

The role of teachers in the assessment of children suspected of having AD/HD

Gill Salmon and Amanda Kirby

In the light of recent guidance published by The National Institute for Health and Clinical Excellence (NICE) on the diagnosis and management of attention deficit disorders in children, young persons and adults, Gill Salmon, a consultant Child and Adolescent Psychiatrist based in Swansea, South Wales, and Amanda Kirby, Professor of Developmental Disorders in Education based at the University of Wales, Newport, give an overview of the rationale for involving teachers in the assessment of children with AD/HD and the development and implementation of subsequent educational interventions. They also review the resulting training implications; explore some of the obstacles to multi-agency, multi-disciplinary working; and examine how current special educational needs policy goes hand-in-hand with the tiered approach to provision of child and adolescent mental health services in offering a graduated response to these children.

Key words: attention deficit disorders, teachers, assessment, intervention.

Background

The need for multi-disciplinary, multi-agency input into the diagnosis and management of neurodevelopmental disorders such as attention deficit hyperactivity disorder (AD/HD) is clear and is in line with the current emphasis on the importance of partnership working (Audit Commission, 1999; DfE, 1994; DfES/DoH, 2002; DoH, 1997; DoH/DfES, 2004; HAS, 1995; House of Commons Health Select Committee, 1997; WAG, 2002, 2004).

The Special Educational Needs Code of Practice (DfES, 2001a; WAG, 2002) highlights the importance of agencies working in partnership with each other and suggests that partnership working should be based on a number of principles which include:

- early identification;
- continual engagement with the child and parent;
- focused intervention;
- dissemination of effective approaches and techniques;
- integrated high quality, holistic support focused on the needs of the child;
- a flexible, child-centred approach to service delivery. (DfES, 2001a, p. 135; WAG, 2002, p. 134)

The need for effective information sharing and communication between agencies at both management and practitioner level is also emphasised. This is particularly relevant in the assessment and subsequent management of children with AD/HD. *Removing Barriers to Achievement: the Government's strategy for SEN* (DfES, 2004) also specifically highlights the importance of partnership working to improve outcomes for children and young people with special educational needs.

The principles for multi-agency working in relation to children suspected of having AD/HD have been outlined by a working party of the British Psychological Society (2000). It advises that the diagnosis of AD/HD should be made on the basis of a holistic assessment, which is unlikely to be made by a single clinician or in a single consultation, and may include assessment information from a number of different professionals. This approach is important because of the high rate of co-morbid or co-occurring disorders in children with AD/HD. For example, according to Kaplan, Dewey, Crawford and Wilson (2001), if a child meets criteria for AD/HD, they have an 80% chance of having at least one other disorder. These additional difficulties might include one or more of the following: oppositional defiant disorder; conduct disorder; anxiety and mood disorders; Tourette's syndrome; specific learning or communication disorders and/or problems with peer relations and co-ordination (Beiderman, Newcorn & Sprich, 1991). Therefore a thorough multi-disciplinary assessment, including writing, reading and language skills, is essential in order to enable each individual child's particular pattern of difficulties to be examined so that an appropriate treatment programme can be devised (Philbrick, Tymms & Woodcock, 2004).

The National Institute for Clinical Excellence (NICE) recently commissioned the National Collaborating Centre for Mental Health to produce guidelines on the diagnosis and management of AD/HD in children, young persons and adults. This states:

'The complexity of (AD/HD) assessment requires cooperation among a number of professionals employed by different agencies and using a wide variety of techniques – in other words, a multi-modal, multi-professional and multi-agency approach'. (NICE, 2008, p. 24)

The importance of teachers in the assessment and management of children with AD/HD is clearly emphasised

throughout the guidance. In this article we discuss the rationale for involving teachers in the assessment and provision of educational interventions for children with AD/HD and the resulting training implications. Some of the obstacles to multi-agency working are explored. We also look at how current special educational needs policy goes hand in hand with the tiered approach to provision of child and adolescent mental health services in offering a graduated response to these children.

