Fibromyalgia syndrome (FMS) is a clinically well-defined chronic condition of unknown etiology characterized by chronic widespread pain that often co-exists with sleep disturbances, cognitive dysfunction and fatigue. Patients often report high disability levels and poor quality of life (QOL). Drug therapy focuses on reducing key symptoms and improving quality of life. To assess the benefits and harms of serotonin and noradrenaline reuptake inhibitors (SNRIs) compared with placebo for treating FMS symptoms in adults. We searched the Cochrane Central Register of Controlled Trials (CENTRAL), (The Cochrane Library 2012, Issue 9), MEDLINE (1966 to September 2012), EMBASE (1980 to September 2012), www.clinicalstudyresults.org (U.S.-marketed pharmaceuticals) (to September 2012) and www.clinicaltrials.gov (to September 2012) for published and ongoing trials and examined the reference lists of reviewed articles. We selected randomized, controlled trials of any formulation of SNRIs against placebo for the treatment of FMS in adults. Two review authors independently extracted the data from the included studies, and assessed the risks of bias of the studies. Discrepancies were resolved by discussion. Ten studies were included with a total of 6038 participants. Five studies investigated duloxetine against placebo, and five investigated milnacipran against placebo. A total of 3611 participants were included into duloxetine or
milnacipran groups and 2427 participants into placebo groups. The studies had a low risk of bias in general. Duloxetine and milnacipran had a small incremental effect over placebo in reducing pain (standardized mean difference (SMD) -0.23; 95% confidence interval (CI) -0.29 to -0.18; 6.1% relative improvement). One-hundred and ninety-two participants per 1000 on placebo reported an at least 50% pain reduction compared to 280 per 1000 on SNRIs (Risk ratio (RR) 1.49, 95% CI 1.35 to 1.64; number needed to treat to benefit (NNTB) 11, 95% CI 9 to 15). Duloxetine and milnacipran did not reduce fatigue substantially (SMD -0.14; 95% CI -0.19 to -0.08; 2.5% relative improvement; NNTB 17, 95% CI 12 to 29), and did not improve QOL substantially (SMD -0.20; 95% CI -0.25 to -0.14; 4.6% relative improvement; NNTB 12, 95% CI 9 to 17) compared to placebo. There were no statistically significant differences between either duloxetine or milnacipran and placebo in reducing sleep problems (SMD -0.07; 95% CI -0.16 to 0.03; 2.5% relative improvement). One-hundred and seven participants per 1000 on placebo dropped out due to adverse events compared to 196 per 1000 on SNRIs. The dropout rate due to adverse events in the duloxetine and milnacipran groups was statistically significantly higher than in placebo groups (RR 1.83, 95% CI 1.53 to 2.18; number needed to treat to harm (NNTH) 11, 95% CI 9 to 13). There was no statistically significant difference in serious adverse events between either duloxetine or milnacipran and placebo (RR 0.78, 95% CI 0.55 to 1.12). The SNRIs duloxetine and milnacipran provided a small incremental benefit over placebo in reducing pain. The superiority of duloxetine and milnacipran over placebo in reducing fatigue and limitations of QOL was not substantial. Duloxetine and milnacipran were not superior to placebo in reducing sleep problems. The dropout rates due to adverse events were higher for duloxetine and milnacipran than for placebo. The most frequently reported symptoms leading to stopping medication were nausea, dry mouth, constipation, headache, somnolence/dizziness and insomnia. Rare complications of both drugs may include suicidality, liver damage, abnormal bleeding, elevated blood pressure and urinary hesitation.