication for children misdiagnosed with ADHD? There has been little or no research addressing this question. According to J. Thomas (personal communication, May 30, 1998), symptoms of increased irritability, agitation, and tearfulness occurring in children while on stimulant medication may actually indicate presence of an affective or anxiety disorder. This is an area warranting further investigation.

Another undesired consequence of ADHD misdiagnosis in SAC is the failure to address and treat the trauma symptoms of children who actually have PTSD. Subsequently, symptoms may continue and even become exacerbated. If the trauma is left untreated and disruptive behaviors are targeted instead, the child's self-esteem may suffer as a result. For example, a child misdiagnosed with ADHD may be placed in a structured learning environment or other educational setting designed to deal with oppositional behavior, aggression, or learning problems (Barkley, 1990). This child may be labeled by peers, relatives, or school personnel as a "bad child" who cannot be handled in a regular classroom. Classroom management techniques that are used in more restrictive settings and are designed to improve hyperactive children's school functioning (Barkley, 1990, 1998), may not be appropriate for misdiagnosed children who may have been sexually abused. Finally, children misdiagnosed with ADHD may suffer from a low self-image as a result of their peers treating them differently or ridiculing them for having an attention deficit.

Given the risk for mismedication, untreated trauma, and negative impact on self-esteem for children misdiagnosed with ADHD, it is unfortunate little attention has been given to this issue. Increased attention to clinical decision-making in the differential diagnosis of ADHD and PTSD may lead to more appropriate, beneficial, and timely interventions.

Clinical Decision-Making: Differential Diagnosis

Differential diagnosis of ADHD and PTSD in SAC can be a difficult and confusing process. Given the significant psychopathology and the wide range of psychiatric comorbidity in SAC, these children may present for assessment with a wide range of diagnostic possibilities. Though ADHD appears to be fairly common in SAC, diagnosis is not a clear-cut enterprise. As stated previously, over the past 60 years there have been significant changes in the diagnostic criteria for children with attentional, hyperactive, and impulsive problems. The end result of these changes has been movement toward a common language and set of criteria by which to describe and assign the diagnosis. However, while ongoing changes in diagnostic criteria and nomenclature of ADHD reflect advances in the classification of the disorder, they may also obscure clinicians' understanding of the diagnosis. According to Goodman and Poillion (1992), ADHD nomenclature has shifted to categories that are broader, more inclusive, and more subjective. As a result, "more children are eligible for receiving a label that has less meaning" (Goodman & Poillion, 1992, p. 38).

The manner in which the *DSM-IV* (American Psychiatric Association, 1994) delineates criteria for ADHD contributes to the difficulty diagnosing this disorder. More

specifically, the diagnostic criteria for ADHD require that "some impairment from the symptoms is present in two or more settings" (American Psychiatric Association, 1994, p. 84). Diagnostic confusion or difficulty may emerge when a child reported to have such symptoms as high distractibility or inability to concentrate in other settings does not demonstrate these symptoms during the clinical interview. The presence of symptoms in two or more settings can be especially difficult to establish by clinicians not having access to these settings or to adults in the child's environment. For example, access to parents may be limited by environmental circumstances, or parents may be unwilling to cooperate. However, ADHD diagnosis is considered accurate only with collaborative evidence of symptomotology in more than one setting.

Another factor complicating accurate diagnosis is the polythetic nature of *DSM-IV* (American Psychiatric Association, 1994) criteria, which allows multiple combinations of symptoms. In the case of ADHD, the *DSM-IV* requires the persistence of six or more symptoms of inattention and/or hyperactivity-impulsivity to warrant an ADHD diagnosis with its respective subtype. The DSM-III-R (American Psychiatric Association, 1987) required 8 of 14 symptoms for a diagnosis of attention deficit disorder, with or without hyperactivity. Current diagnostic criteria for ADHD require six of nine symptoms for both the predominantly inattentive type and the predominantly hyperactive-impulsive type. In the case of PTSD, the *DSM-IV* requires persistent reexperiencing of a traumatic event in at least one of five possible manifestations. Also required are three of seven symptoms of trauma stimuli avoidance/numbing, and two of five symptoms of increased arousal (*DSM-IV*). Clearly, children presenting with ADHD and/or PTSD may be quite diverse in symptomotology. In fact, Barkley (1990) has argued that no single, representative picture of ADHD exists, and that ADHD is a heterogeneous disorder (Barkley, 1997, 1998).

