

Efficacy of Duloxetine in Patients with Chronic Pain Conditions

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Purpose

The primary objective of this study is to review the efficacy of duloxetine in treating chronic pain using the Initiative on Methods, Measurement, and Pain Assessment in Clinical Trials (IMMPACT) recommendations for clinical significance across chronic pain states. These include pain intensity, patient ratings of overall improvement, physical functioning, and mental functioning.

Method

This review comprised the side-by-side analyses of 11 double-blind, placebo-controlled, randomized, multicenter clinical trials of duloxetine in patients with chronic pain (diabetic peripheral neuropathic pain, fibromyalgia, chronic pain due to osteoarthritis, and chronic low back pain). Patients received duloxetine (60 to 120 mg/day) or placebo. Average pain reduction was assessed over 3 months as the primary efficacy outcome. Other measures used were physical function (measured by the Brief Pain Inventory interference, Western Ontario and McMaster Universities physical function subscale, and the Roland Morris Disability Questionnaire), and the Patient Global Impression of Improvement.

Results

In 9 of the 11 chronic pain studies, statistically significantly greater pain reduction was observed for duloxetine- compared with placebo-treated patients. The response rates based on average pain reduction, improvement of physical function, and global impression were comparable across all 4 chronic pain states. Compared with patients on placebo, significantly more patients treated with duloxetine reported a moderately important pain reduction ($\geq 30\%$ reduction on the 24-hour average pain severity of the 0-10 numerical scale) in 8 of the 11 studies, a minimally important improvement in physical function in 8 of the 11 studies, and a moderately important to substantial improvement in Patient Global Impression of Improvement rating in 10 of the 11 studies. The time to response analyses for all 11 studies showed significant separation between duloxetine and placebo.

Conclusions

The analyses reported here show that duloxetine is efficacious in treating chronic pain as demonstrated by significant improvement in pain intensity, physical functioning, and patient ratings of overall improvement. The pattern of response and magnitude of improvement were comparable across all chronic pain states investigated: diabetic peripheral neuropathic pain, fibromyalgia, chronic pain due to osteoarthritis, and chronic low back pain.