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SYSTEMATIC REVIEW

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Editor's Choice

Effects of reiki in clinical practice: a systematic review of randomised clinical trials

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SUMMARY

Introduction: The aim of this systematic review is to summarise and critically evaluate the evidence for the effectiveness of reiki. **Methods:** We searched the literature using 23 databases from their respective inceptions through to November 2007 (search again 23 January 2008) without language restrictions. Methodological quality was assessed using the Jadad score. **Results:** The searches identified 205 potentially relevant studies. Nine randomised clinical trials (RCTs) met our inclusion criteria. Two RCTs suggested beneficial effects of reiki compared with sham control on depression, while one RCT did not report intergroup differences. For pain and anxiety, one RCT showed intergroup differences compared with sham control. For stress and hopelessness a further RCT reported effects of reiki and distant reiki compared with distant sham control. For functional recovery after ischaemic stroke there were no intergroup differences compared with sham. There was also no difference for anxiety between groups of pregnant women undergoing amniocentesis. For diabetic neuropathy there were no effects of reiki on pain. A further RCT failed to show the effects of reiki for anxiety and depression in women undergoing breast biopsy compared with conventional care. **Discussion:** In total, the trial data for any one condition are scarce and independent replications are not available for each condition. Most trials suffered from methodological flaws such as small sample size, inadequate study design and poor reporting. **Conclusion:** In conclusion, the evidence is insufficient to suggest that reiki is an effective treatment for any condition. Therefore the value of reiki remains unproven.

Review Criteria

Randomised clinical trials were identified using prespecified search terms in 23 electronic databases without language restriction. Reference lists of retrieved articles were manually searched to identify further trials.

Message for the Clinic

The decision to include reiki on the list of complementary medicines recommended for pain management, anxiety and depression by the NHS Trusts and Princess of Wales's Foundation of Integrative Medicine, is not evidence based. Patients who are using (or considering using) reiki for management of these symptoms should be provided with current evidence of effectiveness. Whilst a lack of evidence does not mean that reiki is ineffective, patients should be informed that the only systematic and critical appraisal of RCTs demonstrates that there is currently no robust evidence to recommend a course of reiki for management of several chronic conditions.

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Disclosure
None.

Introduction

Reiki is a therapeutic modality developed in Japan in the mid-19th century (1) and is also now used in western countries. The word reiki is made up of two Japanese words: Rei, or universal spirit (sometimes thought of as a supreme being) and ki (meaning universal life energy) (1). The National Center for Complementary and Alternative Medicine classified reiki as energy medicine and specifically a biofield therapy (1). Reiki practitioners believe that the therapeutic effects of this technique are obtained from a 'universal life energy' that provides strength, harmony, and balance to the body and mind (1). Life energy is thought to be transferred to patients when practitioners place their hands on or directly above treatment areas. It is believed that the channelling of healing 'energy' from an assumed source through the hands of the healer to the patient facilitates the therapeutic effect (2). The central claim of healers is that reiki promotes or facilitates self-healing in the patient.

Reiki is used for a number of conditions including the relief of stress and tension (1,3). It is officially recommended by some National Health Service Trusts (4,5) and The Prince of Wales's Foundation for Integrated Health (3) for the management of chronic diseases. However, it has not been evaluated using a systematic, evidence-based approach. Existing reviews (2,6–8) were non-systematic and therefore open to bias. Thus, this systematic review is aimed at summarising and critically evaluating the data from randomised clinical trials (RCTs) of the clinical effectiveness of reiki in the treatment of any medical condition.

Materials and methods

Data sources

Electronic databases were searched from their respective inception through to November 2007 (searched

again 23 January 2008) using the following databases: MEDLINE, AMED, British Nursing Index, CINAHL, EMBASE, PsycInfo, ClinicalTrials.gov of the US National Institute of Health, the UK National Research Register, The Cochrane Library 2007, Issue 4, ProQuest Dissertations and Theses, Korean Databases (Korean Studies Information, DBPIA, six Korea Institute of Science and Technology Information, Research Information Center for Health Database, KoreanMed and Korea National Assembly Library), four Chinese Medical Databases (China Academic Journal, Century Journal Project, China Doctor/Master Dissertation Full text DB, China Proceedings Conference Full text DB). Japan Science and Technology Information Aggregator Electronic, Journal@rchive, Science Link Japan and the Qigong and Energy Database (Qigong Institute, Melon Park, version 7.4). The search terms used were reiki or Korean language terms for reiki. In addition, our own files and relevant journals (Focus on Alternative and Complementary Therapies and Subtle Energies and Energy Medicine Journal from their respective inception to December 2007) were manually searched. In addition, the references of all located articles were hand-searched for further relevant articles.