In addition to familiarity with current *DSM* (American Psychiatric Association, 1994) criteria, there are other components of the assessment process used in clinical decision-making. A comprehensive ADHD assessment generally includes clinical interviews, behavior rating scales, laboratory measures, medical examination, and direct observational procedures (Barkley, 1990, 1997). Though not used routinely, some researchers (e.g., Braswell & Bloomquist, 1991; Detweiler, Hicks, & Hicks, 1995) recommend administering a battery of psychological tests to clarify ADHD diagnosis. Each of these components contribute uniquely to assessment and clinical decision-making, as will be discussed below.

Clinical interviews provide a wealth of descriptive, behavioral, and developmental information about the child, family, school environment, social context, current level of functioning, and presenting problems. Interviews ideally involve the child, parents or guardians, and teachers. According to Barkley (1991b), though diagnosis is not based on interview alone, interviews are "indispensable for establishing that certain diagnostic criteria are met" (p. 33). In addition, structured clinical interviews aid in systematic and specific diagnostic assessment, and utilize standardized methods for obtaining information (Gutterman, O'Brien, & Young, 1987). When interviews are used alone, however, there is an increased risk for overdiagnosis (Schaughency & Rothlind, 1991). Another limitation of clinical interviews has to do with reliability. For example, children below the ages of 9 to 12 years tend to be unreliable in their perception and self-awareness of their own or family problems (Barkley, 1997). In fact, children are viewed as being the least beneficial informants on problems related to attention and hyperactivity (Schaughency & Rothlind, 1991). In addition, information disclosed by parents and teachers may be impacted by such factors as level of parent or teacher

frustration, degree of familiarity with the child (e.g., new foster parents or teachers), or amount of perceived investment in the problem.

Given the limitations inherent in clinical interviews, collaborative information is desirable. Behavior rating scales or checklists provide an excellent source of collaborative information, and these are generally completed by parents and teachers. Standardized behavior checklists are convenient, applicable to multiple informants, allow for gathering information over long time intervals, and yield results useful for comparison with normative data (Barkley, 1991b). Behavior rating scales can also aid clinicians by providing standardized descriptions which focus on a common set of phenomena (Achenbach, 1991). Behavior rating scales are a useful adjunct to other techniques in a comprehensive ADHD assessment, however when used in isolation they do not provide sufficient information to generate specific psychiatric diagnoses (Gutterman et al., 1987).

Two of the most widely used behavioral measures for ADHD are the Child Behavior Checklist (CBCL; Achenbach, 1991) and the ADHD Rating Scale (DuPaul, Anastopoulos, Shelton, Guevremont, & Metevia, 1992). The CBCL is designed to be completed by children 11 to 18 years of age, and includes parent and teacher forms. The CBCL is a broad-based instrument that groups nine specific dimensions of childhood psychopathology into internalizing or externalizing categories. As such, the CBCL is intended to supply standardized descriptions of behavior, not diagnostic inferences. Achenbach (1991) suggests that clinicians integrate the results with other types of data gathered in the comprehensive ADHD assessment. The ADHD Rating Scale (DuPaul et al., 1992) is intended for completion by parents, teachers, and children, and is a more narrow-band scale specifically assessing ADHD symptoms. This scale assesses inattention and hyperactive-impulsive behaviors separately, to aid the clinician in distinguishing ADHD subtypes, and utilizes symptom lists from the *DSM-IV* (Barkley, 1997).

