The Touchstone Process

An Ongoing Critical Evaluation of Reiki in the Scientific Literature

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Background: Reiki is used by a growing number of people but little is known about the scientific basis for its use. **Purpose:** The Touchstone Process was developed as an ongoing process to systematically analyze published, peer-reviewed studies of Reiki, the results being made accessible to the public online. **Method:** Thirteen scientifically qualified experts in the field of Reiki were assembled into 3 teams to retrieve, evaluate, and summarize articles using standardized, piloted evaluation forms. **Results:** Summaries of 26 Reiki articles, including strengths and weaknesses, were posted on a newly developed Web site (www.centerforreikiresearch.org), together with an overall summary of the status of Reiki research and guidelines for future research: The Touchstone Process determined that only 12 articles were based on a robust experimental design and utilized well-established outcome parameters. Of these articles, 2 provided no support, 5 provided some support, and 5 demonstrated strong evidence for the use of Reiki as a healing modality. **Conclusion:** There is a need for further high-quality studies in this area. **KEY WORDS:** *evidence-based practice*, *Reiki*, *Reiki research* *Holist Nurs Pract* 2010;24(5):260–276

REIKI: DEFINITION AND DESCRIPTION

Mikao Usui developed Reiki in Japan in March 1922.[1,2] It was brought to the West in 1938 by Hawayo Takata and is now practiced worldwide as a complementary healing technique.[3,4] Reiki is a Japanese word that means spirit-guided life energy.[5] Reiki is administered through gentle touch, with the hands placed on, or held slightly away from the body. The recipient typically experiences the sensation of a warm, soothing energy flowing from the practitioner's hands into his or her body.[6] Commonly reported outcomes of treatment include relaxation, stress management, mental clarity, a sense of well-being, pain relief, and decreased anxiety. One assumption underlying the philosophical orientation about Reiki touch therapy is consistent with an Eastern paradigm, that is, the belief that a regular flow of life energy is needed by the human body for health to be achieved and maintained.[7,8]

The popularity of Reiki has grown steadily. In 1991, it was estimated that there were 300 000 teachers and more than 2 000 000 practitioners in the world.[3] These numbers are likely much higher today. Over the past 10 years, Reiki has been used by nurses, physicians, and others in hospitals, hospice care settings, nursing homes, and other health care milieu. The 2007 National Health Interview Survey, compiled by Barnes et al,[9] indicated that 1.2 million adults and 161 000 children in the United States received 1 or more sessions of energy healing such as Reiki during the previous year. According to the American Hospital Association (as cited in Gill[10]), 15% of American hospitals (more than 800 facilities) offered Reiki as a hospital service

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in 2007. A joint publication by the American Holistic Nurses' Association and American Nurses' Association lists Reiki as an accepted form of treatment.[11]

One reason that Reiki use is growing in popularity is that it is easy to learn and practice. Reiki is considered a complementary and alternative medicine (CAM) modality and CAM use in the United States by consumers and health care practitioners are shifting from the marginal fringes to the mainstream of care.[12-14] National Center of Complementary and Alternative Medicine[13] classifies Reiki as a biofield therapy and indicates that energy work moves the human system into a more relaxed state, which is connected to health and healing. Recent research conducted through the National Center of Complementary and Alternative Medicine indicates that 55% of respondents believe that CAM use in combination with conventional treatments improves overall health, and 1.1% of the 31 000 participants reported that they had used Reiki.[13] Anecdotal reports from Reiki practitioners and clients indicate that Reiki is safe with no side effects and is useful for reducing stress and also in helping to heal a wide range of physical and emotional conditions including reducing the unwanted effects of chemotherapy and radiation.[15-19]

Emerging Reiki research, evidenced-based practice and need for the Touchstone Process