Study selections

RCTs were included if they assessed human subjects who received reiki alone or adjunctive to conventional treatment. Trials comparing reiki with any type of control group were included. Any trials with reiki as part of a complex intervention were excluded. Trials, which aimed to develop the methodology of reiki procedures without clinical outcomes were also excluded. Studies in which no data or no statistical comparisons were reported were excluded. Trials assessing healthy subjects were also excluded. No language restrictions were imposed. Dissertations and abstracts were included. Hard copies of all articles were obtained and read in full.

Data extraction and quality assessment

All articles were read by two independent reviewers (MSL, MHP) and data were validated and extracted according to predefined criteria. Allocation concealment was assessed using the Cochrane classification (9). The methodological quality of all studies was independently assessed by the two reviewers using the Jadad score (10). Taking into account that reiki practitioners are virtually impossible to be blinded to the treatment, we used a modification of this scale (11). Points were awarded for a maximum of five as follows: one point if the study was described as randomised; one point for appropriate method; one point deducted if the randomisation method was inappropriate; one point if subjects were blinded to intervention; one point if the evaluator was blinded to the intervention and one point for description of withdrawals and dropouts. Subject blinding was assumed where the control intervention was indistinguishable, even if the word 'blinding' did not occur in the report. Discrepancies were resolved by discussion between two reviewers.

Results

Study description

The searches identified 205 potentially relevant studies; 196 studies were excluded, nine RCTs of which were included (Figure 1). Key data are summarised in Table 1 (12–20). Two RCTs (21,22) were excluded because it was not possible to extract data for reiki alone from a complex intervention. One RCT, which aimed to develop a placebo procedure for reiki studies, was also excluded (15). Another trial was excluded because healthy subjects were assessed (23). A further six RCTs, identified on ClincalTrials.gov, could not be included because they are ongoing or have not published results yet. Five trials (12–14,19,20) conducted in the USA, three trials (15,17,18) conducted in Canada and one trial conducted in the UK (16) met our inclusion criteria and were reviewed. Eight of the included trials adopted a parallel group design (12–17,19) and one adopted a cross-over design (18).

Study quality

The methodological quality of the included RCTs ranged between two and five of possible five. Of the nine included RCTs, four described the methods of randomisation (15,17,19,20), one for assessor blind (20) and one for patient blinding (16). Three RCTs reported assessor and subject blinding (13,15) or subject and practitioner blinding (14). Sufficient details of drop-outs and withdrawals were described in seven trials (12,14–18,20). Two RCTs reported details on allocation concealment (15,20).

Included studies

Dressen and Singg (12) evaluated the effect of reiki on pain and psychological symptoms in 120 chronically ill patients. Participants were allocated randomly into one of four parallel groups: reiki ($n = 30$), progressive muscle relaxation ($n = 30$), sham reiki ($n = 30$) and no treatment ($n = 30$). At the end of the treatment period, there was a significant reduction of present pain (McGill Questionnaire, $p < 0.01$), depression [Beck Depression Inventory (BDI), $p < 0.01$] and anxiety (State Trait