Continuous performance or other laboratory tests measure sustained attention and impulsiveness, and provide a more objective measure of assessing ADHD symptoms (Barkley, 1990). However, many of these instruments have been criticized for a lack of appropriate normative data or inadequate reliability and validity (Barkley, 1991b). Because of the possibility of false-negative diagnoses, Barkley (1997) recommends that clinicians not interpret normal scores as ruling out a diagnosis of ADHD. Results from continuous performance and other tests are best used for collaborative information, not as the sole basis for making a diagnostic decision (Barkley, 1997).

In addition to the above procedures, psychological testing may be a desired component of comprehensive ADHD assessment. Useful tests include measures of intellectual and cognitive ability, scholastic achievement, personality, and social, emotional, and interpersonal functioning. Barkley (1990) recommends assessing a child's ability to complete or accomplish tasks, problem-solving style, capacity to develop and implement strategies, use of compensatory skills to maintain attention or to avoid tasks, ability to shift sets, and attribution style (e.g., reasons for successes and failures). Psychological testing can aid ADHD evaluation by ruling out other psychiatric conditions, thus clarifying diagnosis.

A complete pediatric medical examination and interview are also recommended for comprehensive ADHD assessment. The medical interview contributes to clinical decision-making by focusing on differential diagnosis of ADHD from potentially confounding medical conditions (Barkley, 1990, 1998). For example, medical conditions, such as thyroid regulation problems, lead poisoning, or various types of brain damage, may present with symptoms similar to ADHD (J. Thomas, personal communica-

tion, June 13, 1998). Visual or hearing deficits may also initiate symptoms which resemble ADHD (Barkley, 1990, 1998). In addition, Barkley (1998) reports ADHD may emerge "secondary to a clear biologically compromising event" (p. 285). Medical examinations are necessary to evaluate for potential coexisting conditions requiring medical management, and to determine whether physical conditions exist that may contraindicate medication treatment (Barkley, 1990, 1998).

Finally, a comprehensive ADHD assessment includes direct observational procedures conducted during testing, in clinical settings, or at school. Such observations focus on a child's physical appearance, language, behavioral problems, academic difficulties, and developmental achievements (Barkley, 1990, 1991b). According to Barkley (1997), observation of task performance can be more informative diagnostically than an office visit or even psychological testing. Observational procedures can be used in the child's natural environment and may be "more objective than other subjective reports used in interviews and rating scales data" (Schaughency & Rothlind, 1991, p. 196). Direct observational procedures also have limitations; though useful, they may not represent the child's usual conduct in a naturalistic setting. In other words, a child who is normally inattentive, hyperactive, and impulsive in school and home settings may not exhibit such symptoms in a structured, face-to-face clinical interview. Alternatively, a child presenting with clear ADHD symptoms in clinical settings may not manifest such symptoms in other settings to warrant an ADHD diagnosis. Furthermore, behaviors occurring less frequently, though salient, may be missed during a limited observation period (Schaughency & Rothlind, 1991). Finally, direct observation can be a costly endeavor, requiring considerable expenditure of a clinician's time and money (Schaughency & Rothlind, 1991). In fact, Barkley (1997) argues that "the training requirements and limited cost-effectiveness of the procedures raise doubts about their feasibility for clinical practice" (p. 105).

Clearly, a comprehensive ADHD assessment can provide clinicians with a wealth of information to aid in clinical decision-making. Such an approach permits clinicians to obtain both subjective and objective data. The more objective methods allow for comparison of results with normative data. Inclusion of the more subjective methods assists a clinician in integrating objective data with information about a child's social-emotional functioning and the environmental context of the presenting problem. With these conditions, the probability of accuracy in diagnosis is hoped to increase.