Until recently, Reiki was practiced only by individuals outside of mainstream health care, which is the primary reason for the limited amount of quality Reiki research in the published literature.[20,21] Emerging nursing literature suggests that the practices of Reiki and self-treatment have relevance for professional nurses and others working in today's stressful health care environments.[22-32] Anecdotal reports of the benefits of Reiki used in hospitals are available in a report by Rogacion.[33] Rogacion's work includes tests with Reiki conducted at Hartford Hospital in Hartford, Connecticut, indicating that Reiki used during pregnancy reduced anxiety by 94%, nausea by 80%, and pain by 78% and improved sleep by 86%. Reiki pre- and postsurgery reduces use of pain medication, shortens hospital stays, and increases patient satisfaction. Reiki is also useful for patients suffering chronic pain.[33]

To date, there is still little research addressing potential mechanisms to explain the Reiki healing process or to support the use of Reiki therapy in patient care or self-care. For this reason, more rigorous scientific studies are required to assess Reiki's value and usefulness as a scientific and evidence-based practice. However, more research is emerging, including studies funded by National Center of Complementary and Alternative Medicine and work with animals, with recently published results in the peer-reviewed CAM literature.[31,32,34-38] The Touchstone Process was developed to offer a clear and scholarly understanding of the current state of Reiki research and provide recommendations for furthering structured investigations on Reiki's effectiveness.

Conception of the Touchstone Process

From its conception, The Touchstone Process has been focused on determining the current state of Reiki research, while incorporating procedures that allow continual updating. William Rand, founder and president of The International Center for Reiki Training, conceived the Touchstone Process. The idea was an outgrowth of the Reiki in Hospital Web site and evolved with input from the project's research staff. Rand's experience with Reiki and his desire to make the results of evidence-based research on Reiki more easily available were motivating factors behind the development of a process that not only evaluates the current state of Reiki research but also provides a framework for future investigational design. To this end, Rand brought together a team of experts to form The Touchstone Process, with the following goals:

1. Review the current status of basic and clinical Reiki research as reflected by publications only in peer-reviewed journals.
2. Evaluate existing basic, preclinical, and clinical studies for evidence (or otherwise) of Reiki's effectiveness.
3. Summarize the main goals, results, and conclusion of each peer-reviewed study.
4. Identify gaps in knowledge and recommend areas for future study.
5. Identify components critical to rigorous study design.
6. Create a consultative resource for investigators in planning clinical and/or preclinical protocols.

METHODS

The Touchstone Process encompasses a specialized team of research experts, who collectively conduct a

