

- establish a common database of teaching practices;
- develop and implement a joint communications plan to promote GP teaching;
- initiate liaison with DHBs to link with second-year house surgeon placements; and
- provide project management support for combined University and College policy development.

This project is a coordinated attempt to plan and build basic infrastructure for primary care-based medical education in the hope of meeting the medical needs of New Zealand's population in 20 and 30 years' time. It will require the support of the Ministry of Health and the Tertiary Education Commission to promote and fund some of the vital elements such as quality standards for teaching practices and student consulting rooms.

I am hopeful that the Journal will keep abreast of medical education issues and play an important role in disseminating research papers related to primary care-based teaching and learning. While this editorial has focused on medical education, needless to say similar attention must be paid to the future of primary care-based nursing education. In the meantime, the challenge for the sector is to translate the vision of a primary care-led health system into a primary care-led medical education system. There is much work to be done.

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Using psychoactive medication to intervene in children's behaviour: An evidence-based practice?

Barry S Parsonson

MA(Hons),
PGDipClinPsych, PhD,
FNZPsS,
Registered Psychologist,
Special Education Group,
Ministry of Education,
New Zealand

Introduction

This paper arose out of concern that many child clients with behaviour issues also are clients of paediatric and child and adolescent health services which prescribe medication as a means of behaviour management. In addition, concerns arose over the increasing moves to 'pathologise' children's behaviour. For example, in an editorial preceding a series of research articles on 'preschool pathology', Angold and Egger¹ state 'We can now confidently assert that we have the wherewithal to assess the psychiatric status of children down to age two [years]'. While admitting perfection was not yet attained, they added that, as a consequence, there was no reason to exclude such young children from studies of specific psychiatric disorders. They describe studies of parental, teacher and self assessments of preschoolers which predict subsequent behavioural and emotional disorders at school age without questioning

the validity or reliability of such instruments. Even more troubling is their opinion that if these emergent disorders are not treated by age two to three years, it may be too late to produce effective change via primary prevention interventions. Sterba, Egger, and Angold² claim that the rates of DSM-IV disorders³ in preschoolers are similar to those for children and adolescents and that DSM-IV diagnoses are relevant for children in the two- to five-year-old range, even though the DSM manual itself does not make such provision.

Angold and Egger do not comment on what they consider to be 'primary prevention' for preschoolers, nor do they consider the possibility that predictions made in toddlerhood that then are confirmed in childhood may well be a result of constant environmental factors (e.g. parenting, parental depression or poverty), rather than products of a child's 'psychopathology'.¹ One

CORRESPONDENCE TO:

Barry Parsonson
PO Box 829, Napier,
New Zealand
drp@appliedpsych.co.nz

further obvious consequence of the focus on early childhood psychopathology is the introduction of psychotropic medications as interventions. Recent publicity concerning the prescription of antidepressants to two-year-olds in New Zealand is one exemplar. The reported 40-fold increases in bipolar diagnosis and medication of children and adolescents in the USA between 1994 and 2003 represents another.⁴ Both reports raise concerns. Parents and teachers of children with problem behaviours appear to demand medication as a 'quick fix'. Parents and school personnel praising the effects of medication who were quoted in some reports were found to focus primarily on reductions in these behaviours. Only a few of the parents cited were troubled by associated weight gains and dyskinesia. Those promoting early diagnosis and medication are expressing no concerns about any long-term neuro-developmental risks or potential learning deficits resulting from medication during early childhood or administration on a long-term basis, which suggests that these are not yet important considerations in their view.

This is not to say that concerns about the pathologisation of childhood are not being expressed from within psychiatry, as recent articles⁵ and books⁶ attest. The question remains as to whether these critics are being heard over the evident blare of publicity from protagonists of early identification and treatment, including the reported pressures from the pharmaceutical industry for psychiatrists, paediatricians and parents to identify and treat 'disorders' in early childhood with medications that rarely have been researched in terms of their impacts on children's development.

One problem for those working with children in the school environment is a lack of knowledge by teachers, Resource Teachers Learning and Behaviour (RTLb) and educational psychologists about medications prescribed for children. There is evidence that, despite 25% of children referred to them being medicated, many psychologists working in schools in the USA lacked adequate knowledge of psycho-pharmaceutical agents.⁷ Parents and teachers often report expectations that the medication will effect positive changes in behaviour, but often seem completely uninformed about the efficacy, suitability or potentially harmful side effects of the adult psycho-

pharmaceutical agents typically prescribed for these children. There is also evidence of a lack of consultation between those providing psychosocial interventions within schools and those prescribing medication to the same children, despite widespread advice that pharmaceutical interventions should be accompanied by psychosocial ones.⁸⁻¹⁰ In many instances any evidence-based rationale for prescribing some of these medications, especially to children and adolescents (e.g.^{11,12}), is reliant on small sample studies, often comprising diverse groups and only a few of which use double-blind case controlled designs. In an age in which evidence-based practice and informed consent are deemed to be requirements of good practice, the data need to be examined.

