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DEBATE

Attention-deficit/hyperactivity disorder: Are we medicating for social disadvantage? (For)

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Abstract: The diagnosis of attention-deficit/hyperactivity disorder (ADHD) is based on well defined criteria, which describe a number of symptoms. It is important to consider the context of the symptoms, in terms of the influence of the child's family and school. Although stimulant medications benefit selected children they may not benefit all children with symptoms of ADHD. The incidence of ADHD increases with social disadvantage. There is a potential danger of using stimulant medication alone to treat children with complex psychosocial problems, associated with social disadvantage, including Aboriginal children. We desperately need better training in the management of ADHD and better access to child psychiatrists.

Key words: Aboriginal; community; dexamphetamine; methylphenidate; stimulant.

Authorities in Australia,[1,2] in the USA[3] and in the UK[4] have been debating the appropriate use of stimulant medications for attention-deficit/hyperactivity disorder (ADHD) for some years. Why do I enter the debate? Why should you pay any attention to a paediatric infectious disease specialist who does a little general paediatrics on call, one rural clinic a month, and has satirised paediatricians' prescribing of stimulants for ADHD?[5]

I write this in my role as an academic paediatrician, not in my clinician's role. I write not to question the existence of ADHD, nor to decry current prescribing practices. I write out of concern that young general paediatricians tell us they are struggling to cope with large numbers of children presenting with emotional and behavioural problems,[6] that the paediatricians do not feel adequately trained to manage these problems,[7] and that there is inadequate investment in community support and child psychiatric services to support families in strife.[8] As a result, there is a temptation to diagnose ADHD and to use stimulant medications as a panacea. ADHD is more common in disadvantaged families,[9,10] and I am concerned that paediatricians will tend to use stimulants increasingly as a 'quick fix' for complex problems. I do not know whether or not this is happening in current practice, but I would like to suggest ways that we could try to prevent our young paediatricians relying too heavily on stimulant medication as the sole way to treat socially disadvantaged children.

Key Points

1 The symptoms of ADHD should be seen in the context of the child's family and school.
2 The symptoms of ADHD increase with social disadvantage.
3 Stimulant medications should not be used alone as a panacea for complex psychosocial problems.

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Diagnostic Concerns

The diagnosis of ADHD is descriptive. There is no diagnostic test. This is not a criticism: it is true for virtually all psychiatric conditions. Indeed many non-psychiatric syndromes, such as Kawasaki disease, are diagnosed on the basis of a described pattern of signs and symptoms. There are well-defined guidelines for diagnosing and treating ADHD,[11–13] although there is scepticism whether the recommended thorough diagnostic process is followed in most cases,[2,4] and some evidence to suggest that stimulants are often prescribed at the first visit in the USA,[2,14] which means the guidelines cannot have been followed properly.

The symptoms of ADHD are extremely prevalent. Although it is not uncommon for children and adults to exhibit some of the features of say Asperger's syndrome, or even autism, most of these individuals still fall far short of the full diagnostic criteria for the condition. In contrast, population studies show that about 7.5% of Australian children fulfil the diagnostic criteria for ADHD, including 17% of boys aged 6–12 years.[2,9] As many as 15.8% of US schoolchildren were assessed by their teachers as meeting the DSM-IV diagnostic criteria for ADHD,[15] and 19.8% of Colombian boys and 12.3% of girls aged 4–17 years met DSM-IV criteria.[16] If the symptoms of ADHD are present in one in six boys and somewhat fewer girls, at what point do we decide this is pathological? The context of ADHD

will vary enormously. Do we use stimulants to treat all or just the more severe cases, as we might say with asthma? Do the milder cases truly have ADHD or are they just part of a spectrum of normal variation in levels of activity? In the UK, it is mainly paediatricians who see children with behaviour problems, but child psychiatrists who diagnose and treat ADHD (S Isaacs, pers. comm. 2006). This is important because ADHD can mask other conditions, for example anxiety states and the hyper-vigilance associated with abuse and trauma.[17]