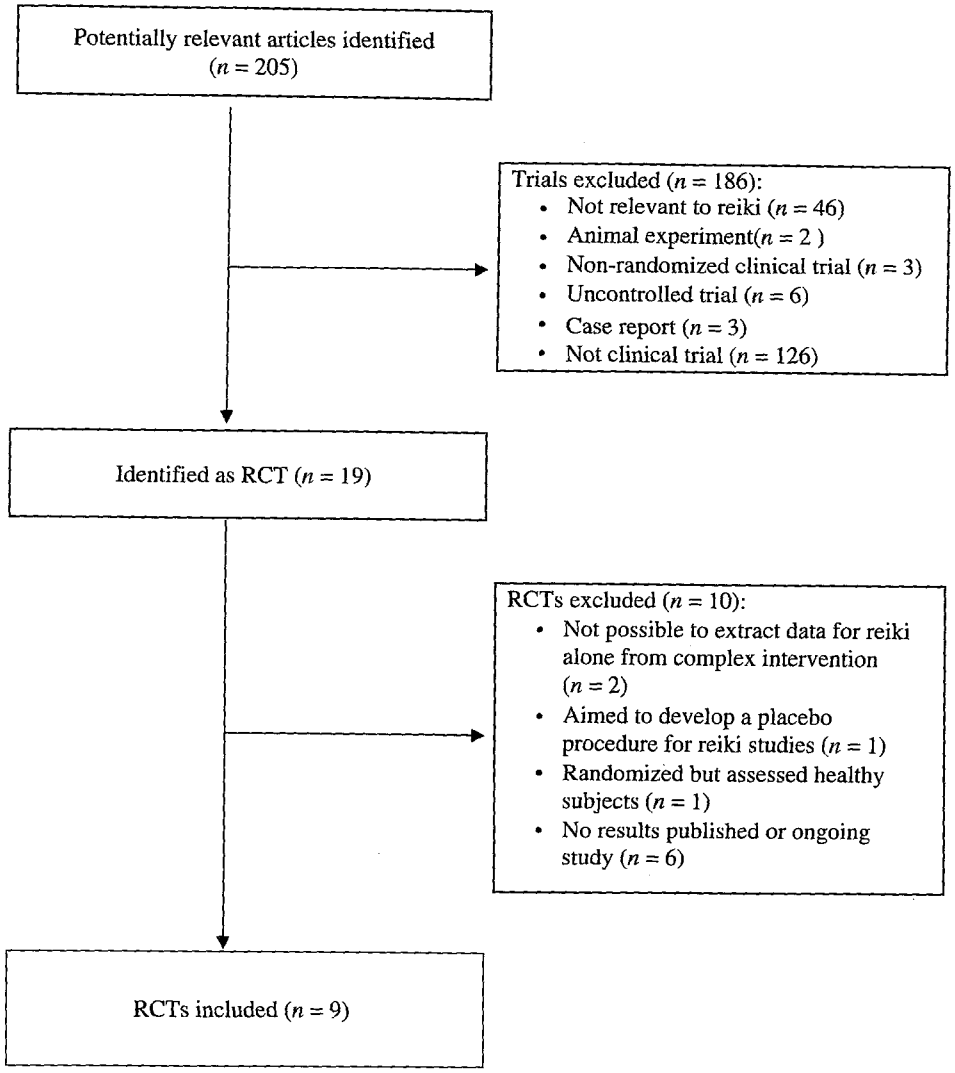

Figure 1 Flowchart of trial selection process

Anxiety Inventory, $p < 0.01$) in the reiki group compared with all other groups.

Shore (13) evaluated the effectiveness of reiki for depression and stress. Forty-five patients (self-defined and documented by questionnaire) were randomly divided into one of three groups receiving hands-on reiki ($n = 13$), distant reiki ($n = 16$) or sham distant reiki ($n = 16$). After 6 weeks, there were significant reductions in depression (BDI, $p < 0.05$ for hands-on reiki and $p = 0.004$ for distant reiki compared with sham reiki) and stress (Perceived Stress Scale, $p = 0.004$ for hands-on reiki and $p = 0.005$ for distant reiki compared with sham reiki) in treatment groups compared with sham reiki group and these differences continued to be present 1 year later.

Shiflett et al. (14) assessed the effects of reiki as an adjunctive treatment in subacute stroke patients. Participants were randomised into three parallel groups: intervention by a reiki master ($n = 10$), reiki by a practitioner ($n = 10$) and sham reiki ($n = 10$). At the end of the treatment period, there were no differences on depression (Center for Epidemiologic Studies Depression Scale) and functional recovery (Functional independence measure) between the three groups.

Mauro (15) tested the effectiveness of reiki on anxiety in pregnant women who were undergoing amniocentesis. Participants were randomised into three parallel groups: reiki ($n = 10$), sham reiki ($n = 10$) and no treatment ($n = 10$). After 2 weeks, there was no significant difference in anxiety (Sheehan Patient-Rated Anxiety Scale, and Subjective Unit of Disturbance Scale) between the three groups.