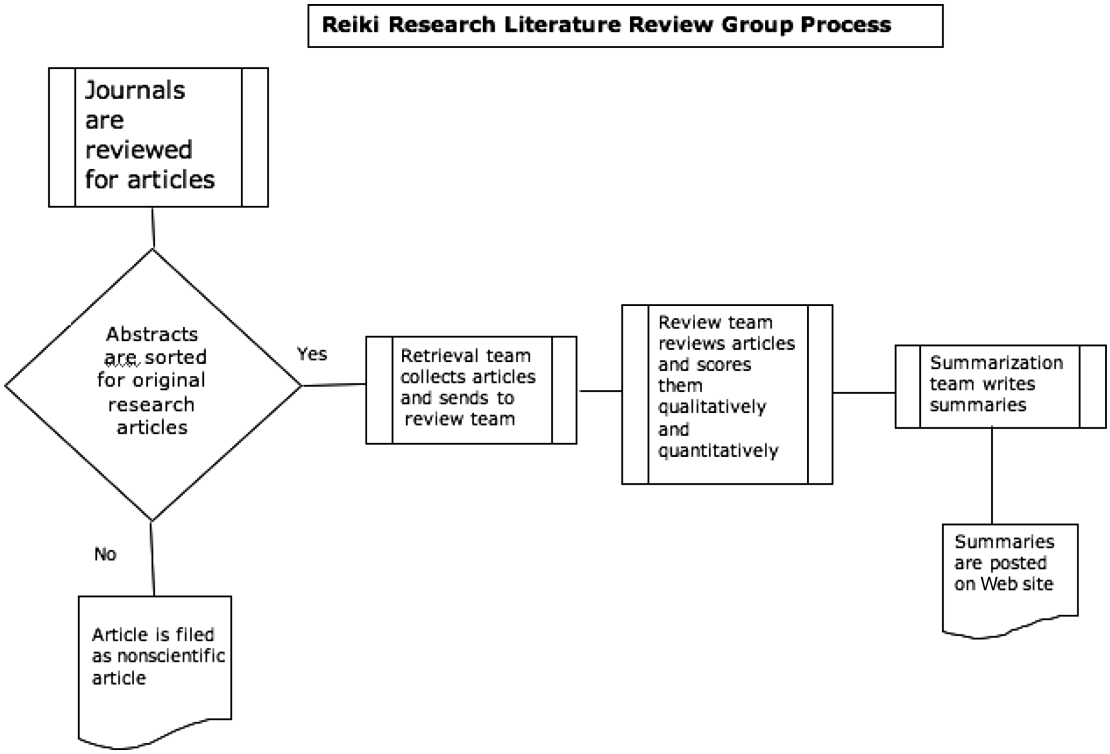

FIGURE 1. Steps of the Touchstone Process.

comprehensive and ongoing critique of all published, peer-reviewed, Reiki research, using a rigorous, project-managed team approach. The decision to include articles only from peer-reviewed journals in the process was made because such articles have already been through a stringent screening process. Our experts include 7 researchers who hold doctoral degrees and 5 nurses who are experienced professionals from the pharmaceutical, biotechnology, and health care settings, most of whom have contributed to the scientific literature.

To find the right blend of talent and experience to lead the Touchstone Process, candidates were interviewed for their credentials, expertise, experience in research and in peer review, motivation toward the goals of this project, how they saw themselves fitting into the project itself, Reiki experience as practitioners and/or teachers, and their availability and willingness to volunteer. In January of 2008, letters of intent were sent to more than 5000 possible candidates and finally, nearly 1 year later, in December 2008, The Touchstone Process held its first team lead meeting, along with a project facilitator. The immediate focus was to develop a robust review process along with comprehensive evaluation forms. The process included a configuration of working groups, each managed by a team leader, who efficiently focused attention on the assigned task. By March 2009, the 3 core teams were defined and briefed on the use of the unique tools and process for completing the reviews of the existing literature (see Figure 1).

1. *The Article Retrieval Team*: Consists of 2 team members who search databases, such as PubMed, PSYCINFO, MEDLINE, and CINAHL, for Reiki research articles (original research reports published in peer-reviewed journals), collect abstracts for review, retrieve articles that fit the project's required criteria and then submit the articles to the Article Review Team. Adherence to article retrieval standards is observed.
2. *The Article Review Team*: Consists of 6 core team members who conduct 2 independent peer reviews of each article, qualitative and/or quantitative, as appropriate. Standardized, piloted forms, based on the CONSORT (Consolidated Standards of Reporting Trials) criteria[39] with a system for scoring the articles are used. Not all the CONSORT criteria are included because the Touchstone Process requires a review process that is also suitable for basic science rather than just randomized controlled trials. The 2 primary evaluation scores for each article are averaged. Each form includes

TABLE 1. Defined Numerical Score Ranges for Word Evaluations

	Qualitative (Out of 15)	Quantitative (Out of 34)
Weak	0-8	0-20
Satisfactory	9-11	21-25
Very good	12-13	26-29
Excellent	14-15	30-34

an "Impact" section in which the reviewer briefly states whether the study is consistent with previous findings, creates new paradigms, or disproves previous findings. In addition, each reviewer rates the article for "Overall Impression" (excellent, very good, satisfactory, or weak). To ensure consistency between a reviewer's score and Overall Impression, exact numerical ranges were defined for each Overall Impression category (Table 1). These ranges were obtained from the score distributions for each category in the pilot study. If the 2 reviewers for a given article differ in their Overall Impressions by 1 category, that is, one gives "Satisfactory" and the other "Very Good," the article is classified as satisfactory/very good. The qualitative and quantitative forms, developed by the Touchstone team and shown in the Appendix, contain a total of 12 and 21 items, respectively, some of which are common between the 2 categories. In cases of significantly divergent scoring (Overall Impressions differing by more than 1 category), a third review is performed and the 3 scores averaged. The Review Team maintains records of all peer-reviewed articles as well as several case studies for future evaluation. Completed reviews are sent to the Summarization team. The review forms were initially piloted to ensure their suitability to the project goals and to test and fine-tune the evaluation process itself. The first 4 Reiki research articles retrieved were used for the pilot study, allowing time to calibrate scoring patterns and to evaluate our overall process.

