

Diagnosis, Treatment, and Educational Implications for Students With Attention-Deficit/Hyperactivity Disorder in the United States, Australia, and the United Kingdom

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For many years there has been debate over Attention-Deficit/Hyperactivity Disorder (ADHD) and whether this condition, which commonly afflicts adolescent children, is a medical or social condition and whether it is exclusively an American phenomenon. This article reviews the basis of ADHD's definition, diagnosis, treatment, and educational implications across three countries: the United States, Australia, and the United Kingdom. The differences in approach have clear and significant consequences for children and their futures.

It is fairly likely that if you asked the average person on the street in the United States if they have heard of Ritalin or of an illness called Attention-Deficit/Hyperactivity Disorder, also known as ADD or ADHD, that person would say yes. Opinions on ADHD range from it being a made-up disorder used as an excuse for low-achieving students to it being a debilitating illness with the potential to severely limit the academic prospects of young students. For nearly 30 years, this illness and its medical treatment have been prominent in discussion of the state of children and of education today.

An examination of literature from the United States, Australia, and the United Kingdom demonstrates that this same range of opinions can be found among scholars in education and medical journals. In an effort to break down the veracity of these opinions, this article investigates the definitions and criteria used to

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ascertain a diagnosis of ADHD. It then compares and contrasts the rates of prevalence that characterize the populations of the three countries. Finally, it considers the methods of treatment utilized to negate ADHD's effects and symptoms, including the use of medication and behavioral strategies for the classroom and beyond.

DEFINITION AND CRITERIA

The standard definition and criteria for the diagnosis of ADHD in the United States comes from the American Psychiatric Association's (1994) *Diagnostic and Statistical Manual of Mental Disorders (DSM)*. This manual has undergone multiple updates since its first publication in 1952. The most recent edition available is the *DSM–IV–TR*, which was published in 1994. The evolution of the labels, criteria, and symptoms that have surrounded ADHD can easily be inferred through the six full pages devoted to the disorder in the *DSM–IV–TR*. In fact, it has been said that "no other childhood psychopathology has undergone as much renaming and reconceptualization as the hyperactive disorder" (Gomez, Harvey, Quick, Scharer, & Harris, 1999, p. 265).

The *DSM–IV–TR* has expanded the symptoms and criteria of ADHD, and the definition now includes three subtypes: ADHD Predominantly Hyperactive–Impulsive type, ADHD Predominantly Inattentive Type, and ADHD Combined Type. To be diagnosed as either ADHD Predominantly Inattentive Type or ADHD Predominantly Hyperactive–Impulsive, a person must exhibit symptoms for at least 6 months "to a degree that is maladaptive and inconsistent with developmental level." Each subtype has a list of 9 symptoms, and 6 of those must be present for a diagnosis. ADHD Combined Type requires 6 symptoms out of the possible 18 for the same length of time and extent (See Appendix A).

Another definition and set of criteria that are more commonly used across Europe come from the World Health Organization's (WHO's) International Classification of Diseases (ICD). The 10th version of the ICD (ICD-10) has diagnostic criteria for ADHD that are remarkably similar to those of the DSM-IV-TR, including the listings of possible symptoms, with a diagnosis requiring at least 6 of 10 such symptoms present in the child for at least 6 months, also "to a degree that is maladaptive and inconsistent with the development of the child." The ICD-10 also includes the same three subtypes of inattention, hyperactivity, and impulsivity (See Appendix B).

As with the *DSM–IV–TR*, there are frequent updates and clarifications between editions. The term used in ICD-10 for ADHD is *hyperkinetic disorder*. Although hyperkinetic disorder is not exactly the same as ADHD, the term ADHD is still commonly used in British studies, perhaps for its universality, and this article uses the term ADHD. The ICD-10 was approved in 1990 and went into use by WHO member states in 1992.

Although nearly identical, there are some key differences in the definitions, which ultimately lead to very different patterns of diagnosis. For example, the ICD-10 requires that the pervasiveness and persistence of symptoms be present in at least two situations (such as home and school). The *DSM–IV–TR* would allow a diagnosis of ADHD with the presence of symptoms in only one situation. More significantly, within the hyperactivity subtype the *DSM–IV–TR* criteria allow a diagnosis if the child displays *either* impulsiveness *or* inattention, whereas the ICD-10 requires both symptoms (Reason, 1999). As is discussed in the comparison of prevalence rates among countries such as the United States and Australia (which primarily use the *DSM–IV–TR* as a basis) versus Great Britain (which primarily uses the ICD-10), the slight variances in criteria play a large role in the predominance of the disorder in populations.