Treatment Concerns

Stimulant medications act by increasing children's concentration, which will occur with normal children as well as those with ADHD.[11,13] Studies show that stimulants such as methylphenidate improve symptoms, at least in the short term, for up to 6 months.[18,19] One controlled study of 14 months duration showed that stimulant medication (methylphenidate) was associated with a sustained reduction in symptoms.[20] The role of the non-stimulant, atomoxetine, in ADHD is yet to be established. The UK regulatory agency has issued a warning, however, about a possible increase in suicidality with atomoxetine.[21] In 12 studies of children and adolescents with ADHD, one of 1357 children taking atomoxetine attempted suicide and five children had suicidal thoughts, compared with none of 851 patients taking placebo.[21]

It has been estimated that stimulant use in Australia increased by 26% per year from 1984 to 2000, with a more than eightfold increase from 1994 to 2000.[22] Stimulant use in Australia and New Zealand currently appears to have plateaued at about 1.8–2% of school-aged children,[2,22–24] a rate of stimulant use that is only exceeded by the USA and Canada.[22]

It is well known that stimulant medications can cause anorexia, weight loss, abdominal pain, sleep disturbance, headache, irritability, tics and depressed mood.[13] Balancing therapeutic benefits against adverse effects is part and parcel of the use of any therapeutic agent. I find it worrying, however, that amphetamine abuse can be associated with psychosis in predisposed individuals,[17] and this alone necessitates considerable care in deciding which children should be prescribed psycho-stimulants such as dexamphetamine or methylphenidate.

A second concern is that the long-term effects of stimulant medications are not known. It is possible that long-term stimulant use might be associated with a worse outcome for many children.

Third, psycho-stimulants are used to an unknown extent as recreational and street drugs.

None of these concerns say that we should not use stimulants, only that we should be cautious to use them only for the most appropriate children, where benefit is unequivocal. We should also be careful to institute other necessary interventions, in the school and the home, to help with the child's condition, not just use stimulants as a panacea.

Social Disadvantage

There are convincing data to show that the prevalence of ADHD is increased in families with social disadvantage.[9,10] This is true for a number of conditions and is not a sufficient reason for withholding stimulant medications, if they are truly beneficial. Indeed, I am told that some disadvantaged children who are 'scapegoated' are found on careful history to have ADHD, and the scapegoating diminishes when they are treated with stimulants (S Isaacs, pers. comm. 2006). But social disadvantage is associated with other comorbidities, including an increased risk of psychiatric illness, and an increased risk of recreational drug use. It is by no means clear that a child from a markedly socially disadvantaged background who has ADHD symptoms, possibly with an emotional origin, has the same disease as a child with ADHD symptoms without social disadvantage. Whether or not stimulants are beneficial for socially disadvantaged children is possible to address in studies, as long as the studies are large and well randomised. No such studies have been performed to my knowledge. I have major concerns that the use of stimulant medication may not be the best approach to the management of behaviour problems in socially disadvantaged children, and certainly not without other psychosocial interventions, and attempts to intervene in the community and the school.

Studies of the use of psychosocial interventions in ADHD are far from definitive.[25] There are insufficient high-quality studies of behavioural family therapy without medication to comment on its efficacy. The MTA study found that children with ADHD randomised to combined intensive behaviour therapy and stimulants showed greater improvement than those given intensive behavioural therapy alone, and than those given 'standard community care' by community providers.[20] For many symptoms, including oppositional and aggressive symptoms, combined behaviour therapy and stimulants was better than stimulants alone.[19] In contrast, a recent US study found that psychosocial interventions offered no additional advantage over methylphenidate alone.[26]

Aboriginal Children and ADHD

Attention-deficit/hyperactivity disorder is being increasingly described in Aboriginal children and physicians are starting to prescribe stimulants for some of these children. Yet, despite calls for urgent studies on mental health problems in Aboriginal children,[26] there are no published studies on the prevalence of ADHD or the results of treatment. The problems of an Aboriginal child with ADHD symptoms are likely to be totally different from a non-Aboriginal child with ADHD symptoms. It is quite possible that stimulant medication could make things worse for many Aboriginal children diagnosed with ADHD. The absence of studies of the use of stimulant medication for Aboriginal children with ADHD ought to be addressed immediately. In an ideal world, stimulant medication should only be used to treat Aboriginal children with ADHD within the confines of a properly constituted, randomised placebo-controlled trial. But, realistically, this is unlikely to happen.

