

## A COMPARISON OF METHYLPHENIDATE FORMULATIONS IN THE TREATMENT OF ADHD

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This issue's article by Margaret Steele et al<sup>1</sup> reports the results from a clinical trial comparing the effectiveness of a long acting methylphenidate formulation, OROS-methylphenidate (OROS-MPH), with immediate release methylphenidate (IR-MPH). The study claims to provide further evidence to support the use of long acting stimulant medication for the treatment of attention deficit hyperactivity disorder (ADHD). The study was unblinded and compared parental reports of ADHD symptoms for 6 to 12 year olds treated with once daily OROS-MPH (Concerta®) with treatment regimens involving 2 or 3 doses of IR-MPH per day. The core of the results demonstrated that parents reported a significantly greater reduction of ADHD symptoms with the long acting MPH preparation.

There are limitations to this study, as is noted directly and indirectly by the authors themselves. The lack of blinding is an obvious one. The authors indicate that, "a double blind, double dummy design would have negated the objective of providing data on effectiveness in every day clinical practice." Given that this study was conducted as a clinical trial, that argument would appear to be somewhat weak, and the lack of blinding opens the door to bias. Relying on parental observations alone further narrows the value of the study, as the focus is primarily on behaviors occurring within the family context, with an emphasis on behavior in the later part of the day and in the evening. Since children on BID or TID regimens of IR-MPH were compared with children on OROS-MPH, it is not surprising to find that the long acting OROS-MPH, which provides coverage in the late afternoon and evening, is superior to BID IR-MPH, as the latter would not be expected to cover that time period. That being said, the authors do provide separate results for the group receiving IR-MPH on a TID

schedule and that would still suggest greater effectiveness for the OROS-MPH.

The authors also invoke the "r" word, which is increasingly tossed around with respect to medication treatment for ADHD – remission. Physicians who frequently treat children and youth with ADHD may find some discomfort with the use of the term in this context. While medications may be the most effective intervention to date for ADHD, I think we must be careful about overstating their power. Most children with ADHD have more than "just" inattention and hyperactivity. Their profiles typically include academic underachievement, social dysfunction, and a host of co-morbidities. These problems, in my experience, require more support (and ongoing support) than is offered from medication alone. The most commonly used ADHD rating scales focus on the presence or absence of unwanted behaviors and can miss areas of difficulty. The use of the term "remission" should not be based on the results from rating scales in isolation. As we think about resources, especially mental health and school-based ones, we need to be cautious about declaring ADHD in remission and therefore doing a disservice to this group.

There is another social issue raised indirectly by research such as this, which looks at the value of newer medications for ADHD treatment. We know that compliance is an issue with ADHD medication treatment<sup>2</sup>, and that once daily ADHD treatment approaches are more likely to be adhered to and sustained.<sup>3,4</sup> Clinicians who treat children with ADHD are very familiar with the concerns of parents and children themselves about social stigmatization related to in-school dosing, as well as the risks of drug diversion, both voluntary and coerced, when youth take the medications under their own supervision. Dosreis et al.<sup>5</sup> found that 40% of parents reported their

children with ADHD as showing a reluctance to take the medication, and that embarrassment was a factor in 30% of that group. If once daily long acting medications for ADHD can improve compliance, reduce the potential for embarrassment and misuse, and at the same time be more effective, their existence is a significant move forward. Yet a very real issue in Canada at this time is that access to the more expensive ADHD medications such as OROS-MPH, Adderall XR®, and atomoxetine may be limited for families who do not have 3<sup>rd</sup> party insurance and who are of limited financial means. In many cases, government operated drug benefit programs are not currently covering the cost of these medications.

This leaves children of financially disadvantaged families potentially more vulnerable to the collateral damage that can occur with ADHD, including academic underachievement, social ostracism, negative self-image, and increased risk of injury and even death. This remains an area for ongoing advocacy on behalf of those of all ages with ADHD.

## REFERENCES

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