DIAGNOSIS

Despite the *DSM–IV–TR* and ICD-10 standards, consistent diagnosis of ADHD remains difficult for a variety of reasons. First, there is little regularity on who is making the diagnoses of the disorder. A variety of medical professionals such as general practitioners, pediatricians, or mental health specialists may be assessing the subject. Prior to a visit with a doctor, the student will be in regular contact with a number of other individuals who may play a large role identifying the disorder and bringing about a diagnosis. These individuals could include parents, teachers, coaches, and other caregivers. Despite the large role these people play in a child's life, there is still relatively little room for their input into a formal diagnosis. "To date, there are no descriptive data for parent and teacher ratings of AD/HD symptoms listed in DMV-IV" (Gomez et al., 1999, p. 267). Although a medical diagnosis can only officially be made by a doctor, other actors can and should play a major role in defining the child's illness.

In some ways, the *DSM–IV–TR* criteria lack the specificity necessary to function as working guide for diagnosis. "The current DSM-IV edition can equally be criticized for not providing clear indications of abnormal levels for the symptoms listed" (Gomez et al., 1999, p. 267). This lack of specificity introduces a high level of subjectivity into the diagnosis process. Such high level of subjectivity will necessarily affect rates of prevalence and cloud an accurate picture of the illness' scope.

PREVALENCE

United States

A direct result of the difficulty in diagnosing ADHD is a wide variation in prevalence of the disorder in children. The *DSM–IV–TR* puts the prevalence rate at

between 3% and 5%. Within this group, the vast majority of those diagnosed are male, with some studies suggesting that up to 90% of cases of attention deficit are boys (Purdie, Hattie, & Carroll, 2002). Although there is increasing acceptance that ADHD can follow children into adulthood, the disorder is still generally accepted to be one that afflicts young children up to adolescence, roughly between the ages of 7 and 12 (Ciechomski, Blashki, & Tonge, 2004).

A tremendous increase in the number of publications and studies examining ADHD in the United States has resulted in statistics that reflect great differences in prevalence rates cited. Overall, other stated rates exceed the prevalence cited as the standard by the *DSM–IV–TR*. The American Academy of Pediatrics puts the rate between 4% and 12% (American Academy of Pediatrics, 2001). Other studies have put the figure between 20% and 24% (Purdie et al., 2002).

Many issues contribute to the difficulty in determining a generally accepted rate of prevalence for the disorder. The most frequently cited explanation for the variation is the existence of different definitions and criteria for diagnosing ADHD. As a result, the rates of occurrence will likely be skewed. Although the *DSM–IV–TR* is a generally accepted standard, there remain areas within that standard that are unclear. Moreover, as has already been discussed, the issues of multiagency in diagnosing means that all parties may not use the *DSM–IV–TR*, let alone interpret it and apply it universally. Third, variations in study methodology will play a major role in affecting rates and figures. Differences in populations examined will skew the numbers significantly. Finally, it is generally accepted that ADHD has a very high rate of comorbidity with other disorders or illnesses. According to one study, 65% of ADHD diagnosed children have another diagnosed psychiatric or behavioral issue (Shaw, Wagner, Eastwood, & Mitchell, 2002). The concurrence of illnesses could result in masking symptoms or misinterpreting symptoms for one disorder or another.

Australia

As in the United States, there has been a belief in Australia that the occurrence of ADHD has grown very quickly and perhaps with little substantiation. Factors and details surrounding the diagnosis of ADHD in Australia are extremely similar to those in the United States.

Most significantly, the standard definition and criteria for diagnosis in Australia of the disorder is also the American Psychiatric Association's *DSM* and its subsequent revisions. Literature from Australia indicate the same basic problems and limitations resulting from this definition. There were multiple indications that the role of data from parents and teachers was lacking, "a multidimensional approach whereby information is gathered from a number of sources (e.g. Parents, teachers) is regarded as best practice" (Ciechomski et al., 2004, p. 1000). A 1997 report from the National Health and Medical Research Council of Australia

(NHMRC) recommended that parent and teacher input play a greater role in diagnosis, though this may have a serious effect on prevalence rates. As was stated in the NHMRC report, "Even small differences in diagnostic procedures can affect rates, which in turn have a powerful effect on the predictive value of diagnostic tests." (p. 22)

