

# TESTING TREATMENTS

## Chapter 6, 6.1.3 FAIR TESTS OF TREATMENTS

Most patients and clinicians hope, of course, that treatments will help. They may conclude that something works simply because it agrees with their belief that it *should* work. They do not look for, or they discard, information that is contrary to their beliefs. These psychological effects also explain why patients who believe that a treatment will help to relieve their symptoms may well experience improvements in their condition – even though the treatment, in fact, has no active ingredient (a ‘sham’, often known as a ‘placebo’). Patients have reported improvements after being given pills made of sugar, injections of water, treatments with inactivated electric gadgetry, and surgery where nothing happened other than a small cut being made and sewn up again.

Take the example of a test comparing different weight-reducing diets. Researchers recruited viewers of a popular television programme who wanted to lose weight and assigned them to one of six diets. One of the diets – *bai lin* tea – had been promoted as a successful way of losing weight. The average weight of the slimmers went down in all six groups, but in some much more than in others. However, when the results were presented on television, it was revealed that one of the diets – ‘the carrot diet’ – was not a slimming diet at all. It had been included in the test to provide a ‘benchmark’ of weight loss which was due not to any of the six diets, but to changes in eating habits resulting from other factors that had motivated participants to eat differently.<sup>2</sup>

### The need to go beyond impressions

If patients believe that something helps them, isn’t that enough? Why is it important to go to the trouble and expense of doing research to try to assess the effects of the treatment more formally, and perhaps to try to find out whether and if so *how* it has helped them? ‘There are at least two reasons. One is that treatments that do not work may distract us from treatments that do work. Another reason is that many (if not most) treatments have adverse side-effects, some short term, some longer term, and some still unrecognized. If patients do not use these treatments, they can be spared the unwanted effects. So it is worth identifying treatments that are very unlikely to help or might cause more harm than benefit. Research may also uncover important information about

how treatments work, and so indicate possibilities for developing better and safer treatments.

Research about the effects of treatments is relevant everywhere, but especially in communities that endeavour to share healthcare resources fairly among all patients – for example, in the British National Health Service, or the US Veterans Health Administration. In these circumstances, decisions always have to be taken about which treatments represent good value for the inevitably limited resources available for healthcare. If some patients are given treatments that have not been shown to be useful, this may mean depriving other patients of treatments that have been shown to be beneficial.

None of this should suggest that patients' and clinicians' impressions and ideas about the effects of treatments are unimportant. Indeed they are often the starting point for formal investigation of apparently promising new treatments. Following up such impressions with formal research can sometimes lead to the identification of both harmful and useful effects of treatments. For example, it was a woman who had been treated with the drug diethylstilboestrol (DES) during pregnancy two decades earlier who first suggested that this might have caused her daughter's rare vaginal cancer (see Chapter 2, p15-16). And when a patient mentioned unexpected side-effects of a new treatment prescribed for his raised blood pressure, neither he nor his doctor could have imagined that his comment would lead to the identification of an all-time best-selling drug – sildenafil (Viagra).

So, individuals' impressions about the effects of treatments should not be ignored, but they are seldom a reliable basis for drawing sound conclusions about the effects of treatments, let alone for recommending treatments to others.

### So what are fair tests?

Most of us know that it can be a mistake to take a media report of some new medical advance at face value. But the sad truth is that one must also be cautious about reports of treatments even in apparently reputable journals. Misleading and overblown claims about treatments are common, and it is important to be able to assess their reliability.