The role of schools in the assessment of AD/HD

Schools play an important part in the early identification of children with AD/HD. For example, it is known that teachers exert an influence on parental decisions to seek mental health consultations for their children in the first place (Lurie, 1974). Specifically where the parental concerns involve their child's behaviour, for school-aged children, at least half of their parents will have consulted their child's teacher *before* approaching their General Practitioner (GP) (Bailey & Garralda, 1989; Wolpert & Fredman, 1994). Ford, Hamilton, Goodman and Meltzer (2005) followed up a third of children who participated in the 1999 British Child and Adolescent Mental Health Survey over three years and asked parents for information regarding service contacts for emotional, behavioural and concentration difficulties. They reported that contact with the teacher was common if the child had a psychiatric disorder and usually took the form of face to face discussion about the difficulties or telephone conversations. Teachers were also seen as a source of advice or reassurance about mental health issues and, in some cases, actually alerted parents to the child's difficulties. Although many of the parents of children who fulfilled diagnostic criteria for AD/HD in the 1999 British Child and Adolescent Mental Health Survey had not presented to primary care, in contrast most had discussed concerns about their child's behaviour with the school teacher (Sayal, Hornsey, Warren, MacDiarmid & Taylor, 2006). Sayal, Taylor, Beecham and Byrne (2002) and Sayal, Goodman and Ford (2007) also found that while the main predictor of primary care attendance was parental perception of the child's behaviour as problematic and its perceived burden, the GP's subsequent non-recognition of the difficulties was the main barrier to a child with AD/HD accessing specialist care. Sax and Kautz (2003) surveyed physicians in Washington DC, USA and found that teachers (46.4%) were the most likely to make the first suggestion of a diagnosis of AD/HD, followed by parents (30.2%), primary care physicians (11.3%), school personnel other than teachers (6.0%), consultants such as child psychiatrists or psychologists (3.1%) and others (3.0%). The diagnosis of AD/HD was thus first suggested by a teacher or other school employee in about one-half of children subsequently diagnosed. A comparison of GP versus teacher knowledge of AD/HD and other developmental disorders in the UK also showed that knowledge was greater among teachers than GPs (Kirby, Davies & Bryant, 2005). These findings strongly support the development of referral pathways for children suspected of having AD/HD that involve teachers in screening processes.

Training teachers

From the moment children enter the school system, teachers are in a good position not only to identify those who stand out as a result of impairments in concentration, impulsivity and hyperactivity, but also associated neurodevelopmental or learning difficulties such as reading or writing problems, and to bring these concerns to the attention of parents. Teachers have a comparative group of children of the same age from similar backgrounds, and will have been exposed to large numbers of children throughout their careers, both with and without difficulties. Therefore they should be able to recognise children who present behaviours outside of that normally expected for their age. Scitutto, Terjesen and Frank (2000), in a study of teachers in the USA, found that having a number of years of teaching experience correlated positively with the correct identification of children with AD/HD, as did having previous exposure to a child with AD/HD. Experienced teachers in Canada were similarly found to be just as knowledgeable about AD/HD as newly qualified teachers who had received specific teaching about AD/HD during their training (Jerome, Washington, Laine & Segal, 1999). Bussing, Gary, Leon and Wilson Garvan (2002) examined three sources of teachers' AD/HD information: exposure to students with AD/HD, self-study and formal AD/HD training. Almost all (93%) of the 365 primary school teachers randomly selected to take part in the survey had taught at least one student diagnosed with AD/HD in the last two years. In addition, nearly all had read at least one article and around 60% had read a book about AD/HD. Higher rates of exposure to students with AD/HD were related to higher levels of self-study. This implies that teachers seek out their own sources of advice and training to help them manage the students they have to teach. Around half of the teachers had been taught about AD/HD during their teacher training and 65% had received some postgraduate training. Ninety-four percent wanted more training on the subject.

Sayal et al. (2006) examined the impact of training teachers in Croydon, UK, about AD/HD, to see if it improved their recognition of children at risk of the disorder. The intervention took the form of a 45-minute educational session for teachers about AD/HD. This was delivered by a child and adolescent psychiatrist and a research worker in an interactive fashion, combining video clips with hand-outs and presented material. Areas covered included a description of AD/HD; how it presents at school and at home; long-term outcomes; diagnostic challenges including differential diagnosis and co-morbidity; and finally, medical, behavioural and classroom management. Results showed that following the intervention, there was an increase in the proportion of children regarded by teachers as having probable AD/HD and improved agreement between teacher recognition and a diagnostic algorithm. Barbaresi and Olsen (1998) found that in-service training by paediatricians of teachers in the USA improved teachers' knowledge levels about AD/HD and decreased teacher stress associated with managing children with AD/HD. The training offered was similar in composition to that in Sayal

et al.'s (2006) study. However, it also included an age-appropriate case study and provided an opportunity for discussion of classroom interventions, and lasted 2.5 hours. It was hypothesised that the decrease in teacher stress post-intervention was a result of teachers' attitudes towards children with AD/HD becoming less negative as their misconceptions about the aetiology of the disorder were addressed. For example, before the training, 41% of teachers thought that AD/HD could be caused by poor parenting, compared with only 7% afterwards.

Ford (1996) suggests that there is a difference between teachers in the USA and the UK in their stance towards behaviour problems and educational difficulties, which may contribute to the higher rates of diagnosis of AD/HD in the USA compared with the UK. He hypothesises that teachers in the USA are more likely to consider such problems as amenable to assessment and treatment from doctors, compared with teachers in the UK who often regard them as a matter to be dealt with within the classroom by the teachers themselves and a direct result of the child's familial, social or educational context.