Gillespie et al. (16) assessed the effects of reiki in patients with type 2 diabetes mellitus and painful diabetic neuropathy. Participants were randomised

Table 1 Summary of randomised clinical studies of reiki

References	Design, allocation concealment*	Jadad score	Subject condition, mean age, sample size (randomised/analysed)	Interventions (regimen)	Main outcome measures	Main results	Comments
Dressen and Singg (12)	4 parallel groups, open, unclear	2	Various chronically ill patients with pain (120/119)	(A) Reiki (60–90 min, 2 times weekly for 5 weeks, $n = 30$) (B) Sham reiki (mimic by lay assistant, $n = 30$) (C) Progressive muscle relaxation (nr, $n = 30$) (D) Untreated ($n = 30$)	(1) Total Pain (McGill Questionnaire) (2) Present pain intensity (5 Lickert scale from McGill Questionnaire) (3) Depression (BDI) (4) Anxiety (STAI)	(1) ns (2–4) A vs. B, $p < 0.01$; A vs. C, $p < 0.01$; A vs. D, $p < 0.01$	Heterogeneity of subjects 3 months follow-up Total 10 sessions
Shore (13)	3 parallel groups, subject and assessor blind, unclear	3	Subjects with symptoms of depression and stress (45/45)	(A) Reiki (60–150 min, total 6 sessions, $n = 13$) (B) Distant reiki (no touch, 60–150 min, total 6 sessions, $n = 16$) (C) Distant placebo reiki (60–150 min, total 6 sessions $n = 16$)	(1) Perceived Stress Scale (PSS) (2) Depression (BDI) (3) Beck Hopelessness Scale	(1) A vs. C, $p = 0.004$; B vs. C, $p = 0.005$; A vs. B, ns (2) A vs. C, $p = 0.05$; B vs. C, $p = 0.004$; A vs. B, ns (3) A vs. C, $p = 0.02$; B vs. C, $p = 0.01$; A vs. B, ns	The effects of reiki remained after 1 year follow-up Distant placebo reiki was performed as far as hundreds of miles away between practitioner and subjects Small sample size
Shiflett et al. (14)	4 parallel groups, subject blind and practitioner blind, unclear	4	Ischaemic stroke rehabilitation (30/30)	(A) Reiki (30 min, 10 treatment over 2.5 weeks, $n = 10$) by master (B) Reiki ($n = 10$) by practitioner (C) Sham reiki ($n = 10$) by practitioner (D) †No treatment (historical control, $n = 20$)	(1) Functional independence (2) Depression (CES-D)	(1 and 2) ns	Total 6 sessions Questionable use of/education of the reiki practitioners who administrated the reiki Sample size was calculated
Mauro (15)	3 parallel group, subject and assessor adequate	5	Pregnant women experiencing their first amniocentesis (30/23)	(A) Reiki (30 min, once, $n = 10$) (B) Sham reiki (mimic, 30 min, once, $n = 10$) (C) No treatment ($n = 10$)	(1) Anxiety (Sheehan Patient-Rated Anxiety Scale) (2) Subjective Unit of Disturbance Scale	(1 and 2) ns	Small sample size Total 10 sessions 2 weeks follow-up Small sample size Total 1 session

Table 1 *(continued)*

References	Design, allocation concealment*	Jadad score	Subject condition, mean age, sample size (randomised/analysed)	Interventions (regimen)	Main outcome measures	Main results	Comments
Gillespie et al. (16)	3 parallel group, subject blind unclear	3	Type 2 diabetes mellitus and painful diabetic neuropathy (207/197)	A) Reiki (25 min, once weekly except first week – 2 times, for 12 weeks, $n = 93$) B) Sham reiki (mimic, $n = 88$) C) Usual care ($n = 26$)	(1) Pain (McGill Pain Questionnaire) (2) 6-min walk test	(1 and 2) ns	Total 13 sessions
Olson et al. (17)	2 parallel groups, open, unclear	3	Advanced cancer (24/24)	(A) Reiki (1.5 h, total 2 sessions, $n = 11$), plus opioid (details nr) (B) Rest (1.5 h, total 2 sessions, $n = 13$), plus opioid (details nr)	(1) Pain (VAS) (2) Quality of life (linear analogue scale) (3) Opioid usage and dose	(1) Day 1, $p = 0.035$; day 4, $p = 0.002$ (2) Psychological subscale, $p = 0.002$	Dropout rate: 54% Small sample size Total 2 sessions
Tsang et al. (18)	2 group cross-over, unclear	2	Cancer (stages I–IV) (16/16)	(A) Reiki (45 min, total 7 sessions, $n = 16$) (B) Resting (45 min, total 7 sessions, $n = 16$)	(1) Fatigue (FACT) (2) Quality of life (FACT) (3) Pain (Edmonton Symptom Assessment System)	(3) ns (1) ns (2) $p = 0.04$ (3) ns	Washout period was short Total 7 sessions
Vitale and O'Connor (19)	2 parallel groups, open, unclear	2	Women with hysterectomies (22/22)	(A) Reiki (30 min, 1 time preoperatively, 24 and 48 h postoperatively, $n = 10$), plus conventional nursing care (nr) (B) Conventional nursing care (nr, $n = 12$)	(1) Pain (NRS) (2) Anxiety (STAI)	(1) 24 h, $p = 0.04$; 48 and 72 h, ns (2) At discharge, $p = 0.004$	Small sample size Total 3 sessions
Potter (20)	2 parallel groups, open, adequate	4	Women undergoing breast biopsy (35/32)	(A) Reiki (45–50 min, 2 times – one within 7 days before and one within 7 days after biopsy, $n = 18$), plus same care to control (B) Conventional care	(1) Anxiety (STAI) (2) Depression (CES-D and HADS)	(1 and 2) ns	Total 2 sessions

