Safe and Judicious Paediatric Psychotropic Prescribing

Abstract:

Psychotropic medications are now a well-established and evidenced based treatment for increasing number of child mental health disorders prescribed at increasing frequencies and by increasing number of practitioners in levels of competence and standardised prescribing practice and should be addressed by regular continuous professional development. A study specific questionnaire on psychotropic prescribing practice in children was mailed to all child psychiatrists and paediatricians working in Ireland and GPs from a selected Dublin CAMHS catchment area. Of the 116 who replied, (39% response rate), antidepressants (58.7%), antipsychotics (57.3%) and ADHD medications (36.5%) were most commonly prescribed. Results suggest increasing trends of monitoring amongst Irish clinicians over time, but with some lack of specificity. Commensurate with the wish of clinicians, ongoing training in paediatric psychopharmacology is considered essential in order to benefit from the increasing advances in pharmacology.

Introduction

Over the last few decades there has been a significant increase in the evidence base for, and use of, psychotropic medication for children1. They are increasingly prescribed by paediatricians and general practitioners in addition to child psychiatrists2. Linked to this has been the rapid development of newer classes of medications promising a much improved risk benefit ratio, and purporting reduced side effects. However with increased pharmacovigilance there has been a parallel increase in the reporting of serious and often unexpected adverse effects. Newer antipsychotic medications have been associated with significant cardiometabolic side effects3. Newer antidepressants, selective serotonin reuptake inhibitors (SSRI), whilst safer in overdose carry FDA ‘black box’ warnings regarding an increased risk of suicidality in children, adolescents and young adults4.

Psychostimulants, the mainstay treatment for ADHD, and one of the most common paediatric medication used, cause increases in heart rate and blood pressure, along with possible effects on height and weight that are associated with sudden weight loss and growth delay5. These measures were also strongly endorsed in the Irish medicines board in this regard 6. Clinicians need to exert additional care in the paediatric population. The literature suggest that there is much variation in prescribing practices of clinicians, even within the same disorder, however we do not have similar levels of evidence which inform us regarding the monitoring practice of clinicians.7. There is a small but growing literature on the use of such medication in children in Ireland.

Methods

A study specific questionnaire was mailed to all child psychiatrists and paediatricians working in Ireland and CAMHS catchment area. They were asked about prescribing practice of psychotropic medication in children. Attitudes, knowledge base and attitudes of their medical and non-medical colleagues were asked and reported separately.

Results

116 out of 300 questionnaires were returned giving a response rate of 39%. Forty-one identified themselves as child psychiatrists (36.9%), 46 (41.4%) as paediatricians and 24 (24%) as GPs. Respondents reported medications routinely used, listing antidepressants (58.7%), antipsychotics (57.3%) and ADHD medications (63.5%) as most commonly prescribed by the group (Table 1). Child psychiatrists were most likely to prescribe atypical antipsychotics (76.5%), followed by methylphenidate (69.2%) and Flusoxetine (61.5%). Paediatricians reporting prescribing psychotropic medication most commonly prescribed methylphenidate (57.5%), followed by Fluoxetine (41.4%) and lorazepam (34.1%). Of those who did, they generally restricted their prescribing to ADHD medication, almost exclusively methylphenidate. Of the 14 GPs who prescribed, (58% of respondents), both methylphenidate (38, 97.4%), Heart Rate (37, 97.4%) and Blood Pressure (39, 97.5%) (Table 2). These measures were also performed by most GPs, but at a lower frequency. Between 28-31 paediatricians responded to the questions on all medications, and those who did not prescribe psychotropic medication and they replied that the questions were not applicable to them. Of the smaller number who did prescribe (N=9-12) nearly all (90%-92.3%) carried out these assessments. Despite antipsychotics medication being cited as the medication that the child psychiatrists most often used, investigations such as electrocardiogram (ECG), full blood count (FBC) and liver function tests (LFT) were less commonly done than height and weight measurements (Table 2).

Discussion

In this study, most child psychiatrists routinely carried out Height, Weight, Heart Rate and Blood Pressure (Table 2). It is generally accepted that these measures should be considered standard practice prior to prescribing a stimulant8. These results are higher than those reported in a UK sample of child psychiatrists (2001) and an Irish sample (2008), suggesting perhaps, an increased awareness of the adverse effect on growth trajectories and the need for careful monitoring9. A recent study found that long term stimulant use (> 3 years) was indeed associated with a slower rate of physical development during puberty, highlighting the need for regular monitoring, drug holidays and prescribing as low a dose as possible10. A significant number of metabolic and cardiac adverse effects of antipsychotics, it is generally accepted that standard practice should include baseline ECG, fasting blood cholesterol and lipid profile, LFT and FBC. This study did not enquire about conducting baseline fasting lipids or cholesterol levels, but only 50% of child psychiatry respondents usually carried out an ECG.