Despite the strengths of comprehensive ADHD assessment, there appear to be at least two limitations that might interfere with clinician's ability to make accurate diagnostic decisions. First, no standardized procedure exists for assessing ADHD. As a result, clinicians use their preferred interview format, behavior checklists, or formal diagnostic procedures. This can be problematic, in that clinicians may miss certain symptoms or important contextual information, thereby increasing the risk for misdiagnosis. This situation can lead to a second limitation, an apparent absence of attention to trauma history of children presenting with ADHD symptoms. As stated previously, the *DSM-IV* (American Psychiatric Association, 1994) does not include PTSD as a differential diagnosis for ADHD, thereby inferring that trauma history may not be an important consideration. Moreover, neither the CBCL (Achenbach, 1991) nor the ADHD Rating Scale (DuPaul et al., 1992), two of the most widely used behavioral measures used in ADHD assessment, include questions inquiring about trauma. Even Barkley (1990, 1998), one of the most prolific writers in the field, does not mention the importance of trauma assessment when evaluating children for ADHD.

An ADHD assessment that does not obtain information about trauma history can-

not provide clinicians with the essential information they need to make accurate differential diagnosis. The high rate of comorbidity and symptom overlap between ADHD and PTSD, the high risk for these disorders to manifest in SAC, and the risk for mismedication and other inappropriate treatment interventions, requires crucial attention to the inclusion of trauma history in ADHD assessment.

RECOMMENDATIONS

As this review indicates, the differential diagnosis of ADHD and PTSD is complex, and current assessment procedures for ADHD appear to be fairly comprehensive in nature. However, existing assessment methods may not routinely obtain information crucial for differential diagnosis of PTSD in children presenting with ADHD symptoms. Specifically, a review of the components of ADHD assessment suggests that children presenting with ADHD symptoms may not be routinely assessed for trauma. This may have adverse implications for children who have been sexually abused. Children may not readily disclose abuse, and symptoms resulting from sexual abuse may not emerge for several months. Without specific inquiry into this area, previous or ongoing trauma may be overlooked. This can be unfortunate for children whose behavior problems are trauma induced and who require specific interventions to reduce the psychological impact of trauma.

While the complexity of differential diagnosis is unlikely to change, it is possible to improve the assessment procedures themselves. One way in which this can be done is by routinely obtaining information about traumatic experiences. Routine assessment of trauma in children presenting with ADHD symptoms can be obtained through clinical interviews with the child, parents, and teachers. Direct questions can be asked about whether the child has ever experienced such trauma as sexual or physical abuse. If such abuse has occurred, it is important to obtain information about the frequency and duration of the abuse as well as how recently it happened. Information about a child's trauma history can also be obtained by including written self-report measures. A simple way to do this would be to include questions about trauma experiences on intake forms used at the onset of treatment. Medical exams can also be useful for detecting physical evidence of abuse.

Another way to improve assessments is by increasing attention to symptoms appearing to have the greatest overlap between ADHD and PTSD. A practical way to do this is to include questions according to symptom clusters such as those presented in Table 1. More specifically, questions about a child's subjective thoughts or feelings, as well as situational factors related to symptoms of inattention and hyperactivity/impulsivity can facilitate clinicians' understanding of the context of presenting symptoms. For example, when assessing symptoms of inattention, clinicians might ask the child at what times they have difficulty paying attention, and whether these incidents occur at certain times of the day or night, with particular people, or in specific places. Inquiring about the situational context of the inattention may yield valuable information regarding factors contributing to or exacerbating attention difficulties. It also might be helpful to ask the child about the content of his/her thoughts when it is hardest to pay attention. Such an inquiry could assess whether inattention is related to thoughts about particular people, places, or memories. Understanding the thoughts accompanying a child's inattention can help clinicians determine whether the child is reexperiencing a trauma memory. Another question to ask the child concerns the feelings

experienced during times when it is most difficult to concentrate or focus. Inquiries can be made about what types of feelings occur at these times, as well as whether there are particular memories, situations, or places that make it difficult to pay attention. During this line of questioning, clinicians can ask whether the child's inattention is related to wanting to avoid certain people, places, or situations, or whether certain fears make it hard to concentrate. Questions probing into the child's subjective and emotional experience, including potential for avoidant behaviors, can provide clinicians with valuable information about factors which may impact a child's ability o remain focused.

