

# Emotional and social consequences of ADHD are important

A comprehensive treatment programme for ADHD should include measures other than medicines, such as psychological, educational and social interventions. The diagnosis of ADHD should be made in accordance with the DSM-IV-TR criteria or the guidelines in ICD-10. An assessment should be based on a full history and evaluation of the patient. This assessment should include quality of life measurements, not only initially but also with follow-up treatment. According to the European Treatment Guidelines (Banaschewski, 2006), Quality of Life (QoL) measurements should also be part of clinical trials but have not often been applied sufficiently in the past.

Atomoxetine is a selective noradrenaline transporter blocker and is classified as a non-stimulant. It is currently licensed for the treatment of ADHD in children over six, adolescents and adults. The full effect of the medication appears only after 6-8 weeks of treatment or longer; but responders usually show some change by the 4-week point. Once full clinical effectiveness is established this appears to persist across the day at a consistent level. Clinical studies with atomoxetine included quality of life measurements.

Perwien (2006) writes that ADHD often results in a number of functional impairments including academic difficulties, social skills deficits, and strained family relationships. Longitudinal studies indicated that ADHD is also associated with higher rates of substance abuse as well as lower academic and occupational attainment. Although not yet comprehensive, several quality-of-life (QoL) measurements are available for use in clinical studies as well as clinical practice.

A 24-month, multicentre, open-label trial of atomoxetine was conducted to address the impact of treatment on long-term subjective, psychosocial outcomes, such as health-related quality of life (HRQL). Participants included 6 to 17 year-old children and adolescents (n=912) with a diagnosis of ADHD. Outcomes included clinician ratings of ADHD, parent ratings of ADHD, and a widely used measure of HRQL (The Child Health Questionnaire: CHQ). Treatment response rates were calculated based on a CHQ improvement of at least 1 standard error of measurement.

Clinician ratings based on parent interviews (ADHD-RS Total) and direct parent reports (CPRS) of ADHD core symptoms indicate significant improvement after acute treatment, and these improvements were maintained or slightly improved after long-term treatment. The pattern of HRQL improvements was consistent with those found for these core ADHD symptoms. Significant improvements in HRQL were found following both acute and long-term treatment for psychosocial health. Of the participants that completed treatment after 24 months (n=312 or 34.2% of those enrolled), 81% responded to acute treatment and 78% responded to long-term treatment. Improvements noted after acute treatment were maintained during long-term treatment with the majority of participants (86%) continuing to respond to treatment. These data thus suggest that improvements found after acute treatment were durable rather than transitory.

A detailed analysis of the Child Health Questionnaire (CHQ) indicated significant improvements in this study on the psychosocial summary scale following acute treatment with atomoxetine as well as all the psychosocial domains. These were also maintained following long-term treatment. The improved psychosocial domains include: behaviour, family activities, parental impact-emotional, parental impact-time, role-emotional/behavioural, self-esteem and mental health.

Continuous and all-day management of ADHD symptoms should be the goal in treatment. Kelsey (2004) reported on a randomized, multicentre, double-blind, placebo-controlled trial assessing the efficacy of atomoxetine administered once daily among children with ADHD. ADHD was assessed throughout the day, including the evening and early morning. A total of 197 children, 6 to 12 years of age, who had been diagnosed as having ADHD on the basis of the DSM-IV criteria were randomized to receive 8 weeks of treatment with atomoxetine or placebo, dosed once daily in the mornings.

In this study, the Daily Parent Ratings of Evening and Morning Behaviour-Revised (DPREMB-R) questionnaire was used to evaluate the child's behaviour during the early morning and late afternoon/evening. Mean reductions in the DPREMB-R total score during the first week were superior for patients randomized to atomoxetine, beginning with the first day of dosing, and the values were also superior at endpoint. Symptom reduction lasted into the evenings as well as into the mornings. Comparisons of mean changes in the individual items of the DPREMB-R demonstrated significant atomoxetine specific reductions for 5 of the 8 evening items (problems with homework/tasks, difficulty playing quietly in the afternoon, inattentive and distractible in the afternoon, difficulty transitioning, difficulty settling at bedtime) and 2 of the 3 morning items (difficulty getting ready, arguing or struggling in the morning).

In the light of these findings it can be concluded that atomoxetine is associated with improvements in quality of life in several domains especially in psychosocial behaviour, and that these improvements are generally stable over time. Clinical effectiveness of atomoxetine also appears to be persistent across the full day.

## References

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