

Comparative Benefits and Harms of Second-generation Antidepressants in the Pharmacologic Treatment of Depression in Older Adults: Systematic Review and Network Meta-analysis

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Introduction: Second-generation antidepressants dominate the medical management of major depressive disorder (MDD). Some have questioned whether these medications are equally effective in older adults.

Objectives: To compare the benefits and harms of bupropion, citalopram, desvenlafaxine, duloxetine, escitalopram, fluoxetine, fluvoxamine, levomilnacipran, mirtazapine, nefazodone, paroxetine, sertraline, trazodone, venlafaxine, vilazodone, and vortioxetine for the treatment of MDD in older adults and to assess whether efficacy differed in older adults compared with the adults of all ages.

Methods: To identify relevant studies, we searched MEDLINE, EMBASE, the Cochrane Library, PsycINFO, and CINAHL through December, 2014. Two persons independently reviewed the literature, abstracted data, and rated the risk of bias. We conducted mixed treatment comparisons to derive indirect estimates of the comparative efficacy among all second-generation antidepressants and we conducted meta-regression by assessing whether efficacy differed in trials that enrolled older adults compared with trials that enrolled adults of any age. The outcome was treatment response as measured by $\geq 50\%$ improvement from baseline on the HAM-D.

Results: Evidence on older adults compared with adults of any age is sparse. In older adults, evidence indicates that efficacy does not differ substantially among second-generation antidepressants; however, there may be some differences in adverse events. Our meta-regression found a trend toward lesser efficacy of SGAs in older adults than adults of any age.

Conclusions: Our findings suggests that SGAs may be less effective in older populations. There is a great need for research focusing directly on the efficacy and safety of SGAs in older adults.