Assessment and diagnosis

As there is no one definitive test for AD/HD, assessment and diagnosis of the disorder necessitates the collection of evidence from different sources to determine whether or not the symptoms are pervasive and seen in a number of different settings (usually home and school). For example, the American Academy of Child and Adolescent Psychiatry recommends, in its practice parameter for the assessment and treatment of children and adolescents with AD/HD (2007), that the clinician should obtain parental permission to contact the child's school for completion of standardised behaviour questionnaires and other information relating to how the child is functioning in school. This represents a significant change in practice over the past 15 years or so, as evidenced by the findings of Jerome, Gordon and Hustler (1994), who reported that 86% of teachers had no contact with clinicians involved in the diagnosis and treatment of children with AD/HD. One reason for this is that diagnostic criteria for AD/HD have changed with the *Diagnostic and Statistical Manual of Mental Disorders* (fourth edition) (DSM-IV) (APA, 1994) replacing DSM-III-R (APA, 1987). DSM-IV added the requirement that the child's impairments needed to be evident in more than one setting, thus emphasising the need for information from multiple sources which usually include home and school. Wolraich, Lambert, Bickman, Simmons, Doffing and Worley (2004), however, report low rates of agreement between parent and teacher reports of AD/HD according to DSM-IV based questionnaires, thus reducing diagnostic rates for all three subtypes of AD/HD in their sample, when the two-setting requirement was strictly enforced. It is unsure at present how frequently or consistently multiple source information is used in the UK as standard practice. In a survey comparing psychiatric and paediatric practices in the assessment of children with AD/HD in Wales, however, the majority of clinicians reported using a multi-modal approach to assessment,

combining the use of clinical interview and observation with collection of information from various sources by questionnaire as well as by telephone call or correspondence (Salmon & Kemp, 2002).

The teacher can contribute to the assessment process by supplying information to the assessing clinician (usually a child and adolescent psychiatrist or a paediatrician with a special interest in AD/HD) on a number of areas, including the child's behaviour, relationships, attitude to learning, motor skills, speech and language and any specific learning difficulties. They can also provide information regarding the additional support currently given to help the child with his/her difficulties and the child's Individual Education Plan (IEP) and, where present, Statement of special educational needs (Philbrick et al., 2004). Teachers are also routinely asked to complete standardised behaviour rating scales to assist the clinician in his/her assessment. These include the Strengths and Difficulties Questionnaire (SDQ) (Goodman, 1997), a broad band instrument that evaluates general behaviour and social functioning, as well as scales that are specific to AD/HD symptomatology, such as Conners' rating scales (Conners, 1997). Such scales are useful in that they allow the child's behaviours to be compared with population norms for age and gender. When using the SDQ, teachers have been found to be more sensitive at identifying children with hyperactivity than their parents (Goodman, Ford, Simmons, Gatward & Meltzer, 2000). Where teachers suspect that a child's difficulties might be secondary to AD/HD, they could, for example, complete the SDQ online (www.youthinmind.co.uk/sdqonline/Teacher/StartTeacher.php) before having a discussion with parents to agree on a management plan in the classroom and at what point further assessment should be sought.

Sometimes the clinician may need to supplement information provided by the school by arranging a period of direct observation of the child in the classroom and in playground settings. The parental account of the child's presentation at home, along with a detailed developmental history, is also a crucial part of the assessment process. Teachers are also key partners in providing objective feedback to clinicians on the effects of stimulant medications when provided as a treatment for AD/HD, both during the initial period when it is first prescribed as well as part of the ongoing monitoring process.

Difficulties associated with multi-agency AD/HD assessments

One of the pitfalls of multi-disciplinary, multi-agency AD/HD assessments, however, is pointed out by Sloan, Jensen and Kettle (1999), who comment that in situations where a child is assessed both medically and educationally, these assessments may have different goals and utilise different criteria. Doctors tend to use internationally agreed criteria to confirm or rule out specific diagnoses around which to plan treatment. Educationalists focus less on labelling the problems and more on providing an educational plan. They suggest that if these two elements could be integrated then this would be likely to result in more comprehensive provision of care. Keen, Olurin-Lynch and Venables (1997) outline other difficulties that can occur when profes-

sionals from health and education work together, including professionals who have evolved from separate institutional bases, each with different roles and relationships to individuals and differences of opinion about labelling and misunderstandings about the implications of the diagnosis of AD/HD. Different terminology is also used in health and education. In an attempt to address some of these difficulties, the Department of Health and Department for Education and Skills are working towards services using a common assessment framework, which should lead to the development of a common language among professionals when they respond to the needs of children with special educational needs and their families (DfES, 2004).