3. *The Summarization Team*: Consists of 7 team members who "translate" the reviews into pared-down summaries that convey the important information in each article (purpose of study, objectives, hypothesis, methods, and results), together with its strengths and weaknesses, in an easily understandable way. Weaknesses (if any) in the use of Reiki practitioners and in overall clarity of writing are included in this section and later evaluated in addition to the primary scored review. A standardized piloted summary form is used to maintain uniformity in language and overall content throughout the group of summaries. Once completed, the summary goes to the editor-in-chief, who determines that each summary truly reflects the reviewers' scores and criticisms, and edits accordingly prior to placement on the Web site.

Maintenance phase of the Touchstone Process

The Touchstone Process is rigorous and similar to the established review procedures used by editorial boards of highly ranking scientific journals to select articles worthy of publication. Multiple reviewers and standardized evaluation criteria are utilized in both quantitative and qualitative reviews of Reiki research. The results of our evaluation to date (n = 26 articles) are tabulated in a later section of this article (Table 2). These articles (marked with asterisks) are cited in the "References" section of this article. The completion of peer reviews on all existing Reiki research articles through June 2009 marks the beginning of the Maintenance Phase of the project. Team leaders continue to meet monthly to continuously update the database with newly published Reiki research outcomes. Each published study is critiqued using the standardized procedures of the Touchstone Process, ensuring accurate, up-to-date access to the status of Reiki research. At any given time, one can assess gaps in knowledge and design future studies, accordingly. The Touchstone Process and the Center for Reiki Research were developed to be a central clearinghouse of Reiki research information for practitioners and researchers alike. The Center for Reiki Research has developed a Web site (www.centerforreiki research.org) to make the findings of the Touchstone Process available to the public. The site lists all of the peer-reviewed Reiki studies in the project with summaries.

RESULTS

Overall trends and statistics from the primary review process

The Touchstone Process identified 26 peer-reviewed Reiki articles in the current scientific literature,[7,31,32,34-38,40-57] 7 of which were *qualitative* and 19 were *quantitative*. A surprising finding was

TABLE 2. Major Primary and Additional Weaknesses Specific to Each Article

"Weak" Articles		
Ring[46]	A, B, C, E, H	*J, K, M, O*
Raingruber and Robinson[45]	A, E, G, H	*J, K, M*
Engebretson & Wardell[7]	A, B, C, E	*J*
Wetzel[53]	A, B, C, D	*L*
Sharma et al[48]	C, D, F	*K, L*
Wardell and Engbretson[52]	A, C, D, E	*J*
Wirth et al[55]	B, D, F, I	
Olson et al[43]	A, B, C	*J*
Brathovde[37]	B, D, E	*L*
Potter[44]	A	*J, K*
Rubik et al[47]		*M, N*
"Mid-Range" Articles		
Shiflett et al[49]	A, B, C, D, F	
Crawford et al[40]	A, B, C, D	*J, O*
Tsang et al[51]	A, B, C	*J, K*
Gillespie et al[57]	C, F	*L*
Mackay et al[42]	B, D, F	
Dressin and Singg[41]	A, C, F	
Wirth et al[54]	B, I	
"Top-Range" Articles		
Vitale and O'Conner[38]	A, B	*J*
Shore[50]	F	*N*
Whelan and Wishnia[32]	B, H	
Vitale[31]	B	
Witte and Dundes[56]	D	
Baldwin and Schwartz[35]	B	
Baldwin et al[36]	B	
Assefi et al[34]	B	

