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Cognitive Behavioural Therapy versus Education of adult patients with chronic pain. A meta-analysis of the change of pain intensity post-intervention and after 6 months.

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Background Sessions of Pain Management Programme in which an element of education of patients is involved are similar in structure to cognitive behaviour therapy (CBT) sessions. The key principles of education sessions primarily begin with establishing good rapport and explaining the rationale for therapy (Thorn et al. 2011). Systematic reviews comparing CBT with other treatments concluded that CBT is superior only to treatment as usual or waiting list in improving pain (Eccleston et al 2012). On the other hand Geneen et al (2015) concluded in a systematic review they couldn't confidently conclude that education alone is effective in reducing pain intensity or related disability in chronic pain in adults. We have decided to review the literature for studies that compared CBT against Education head to head and evaluate the evidence.

Aim To compare the effectiveness of CBT versus Education of patients (Edu) regardless of its delivery method in reducing pain intensity just after the intervention and at 6 months follow up.

Methods Randomised Controlled Trials (RCTs) studies, including 20 or more participants in CBT and Edu arms for the management non-malignant chronic pain of adult patients (18- 65 years of age) were searched in PubMed, Cochrane, Science direct. Data on improvement of pain (measured as pain intensity using a numerical rating scale from 0-10 with 10 is the most severe pain, immediately post intervention and at after 6 months follow up) were extracted from the relevant studies. A meta-analysis approach was followed to estimate the total effect size of the difference between the two interventions in improving pain.

Results Out of initial eligible 5 studies that compared CBT against Education in the same sample of patients at the same time only 3 was qualified for this meta-analysis. These were Turner et al (2006) (n=72 CBT, 76 Edu), Thorn et al. (2011) (n=49 CBT, 34 Edu) and Carmody et al. (2013) (n=48 CBT, 50 Edu). All studies reported that patients were randomised to either CBT or Edu and pain intensity was similar between the two intervention groups at baseline ($P>0.1$). The overall effect size of the mean difference between CBT and Edu groups' pain intensity suggested that there is no differences between the two interventions post-intervention ($z=.044$, $P=0.66$) or at 6 months follow up ($z=-1.126$, $P=0.26$). There was an intermediate level of heterogeneity ($Q=4.22$, $P=0.12$, $I^2=52.60$) but no publication bias among these three studies was identified.

Conclusion CBT and Education programmes of chronic pain management resulted in the same level of pain intensity reduction post-intervention and after 6 months follow up. The two interventions only slightly reduced the pain intensity score in the 3 samples studied which was statistically significant in one study only.