Differing views between health and education professionals on the aetiology and meaning of disruptive behaviour (a common outward manifestation of AD/HD in the classroom) can lead to opposing ways of managing it. For example, an Australian study of the use of exclusion as an intervention suggests that the behaviour of disruptive pupils should be viewed not only in terms of the impact it has on others, but also in terms of the extent to which it may be evidence of a disabling or handicapping condition such as AD/HD (Bain & Macpherson, 1990). Bain and Macpherson argue that it is possible that a significant number of pupils who are excluded either for a fixed term or permanently may in fact have undiagnosed and untreated AD/HD. Such children may find themselves being schooled outside of mainstream provision because of their behaviours being too difficult to manage. Tannock (1998) reported that approximately 25% of pupils with AD/HD are excluded from secondary school because of serious misconduct and about 80% are below average in at least one academic subject. Place, Wilson, Martin and Hulsmeier (2000) examined the prevalence rates of a number of psychiatric disorders including AD/HD within a primary school for emotionally and behaviourally disturbed children (aged between six and 13 years, all with a Statement of special educational needs), and found 70% fulfilled diagnostic criteria for AD/HD, although many were not being appropriately treated.

Interventions in schools

For those children who are identified as having problems with attention, impulsivity or hyperactivity, it should be possible for appropriate interventions to be put in place in the classroom and for further assessments to be arranged for children who require them (Philbrick et al., 2004). Awareness raising and whole-school training about the needs of children with AD/HD should be offered to all staff, including teaching assistants and lunch supervisors as well as teachers. Attention needs to be paid to classroom management, behaviour management, lesson organisation and the physical arrangement of the classroom. However, this training should not only be limited to AD/HD but should include an overall awareness of co-occurring conditions which also impact on educational outcomes, such as dyslexia, autistic spectrum disorders and developmental co-ordination disorder. Educational psychology and behaviour support services provided by the local education authority could provide additional assessment,

monitoring and advice regarding appropriate strategies where necessary (Philbrick et al., 2004).

DuPaul and Eckert (1997) and Purdie, Hattie and Carroll (2002) have conducted meta-analyses of studies of school-based interventions for children and adolescents with AD/HD. Both found that educational interventions were at least as effective as contingency management (that is, giving points or tokens as rewards to be exchanged for a chosen activity or treat at a later time and taking away points or tokens if the child misbehaves) in improving AD/HD-related behaviours, and to a much lesser extent in improving academic performance, but were not as effective as stimulant medication. Similar results were found by Tymms and Merrell (2006), who concluded that such interventions provided in the first two years of schooling are cost-effective and could be used beneficially on a large scale. However, they expressed the view that whole-school screening for AD/HD in schools with feedback into the educational system could not be recommended. The interventions studied consisted primarily of classroom academic management or the arrangement of the classroom environment; for example, reducing the noise level; seating the child with AD/HD at the front or in a place that is relatively free from distractions, and where the teacher can easily intervene if the child needs to be brought back to task; giving brief and clear instructions; breaking down tasks into small achievable steps; avoiding repetitive tasks; providing frequent breaks between learning tasks; and giving frequent positive feedback. Further information on the effectiveness of school-based interventions is provided by Pfiffner, Barkley and DuPaul (2006).

Additional guidance has been published by the Department for Education and Skills, entitled *Promoting Children's Mental Health within Early Years and School Settings* (DfES, 2001b). This provides definitions and examples of mental health problems for teachers and suggests interventions to support individual children experiencing difficulties that can be administered within primary and secondary schools. It includes specific information on AD/HD on p. 27.

Relevant policy for children with special educational needs

The Special Educational Needs Code of Practice (DfES, 2001a; WAG, 2002) and Special Educational Needs and Disability Act 2001 (SENDA) outline a number of statutory responsibilities for local education authorities in relation to identification, assessment and provision for children with special educational needs. Local education authorities have to develop and review their policy and practice in line with current research and legislation to support *all* children with learning difficulties. They must support schools to develop a range of responses to meet the needs of these children, and assist schools in developing their practice by providing a range of continuing professional development opportunities for staff.

Individual schools and their governors have a responsibility to produce a special educational needs policy that should enable the school to develop processes to identify children who might have AD/HD and to monitor them in the class-

room. The SENCo is well placed to offer support and guidance to class teachers when making assessments of children and considering how best to respond to their needs. An IEP may need to be drawn up for some children in accordance with the Special Educational Needs Code of Practice (DfES, 2001a; WAG, 2002). Teaching tasks, materials and approaches may need to be differentiated in order to allow particular children to access the curriculum. Moves between schools pose additional challenges and highlight the importance of information sharing to ensure that children's needs continue to be met.

