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Review

Executive summary

The role of expectancies in the placebo effect and their use in the delivery of health care: a systematic review

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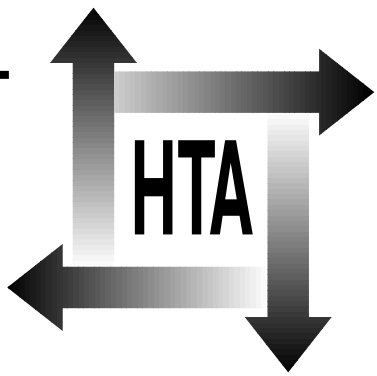

Executive summary

Objectives

- The original aim was to assess the nature and extent of the placebo effect and to consider how it may be harnessed within the NHS to improve the quality of care.
- The first step was to develop an approach to the review that would address specific questions about the placebo effect.

Methods

A broad definition of placebos was adopted, and a placebo component was assumed to be associated with all aspects of health care. A model of the placebo effect was derived from the background literature. This review focused on the expectancy mechanism. Expectancies were defined as treatment-related outcome expectations (beliefs that treatments will have positive or negative effects on health status) and patient-related self-efficacy expectations (beliefs that one can carry out the actions necessary for successful management of a disease or coping with the treatment).

On this theoretical basis, this review tested the hypothesis that changes in health status attributed to placebos are achieved by manipulations of these outcome and self-efficacy expectations. The review was confined to healthcare delivery in the clinical sector. A case was made for the exclusion of studies concerned with psychotherapy, complementary therapies and laboratory-based experiments.

A structured review of a subset of the literature on the placebo effect was conducted.

Initial searches of electronic data bases identified 47,600 references which were narrowed down to 689. These were screened and this reduced the total to 489 abstracts, of which 93 were primary research papers. Data were extracted from the primary research papers and tabulated. All studies were rated for methodological quality as either acceptable or poor.

A working definition of expectancy was developed together with criteria for identifying papers in which expectancy was the key feature; these reduced the number of primary research papers to 85. Expectancy was classified as process expectancy, positive outcome expectancy, negative outcome expectancy, interaction self-efficacy and management self-efficacy. Classification was based on information reported in the methods sections on the content of the intervention. Papers were classified into three clinical areas, in terms of the type of expectancy they addressed. A narrative review of the studies in each category was conducted. The analysis made explicit the placebo element of the three clinical areas by identifying which of the expectancies were either implicitly or explicitly changed in the course of the intervention or treatments.

Results

Preparation for medical procedures

The expectancies created were process expectancy and management self-efficacy and, to a lesser extent, positive outcome expectancy. The main health outcomes were reduced use of analgesics and a more comfortable subjective experience for the patient through less anxiety. Management self-efficacy created by skills training prior to the medical procedure, either alone or in combination with process expectancy, was more effective than process expectancy created alone.

Management of illness

The expectancies created were primarily management self-efficacy or interaction self-efficacy and both resulted in benefits for the patient. Benefits included an improvement in the patient's symptoms (e.g. improved mood, less anxiety, reduced pain, and less bothered by asthma) and an improvement in the patient's disease status (e.g. lowered blood pressure, immunological changes, and better metabolic control). A few studies also reported a reduction in the use of health services.

Medical treatment

This area involved the creation of positive (and occasionally negative) outcome expectancies. The majority of studies provided evidence of the power of positive outcome expectancy to enhance the effects of medical treatment. Most of the improvements were patient self-reports of reduced

anxiety, pain and distress. There was also some evidence for the effects of negative outcome expectancy where the frequency of the patient's self-report of symptoms increased.

Expectancies and the placebo effect

Given the evidence for the subjective and objective benefits of creating expectancy, the studies reviewed provide support for the hypothesis that expectancies are a mechanism by which placebos have their effects. However, because of the heterogeneity of outcomes assessed and the uneven distribution of the expectancies across the three clinical areas, it was not possible to use meta-analysis to combine effect sizes across studies. A more quantitative analysis of the results was not, therefore, possible. Few studies addressed economic issues in any of the three clinical areas. The review of the methodological quality indicated that the main weakness of studies concerned with placebo effects were small sample sizes and a lack of detail on design, randomisation and statistics.

Conclusion and recommendations

The existing evidence justifies the use of strategies to enhance expectancies, specifically to:

- enhance patients' accurate expectations about medical procedures and how to cope with them and their effects
- enhance patients' skills for self-management of their illness and their ability to communicate about their health problems with health-care providers
- enhance patients' beliefs in the benefits of effective medical treatments.

Enhancement of these expectancies would be achieved by training healthcare professionals to communicate positive outcome expectations effectively and training them in interaction styles that promote patient involvement in consultations. Equally, training of patients is also recommended to increase their ability to manage their disease and its treatment, and to participate more fully in consultations. Such training is often viewed as patient education; however, it involves training in specific skills that the patient can apply in combination with medical interventions and may therefore be more usefully viewed as an integral part of health care. Through provision and implementation of such training, beneficial so-called 'placebo' effects can be increased. A number of areas for further research are identified to help increase our understanding of the expectancy mechanism in the placebo effect.

Publication

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NHS R&D HTA Programme

The overall aim of the NHS R&D Health Technology Assessment (HTA) programme is to ensure that high-quality research information on the costs, effectiveness and broader impact of health technologies is produced in the most efficient way for those who use, manage and work in the NHS. Research is undertaken in those areas where the evidence will lead to the greatest benefits to patients, either through improved patient outcomes or the most efficient use of NHS resources.

The Standing Group on Health Technology advises on national priorities for health technology assessment. Six advisory panels assist the Standing Group in identifying and prioritising projects. These priorities are then considered by the HTA Commissioning Board supported by the National Coordinating Centre for HTA (NCCHTA).

This report is one of a series covering acute care, diagnostics and imaging, methodology, pharmaceuticals, population screening, and primary and community care. It was identified as a priority by the Methodology Panel and funded as project number 94/34/04.

The views expressed in this publication are those of the authors and not necessarily those of the Standing Group, the Commissioning Board, the Panel members or the Department of Health. The editors wish to emphasise that funding and publication of this research by the NHS should not be taken as implicit support for the recommendations for policy contained herein. In particular, policy options in the area of screening will be considered by the National Screening Committee. This Committee, chaired by the Chief Medical Officer, will take into account the views expressed here, further available evidence and other relevant considerations.

Reviews in *Health Technology Assessment* are termed 'systematic' when the account of the search, appraisal and synthesis methods (to minimise biases and random errors) would, in theory, permit the replication of the review by others.

The editors have tried to ensure the accuracy of this report but cannot accept responsibility for any errors or omissions. They would like to thank the referees for their constructive comments on the draft document.

Copies of this report can be obtained from:

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