A. Lack of blinding of participants to treatment group
B. Small sample size
C. Lack of blinding of data collectors
D. Convenience sample of participants
E. Lack of controls
F. Lack of information about participants (gender/age/race)
G. Lack of standardization of qualitative outputs
H. Lack of independent decision-audit trail
I. Using multiple treatment modalities simultaneously
J. Lack of sham Reiki treatment (if possible)
K. Lack of standardization of Reiki treatments within study
L. Lack of information about training level of Reiki practitioners
M. Lack of clarity of writing
N. Using Reiki practitioners of different levels in same study
O. Using Reiki practitioners as subjects receiving Reiki

that only 50% of the articles reviewed provided full information about the gender, age, and ethnicity of the experimental participants. It is possible that the effectiveness of Reiki may be influenced by 1 or more of these parameters. According to the primary evaluation criteria, about half (4 of 7; 57%) of the qualitative studies were categorized as "weak" and the rest (3 of 7; 43%) were scored as "very good" to "excellent." A similar pattern was seen for the quantitative studies (7 of 19, [37%] were "weak" and 4 of 19 [21%] were "very good" to "excellent"). None of the qualitative articles and 7 (37%) of the 19 quantitative articles were classified as midrange. In total, 11 (42%) of the 26 studies were categorized as "weak" and 7 (27%) as "very good" to "excellent" (Table 2). The overall analysis showed that for quantitative studies there is a far longer history of publication in peer-reviewed journals than for qualitative studies (Figures 2a and 2b, respectively). The first peer-reviewed quantitative article appeared in 1989, whereas the first peer-reviewed qualitative article did not appear until 2001. In addition, the average number of published quantitative studies increased after 2003. Two of the 4 quantitative studies classified as "excellent" were published in 2008. Another 2 of the 4 "excellent" studies (published in 2006 and 2008) involved experiments on animals rather than on humans. Animals are particularly relevant to Reiki studies because experiments with animals are not confounded by the differences in beliefs or lifestyles, as often occurs with humans, and thus the use of animals leads to more easily interpretable experiment. Of the 8 studies classified as "very good" to "excellent," all were published between 2001 and 2009, suggesting that the quality of the studies appears to be improving with time.

The main deficiencies of the studies, as assessed using the primary evaluation criteria, are listed in Table 3, together with the numbers of articles classified as "weak," "mid-range" (satisfactory or satisfactory/very good), or "top range" (very good to excellent) that showed each particular deficiency. The main deficiencies associated with each particular article are shown in Table 2. Further details concerning the methodologies of the randomized controlled trials included in the Touchstone Process[38,40-44,49-51] can be found in a previous publication.[58] Most of the deficiencies were related to a wide range of internal and external validity issues with experimental design. Compared to the articles classified as "weak," fewer of those classified as "mid range," and far fewer of the "top-range" articles, showed major deficiencies except that almost all the articles were criticized for the small sample size. This particular deficiency was the only one that spanned all categories of merit. All 8 articles that were classified as "top range" demonstrated well-designed methodology and utilized standardized treatment protocols and outcome parameters that had been previously validated.

Table 4 lists additional weaknesses regarding problems with the use of Reiki practitioners and lack