On the subject of the referral process for children with AD/HD, Sloan et al. (1999, p. 25) state:

'As children pass through each service stage, the filtering process for all intents and purposes sorts children according to the nature of their problems and characteristics of the environment. Accordingly, all children are being continuously screened through an initial filtering process during the pre-service phase until some are brought to professional attention. An ideal service filter should efficiently "funnel" or direct the child to appropriate and comprehensive services. The severity of the disorder, co-morbidity, aggression level and the absence of hyperactivity are all pertinent variables involving the nature of the child's problems'.

This description fits both with the graduated response used by schools to help children who have special educational needs (WAG, 2002; DfES, 2001a) and with the tiered model of provision in CAMHS (HAS, 1995). The graduated response approach recognises that there is a continuum of special educational needs and ensures that full use is made of all available classroom and school resources before bringing specialist expertise to bear on the difficulties that a child may be experiencing (WAG, 2002; DfES, 2001a).

NICE (2008) recommends a stepped care model for the management of school-aged children and young people with suspected AD/HD, which draws upon the four-tier model for CAMHS. In this, each tier represents a distinct level of service, from direct contact services through to highly specialised interventions (HAS, 1995). This document recognises that models of service provision vary widely across the UK and recommends that multi-disciplinary, multi-agency care pathways should be drawn up at local level, depending on local resources and skills. Salmon et al. (2006) describe an example of a referral pathway that has been operating in one local authority area in South Wales and the way that it relates to the Special Educational Needs Code of Practice (DfES, 2001a; WAG, 2002). In this pathway, the parent is directed to discuss their concerns with a Tier 1 professional, in this case a teacher. Initial management at school is at the 'School Action Level' with the class teacher drawing upon the SENCo for advice and help to formulate an IEP for the child. Parents might also draw upon community parenting support at this point if it exists in their locality. If the child continues to have difficulties despite these interventions, further advice on appropriate interventions and/or assessment may be sought

through a referral to an educational psychologist or behaviour support teacher (i.e. a Tier 2 professional). The child is now moving on to the 'School Action Plus' phase of the Special Educational Needs Code of Practice (DfES, 2001a; WAG, 2002). A referral might also be made at this point to the community paediatrician (also a Tier 2 professional) for an initial medical examination and screening assessment for AD/HD, which would include the use of parent and teacher questionnaires as previously described. Where concerns about the child are ongoing at the IEP review, and if paediatric screening for AD/HD suggests that this might be a possible explanation for the child's difficulties, then a referral to specialist CAMHS, to the Tier 3 AD/HD assessment clinic, can be made. Occasionally, where a child's presentation is diagnostically complex, or where standard pharmacological interventions are unsuccessful, then a referral to a specialist regional or national centre (at Tier 4) will be necessary.

Conclusions

An increasing number of multi-professional referral/care pathways for AD/HD have now been described in the literature incorporating contributions from some/all of the fields of education, community paediatrics, child and adolescent mental health services, social services, parent partnerships and general practice (see, for example, Burgess, 2002; Keen, Olurin-Lynch & Venables, 1997; Philbrick et al., 2004; Salmon, Cleave & Samuel, 2006). A driving force behind a number of these developments has been concerns about variations in practice between clinicians. A graduated approach to the assessment and treatment of AD/HD is in keeping with the Special Educational Needs Code of Practice (WAG, 2002; DfES, 2001a) and the tiered approach to CAMHS service provision, and is recommended by NICE (2008). The importance of the role of teachers in the assessment of children suspected of having AD/HD and their subsequent management is being increasingly recognised (see Table 1 for NICE recommendations with specific relevance to schools). It is also important to remember that children with AD/HD frequently have co-existing learning difficulties (Cantwell & Scatterfield, 1978; Lambert & Sandoval, 1980). Szatmari, Offord and Boyle (1989) report that approximately one-third of children diagnosed with AD/HD also have specific problems in spelling, reading and mathematics unaccounted for by low intelligence and resulting in academic underachievement (Barkley, 1990) which is likely to be secondary to inattention (Wolraich, Lambert, Baumgaertel, Garci-Tornel, Feurer, Bickman & Doffing, 2003).

The teacher and school are in the ideal position to gather an overall picture of the child's educational, emotional and behavioural profile. If this is not done, then children have a greater risk of ending up either seeing the wrong professionals or going from service to service, rather than receiving a joined-up approach. There is a need for inter-professional training and for improved links between educational psychology, SENCos, allied health professionals and CAMHS, so that local practical models of joint working can be developed.