It would be wrong to deprive Aboriginal children with ADHD symptoms of stimulants if they are indeed beneficial. But I believe it would be even more problematic if non-Aboriginal doctors were to prescribe stimulant medications to Aboriginal children without a thorough appraisal of the family dynamics and without a culturally appropriate approach to the whole background of the child's symptoms. Ideally, this should be performed through the Aboriginal Medical Service, and would involve Aboriginal health-care workers, and also involvement of the child's school. I believe the dangers of misdiagnosis and mistreatment are of sufficient concern, that ADHD should only be diagnosed and treated in Aboriginal children by (or in close conjunction with) a child psychiatrist or community paediatrician with expertise in ADHD.

Stimulant Prescribing in Australia

Currently in Australia, stimulants can be prescribed by paediatricians and child psychiatrists, but not by general practitioners. If there is competition between paediatricians and general practitioners for paediatric patients, as sometimes occurs, the paediatrician's ability to prescribe stimulants could be seen as a potential conflict of interest. Both the paediatrician and the general practitioner could institute community supports and even perhaps behavioural family therapy, but only the paediatrician can prescribe stimulants.

A 1999 Australian study showed that around 35% of all consultations by general paediatricians were for behavioural problems.[6] A recent study showed that although 75% of general paediatricians in Australia felt that their knowledge about ADHD was deficient, 75% of general paediatricians prescribed stimulants to children with behavioural problems at least once a week.[7] Stimulant medication is clearly of benefit to certain carefully selected patients. We need to be sure that we act wisely in selecting which children to treat.

Possible Directions in Training and Practice

Young trainee paediatricians are telling us that they need better training in how to diagnose and manage ADHD. The Division of Paediatrics and Child Health of the Royal Australasian College of Physicians has made it mandatory that all advanced trainees do at least 6 months of community and child health training. This must be in one or more of: developmental/behavioural paediatrics; community paediatrics; disability/rehabilitation paediatrics; child protection; or child and adolescent mental health. All of these areas are important for the general paediatrician.

We desperately need more child psychiatrists and community paediatricians skilled in the management of ADHD and associated emotional and behaviour problems, to teach our trainee paediatricians. The trainees need the time and the opportunity for this vital part of their training if they are to function appropriately in the community. In the UK, it is mainly child psychiatrists who make the diagnosis of ADHD and do the prescribing, often in ADHD clinics (S Isaacs, pers. comm. 2006). It would be particularly helpful for Australasian trainees if they could sit in on such ADHD clinics, to see the problems of diagnosis and the complexities of total management, including involving schools and community services.

What should young paediatricians do, in the meantime, when confronted with a hyperactive, often angry, defiant young child who meets the diagnostic criteria for ADHD? I would urge a thorough exploration of the psychosocial, family and school situation as recommended in the guidelines. If there are significant emotionally based psychological and family problems, these should be managed by or in conjunction with a child psychiatrist or mental health clinician such as a psychologist, if possible. The increasing use of consultation by tele-psychiatry in remote areas has increased the availability of child psychiatric expertise. It is easy to see how a busy paediatrician might be tempted to avoid the difficulty of obtaining a psychiatric opinion and might wish to prescribe stimulants immediately, to see if the child's behaviour improves. The main danger of such an approach is that it fails to address the underlying basis for the child's symptoms. Furthermore, it is only by trying to use child psychiatric and community services, and complaining to the health departments when these are unavailable or overstretched, that it will become clear to what extent governments need to increase funding for community and child psychiatric services.

Conclusion

In conclusion, I do not know whether or not we are currently medicating for social disadvantage, but I believe we are in grave danger of doing so. Our young paediatricians are trying to deal with children with complex emotional and behavioural problems, often on a background of social disadvantage, yet they feel that their training for this role is inadequate. There are concerns about the availability of sufficient community services to help disadvantaged children and their families and there is a dearth of child psychiatrists to treat the most difficult children and to educate trainee paediatricians. It is totally understandable that paediatricians will prescribe psychotropic medications when there is little or no effective alternative. Federal and state and territory governments need to provide those alternatives, by improving funding of community support services and by funding of child mental health services. We need to attract more doctors to train as child psychiatrists. We, the paediatric community, need to be sure that our trainee paediatricians are well trained to manage children from diverse cultural and social backgrounds with complex behavioural and emotional problems, including ADHD, that we use stimulant medications only when they are truly beneficial, and then always in conjunction with appropriate interventions in schools and in the home.

Statement of Competing Interests

I have no competing interests.

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