Because it is difficult to obtain reliable rates of prevalence, it is also difficult to soundly compare nations in the frequency of ADHD. One study put the worldwide prevalence of ADHD at between 1.7% and 6.7% (Shaw et al., 2002). Various studies of Australian children have found the prevalence rate to be within or very near the quoted 3% to 5% for U.S. children found in the *DSM–IV–TR*. The rates quoted in the 1997 NHMRC report were between 2.3% and 6% for the child population of Australia as a whole. Because it is a given that the figures will vary widely, some different perspectives on the Australian rates and more focused views could provide greater insight.

One unique way to look at prevalence rates is to consider how often patients are seen and/or diagnosed in doctors' offices. Although these data are also subject to some inconsistency in diagnosis because of definition, it demonstrates another perspective and it appears to indicate that ADHD may be underdiagnosed. In a study that looked at rates of usage of medical and school-based services, only 28% of students with symptoms of ADHD sought help, with 41% going to medical services, 39% going to school services, and 20% to both (Sawyer et al., 2004). The rate at which Australian general practitioners see children with ADHD was seemingly low, with only between one and five cases per year out of an average of more than 250 children seen per year (Chiechomski et al., 2004).

United Kingdom

As with the United States and Australia, the prevalence rates of children diagnosed with ADHD (as used in the ICD-10) vary, and such rates are dependent on the highly subjective nature of diagnosis. One article claims that between just 0.5% and 1% of children age 7 and younger in Great Britain have ADHD. The generally accepted rate of occurrence is around 1% to 2% of children (Parr, Ward, & Inman, 2003). This low level of occurrence is likely the result of multiple factors. First, the British usage of the more exclusive WHO definition of hyperkinetic disorder means that fewer children will fulfill the symptomatic requirements of the diagnosis. It is likely that were the British to employ the *DSM–IV–TR*'s wider standards for ADHD, British rates of prevalence for ADHD would be significantly higher than their current rates for hyperkinetic disorder.

Second, the British view of the impairment is extremely different from that in the United States and Australia, and this affects the likelihood of children to be diagnosed. As can be inferred by the usage of the IDC-10 definition, ADHD is not a term that is liberally applied to children. "In Britain, ADHD is conceptualized as a psychosocial problem whereas in America ADHD is viewed as a medical problem" (Reid & Maag, 1997). This is coupled with the British view that each child who may be afflicted by ADHD is unique and that the particular symptoms and presentation of the illness will be different in every case.

It seems that there is an overall reluctance to apply the label of ADHD to a child in Britain because this may negatively affect the child's school or social life as a result. This contrasts starkly to the United States, where parents may actively seek a diagnosis of ADHD to potentially secure extra assistance or at least understanding for the child in social and educational settings. Indeed, one article suggests that ADHD is another illness popular in the United States because of "America's propensity toward glorifying victimization" (Reid & Maag, 1997).

Finally, the overall lesser acceptance of ADHD and more infrequent occurrence may actually be contributing to a reality of underdiagnosis in the United Kingdom. Although many studies have speculated that ADHD is generally underdiagnosed all over the world, the United Kingdom may be particularly at risk because of the structure of its health system. National treatment guidelines state that for a diagnosis of ADHD, a child must see a specialist, which would be either a pediatrician or a child psychiatrist. The majority of parents and children typically come into contact only with their general practitioners, who are both unauthorized to diagnose a hyperactivity issue and likely ill-prepared to recognize the symptoms. As British parents are unexposed to and less familiar with ADHD, one study showed that parents who may have concerns about their child's behavior seek advice only from education professionals and frequently do so stating that the problem is potentially a learning disorder rather than a mental illness (Sayal, Goodman, & Ford, 2006). Education professionals in the United Kingdom are similar to the general practitioners in that they are likely ill-prepared and undereducated about ADHD and may not direct parents to the appropriate resources.

Although fears abound in the United States of overdiagnosis of ADHD, and those fears are beginning to spread to Australia, it appears that the United Kingdom is understating the case among its children. Indeed, a comparison of the phenomenon of ADHD worldwide states, "There is no convincing difference between the prevalence of this disorder in the USA and most other countries or cultures." Moreover, "the apparent 20-fold difference in the prevalence of hyperactivity reflects differences in the definition of the condition rather than real differences in behavior" (Faroane, Sergeant, Gillberg, & Biederman, 2003, p. 104).