Table 1: Summary of NICE recommendations with specific relevance to schools

- Consideration should be given to enhancing the education of trainee teachers about AD/HD.
- The school SENCo should assess children with disordered conduct and possible AD/HD and contact their parents to consider the referral to a local parent training programme.
- For a diagnosis of AD/HD to be made, the level of impairment resulting from symptoms of hyperactivity and inattention should be at least moderately significant and occur in all important settings, including home and school.
- Following the diagnosis of a child with AD/HD, healthcare professionals should, with parents' or carers' consent, contact the child's school and offer advice to include diagnosis, a multi-modal treatment plan, and recommendations for classroom management. They should ensure that written materials about characteristics and basic behavioural management are available.
- Teachers who have received some training about AD/HD and its management should provide behavioural interventions within the classroom to help children with AD/HD.
- Universal screening for AD/HD in primary and secondary educational settings should not be undertaken.

References

- American Academy of Child and Adolescent Psychiatry (2007) 'Practice parameter for the assessment and treatment of children and adolescents with attention-deficit/hyperactivity disorder', *Journal of the American Academy of Child and Adolescent Psychiatry*, 46, 894–921.
- APA (American Psychiatric Association) (1987) *Diagnostic and Statistical Manual of Mental Disorders* (third revised edition). Washington DC: American Psychiatric Association.
- APA (American Psychiatric Association) (1994) *Diagnostic and Statistical Manual of Mental Disorders* (fourth edition). Washington DC: American Psychiatric Association.
- Audit Commission (1999) *Children in Mind – a report on Child and Adolescent Mental Health Services*. London: Audit Commission.
- Bailey, D. & Garralda, M. E. (1989) 'Referral to child psychiatry: parent and doctor motives and expectations', *Journal of Child Psychology and Psychiatry*, 33, 449–458.
- Bain, A. & Macpherson, A. (1990) 'An examination of the system-wide use of exclusion with disruptive pupils', *Australian and New Zealand Journal of Developmental Disabilities*, 16, 109–123.
- Barbatesi, W. & Olsen, R. (1998) 'An ADHD educational intervention for elementary schoolteachers: a pilot study', *Developmental and Behavioural Pediatrics*, 19, 94–100.
- Barkley, R. A. (1990) *Attention Deficit Hyperactivity Disorder: a handbook for diagnosis and treatment*. New York: Guilford Press.
- Beiderman, J., Newcorn, J. & Sprich, S. (1991) 'Co-morbidity of attention deficit hyperactivity disorder with conduct, depressive, anxiety and other disorders', *American Journal of Psychiatry*, 148, 564–577.
- British Psychological Society (2000) *Attention Deficit/Hyperactivity Disorder (AD/HD): guidelines and principles for successful multidisciplinary team-agency working*. London: British Psychological Society.
- Burgess, I. (2002) 'Service innovations: attention-deficit hyperactivity disorder – development of a multi-professional integrated care pathway', *Psychiatric Bulletin*, 26, 148–151.
- Bussing, R., Gary, F. A., Leon, C. E. & Wilson Garvan, C. (2002) 'General classroom teachers' information and perceptions of attention deficit hyperactivity disorder', *Behavioural Disorders*, 27, 327–339.
- Cantwell, D. & Scatterfield, J. (1978) 'The prevalence of academic underachievement in hyperactive children', *Journal of Paediatric Psychology*, 3, 163–171.
- Conners, C. K. (1997) *Conners Rating Scales-Revised (CRS-R)*. North Tonawanda, NY: Multi-Health Systems.
- DfE (Department for Education) (1994) *Code of Practice on the Identification and Assessment of Special Education Needs*. London: HMSO.
- DfES (Department for Education and Skills) (2001a) *Special Educational Needs Code of Practice*. Nottingham: DfES Publications.
- DfES (Department for Education and Skills) (2001b) *Promoting Children's Mental Health Within Early Years and School Settings*. London: HMSO.
- DfES/DoH (Department for Education and Skills/ Department of Health) (2002) *Autistic Spectrum Disorders Good Practice Guidance*. Nottingham: DfES Publications.
- DfES (Department for Education and Skills) (2004) *Removing Barriers to Achievement: the Government's strategy for SEN*. Nottingham: DfES Publications.
- DoH/DfES (Department for Health/Department for Education and Skills) (2004) *National Service Framework for Children, Young People and Maternity Services, Executive Summary*. London: DH Publications.
- DoH (Department of Health) (1997) *NHS Planning and Priorities Guidance 1997/98*. London: HMSO.
- DuPaul, G. J. & Eckert, T. L. (1997) 'The effects of school-based interventions for attention-deficit hyperactivity disorder: a meta-analysis', *School Psychology Review*, 26, 5–27.