*Classified by Cochrane criteria; †Recruited separately and then the number did not count in randomised number. VAS, visual analogue scale; nr, not reported; ns, not significant; BDI, Beck Depression Inventory; STAI, State-Trait Anxiety Inventory; NRS, numeric rating scale; CES-D, Center for Epidemiologic Studies Depression Scale; FACT, Functional Assessment of Cancer Therapy.

into reiki ($n = 93$), sham reiki ($n = 88$) and usual care ($n = 26$). At the end of the treatment period, there were no differences on pain (McGill Pain Questionnaire), 6 min walk test and quality of life (Epidemiology of Diabetes Intervention and Complications quality of life, Well-being Questionnaire, and Diabetes Treatment Satisfaction Questionnaire) between the three groups.

Olson et al. (17) investigated the effects of reiki as an adjunct to standard opioid medication for pain management in advanced cancer patients. Twenty-four patients were randomly allocated to the reiki plus opioid group ($n = 11$) or to the rest plus opioid group ($n = 13$). After two treatment sessions, there was improved pain control (visual analogue scale; $p < 0.05$ at both days 1 and 2) and quality of life (linear analogue scale; $p = 0.002$) but no overall reduction in opioid use in the treatment group compared with the control group.

Tsang et al. (18) investigated the therapeutic effects of reiki on fatigue and quality of life in cancer patients in a cross-over trial. Sixteen patients were randomised to each order of intervention, reiki then rest or rest then reiki. Fatigue decreased within the reiki session over the course of all seven treatments [Functional Assessment of Cancer Therapy (FACT), $p = 0.05$] compared with the rest session, while there was no intergroup difference compared with the control group. The quality of life was significantly improved with the reiki sessions compared with rest (FACT, $p < 0.01$).

Vitale and O'Connor (19) tested the effectiveness of reiki for anxiety and pain in 22 women undergoing abdominal hysterectomy. Patients were randomised to either reiki plus traditional nursing care ($n = 10$) or traditional nursing care only ($n = 12$). The experimental group reported less pain (numeric pain rating scale; $p = 0.04$ at 24 h) after operation and requested fewer analgesics ($p = 0.004$ at discharge) compared with the control group.

Potter (20) investigated the therapeutic effects of reiki on anxiety and depression in women undergoing breast biopsy. Thirty-five patients were randomly allocated to the reiki plus conventional care ($n = 18$) or to the conventional care alone group ($n = 17$). Anxiety decreased in both groups over time, while there was no intergroup difference. After two sessions, there was no significant difference in depression between the two groups.

Discussion

This systematic review identified few RCTs of reiki. Collectively these trials do not refute the notion that reiki has some potential as an adjuvant therapy. The evidence is, however, by no means compelling.

Three trials were both subject and assessor blinded (13,15) or practitioner blinded (14), whereas two trials were subject blinded only (16) or assessor blinded (20). Four studies did not make any attempt at either subject or assessor blinding (12,17–19). Trials with inadequate levels of blinding are likely to show exaggerated treatment effects (24). Only two trials calculated sample size and took adequate allocation concealment procedures (15,20). All of the other trials suffered from a lack of adequate allocation concealment and sufficient sample size. The RCTs included in this review fail to fully control for placebo effects. It is therefore impossible to tell to what extent the therapeutic response (if any) is due to specific or non-specific effects.