Attention Deficit Hyperactivity Disorder (ADHD)

The most widely used and, probably, the best researched medication for child behaviour management is Ritalin (methylphenidate) which is widely prescribed for ADHD.⁸ Some children do appear to respond well to Ritalin, although not all diagnosed with ADHD do so and caution is advised in assessing and regularly reviewing medication.^{8,12} There are clearly some common CNS and physical side effects which are likely to impact on school performance, including headache, drowsiness, dizziness and dyskinesia.¹² There are concerns about the long-term effects of Ritalin on children, including stunted growth, hypertension and increased risk of stroke, as well as questions about the actual benefits of its long-term use in managing hyperactivity. Some of the major issues of conflict around ADHD, apart from concerns about the use of medication, are those of whether or not it is a 'disorder', how valid the DSM-IV³ criteria are,^{13,14} and to what extent the 'disorder' model of ADHD is driven by the pharmaceutical industry itself.^{14,15}

In their major review of the literature, Fonagy et al.⁹ conclude that stimulant medication is most effective. For the 25% of children diagnosed as ADHD and not responding well to stimulants they suggest that antidepressants may represent an option, although there are cautions relating to their use with children. While acknowledging benefits of combining medication with psychoso-

cial interventions, their review suggests that few of the latter, on their own, have as much impact as medication on core symptoms, such as inattention and hyperkinesis. There is evidence that behaviour modification is of some assistance with reducing off-task and disruptive behaviours and then can lead to reductions in medication. CBT enhanced effective coping and choice making and multi-modal interventions were still being evaluated at the time (i.e. 2000). Systemic and psychodynamic interventions lacked empirical data for or against their use.

Concerns about the high degree of co-morbidity between ADHD and conduct and mood disorders and specific learning deficits, and the reliability and validity of ADHD diagnosis¹⁴ may be supported by the large variations between studies in terms of the efficacy of various medications and psychosocial interventions. Questions also have been raised about the validity of the neuro-imaging studies used to support claims that ADHD has a neurological basis.¹⁶ It seems the jury is still out on just what ADHD is and whether or not it is a 'disorder'.

Anxiety

Wolpert et al. concluded that the front line interventions for anxiety disorders in children were the behavioural therapies, including Cognitive Behaviour Therapy (CBT).¹⁰ They suggested that *only* if these failed to produce effects should the addition of anti-depressant medication be considered as an option. It was noted that medication alone was less effective than medication in combination with behavioural interventions. A meta-analysis of CBT interventions with children and adolescents diagnosed with anxiety disorders concluded that both individual and group CBT interventions were more effective than placebo; that brief interventions were as effective as longer ones; and that CBT showed that beneficial treatment effects were maintained in long-term follow-up.

Autism Spectrum Disorders (ASD)

Medications ranging from atypical antipsychotics and SSRIs are often prescribed for ASD symptoms such as 'Obsessive Compulsive Disorder (OCD)', 'depression', 'aggression' and 'withdrawal' in children and adolescents diagnosed

with ASD. A review of almost 1700 medication studies by Broadstock et al., which included adolescents but not children, found only five that met criteria for randomised placebo-controlled investigations.¹¹ The medications included risperidone (2), naltrexone (1), fluvoxamine (1), and clomipramine and haloperidol (1). Most trials were comprised of small numbers of participants, included older children and adults and were short-term (e.g. six weeks), which raised questions about the generality of the findings, especially in respect of long-term drug administration. The authors concluded that while some of the medications showed some benefit for some participants, no conclusions could be reached about relative efficacy other than that haloperidol might have some advantage over clomipramine and that naltrexone was found to be ineffective. Further, no differentiation between efficacy for pre-pubertal vs post-pubertal individuals was possible and no useful information relating to treatment of co-morbid disorders was able to be identified. Fonagy et al. concluded from their extensive review that, while some medications produced some symptom reduction, there was little justification for medication of children with ASD except where there was co-morbid ADHD, when stimulant medication might offer some benefit.⁹ They recommended behavioural intervention as the first order intervention, with medication being trialled if the former proved ineffective.

Questions need to be asked about the validity of applying separate DSM-IV diagnostic labels to behaviours typical of ASD and treating them specifically. For example, when narrow, specific interests are relabelled as OCD and then medicated as such it may be inappropriate, given that the mechanisms and functions of such behaviours in autism are possibly very different from those in OCD. In addition, while there are relatively few adequate studies of the efficacy of medications, there are many hundreds which demonstrate the efficacy of psychosocial interventions for a wide range of ASD behaviours, such as Applied Behaviour Analysis (cf. Maurice et al.¹⁷).

In summary, Fonagy et al.⁹ concluded that there were no adequate studies of children with Asperger's Syndrome and that for ASD in general, behavioural programmes should be tried first,

depression or age range of the participants, except that seven (28%) were under age 15 years.

