It's good to know: How treatment knowledge and belief affect the outcome of distant healing intentionality for arthritis sufferers

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Abstract

Objective: This small-scale study explores the role of expectancy in response to distant healing by testing two hypotheses: 1) Participants aware of placement in the healing condition will report greater relief than those aware they are not receiving distant healing; 2) Participants who express belief in distant healing will report greater relief than those expressing disbelief.

Methods: Sixty patients were recruited from a rheumatology outpatient clinic, and through online support networks and blogs. Participants were randomly allocated to one of four conditions, those in the healing condition received distant healing from self-reported healers, while participants in the control condition received no intervention. Half of the participants knew their treatment allocation and half were blinded. The primary outcome measures were the General Health Questionnaire (GHQ-12) and the Short-form McGill Pain Questionnaire. The Paranormal Belief Scale and a measure designed to assess belief in distant healing were given to determine if belief was correlated with healing outcomes.

Results: Awareness of being a recipient of distant healing appeared to be associated with improved outcomes for those in the healing group. Medium to large improvements in GHQ scores \((d=0.76)\) and McGill Pain scores \((d=0.45)\) were calculated for the groups aware of their condition. Participants unaware that they were receiving healing showed no evidence of improved outcomes. Belief in healing did not have an effect on self-reported outcomes.

Conclusions: Improvements in reported pain and well-being appear to have been caused by knowledge of allocation in the distant healing condition rather than distant healing alone.

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Introduction

There are many factors that could be involved in anecdotal claims of distant healing, including placebo effects, individual expectations and the strength of faith in a specific healer. At a time when there is a broad, growing interest in alternative medicine [1,2], these factors and their role in the healing process demand investigation. This study aims to identify the role of belief and expectancy in response to distant healing intentionality with arthritis sufferers.

A number of healing techniques have been tested in research settings [3]. A major review of randomized trials [4] identified three categories of distant healing methods: Therapeutic Touch, Prayer and Other. The present study falls in the category of Other distant healing methods, defining distant healing as the healer's intentions, wishes or prayers for improvement of the healee's physical and mental well-being.

Very few studies have examined the role of healing belief in healing efficacy. According to the literature and research on psychoneuroimmunology and psychophysiology [5,6], belief is an undeniably important aspect of the healing process. In a 2008 study with a similar design to the present one, Walach et al. [7] found a significant healing effect \((p=.027)\) on self-reported mental and physical health outcomes for blinded participants with chronic fatigue syndrome. More relevant to the present study was the post hoc finding that participants’ beliefs as to whether or not they were receiving healing appeared to be related to mental and physical improvements; those who believed that they were receiving healing had more positive outcomes. Additionally, Lyvers and colleagues [8], who conducted a double-blind study with twenty volunteers, found that pre-treatment questionnaires of belief in psychic healing and paranormal phenomena significantly correlated with positive outcomes irrespective of participants’ treatment condition. The present study uses a partially blinded design: half of the participants were informed whether or not they would be receiving healing (not masked) and half were not (masked). This design was employed with the aim of clarifying the role of knowledge of treatment in participants’ responses to distant healing.
The current study also accounts for participants’ self-reported beliefs about distant healing, as perhaps the most common skeptical explanation of how distant healing works would be to assert that it is a placebo response due to faith in the treatment [9]. Thus, this study investigates the effect both of specific knowledge that one is receiving distant healing, and general belief in healing.

Healers in this study are given names, ages and photographs of participants to work with, but do not have any contact with participants. Using questionnaire measures that are administered and returned by post or email, participants indicate their subjective well-being as the primary dependent variable.

Method

Design

Participants were randomly allocated to distant healing treatment versus control (no healing) conditions. In order to test for the effects of belief and expectancy, half of the participants were unaware of their treatment allocation. Therefore there were four treatment groups, as shown in Fig. 1.

The four groups were measured at three points (baseline, post-treatment, one month follow-up). The one month follow-up measurement point was exploratory, to assess possible persistence of any immediate post-treatment effects. The analysis therefore focused on the first two measurement points, giving a 2 × 2 factorial design. The two primary outcome measures were the 12-item GHQ [10] (used to determine general well-being) and the Short form McGill Pain Inventory, GHQ and Paranormal Belief and Healing Belief measures were administered at baseline, after which participants in the not-masked group were informed of their condition allocation. The healers never met the participants in person. Using their normal healing techniques, healers worked with their assigned healees for 6 weeks and were asked to practice distant healing at least once per week. Healer logs indicate that some healers chose to practice healing almost daily for shorter durations (1–15 min) while other healers practiced healing once in a week for a longer period (20–40 min).

Procedure for healers

Healers were free to continue their current medical treatment or seek additional treatment. Each participant was randomly assigned to a single healer. The control groups received no intervention and completed the same measurements as the treatment groups. Each was chosen based on self-reported experience and training in distant healing.

Participants

Participants were recruited primarily from the NHS hospital’s rheumatology outpatient clinic and relevant internet sites. In total 125 participants were sent an information packet, letter of consent and baseline measures. Of the 63 respondents, 3 failed to return post-treatment measures, and 60 completed and returned all assessment materials (46 female). In a recent large multinational study of gender as a predictor of outcomes in rheumatoid arthritis patients, 79% of those included were female, and the overall mean age was 57 years [13]. In the present study, approximately 77% of participants were female, and the mean age was 53, reflecting a sample comparable to the general population of arthritis sufferers. Participants were offered a book token or a charitable donation in recognition of their involvement in the study.