- Ford, I. (1996) *Socio-educational and Biomedical Models in the Treatment of Attention Deficit/Hyperactivity Disorder and Related Neurobehavioural Disorders in Childhood and Adolescence, and Their Implications for Adult Mental Health* [online at <http://www.priory.com/psych/iford.htm>].
- Ford, T., Hamilton, H., Goodman, G. & Meltzer, H. (2005) 'Service contacts among the children participating in the British Child and Adolescent Mental Health Surveys', *Child and Adolescent Mental Health*, 10, 2–9.
- Goodman, R. (1997) 'The Strengths and Difficulties Questionnaire: a research note', *Journal of Child Psychology and Psychiatry*, 38, 581–586.
- Goodman, R., Ford, T., Simmons, H., Gatward, R. & Meltzer, H. (2000) 'Using the Strengths and Difficulties Questionnaire (SDQ) to screen for psychiatric disorders in a community sample', *British Journal of Psychiatry*, 177, 534–539.
- HAS (Health Advisory Service) (1995) *Thematic Review. Together we stand. The commissioning, role and management of Child and Adolescent Mental Health Services*. London: HMSO.
- House of Commons Health Select Committee (1997) *Report on Child and Adolescent Mental Health Services (CAMHS)*. HC26-1 1997. London: HMSO.
- Jerome, L., Gordon, M. & Hustler, P. (1994) 'A comparison of American and Canadian teachers' knowledge and attitudes towards attention-deficit/hyperactivity disorder (ADHD)', *Canadian Journal of Psychiatry*, 39, 563–567.
- Jerome, L., Washington, P., Laine, C. J. & Segal, A. (1999) 'Is teachers' knowledge regarding Attention Deficit Hyperactivity Disorder (ADHD) improving?' [online at <http://priory.com/psych/adhdteach.htm>].
- Kaplan, B. J., Dewey, D. M., Crawford, S. G. & Wilson, B. N. (2001) 'The term "co-morbidity" is of questionable value in reference to developmental disorders: data and theory', *Journal of Learning Disabilities*, 34, 555–565.
- Keen, D. V., Olurin-Lynch, J. & Venables, K. (1997) 'Getting it all together: developing a forum for a multi-agency approach to assessing and treating ADHD', *Educational and Child Psychology*, 14, 82–90.
- Kirby, A., Davies, R. & Bryant, A. (2005) 'Do teachers know more about specific learning difficulties than General Practitioners?' *British Journal of Special Education*, 32, 122–126.
- Lambert, N. & Sandoval, J. (1980) 'The prevalence of learning disabilities in a sample of children considered hyperactive', *Journal of Abnormal Child Psychology*, 8, 33–50.
- Lurie, O. R. (1974) 'Parents' attitudes towards children's problems and toward the use of mental health services: socioeconomic differences', *American Journal of Orthopsychiatry*, 44, 109–120.
- NICE (National Institute for Health and Clinical Excellence) (2008) *Attention Deficit Hyperactivity Disorder: diagnosis and management of ADHD in children, young people and adults*. Clinical guideline 72. National Institute for Health and Clinical Excellence.
- Pfiffner, L. J., Barkley, R. A. & DuPaul, G. J. (2006) 'Treatment of ADHD in school settings', in R. A. Barkley (ed.) *Attention-Deficit Hyperactivity Disorder: a handbook for diagnosis and treatment* (third edition). New York: Guilford Press.
- Philbrick, D., Tymms, P. & Woodcock, S. (eds) (2004) *A Multi-Agency Approach to Difficulties Associated with Attention, Hyperactivity and Impulsiveness: framework and guidance 2004*. Durham: Durham County Council, NHS, CEM Centre.
- Place, M., Wilson J., Martin E. & Hulsmeier J. (2000) 'The frequency of emotional and behavioural disturbance in an EBD school', *Child Psychology and Psychiatry Review*, 5, 76–80.
- Purdie, N., Hattie, J. & Carroll, A. (2002) 'A review of the research on interventions for Attention Deficit Hyperactivity Disorder: what works best?' *Review of Educational Research*, 72, 61–99.
- Salmon, G., Cleave, H. & Samuel, C. (2006) 'Development of multi-agency referral pathways for ADHD, DCD and ASD: reflections on the process and suggestions for new ways of working', *Clinical Child Psychology and Psychiatry*, 11, 63–81.
- Salmon, G. & Kemp, A. (2002) 'ADHD: a survey of psychiatric and paediatric practice', *Child and Adolescent Mental Health*, 7, 73–78.
- Sax, L. & Kautz, J. (2003) 'Who first suggests the diagnosis of Attention-Deficit/Hyperactivity Disorder?' *Annals of Family Medicine*, 1, 171–174.
- Sayal, K., Goodman, R. & Ford, T. (2007) 'Barriers to the identification of children with attention deficit/hyperactivity disorder', *Journal of Child Psychology and Psychiatry*, 47, 744–750.
- Sayal, K., Hornsey, H., Warren, S., MacDiarmid, F. & Taylor, E. (2006) 'Identification of children at risk of Attention Deficit/Hyperactivity Disorder – a school based intervention', *Social Psychiatry and Psychiatric Epidemiology*, 41, 806–813.
- Sayal, K., Taylor, E., Beecham, J. & Byrne, P. (2002) 'Pathways to care in children at risk of attention-deficit hyperactivity disorder', *British Journal of Psychiatry*, 181, 43–48.
- Sciutto, M. J., Terjesen, M. D. & Frank, A. S. B. (2000) 'Teachers' knowledge and misconceptions of attention-deficit/hyperactivity disorder' *Psychology in the Schools*, 37, 36–44.
- Sloan, M. T., Jensen, P. & Kettle, L. (1999) 'Assessing the services for children with ADHD: gaps and opportunities', *Journal of Attention Disorders*, 3, 13–29.
- Szatmari, P., Offord, D. R. & Boyle, M. H. (1989) 'Correlates, associated impairments and patterns of service utilization of children with attention deficit hyper activity disorders: findings from the Ontario child health study', *Journal of Child Psychology and Psychiatry*, 30, 205–217.