Controversy still remains regarding the routine request for ECG and FBC prior to prescribing stimulant medication; 11 respondents (8%) and only 10 (70%) paediatricians who responded, despite the fact that their prescribing was generally limited to ADHD medications. Previous research characteristics for methylphenidate reports complete and differential blood and platelet counts, have since been removed12. A limitation of the study methodology was it did not differentiate baseline investigations based on medication type and so it is impossible to answer whether baseline ECGs or FBCs are restricted to antipsychotic use, particularly Clozapine in which regular FBCs are mandatory, or medication such as TCA which carry a higher cardiac risk.

Paediatricians typically prescribed only for ADHD cases, and their low threshold to conduct ECG suggests...
that the Irish paediatricians may be following the recommendation by the American Heart Association (AHA), which in 2008 initially recommended routing baseline ECG prior to starting stimulant medication. The AHA evidence-based recommendations of the American Academy of Child Psychiatry and Paediatrics, who argue that sudden unexplained deaths occur in stimulant-treated ADHD cases at a frequency no higher than in the general population and that routine ECG screening does little to predict cardiac deaths14, 15. In contrast, they recommend baseline ECGs only in those cases where there is an increased risk of cardiac events, either based on personal or family history. This is consistent with a report recommending an ECG prior to commencing psychostimulant medication. Recent literature reviews highlight variability in the perceived minimum accepted baseline investigations and conclude that no consistent guidelines are provided. More recent guidelines, although limited to antipsychotic medication are to be welcomed, as they provide recommendations for both a systematic review of the literature and when absent, expert multidisciplinary diagnostic criteria. However, in the current economic climate, routine and elaborate investigations with dubious clinical merit need to be seriously considered and the benefit, risk, and cost-effectiveness carefully studied. More recent guidelines, although limited to antipsychotic medication are to be welcomed, as they provide recommendations for both a systematic review of the literature and when absent, expert multidisciplinary diagnostic criteria. However, in the current economic climate, routine and elaborate investigations with dubious clinical merit need to be seriously considered and the benefit, risk, and cost-effectiveness carefully studied. More recent guidelines, although limited to antipsychotic medication are to be welcomed, as they provide recommendations for both a systematic review of the literature and when absent, expert multidisciplinary diagnostic criteria. However, in the current economic climate, routine and elaborate investigations with dubious clinical merit need to be seriously considered and the benefit, risk, and cost-effectiveness carefully studied.

The recent 4th CAMHS report suggests that services in Ireland are at 38% of recommended level. Services that are available often do not have the full complement of staff with the necessary skills to offer the full range of treatments, with the increase of risk of medication use by necessity. In the UK, between 1997-2002, there has been a significant increase in the range and number of medications prescribed, representing a ten-fold increase in children requiring medical monitoring. Regardless of whether or not this prescribing pattern is acceptable to young children, with all the biological and ethical concerns, needs to follow evidenced based practice, be judiciously used and follow high quality assessments with clear treatment and monitoring plans. More recent guidelines, although limited to antipsychotic medication are to be welcomed, as they provide recommendations for both a systematic review of the literature and when absent, expert multidisciplinary diagnostic criteria. However, in the current economic climate, routine and elaborate investigations with dubious clinical merit need to be seriously considered and the benefit, risk, and cost-effectiveness carefully studied. More recent guidelines, although limited to antipsychotic medication are to be welcomed, as they provide recommendations for both a systematic review of the literature and when absent, expert multidisciplinary diagnostic criteria. However, in the current economic climate, routine and elaborate investigations with dubious clinical merit need to be seriously considered and the benefit, risk, and cost-effectiveness carefully studied. More recent guidelines, although limited to antipsychotic medication are to be welcomed, as they provide recommendations for both a systematic review of the literature and when absent, expert multidisciplinary diagnostic criteria. However, in the current economic climate, routine and elaborate investigations with dubious clinical merit need to be seriously considered and the benefit, risk, and cost-effectiveness carefully studied. More recent guidelines, although limited to antipsychotic medication are to be welcomed, as they provide recommendations for both a systematic review of the literature and when absent, expert multidisciplinary diagnostic criteria. However, in the current economic climate, routine and elaborate investigations with dubious clinical merit need to be seriously considered and the benefit, risk, and cost-effectiveness carefully studied. More recent guidelines, although limited to antipsychotic medication are to be welcomed, as they provide recommendations for both a systematic review of the literature and when absent, expert multidisciplinary diagnostic criteria. However, in the current economic climate, routine and elaborate investigations with dubious clinical merit need to be seriously considered and the benefit, risk, and cost-effectiveness carefully studied. More recent guidelines, although limited to antipsychotic medication are to be welcomed, as they provide recommendations for both a systematic review of the literature and when absent, expert multidisciplinary diagnostic criteria. However, in the current economic climate, routine and elaborate investigations with dubious clinical merit need to be seriously considered and the benefit, risk, and cost-effectiveness carefully studied.

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Comments: '