Attention Deficit-Hyperactivity Disorder (ADHD) is described by the American Psychiatric Association (1) as ‘a persistent pattern of inattention and/or hyperactivity-impulsivity that is more frequent and/or severe than is typically observed in individuals at a comparable level of development.’ It should pervade more than one situation, some symptoms should have been present before the age of seven years, and there should be clear evidence of clinically significant impairment of social, academic or occupational functioning. ICD-10 (23) carries a similar description of Hyperactivity Disorders, distinguishing a diagnosis of Hyperkinetic Conduct Disorder where appropriate (23).

The dimensional, heterogeneous and age-dependent nature of ADHD is implicit in these descriptions, as well as doubt over its syndromal validity. For these and other reasons (13), particularly methodological inconsistencies (15), epidemiological studies have shown prevalence rates varying from 1–19% (20), while symptomatic hyperactivity has been reported in over 40% of 7–8 year old children (13). Conduct disorders are commonly comorbid (18), especially in referred samples, such that most children with conduct disorder are hyperactive (13), and to a lesser extent most children with hyperactivity are conduct disordered (16, 17, 21). Hyperactivity is common in Tourette’s syndrome (7) and many learning disability syndromes (14, 19).

Learning difficulties, in particular specific reading difficulties, are common in children with ADHD (2, 12). In a study of seven-year-old Swedish schoolchildren, 1.2% were found to present with a combination of severe pervasive hyperactivity and various motor control and perceptual dysfunction (10). All these children with disorders of attention, motor control and perception (DAMP- a definition adopted by researchers and clinicians in certain countries, although not an official ICD-10 or DSM-IV diagnosis) fulfill criteria for ADHD, although the reverse is not necessarily the case. In addition, Gillberg states that not only do most children diagnosed with Asperger’s syndrome meet criteria for DAMP (9), but children with attention disorders often have mild autistic symptoms (6), and autistic features are present in at least half the cases of severe DAMP (7, 8). This contrasts with previous assertions that, although...
hyperactive behaviour is certainly common in autism, autistic symptoms are rare in children with hyperactivity (14). It has been suggested that DAMP lies on the same disorder spectrum as autism and Asperger’s syndrome (5, 8).

The aim of this study was to estimate the rate of autistic symptoms within a sample of children with ADHD, i.e., a group on the ‘mild’ end of this proposed spectrum. Consideration was given to identifying a sample of autistic children and estimating the rates of hyperactivity, but this would have been likely to yield very high rates of hyperactivity because, as already described, symptomatic hyperactivity is known to be common in autism.

Method

Sample

Subjects were identified from three general child and adolescent psychiatry clinics and one specialist ADHD clinic. The inclusion criterion was that they had received a clinical diagnosis of ADHD. There were interclinic variations in the assessment tools used, but all diagnoses were based upon DSM-IV criteria. Any such children who would meet diagnostic criteria for autistic disorder as well as ADHD would therefore be excluded, as these classifications give a hierarchical precedence to the former diagnosis.

The case notes of all subjects identified were then reviewed by an independent clinician (TC) to validate the diagnosis of ADHD according to DSM-IV criteria, and also to elicit whether criteria for oppositional defiant disorder or conduct disorder were fulfilled. In addition, demographic information was obtained. Those subjects who had case notes from which the diagnosis of ADHD was doubtful or difficult to confirm were subsequently excluded from further participation in the study. The parents of the remaining children were contacted by mail and asked to complete two questionnaires relating to their child’s behaviour. If the child was taking prescribed medication for their difficulties, the parents were asked to give an approximate rating of their child’s symptoms and functioning prior to pharmacological treatment. It was beyond the remit of this study to examine the nature and dosage of medication.

Instruments

The ADHD Rating Scale (Du Paul, 4)

This is a 14-item questionnaire derived directly from the DSM-III-R diagnostic criteria for ADHD. Each item is scored 0 (not at all), 1 (a little), 2 (pretty much), or 3 (very much), giving a minimum score of 0 and a maximum score of 42. It has been standardized in a large community population and demonstrated to be highly reliable with adequate criterion-related validity, good internal consistency and good test-retest and inter-rater reliability (3, 4).

The Autism Criteria Checklist (Howlin, personal communication, 1998)

This is a parental questionnaire currently undergoing standardization, which is intended for use as a screening instrument. The Autism Criteria Checklist follows the behaviours listed under DSM-IV criteria. The wording has been changed somewhat to make it more accessible to parents, and more examples are provided to clarify what actually is meant by the question. It consists of three subscales addressing difficulties in social interaction (4 questions), problems in verbal and nonverbal communication (4 questions) and restricted repertoire of activities and interests (4 questions). There are four options for answering each question - e.g., frequent problem; sometimes a problem; rarely a problem; problem in the past, not a problem now. It generates a score for the answer to each question. As the instrument is still being tested to establish a cut-off score that predicts the presence of pervasive developmental disorders, only the descriptive items were used in this study.

Results

Out of the three ADHD clinics, 78 active cases were identified. In 64 (82.1%) of these cases, the case notes fulfilled DSM-IV criteria for ADHD, leaving 14 (17.9%) in which the diagnosis was doubtful or difficult to confirm. Of these 64, 49 (76.6%) parents returned questionnaires, which compares well with questionnaire surveys. All were answered sufficiently well to be included in the analysis.

The mean age of the sample was 9.5 years (range 5–15 yrs). There were 47 boys (95.9%) and 2 girls (4.1%). Forty-four (89.7%) were white/Caucasian and the remaining 5 (10.2%) were black/Afro-Caribbean. In 3 (6.1%) cases, ADHD symptoms were described in the notes as more common at school than at home, and in the remaining 46 (93.9%), symptoms were reported equally at home and at school. As well as fulfilling criteria for ADHD, 31 (63.6%) of the subjects also had case notes which fulfilled DSM-IV criteria for either oppositional defiant disorder or conduct disorder.