Even the trials scoring high on the Jadad scale were not devoid of flaws (14,15). The trial by Shiflett et al. (14) had a small sample size and included non-randomised historical controls in their statistical analysis. One trial was an unpublished thesis, which had not gone through formal peer review (15).

Different tools were used in the RCTs to determine outcomes such as depression, pain and anxiety. The differences in results might come from the suitability of the measurement tool applied. In particular different measurement tools for depression seem to yield different results. Unless the outcome measures used have established reliability and validity, data derived from them are subject to bias.

One could argue that currently there are not enough RCTs to do a conclusive systematic review. However, it is not only a matter of the number of RCTs but also one of methodological rigour including features such as appropriate sample size, subject or practitioner, or assessor blinding, and adequate allocation concealment. Currently there are several ongoing RCTs, which test the effectiveness of reiki funded by the US National Center for Complementary and Alternative Medicine. Perhaps these RCTs will clarify the issue.

One could also question whether future research in reiki should adhere to scientific rigour. However, we feel that, to establish a cause–effect relationship between the intervention and the clinical outcome, any intervention has to be tested in a way that demonstrably excludes the most obvious forms of bias.

Another concern is repeatability of trials. A clinical study is only truly useful if the trial can be replicated: therefore the expertise of the reiki healer being employed is important. There are numerous levels of reiki with significant differences between them, so a clear description of the reiki technique should be

provided together with a description of the level of expertise of the reiki healer. However, the reality is, even the same healer may produce different outcomes in different studies (25,26). Crucially all aspects of the trial methodology must be reported so that others can replicate the study. Moreover, none of the included trials mentioned the rationale for the treatment duration. The optimal dosage of reiki treatment requires further study.

The question arises as to the safety of reiki. None of the reviewed studies reported any adverse events. Reiki appears to be generally safe, and serious adverse effects have not been reported (1,27). Some practitioners advise caution about using reiki in people with psychiatric illnesses because of a risk of bringing out underlying psychopathology, although this risk has not been formally reported in the published literature (1,27). Adverse effects were not the focus of this review but the safety of reiki needs further research.

The mechanisms that may be involved in reiki are hypothetical. The existence of Ki (or Qi, life energy) has not been proven scientifically. Thus, the investigation of the theory, that humans can interact on an energetic level to heal each other in some way, would constitute an area for future study (28).

Limitations of our systematic review and indeed systematic reviews in general, pertain to the potential incompleteness of the evidence reviewed. We aimed to identify all RCTs on the topic. The distorting effects on systematic reviews and meta-analyses arising from publication bias and location bias are well documented (29–32). We know that negative studies tend to remain unpublished. Thus, publication bias could have produced an overall result that is more positive than the totality of all RCTs ever conducted would suggest. In this review, there were no restrictions in terms of publication language and a large number of different databases were searched. We are therefore confident that our search strategy has located all relevant data. However, a degree of uncertainty remains. A further weakness of systematic reviews pertains to the quality of the primary studies. Even though quality of the reviewed studies is moderate, methodological shortcomings such as small sample size and inadequate level of blinding render our review at best inconclusive.

Our decision to exclude non-randomisation might also be criticised. However, we strongly feel that non-randomisation introduces selection bias which, in turn, would render any results uninterpretable. The exclusion of RCTs on healthy subjects or without clinical outcomes or qualitative studies might be criticised. We feel that such trials would not give objective clinical information of value. Moreover, these studies cannot provide reliable data on the effectiveness of reiki. Therefore we believe that the exclusion of such studies was the correct decision.

Future trials testing the effectiveness of reiki should adhere to rigorous trial designs which are adequately suited to the research question that is being asked. Such trials should preferably be randomised, control for placebo effects, assessor blinded, adequately allocation concealed, have optimal treatment time and sample sizes based on proper sample size calculations, use validated outcome measures and include a full description of the actual interventions that are being tested (33,34).

In conclusion, the evidence is insufficient to suggest that reiki is an effective treatment for any condition. Therefore the value of reiki remains unproven.

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Authors' contributions

Myeong Soo Lee designed the review, performed searches, appraised and selected trials, extracted data, contacted authors for additional data, carried out analysis and interpretation of the data, and drafted this report. **Max H. Pittler** reviewed and critiqued on the review protocol and this report, assisted in designing of the review and selecting trials, extracting data, analysis and interpretation of the data. **Edzard Ernst** reviewed and critiqued on the review protocol and this report, assisted in designing of the review.

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