A meta-analysis of the effect of guided imagery practice on outcomes

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CRD summary
This review found that guided imagery had an increased effect on physiological and psychological outcomes over 5 to 7 weeks, but a decreasing effect at 18 weeks. It did not directly compare different study durations, and factors other than time could have affected the results. This issue and a number of other methodological problems make the conclusions of this review unreliable.

Authors' objectives
To examine the relationship between the duration of a guided imagery intervention and the resulting effect size.

Searching
CINAHL and MEDLINE were searched from 1996 to 2002 for articles published in the English language; the search terms were given.

Study selection
Study designs of evaluations included in the review
No inclusion criteria for the study design were pre-specified. The included studies were randomised controlled trials, (RCTs), quasi-experimental studies, pre-test post-test studies and time series.

Specific interventions included in the review
To be eligible, the studies needed to be of guided imagery excluding receptive imagery. Studies where the effect of imagery could not be isolated from other interventions were excluded, as were studies using imagery for primary psychiatric diagnosis. Studies using self-hypnosis were included if imagery was the primary component and any induction was described as a simple relaxation technique. The studies mainly used instruction accompanied by audiotape for practice at home, and focused on physiological imagery, pleasant imagery, or structured reframing of an experience. The studies were either single session or lasted between 2 and 18 weeks.

Participants included in the review
To be eligible, the studies needed to be of adult participants. The included studies assessed healthy medical students, people suffering chronic illness, or those experiencing acute illness or invasive procedures.

Outcomes assessed in the review
No specific outcomes were pre-specified. The included studies assessed physiological measures (immune parameters) and psychosocial measures such as anxiety, focus of control and coping, as well as quality of life.

How were decisions on the relevance of primary studies made?
The author did not state how the papers were selected for the review, or how many reviewers performed the selection.

Assessment of study quality
The author did not state that they assessed validity.

Data extraction
The author did not state how the data were extracted for the review, or how many reviewers performed the data extraction.

Means and standard deviations of intervention and control groups were extracted. The data were transformed to the d
statistic to enable a comparison of the effect sizes between studies. If studies had investigated the effect of several variables producing more than one effect size per time period, the mean effect size was used. A separate d statistic was calculated for each data collection point in two studies with repeated measures.

**Methods of synthesis**

How were the studies combined?
The studies were combined in a narrative.

How were differences between studies investigated?
Differences between the studies in terms of the participants, intervention type and outcomes were discussed within the report. Effect sizes were plotted against study duration (measured in weeks from the start of the intervention to the time of measuring the outcome).

**Results of the review**

Sixteen studies (n=1,029) were included in the review, of which ten (n=631) provided data to calculate effect sizes. Of the ten studies, nine were RCTs and one was a pre-test post-test study.

The use of guided imagery demonstrated an increase in effect sizes over the first few (5 to 7) weeks (based on six studies), but the effect was decreased at 18 weeks (based on two studies).

**Authors' conclusions**
The author concluded that although a positive relationship had been established between study duration and effect size, further meta-analyses using similar outcome measures would be needed to clarify the effect of time on the efficacy of guided imagery.

**CRD commentary**
Although this review had a defined research question, inclusion criteria for study design and outcomes were not pre-specified. The lack of precise inclusion criteria, together with the lack of detail on review methods used to minimise bias, implied that subjective decisions might have been made about the inclusion of studies and data extraction. The search was limited to two databases and only publications in English were eligible for inclusion. This introduces the possibility of bias as English language studies and studies reporting positive results are more likely to have been published.

The included studies did not directly compare different durations of the intervention and the conclusions were based on plotting study duration against effect size. The influence of factors other than study duration on the effect size cannot be discounted. Studies were heterogeneous in terms of their participants, intervention type and outcomes measured. Although the included studies were mainly RCTs, they were small and lacked power. Effect sizes were not weighted for sample size or for quality (which was not specifically assessed). The author's conclusions on the positive relationship between study duration and effect size would need confirmation in studies directly comparing different durations of the intervention.

**Implications of the review for practice and research**

Practice: The author stated that the clinician must monitor the clients' use of imagery to prevent adverse effects.

Research: The author stated that future studies should report in more detail the type of imagery, practice and outcome measures. RCTs are needed to support the positive findings of this review on the outcome of immune function, given that the review also found conflicting evidence. The author also highlighted the need to research the use of mental rehearsal in stroke rehabilitation.
Bibliographic details

PubMedID
15154991

DOI
10.1177/0898010104266066

Indexing Status
Subject indexing assigned by NLM

MeSH
Holistic Health; Holistic Nursing /standards; Humans; Hypnosis /methods; Imagery (Psychotherapy) /methods; Nursing Methodology Research; Outcome Assessment (Health Care); Relaxation Therapy; Stress, Psychological /therapy; Time Factors; Treatment Outcome

AccessionNumber
12004003652

Date bibliographic record published
31/07/2007

Date abstract record published
31/07/2007

Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.