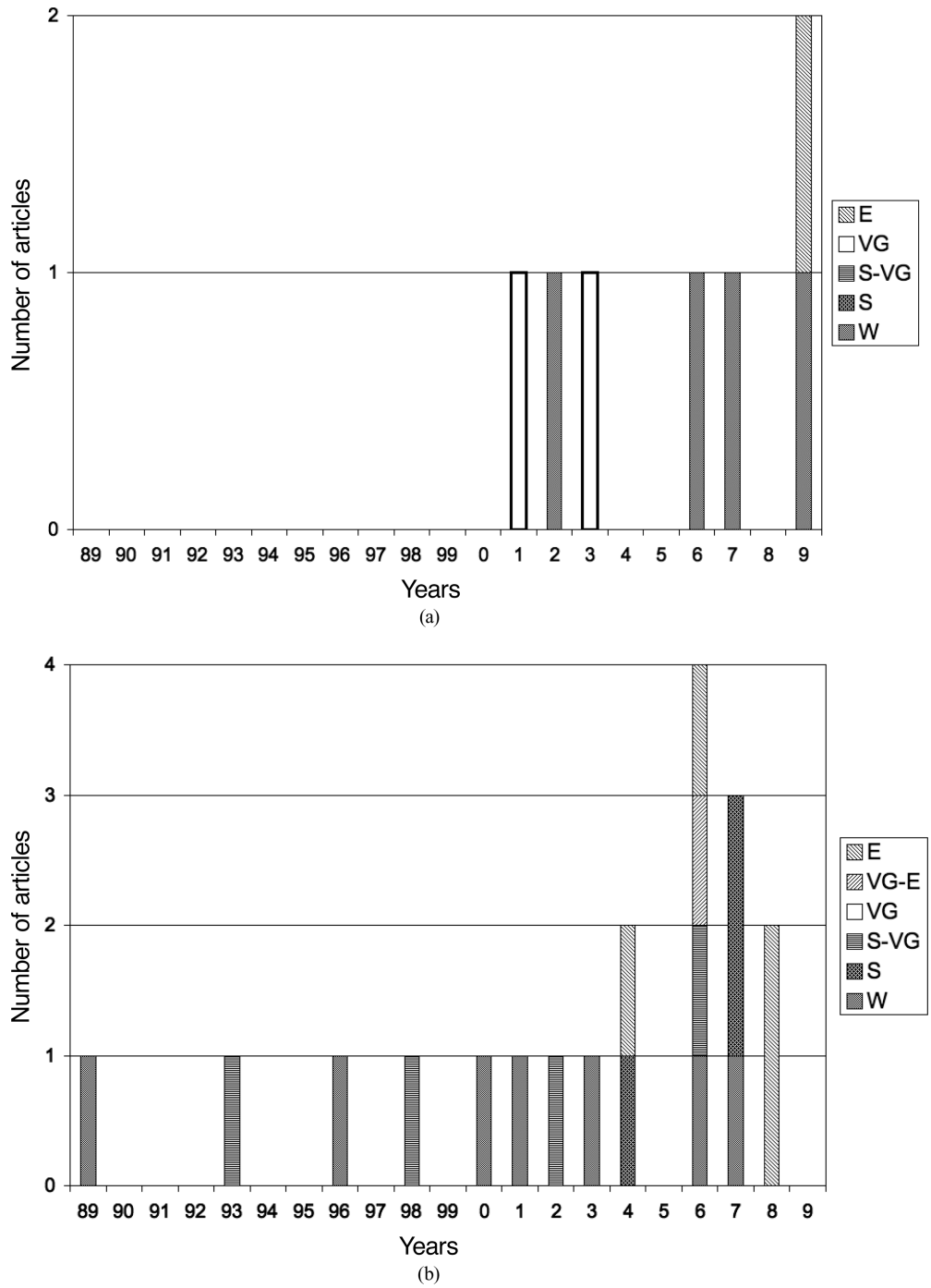

FIGURE 2. Graphs to show number and quality of peer-reviewed original Reiki research articles as a function of year of publication for (a) qualitative and (b) quantitative articles.

of overall clarity of writing, as assessed from the Summary statements. Included in the table is information showing that the number of additional weaknesses per article was consistent with each paper's Overall Impression in the primary evaluation. The additional weaknesses associated with each particular article are shown in Table 2.

Overall, the results from the Touchstone Process analysis of the 26 peer-reviewed Reiki research articles demonstrated that only 12 of the studies[31,32,34-36,38,40,41,49,50,54,56] were based on robust research designs and well-established outcome parameters. These articles were assigned word evaluations of "Very Good" or "Excellent" by at least

TABLE 3. Numbers of Articles of a Given Quality Demonstrating Each Particular Major Primary Weakness

		Number of Articles		
		Weak	Mid	Top Range
A	Lack of blinding of participants to treatment group	7	4	1
B	Small sample size	6	5	6
C	Lack of blinding of data collectors	6	5	0
D	Convenience sample of participants	5	3	1
E	Lack of controls	5	0	0
F	Lack of information about participants (gender/age/race)	2	5	0
G	Lack of standardization of qualitative outputs[a]	2	0	0
H	Lack of independent decision-audit trail[a]	2	0	1
I	Using multiple treatment modalities simultaneously	1	1	0

[a]For qualitative studies only.