In all three contexts, there are many factors at work that complicate the situation, not the least of which are the social factors. The social constructions of and assumptions about ADHD have grown in the past 2 decades alongside the numbers of children diagnosed. These assumptions and preconceptions can play a large role in the diagnosis of ADHD when those without medical training, such as teachers and parents, allow their preconceptions to affect their involvement in the diagnosing of ADHD. "Notions of what constitutes normal classroom behavior have led to the application of the label ADHD" (Purdie et al., 2002, p. 65).

TREATMENT

There are clearly major differences in how different countries approach the diagnosis of ADHD, so it is not surprising that there are major differences in how it is treated, both medically and behaviorally. Stimulant medications such as methylphenidate, better known by its brand name, Ritalin, and dextroamphetamine are often prescribed as a means of increasing children's ability to focus. Behavioral modification strategies, especially those employed in the classroom, are often recommended in accompaniment to medication, though these appear to be less frequently employed than medication alone. Overall, there is some consensus that treatment should be multimodal, but studies to show the efficacy of this approach are limited and actual treatment practices do not necessarily currently reflect multimodal recommendations.

United States

In the United States today, there is a general impression that an excessive number of children are diagnosed with ADHD and that they are subsequently overmedicated with stimulants that may or may not be necessary to improve their behavior. We have already discussed the veracity of the claim that American children are overdiagnosed with the disorder, and it seems that evidence supports the notion that they may also be overmedicated. A recent meta-analysis of ADHD diagnoses and treatment stated, "Medication is the most commonly reported form of intervention for children with ADHD" (Purdie et al., 2002, p. 66). Although medication is common, the limitations of its effects are also recognized. Medication will not "cure" a child and symptoms will persist, though perhaps to a lesser degree. Complete "normalization" will not be achieved. Medication, also, usually only has short-term effects.

Usage of psychotropic stimulants increased in the United States between 1987 and 1996 from 0.6% to 2.4%. Between 1997 and 2002, the increase was less severe, from 2.7% to 2.9%, or 2.2 million children (Zuvekas, Vitiello, & Norquist, 2006). Although the difficulties in comparing rates of stimulant usage are comparable to the difficulties in comparing prevalence rates, much evidence indicates that stimulant medication prescription in the United States varies greatly from other countries; "methylphenidate is prescribed at a considerably higher rate in the United States than in other developed nations" (Wolraich, 2003, p. 160).

In 2001, the American Academy of Pediatrics published its "Clinical Practice Guideline: Treatment of the School-Aged Child with Attention-Deficit/ Hyperactivity Disorder" in an attempt to provide consistency of treatment. The number two recommendation in that guideline was "The treating clinician, parents, and the child, in collaboration with school personnel, should specify appropriate target outcomes to guide management" (p. 1033). This indicates the significant role schools should play in treating children with ADHD. It seems logical that treatment of ADHD include a strategy for the classroom because children with ADHD often have increased difficulty in school (Kos, Richdale, & Hay, 2006). According to Kos et al. there is a "dearth" of literature both of information for teachers currently in service and a lack of preservice training as well.

Typical behavioral strategies employed by teachers can be categorized as proactive and reactive. Proactive measures include choice-making interventions, peer tutoring, and computer-assisted instruction. Reactive measures are more common and have a greater history of usage in the classroom. These measures include verbal reprimand for distractive behavior, token reinforcement, and self-management interventions (DuPaul & Weyandt, 2006).

Many studies address the need for increased structure in the classroom both in terms of activities and the physical space of the classroom. Multiple sources indicate the desirability of a formal arrangement of desks and space. It is also supposedly more beneficial for students with ADHD to be seated near the front of the class and near the teacher as a means of keeping them on task. Noise levels should be reduced and frequent breaks should be incorporated into the structure of the day. In attempting to attend to students with ADHD in the classroom, teachers need to address all three aspects of ADHD—inattention, impulsivity, and hyperactivity—through the aforementioned techniques to achieve positive results (Purdie et al., 2002).

Australia

As was the case with the definition of the ADHD and the general prevalence rates, the treatment and interventions generally employed for Australian children are very similar to those for American children. There is significant primary reliance on medication with comparable behavioral and classroom interventions as secondary strategies. Rates of medication use are similar to rates in the United States, though the difficulty in establishing reliable bases within studies for comparative purposes is also difficult.