Tannock, R. (1998) 'Attention deficit hyperactivity disorder: advances in cognitive, neurobiological and genetic research', *Journal of Child Psychology and Psychiatry*, 39, 65–69.

Tymms, P. & Merrell, C. (2006) 'The impact of screening and advice on inattentive, hyperactive and impulsive children', *European Journal of Special Needs Education*, 21, 321–337.

WAG (Welsh Assembly Government) (2002) *Special Educational Needs Code of Practice for Wales*. Cardiff: WAG.

WAG (Welsh Assembly Government) (2004) *Chapter 4 – Children and Young People with Mental Health Problems – of the National Service Framework for Children, Young People and Maternity Services in Wales*. Consultation document. Cardiff: WAG.

Wolpert, M. & Fredman, G. (1994) 'Modelling the referral pathway to mental health services for children', *ACPP Review and Newsletter*, 16, 283–288.

Wolraich, M., Lambert, E. W., Baumgaertel, A., Garcı-Tornel, S., Feurer, I., Bickman, I. & Doffing, M. (2003) 'Teachers' screening for attention deficit/

hyperactivity disorder: comparing multinational samples on teacher ratings of ADHD', *Journal of Abnormal Child Psychology*, 31, 445–455.

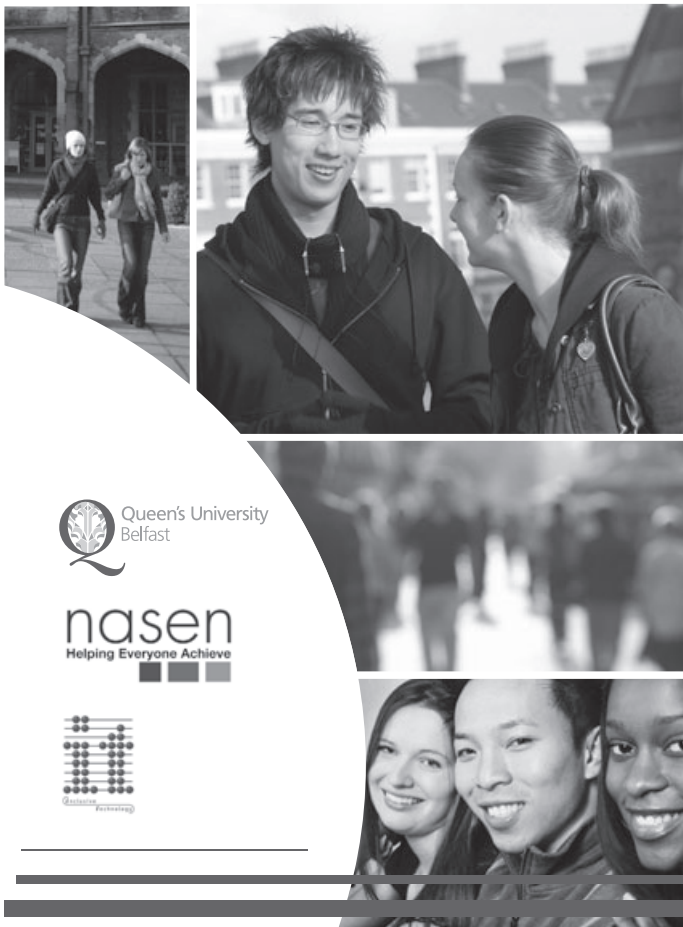
Wolraich, M., Lambert, E. W., Bickman, L., Simmons, T., Doffing, M. & Worley, K. (2004) 'Assessing the impact of parent and teacher agreement on diagnosing attention-deficit hyperactivity disorder', *Developmental and Behavioral Pediatrics*, 25, 41–47.

Address for correspondence:

Gill Salmon
Trehafod Child and Family Clinic
Waunarwydd Road
Cockett
Swansea SA2 0GB
Email: salmogm@doctors.org.uk

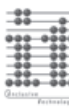


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