



Pharm for Fibro: Can antidepressants ease the pain?

CLINICAL QUESTION

Do antidepressants reduce pain in patients with fibromyalgia?

BOTTOM LINE

In patients with fibromyalgia, meaningful pain reduction (~30% reduction in pain) occurs in ~50% of patients on duloxetine or mirtazapine versus 35% on placebo over 7-14 weeks. SSRIs and amitriptyline are also likely effective based on limited evidence. Compared to placebo, antidepressants do not increase the risk of withdrawing from treatment due to adverse effects, with the exception of high-dose duloxetine.

EVIDENCE

- Seven systematic reviews of randomized, placebo-controlled trials (RCTs) in the last 10 years. Ages 42-53, >90% women. Statistically significant unless indicated.
- Duloxetine: 4 systematic reviews (6-7 RCTs, 2249-2642 patients).¹⁻⁴ At 8-27 weeks:
 - Proportion of patients with $\geq 30\%$ reduction in pain:¹ 48% versus 36%, number needed to treat (NNT)=9.
 - 30mg versus placebo: No difference.²
 - 60-120mg: ~50% versus 35% (placebo).²

- Proportion with >50% reduction in pain:¹ 34% versus 23%, NNT=9.
- Withdrawal due to adverse events: No difference.¹
 - Exception: 120mg dose; 21% versus 11% (placebo), number needed to harm=10.
- Adverse effects: include nausea (26%), constipation (15%), headache (14%) versus 4-8% placebo; hyperhidrosis 8% versus 1% placebo.¹
- Other reviews found similar.²⁻⁴
- Mirtazapine: One systematic review (3 RCTs, 591 patients, average 30mg daily).⁵ At 7-14 weeks:
 - >30% pain reduction: 47% versus 34% (placebo), NNT=8.
 - ≥ 50% pain reduction: No difference.
 - Adverse event withdrawals: No difference.
 - Adverse effects include:
 - Somnolence: 41% versus 14% (placebo).
 - Any weight gain: 19% versus 1% (placebo).
- SSRIs (fluoxetine, citalopram, paroxetine): One systematic review (7 RCTs, 383 patients).⁶ At 6-16 weeks:
 - ≥30% reduction in pain: 33% versus 23% (placebo), NNT=10.
 - Adverse event withdrawals: no difference.
- Amitriptyline: One systematic review (4 RCTs, 275 patients, 25-50mg daily).⁷ At 8-24 weeks:
 - >50% pain reduction: 36% versus 11%, NNT=5.
 - Adverse event withdrawals and adverse events: No difference.
- Limitations: Minimal reporting of patient function,^{1-3,5-8} small studies of short duration,^{6,7} majority industry funded,^{2,3,5} blinding uncertain.⁵

CONTEXT

- Diagnosis requires chronic diffuse pain >3 months.⁸
 - Specific tender point distribution no longer needed.⁸
 - Specialist diagnosis/treatment or extensive investigations not required.⁸
- Exercise and cognitive behavioural therapy can improve pain and mobility.⁹
- 90-day cost:¹⁰ Duloxetine 60mg ~\$100; mirtazapine 30mg ~\$35.

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