Various studies showed that between 1.8% and 2% of school-age children in Australia used stimulant medication to address symptoms of ADHD between 2000 and 2002. The overall use of stimulants increased by 26% between 1984 and 2000, with an eightfold increase between 1994 and 2000. Relative to other countries,

the Australian rate of stimulant use is "only exceeded by the USA and Canada" (Isaacs, 2006, p. 545).

Also similar to the United States is the theoretical emphasis on multimodal treatment that does not seem to be reflected in the number describing treatment. The National Health and Medical Research (1997) stated, "A multi-modal approach, especially with educational and behavioural supports should be used if available" (p. 41). The high rates of medication usage suggest that multimodal treatment may not, in fact, be employed as frequently as the report suggests it should. "Behavioural intervention was underutilized despite is documented positive role" (Concannon & Tang, 2005, p. 625).

The advice to educators for classroom strategies meant to serve as behavioral interventions is extremely similar to that given to American educators. The NHMRC report discusses areas that should be addressed: maximizing attention and concentration, assisting the child in following instructions, reducing overactivity, countering impulsivity and inflexibility, improving socialization, and more. Each of these areas has specific actions such as physical classroom arrangement, allowing choice, maintaining a fixed routine, and allowing frequent breaks.

In comparison to the claims that U.S. educators have few formal resources and little training in teaching ADHD students, the South Australia Department of Education, Training and Employment has issued classroom behavioral strategies specific to students with ADHD. The strategies include positive reinforcement, negative consequences, emotional support, planned ignoring, and classroom organization. The environmental recommendations included making the classroom "active" and "quiet" (Kos et al., 2006).

United Kingdom

In the United Kingdom, attitudes toward treatment in comparison to the United States and Australia are as dissimilar as attitudes toward diagnosis. Usage of stimulant medications is practiced in the United Kingdom but to a much lesser degree, and other options, such as behavioral interventions, are pursued more vigorously. Modification of classroom practices by teachers appears to be largely the same, though throughout the literature there was more discussion of the degree of the school's role in treatment, as opposed to specific actions that could be taken.

Unlike in the United States and Australia, it was very difficult to find U.K. statistics on the usage of stimulants to treat ADHD. It seems that this may be because the United Kingdom has only recently begun to diagnose more cases of ADHD and there is therefore little history of treatment. Multiple studies indicated that prescriptions of stimulant medication for treatment of ADHD are increasing, consistent with an increase in diagnoses. "Despite its relatively late start compared to North American practice, paediatric psychopharmacology in the UK is now developing apace in terms of both clinical practice and evaluative research"

(Bramble, 2003, p. 176). Indeed, it is possible that the historical attitude toward ADHD and its merit as a disorder have affected the availability of research, as it is easy to see from a simple search of Medline and PsycINFO databases that much more data are available from the United States.

In just one article that was located, there was mention of the rate of stimulant medication usage in U.K. boys in 1999. This article stated that .53% of those studied were being treated with drugs, and it noted that treatment in the United Kingdom using stimulant drugs has been on the rise since the mid-1990s. This is opposed to the United States, where stimulants have been in use since the 1960s, and a study of a similar population to that of the U.K. study showed a 9.3% rate of drug treatment in the United States in 1995, 4 years prior to the U.K. study (Jick, Kaye, & Black, 2004).

Clearly, the acceptance of treatment by medication is less than that of the United States and Australia, and this is further demonstrated through discussions of other means of treatment in the United Kingdom. Although all three countries promote multimodal treatment of ADHD, the United Kingdom seems to be the only one to consistently practice this approach. Even the language of the recommendations for such treatment are more strongly worded; for example, the British Psychological Society (2004) stated, "Medication is sometimes a necessary intervention for ADHD though it is rarely sufficient alone" (p. 15). This is consistent, however, with the British attitude that the disorder is psychosocial in nature and not solely medical.

This attitude has significant implications for educators. By focusing on behavioral approaches, education professions will necessarily play a large role in treating a child with ADHD. In the wording of one study, treating the disorder medically "disempowers" educators by ignoring the potential effect of altering the school environment. Utilizing a "functional approach" that recognizes the child's individual skills and environment factors "puts the power and responsibility for the intervention in the hands of educators" (Reid, Reason, Maag, Prosser, & Xu, 1998). Furthermore, the British attitude toward schooling, regardless of students' capacities, focuses on "environmental determinants of behavior," placing a great responsibility on the educator to ensure that students are engaged (Reason, 1999, p. 90). This attitude presumes that if children do not pay attention, the fault lies with the task of the adult responsible for the task.