When assessing symptoms of hyperactivity/impulsivity, it may be beneficial to ask the child about thoughts or feelings that occur when having difficulty sitting still or when feeling fidgety or otherwise hyperactive. Similarly, one could ask about whether there are certain situations, places, memories, or people which make it harder to sit still or keep from fidgeting. Assessing certain situational factors related to hyperactivity/impulsivity, such as feared places or people, can provide information indicative of reexperiencing or avoidance symptoms associated with PTSD. Similarly, inquiring about a child's inability to wait his/her turn or to refrain from interrupting people may indicate reassurance-seeking secondary to exposure to trauma cues. It might be helpful to ask a child what makes it hardest to refrain from these disruptive behaviors, or whether the child is aware of them. What appears to be hyperactivity/impulsivity may in fact be a child's inability to inhibit response to trauma cues due to hypervigilance. It may also be helpful to ask a child how his/her body feels when they are having trouble sitting still, keeping quiet, or waiting their turn. Questions about somatic sensations might reveal the presence of hyperarousal symptoms such as physiological reactivity indicative of PTSD, rather than symptoms of hyperactivity or impulsivity.

Information gleaned from questions such as those above may reveal that a child's inattentive or hyperactive/impulsive symptoms are due to a trauma response rather than primarily due to an attentional disorder. With this additional information, clinicians might learn that a reportedly inattentive or disruptive child may in fact be experiencing intense psychological distress subsequent to trauma. Without asking questions such as these, clinicians might not be alerted to the possible presence of PTSD, and may either mistakenly assign an ADHD diagnosis or miss the presence of comorbid PTSD.

The above questions may be helpful when interviewing a child. Information clarifying symptom overlap may also be obtained through other components of the assessment that provide collaborative information. Clinicians who utilize direct observations or merely focus on a child's behavior in the clinical setting must keep in mind the possibility of previous or ongoing trauma influencing current behavior. For example, sexualized behavior occurring during the direct observation component of the assessment may indicate the need for additional inquiry about trauma experience. Immediately after an observation, it may be beneficial for clinicians to interview the child to obtain an understanding of thoughts and feelings that may have occurred in conjunction with their behavior. For example, it would be helpful to know if a child who was having trouble sitting still also experienced distressing thoughts or recollections. It might be easy for clinicians to attribute a child's problems to ADHD when, on the surface, it appears that the child is having problems paying attention, sitting still, or appropriately interacting with peers. Questions focusing on the child's subjective experience can clarify clinician's understanding of the problem and related factors.

Finally, clinical interviews with parents and teachers, a vital source of collaborative

information in clarifying symptom overlap, should include questions related to the child's symptoms and both the child and parental response to the possible trauma. In order to clarify the dynamics underlying inattention and hyperactivity, it may be helpful to ask parents and teachers a modified version of the above questions. Other questions that may be helpful are those inquiring about what activities the child is usually involved in when s/he is being inattentive, hyperactive, or impulsive, as well as what typically is occurring in the environment during times the child exhibits these symptoms. For example, if a child is exhibiting these symptoms primarily at bedtime this would provide a different clinical picture than that of a child whose symptoms manifest during a designated study time. Parents and teachers may be asked whether the child ever reports feeling scared or nervous while appearing inattentive, hyperactive, or impulsive, and whether the child ever appears to be avoiding certain activities, places, or people when presenting with ADHD symptoms. Assessing contextual factors related to ADHD-like behavior can provide invaluable collaborative information.

There is a need for increased attention to PTSD as a differential diagnosis of ADHD, both clinically and in the research. It is hoped the above recommendations will facilitate clinician's accuracy in differential diagnosis of children presenting with ADHD symptoms, and lead to increased awareness among clinicians about symptom overlap and comorbidity of ADHD and PTSD in SAC.

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