1 reviewer and were not considered "weak" by any reviewer. It should be noted that most of these studies are recent, indicating that the scientific standard of published Reiki research, as evaluated by the Touchstone Process, is improving.

Do the published peer-reviewed studies provide support for Reiki?

The 12 articles that were classified as "Very Good" or "Excellent" by at least 1 reviewer were examined to determine to what degree they provide support for the use of Reiki as a healing modality. The results were mixed. On the negative side, one study showed solid evidence of no effect of Reiki or touch on reducing pain resulting from fibromyalgia.[34] This particular study was very well designed and included sham Reiki groups. However, the experiment was not powered to detect subtle changes in pain perception, and adherence to standardized Reiki hand positions may have neglected individual participant needs. Another study was suggestive of no effect of Reiki in poststroke rehabilitation and recovery.[49] This study used only a small sample size, and the functional independence measure used for evaluating recovery may not have been sufficiently sensitive because it did not include a cognitive component. A sham control group was included in the study.

Five articles showed mixed or conditional results. Wirth et al[54] demonstrated significant reduction in postoperative pain after tooth extraction in patients who received a combination of Reiki and LaShan therapy. However, it is not possible to determine the effect of Reiki as opposed to LaShan and there was no true control group. Crawford et al[40] showed that Reiki significantly improved cognition skills in elderly patients with mild Alzheimer disease or mild cognitive impairment, but there was no sham Reiki group and so it is possible that the "no treatment" group may have been disappointed that they were not selected for Reiki

TABLE 4. Numbers of Articles of a Given Category of Quality Demonstrating Each Particular Additional Weakness Assessed from Summaries

		Number of Articles		
		Weak	Mid	Top Range
J	Lack of sham Reiki treatment[a] (if possible)	6	2	1
K	Lack of standardization of Reiki treatments within study	4	1	0
L	Lack of information about training level of Reiki practitioners	3	1	0
M	Lack of clarity of writing	3	0	0
N	Using Reiki practitioners of different levels in same study	1	1	0
O	Using Reiki practitioners as subjects receiving Reiki	1	1	0

[a]An example of a sham Reiki treatment would be when a person, untrained in energy healing, assumes the hand positions of a Reiki practitioner as if delivering Reiki to a participant.

treatment. In addition, it could not be determined how much of the beneficial result with Reiki was just due to touching, rather than to Reiki energy. Vitale and O'Connor[38] showed that Reiki significantly improved preoperative relaxation and reduced postoperative pain in women undergoing hysterectomies. However, once again the sample size was small and there was no sham Reiki group; thus, the importance of touching, per se, in the recovery process was not evaluated. Whelan and Wishnia[32] explored the extent to which nurses who provided Reiki thought that it was benefiting their patients and themselves. Although the nurses reported increased sensory perception and ability to reduce patient stress and pain, the small sample size was very small and further studies are necessary before any convincing conclusions can be drawn. Witte and Dundes[56] demonstrated that 20 minutes of Reiki reduced physical stress, as measured by decreases in blood pressure and heart rate, to a significantly greater extent than 20 minutes of sham Reiki, meditation or music, yet Reiki was not found to reduce mental stress any more than the other therapies. Possible reasons for this nonsignificant result could have been that the study was underpowered with lack of group randomization. Better-designed experiments that exert more control over extraneous variables are needed to evaluate the effects of Reiki, over a longer time period, on people who are moderately to severely stressed before treatment.

