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IS THE PLACEBO POWERLESS?

Over the years dramatic claims have been made for placebos such that it has become widely accepted that placebo interventions are able to improve patient- reported and observer-reported outcomes amongst a diversity of patient populations.

We might do well to ask, is this belief based on good quality evidence that compares placebo with no treatment?

A recent systematic review (1), carried out by researchers from the University of Copenhagen posed just that question.

The authors, Hrobjartsson and Gotzsche, searched the Cochrane Central Register of Controlled Trials, MEDLINE, EMBASE, Biological Abstracts, and PsycLIT. They included randomised placebo trials with a no-treatment control group investigating any health problem.

Their results indicate that outcome data was available in 156 out of 182 included trials, investigating 46 clinical conditions.

The authors found no statistically significant pooled effect of placebo in 38 studies with binary outcomes. Furthermore, they report that there was no statistically significant effect of placebo interventions in the four clinical conditions investigated in three trials or more: pain, nausea, smoking, and depression, but confidence intervals were wide.

They report having found an overall effect of placebo treatments in 118 trials with continuous outcomes. A statistically significant effect was found for patient-reported outcomes, whereas no statistically significant effect was found for observer- reported outcomes.

There was reportedly an apparent effect of placebo interventions on pain, and phobia; but also a substantial risk of bias.

There was no statistically significant effect of placebo interventions in eight other clinical conditions investigated in three trials or more: nausea, smoking, depression, overweight, asthma, hypertension, insomnia and anxiety, but confidence intervals were wide.

The authors concluded that,

“There was no evidence that placebo interventions in general have clinically important effects,” and that, “A possible small effect on continuous patient-reported outcomes, especially pain, could not be clearly distinguished from bias.”

(Note; In a previous publication (2) one of the above authors had pointed out that some of the confusion surrounding the interpretation of research pertaining to the placebo effect was born out of the existing variation in the meaning of the concept of placebo effect. The author went on to point out that the notion of placebo effect has at least two main meanings: effect of placebo intervention, and effect of patient-provider interaction. When the terms are defined pragmatically, effects of placebo can be estimated as the difference between placebo and no- treatment in randomized trials. The effect of patient-provider interaction can similarly be assessed by comparing manipulation of the patient-provider interaction with no manipulation. In both cases bias due to lack of double-blinding is a potential problem.)

Reference:

1. Hrobjartsson A, Gotzsche P. Placebo interventions for all clinical conditions. *Cochrane Database Syst Rev.* 2004;3:CD003974.
2. Hrobjartsson A. What are the main methodological problems in the estimation of placebo effects? *J Clin Epidemiol.* 2002;55:430-5.