



Cannabinoids for cancer-associated symptoms:

a systematic review and meta-analysis

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Introduction and aim

By 2040 there will be a 47% increase in new cancer cases (28.4 million). By 2030, 22.2 million patients will survive cancer, so *quality of life is as important as an efficient therapy*. Pancreas adenocarcinoma is the 6th leading cause of cancer-related death worldwide. Most patients are diagnosed with advanced disease, which is associated with distressing symptoms such as pain, fatigue, or anorexia. *Cannabinoids are a new class of drugs for the palliation of cancer-associated symptoms*, highly popular among patients. They showed promising results for symptom control but raise issues regarding the proper therapy indication.

Our aim is to investigate the safety and efficacy of cannabinoids for symptom control in advanced cancer patients.

Methods

The study protocol was registered on *PROSPERO* (CRD42023479375), and a systematic search was conducted using three main databases (PubMed, Embase, and CENTRAL). Interventional and observational articles, where cancer patients were administered any type of cannabinoid for symptom control, including pain, constipation, nausea and insomnia, were eligible for analysis. The *change from baseline in symptom intensity was assessed*, for which weighted means and pooled proportions were calculated with a 95% confidence interval (CI) and a random-effects model.

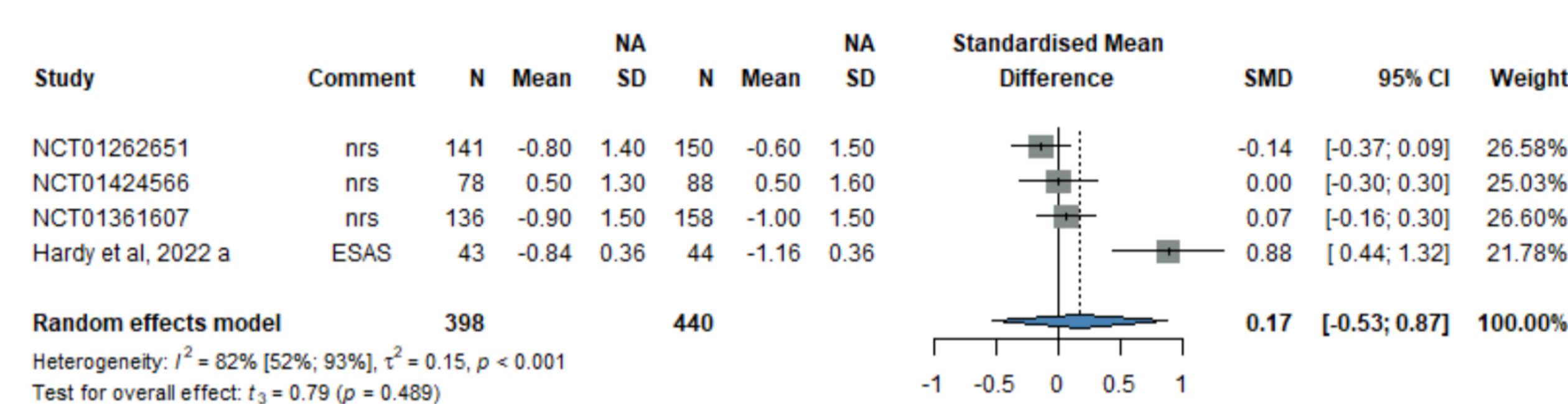


Fig 1. Change from baseline in *pain intensity*

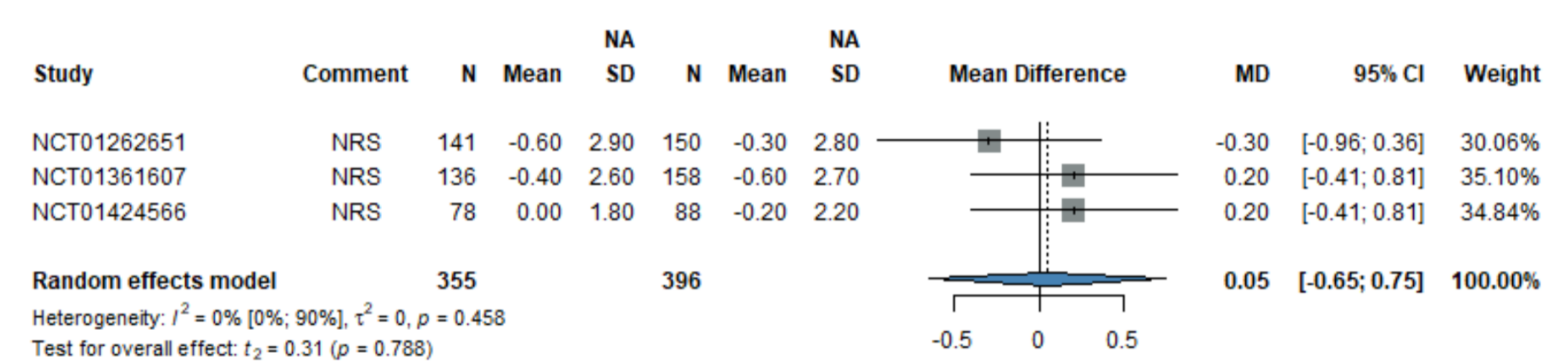


Fig 2. Change from baseline in *constipation*

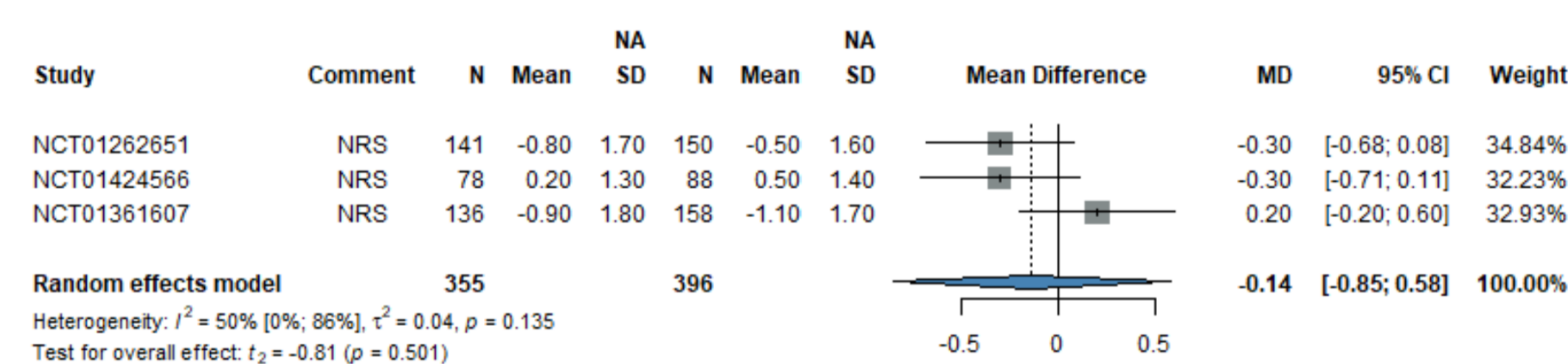


Fig 3. Change from baseline in *insomnia*

Results and Discussions

After title-abstract and full-text selection, 96 articles were found to be eligible. Pain, constipation, nausea, and insomnia improvement were assessed using different types of symptom rating scales (0-absence of symptom, highest score-worst symptom intensity). The *preliminary results* show that cannabinoids do not improve pain compared to placebo, the mean change from baseline was 0.17 (-0.53; 0.87 95% CI); nor constipation, mean change from baseline of 0.05 (-0.65; 0.75 95% CI). Cannabinoids modestly improve sleep quality, with a mean change from baseline of -0.14 (-0.85; 0.58 95% CI), however not clinically significant.

In conclusion, cannabinoids *could be beneficial for advanced pancreatic cancer patients*. However, the effects may vary significantly depending on the type of cannabinoid, dosage, and form of administration. These preliminary results need to be followed by further analysis based on subgroups, so proper indication/contraindication of the drugs can be suggested.