In the British system, the responsibility of the educator is heavy and only becomes more so with the introduction of an ADHD student. The recommendations for British educators who exercise such power, however, are generally the same as for American and Australian educators. Techniques to be used include "positive reinforcement, token economies, contingency contracting, response cost, and time out" (Reid et al., 1998). Another source lists areas to address including the physical learning environment, classroom management, self-monitoring skills, and others

(Connor, Epting, Freeland, Halliwell, & Cameron, 1997). With such emphasis placed on the educator and relatively few innovative means of assistance, the implications for British educators can be serious. "Teachers are also more likely to experience a negative impact on their professional self-esteem" (Connor et al., 1997).

CONCLUSION

After this discussion of ADHD—its definition, prevalence, and treatment in three different countries—it is plain to see that this is an issue which still requires a great deal of clarification. As we have seen, the criteria of the definition of ADHD play a large role in addressing all of the features of the illness. Without a clear definition, it will be impossible to achieve consistent or comparable rates of prevalence to establish how pervasive this illness really is. As a result, effective treatment strategies will be impossible to implement.

The discussion of ADHD and it effects on education also make it clear that a more unified and consistent approach is necessary to address the educational needs of these children. The consistency among the three countries studied in terms of classroom strategies, despite different attitudes toward the nature of the disorder, suggests that more work needs to be done to assist educators. A great burden is placed on teachers and other education professionals in dealing with children who show the symptoms of ADHD, and there should be more tactics and help available to those who remain responsible for these children's learning. Simplistic suggestions such as organizing the room formally and using both positive and negative reinforcement seem to be the same strategies already employed by teachers, regardless of inattention, impulsivity, or hyperactivity among students.

The United States and Australia are on a very similar path in terms of diagnosis, prevalence, and treatment of ADHD. The great variance on the part of the United Kingdom in these areas reveals an interesting attitude toward the illness and its constructs. The medical approach versus psychosocial approach debate that envelops ADHD is of course at the root of the variance. It would be beneficial for all countries if the research in this area were not so heavily dominated by the North American medical view. Further research may also reveal social and sociological roots to the debate. Great strides have been made in deciphering this illness, but in many ways, this progress has left many more questions.

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APPENDIX A

DSM-IV-TR CRITERIA FOR ADHD

A. Either (1) or (2)

(1) 6 (or more) of the following symptoms of inattention have persisted for at least 6 months to a degree that is maladaptive and inconsistent with developmental level:

Inattention

- (a) often fails to give close attention to details or makes careless mistakes in schoolwork, work, or other activities
- (b) often has difficulty sustaining attention in tasks or play activities
- (c) often does not seem to listen when spoken to directly
- (d) often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (not due to oppositional behaviour or failure to understand instructions)
- (e) often has difficulty organising tasks and activities
- (f) often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework).
- (g) often loses things necessary for tasks or activities (e.g. toys, school assignments, pencils, books, or tools)
- (h) is often easily distracted by extraneous stimuli
- (i) is often forgetful in daily activities
- (2) 6 (or more) of the following symptoms of hyperactivity-impulsivity have persisted for at least 6 months to a degree that is maladaptive and inconsistent with developmental level

Hyperactivity

- (a) often fidgets with hands or feet or squirms in seat
- (b) often leaves seat in classroom or in other situations in which remaining seated is expected
- (c) often runs about or climbs excessively in situations in which it is inappropriate (in adolescents or adults, may be limited to subjective feelings of restlessness)
- (d) often has difficulty playing or engaging in leisure activities quietly
- (e) is often "on the go" or often acts as if "driven by a motor"
- (f) often talks excessively

Impulsivity

- (g) often blurts out answers before questions have been completed
- (h) often has difficulty awaiting turn
- (i) often interrupts or intrudes on others (e.g. butts into conversations or games)
- B. Some hyperactive-impulsive or inattentive symptoms that caused impairment were present before age 7 years.
- C. Some impairment from the symptoms is present in two or more settings (e.g. at school [or work] and at home).
- D. There must be clear evidence of clinically significant impairment in social, academic, or occupational functioning.
- E. The symptoms do not occur exclusively during the course of a Pervasive Developmental Disorder, Schizophrenia, or other Psychotic Disorder and are not better accounted for by another mental disorder (e.g. Mood Disorder, Anxiety Disorder, Dissociative Disorder, or a Personality Disorder)