Hypothetical

Hypothesis 1. Participants aware of placement in the healing condition will report greater relief from their illness than those aware that they are not receiving distant healing.
Hypothesis 2. Participants who express a belief in distant healing will report greater relief from their illness than those expressing disbelief.

Planned analysis
An analysis of variance would be used to calculate between-group differences of the post-treatment (after 6 weeks of healing) scores for the Short-form McGill Pain Questionnaire and the General Health Questionnaire. The baseline scores would be included as covariates in an ANCOVA. The Healing and Paranormal belief scale pre-treatment scores would be combined to form a single Healing Belief index and included as an additional covariate.

Results
Eighteen participants were assigned to the masked/healing group; 15 to the not-masked/healing group; 15 to the masked/no-healing group; and 12 to the not-masked/no-healing group.

Knowledge of treatment (Hypothesis 1)
Hypothesis 1 predicted that participants aware that they were receiving healing would report better health than those aware that they were not receiving healing. This would appear as an interaction effect in the ANCOVA. The mean values of each group do show an interaction in the predicted direction for the outcome for both GHQ and McGill scores (see Graphs 1 and 2), but differences between groups are not statistically significant (GHQ, F(1,55) = 1.907, p = .173, $\eta^2 = .034$; McGill, F(1,55) = 1.549, p = .219, $\eta^2 = .027$). Combined, the healing/no healing and masked/not masked factors explain only a small percentage of the model. However, when the outcome measures are considered in the groups not masked to their conditions, there is a medium–large effect size of $d = .76$ for GHQ and $d = .45$ for McGill. This effect, that participants report better health when they know they are receiving healing, although not showing a significant interaction in the ANCOVA due to low statistical power, nevertheless provides some support for Hypothesis 1.

Effects of healing belief (Hypothesis 2)
Hypothesis 2 predicted that participants who reported a belief in distant healing would report greater relief from their illness than those with low belief. When baseline Healing Belief is added into the ANCOVA as an additional covariate it is not statistically significant with either measure, and although it appears to contribute to the model slightly, the adjusted R squared values are not an improvement from the ANCOVA models that exclude healing belief (GHQ F(1,54) = 1.380, $p = .245$, $\eta^2 = .025$; McGill F (1,54) = 1.369, $p = .247$, $\eta^2 = .025$). Hypothesis 2 can therefore be rejected (Graph 3).

Exploratory analyses
Overall, there is no main effect of distant healing (GHQ F(1,55) = 1.243, $p = .270$, $\eta^2 = .022$; McGill F(1,55) = .047, $p = .829$, $\eta^2 = .001$). Results from the exploratory 1-month follow-up were not found to be significantly different from the post-treatment results, indicating that post-treatment results persisted to some extent.

Discussion
This study investigated the effects of specific knowledge that one is receiving distant healing, and of general healing belief, on self-reported physical and psychological well-being. There was no significant effect of knowledge of healing on the planned analysis, although Hypothesis 1 was not formally supported. However, medium to large effect sizes were found for both GHQ and McGill Pain scores for those participants who were aware of their healing condition placement, in the direction hypothesized. This suggests that knowledge that one is being healed (or not) has a part to play in apparent distant healing effects, providing partial support for Hypothesis 1. It appears that this trend was not statistically significant due to the study having low statistical power. Follow-up research with a larger number of participants would be needed to confirm the trend seen in the present study, though our finding is consistent with the previously cited observations by Walach and colleagues [7].

The trend seen in the present study, and the previous findings of Walach and colleagues [7], does not necessarily prove that apparent distant healing effects are in fact simply due to the participants’ expectancy of healing. It is possible, for instance, that participants are more receptive to paranormal healing if they have a positive expectancy. However, it is clearly more parsimonious to opt for an explanation based on expectancy alone, given that there is no evidence of healing in the masked conditions.

Finally, and perhaps surprisingly, generalized belief in healing appeared to have no effect on participants’ self-reported well-being, and thus Hypothesis 2 was not supported. This is particularly
interesting considering that expectancy at some level seems to have an effect, but is not contingent on one’s belief in the possibility or efficacy of distant healing. This result is not in line with the findings of Lyvers et al. [8] who found that belief did correlate with outcome measures. In both the current study and Lyvers et al. the McGill Pain Questionnaire was used, however belief measures for Lyvers et al. were developed specifically for the study and may be a more accurate determinant of belief than those used in the current study. Future study of appropriate belief measures for distant healing research would be of value.

Limitations of the current study include low statistical power, the use of self-reported measures rather than clinical outcome measures, as well as a population with a chronic condition in which changes in well-being and pain may be sporadic and difficult to detect. It is suggested that future research complements intervention studies such as this one by utilizing alternative approaches to the study of distant healing intentionality, including qualitative approaches. Intervention studies and clinical trials with greater statistical power as well as trials with non-human subjects may also prove beneficial.

In conclusion, it is unclear to what extent researchers will be able to understand and explain distant healing intentionality. However, due to widespread growth of complementary therapies as well as a body of anecdotal evidence, including a US Gallup Poll that reports 27% of respondents have experienced “a remarkable healing” [14]—it is important that continued and varied approaches of research in this field be pursued to explore the psychological and possible non-local factors that may be involved.

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