Conclusions

This overview makes no pretence of being comprehensive, but even a brief review of the literature raises questions about the direction that psychiatric diagnosis and treatment of children is taking, along with concerns about the increasing tendency to pathologise and medicate what are represented as 'disorders' of childhood. It appears that little cognizance has been taken of the changes in society that could lead to what are essentially adaptive and functional human behaviours in evolutionary terms being increasingly deemed pathological as we change living styles. In earlier times children were given the freedom or opportunity to help adults in a range of activities and/or to play and roam outdoors. Nowadays, they are more likely to be required to stay within the bounds of small sections or to be indoors where play involves a video game console or computer games. They also are typically transported to and from school each weekday, where they spend still more time in an environment in which they often are expected to sit relatively still, to concentrate, and generally to be fairly quiet. Expectations of children that they will moderate their behaviour and not disturb adults in such environments may fuel demands for medication to achieve the tolerable states of child behaviour which parents and teachers appear to be failing to obtain without it.

The irony of providing children with prescription medications to manage their behaviours and moods while simultaneously warning them of the dangers of so-called recreational drugs seems to be lost on our society. Societal changes over time are, in part, the focus of the anthropological study of ADHD by Neufeld and Foy¹⁵ which is instructive and suggests similar cautions should apply to other so-called disorders of childhood that now are increasingly being identified earlier and treated with psychotropic medications. We ignore the contextual circumstances and functional purposes of 'problem' behaviour at our peril. We medicate children without yet being aware of the possible long-term risks and costs, both for them and us, even if life is more peace-

ful when they are medicated. The concerns and cautions expressed by the AACAP²⁰ in respect of treatment of Attachment Disorder should more generally be voiced as applicable to the whole spectrum of childhood 'disorders' of behaviour, given that the underlying developmental risks are the same.

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with ADHD being managed by medication and that 'there is no evidence to support the routine use of other medications'.

Attachment disorders

Diagnosis of children as having these seems to be fashionable at present. Reviews of assessment of attachment 'disorders'¹⁸ and of attachment theory, research and treatment¹⁹ point to concerns over assessment, diagnosis and treatment strategies. For example O'Connor and Byrne noted that clinicians rarely use attachment measures in the process of diagnosis and often have limited knowledge of attachment theory or training in its application. Equally, they note, attachment measures are not designed to be diagnostic of attachment disorder, which has no established assessment protocol. Slater comments that so-called 'attachment disorder', as set out in diagnostic manuals is more about child maltreatment than attachment. She states that the research underpinning diagnosis owes little, if anything, to attachment theory as promulgated by Bowlby and Ainsworth and is more grounded in research concerned with the social behaviour of maltreated children. Similarly, Slater notes, interventions focus on introducing a consistent and available caregiver or improving the relationship with the current caregiver without directly addressing the child's own attachment issues or models. She concludes that the current definitions of reactive attachment disorder are not helpful in meeting children's needs because they owe so little to developmental research in attachment and that, regardless, it seems inappropriate to pathologise children for having had such a disruptive start to life. One has to wonder if the 'pathology' in attachment disorders does not relate more to the inadequacies of the children's caregivers than to the children who are so labelled!

The American Academy of Child and Adolescent Psychiatry (AACAP) has recently published a practice parameter relating to assessment and treatment of children and adolescents with Reactive Attachment Disorder that raises concerns about the potential harm to young children's developing brains from psychopharmacological medication, the need to try medication-free interventions first and the risks that any interventions pose if they have not been derived from

appropriate studies.²⁰ This is one ray of light in a field in which many medical practitioners, including paediatricians and child psychiatrists, seem comfortable with prescribing psychoactive medications for young children without trying, or necessarily being aware of, any other modes of intervention, such as behavioural therapies.

Mood disorders

Medication of childhood 'mood disorders' (depression and bipolar disorders) has, as noted earlier, become increasingly popular in recent times. Healy and Le Noury⁵ are highly critical of the emergence of paediatric bipolar disorder as a condition. They argue that the 'disorder' is primarily a creation of the pharmaceutical industry and are critical of the apparent lack of academic scepticism accompanying the promotion of the 'disorder' and the capture of psychiatrists by that industry. They are concerned at the consequences for children of exposure to 'cocktails of potent drugs without any evidence of benefit'.⁵ The drugs listed in the article include Depakote, olanzapine, risperidone, and quetiapine and it is reported that some children receive more than one of these medications.

Prevalence of depression in children aged between nine and 16 years is reported as estimated to be about 9.5%. In the UK, the NICE guidelines relating to childhood depression advise that the treatment of choice for the first three months should be psychological (CBT, Family Therapy or Interpersonal Therapy).¹⁰ Only if this intervention does not produce symptomatic improvement by six weeks is anti-depressant medication recommended for adolescents only, and then only in conjunction with either CBT or Family Therapy. Medication is not recommended for younger children. In other words, the first line of treatment is psychological and the second, for adolescents only, is the addition of medication, preferably fluoxetine.¹⁰ Perera et al. found that in their South London CAMHS setting, 28% of 25 children and adolescents being treated for depression were medicated without any psychological therapy and 72% were receiving both, with most being prescribed fluoxetine, despite known enhanced risk of suicide in adolescents taking this medication. They provided no data on whether psychological interventions were tried alone at first, on the severity of