314.01 ADHD, Combined Type – if both A1 and A2 for at least 6 months 314.00 ADHD, Predominantly Inattentive Type 314.01 ADHD, Predominantly Hyperactive-Impulsive Type

APPENDIX B

ICD-10 Criteria for Hyperkinetic Disorders (ADHD)

F90 Hyperkinetic disorders

G1 Inattention

At least six of the following symptoms of attention have persisted for at least six months, to a degree that is maladaptive and inconsistent with the developmental level of the child:

- (1) often fails to give close attention to details, or makes careless errors in school work, work or other activities;
- (2) often fails to sustain attention in tasks or play activities;
- (3) often appears not to listen to what is being said to him or her;
- (4) often fails to follow through on instructions or to finish school work, chores, or duties in the workplace (not because of oppositional behaviour or failure to understand instructions);
- (5) is often impaired in organising tasks and activities;
- (6) often avoids or strongly dislikes tasks, such as homework, that require sustained mental effort;
- (7) often loses things necessary for certain tasks and activities, such as school assignments, pencils, books, toys or tools;
- (8) is often easily distracted by external stimuli;
- (9) is often forgetful in the course of daily activities.

G2 Hyperactivity

At least three of the following symptoms of hyperactivity have persisted for at least six months, to a degree that is maladaptive and inconsistent with the developmental level of the child:

- (1) often fidgets with hands or feet or squirms on seat;
- (2) leaves seat in classroom or in other situations in which remaining seated is expected;
- (3) often runs about or climbs excessively in situations in which it is inappropriate (in adolescents or adults, only feelings of restlessness may be present);
- (4) is often unduly noisy in playing or has difficulty in engaging quietly in leisure activities;
- (5) exhibits a persistent pattern of excessive motor activity that is not substantially modified by social context or demands.

G3 Impulsivity

At least one of the following symptoms of impulsivity has persisted for at least six months, to a degree that is maladaptive and inconsistent with the developmental level of the child:

- (1) often blurts out answers before questions have been completed;
- (2) often fails to wait in lines or await turns in games or group situations;
- (3) often interrupts or intrudes on others (eg butts into others' conversations or games);
- (4) often talks excessively without appropriate response to social constraints.

G4 Onset of the disorder is no later than the age of seven years.

G5 Pervasiveness – The criteria should be met for more than a single situation, eg the combination of inattention and hyperactivity should be present both at home and at school, or at both school and another setting where children are observed, such as a clinic. (Evidence for cross-situationality will ordinarily require information from more than one source; parental reports about classroom behaviour, for instance, are unlikely to be sufficient.)

G6 The symptoms in G1 and G3 cause clinically significant distress or impairment in social, academic, or occupational functioning. G7 The disorder does not meet the criteria

for pervasive developmental disorders (F84.-), manic episode (F30.-), depressive episode (F32.-), or anxiety disorders (F41.-).

Comment – Many authorities also recognise conditions that are sub-threshold for hyperkinetic disorder. Children who meet criteria in other ways but do not show abnormalities of hyperactivity/impulsiveness, may be recognised as showing attention deficit; conversely, children who fall short of criteria for attention problems but meet criteria in other respects may be recognised as showing activity disorder. In the same way, children who meet criteria for only one situation (eg only the home or only the classroom) may be regarded as showing a home-specific or classroom-specific disorder. These conditions are not yet included in the main classification because of insufficient empirical predictive validation, and because many children with sub-threshold disorders show other syndromes (such as Oppositional Defiant Disorder, F91.3) and should be classified in the appropriate category.

F90.0 Disturbance of activity and attention

The general criteria for hyperkinetic disorder (F90) must be met, but not those for conduct disorders (F91.–).

F90.1 Hyperkinetic Conduct Disorder

The general criteria for both hyperkinetic disorder (F90) and conduct disorders (F91.–) must be met.

F90.8 Other hyperkinetic disorder

F90.9 Hyperkinetic disorder, unspecified

This residual category is not recommended and should be used only when there is a lack of differentiation between F90.0 and F90.1 but the overall criteria for F90.– are fulfilled.

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