Five further studies show definite evidence supporting the use of Reiki as a healing modality. Dressin and Singg[41] demonstrated a significant reduction in the pain, depression, and anxiety experienced by chronically ill patients who received Reiki compared with sham Reiki. Shore[50] showed that subjects who received hands-on Reiki or distance Reiki experienced significant reduction of mild depression and stress and the beneficial effects lasted for at least 1 year following treatment. One major strength of this study was that the hands-on Reiki group was told that they might or might not receive Reiki, and both the distance Reiki and the sham distance Reiki groups were told that they would receive Reiki, thus the confounding effects of expectation were eliminated. Vitale[31] demonstrated the practical importance of Reiki self-healing to nurses, with respect to their self-care and their feelings toward others, as based on interviews with 11 nurses trained in Reiki. This study is important because it provides clear methods for evaluating the salutary effects of Reiki on practitioners and recipients in terms of energetic and spiritual dimensions rather than just physiological impacts. Finally, 2 articles by Baldwin and colleagues[35,36] showed that Reiki, compared with sham Reiki, significantly reduced the physiological effects of stress in rats. In one study,[36] Reiki decreased the mean heart rate of stressed rats, and in the other study,[35] Reiki markedly reduced stress-induced increases in microvascular permeability. Animals housed in research institutions are especially useful in experiments to test the effectiveness of Reiki because the associated uniformity of lifestyle, diet, and genetics completely eliminates confounding factors that are present in studies using humans.

To summarize, of these 12 peer-reviewed studies that were additionally evaluated using the Touchstone process and categorized as "Very Good" or "Excellent" by at least 1 reviewer, 2 provided no support of the effectiveness of Reiki, 5 provided some support but the experimental design was marred in some way, such as lack of sham controls, and 5 demonstrated strong evidence in support of the use of Reiki as a healing modality.

DISCUSSION

A means of evaluating the existing peer-reviewed scientific studies concerning Reiki was developed using rigorous criteria that were applied systematically within a team-based structure. Unlike the review process for publication in journals in which each article is evaluated by 2 or 3 reviewers, the Touchstone Process adds 2 further reviews; one by a summary team member who assimilates information from the initial reviews together with further details from the article itself, and a final evaluation by the editor-in-chief to track down and solve any possible inconsistencies existing between the various reviews of a given article. The layered review structure reduces the chances of biased evaluations. This use of cross-functional teams for each step in the process is unusual in academia. Although scientific articles are usually each reviewed by several independent scientists who are experts in the particular subject matter, the individual reviewers are usually assigned to a single study, not to an entire body of literature.

The end product, in this case, was a set of easily understandable critical summaries of 26 articles that have been made freely available to the public by posting them on the Center for Reiki Research Web site. During the 4 months since the Web site was

launched (November 30, 2009) there have been about 100 visits per day from the United States, Canada, Europe, India, and Australia, each visitor reading 4 pages on average. The set of summaries on the Web site gives an overview of the current scientific status of Reiki as an effective healing modality. Since the Touchstone Process is an ongoing project, this information will be continually updated so that it provides a dynamically evolving picture of the status of Reiki research. Potential visitors to the Web site are able to deduce, at a glance, the current gaps in the field and the areas in which treatment with Reiki may not be beneficial, and design experiments accordingly, facilitating advances in scientific research. This information is invaluable for Reiki practitioners and health care professionals with an interest in Reiki as well as those conducting Reiki research. Before initiation of the Touchstone Process, there was no single location where all Reiki studies were freely available to the public. It is envisioned that the Touchstone Process could be adapted to enable critical review and public dissemination of articles relating to any topic, not just Reiki.

Touchstone Process review: Strengths and weaknesses in relation to other studies

The first integrative review of peer-reviewed Reiki studies appeared in 2007.[30] However, unlike the present review, that publication encompassed only quantitative studies conducted on humans between 1985 and 2006 and did not include animal studies. Animals are particularly relevant to Reiki studies because they eliminate the placebo effect. Many energy work researchers recommend that research designs to study Reiki and patient outcomes include a qualitative component for the actual experiences of recipients. The Touchstone Process incorporates a method for evaluating qualitative studies. Another review, published in 2008,[59] was just limited to 9 randomized clinical trials and excluded animal studies and experiments aimed at more basic mechanisms. Recently a review was published pertaining to "Biofield Therapies" in general.[60] Only 8 of the 66 articles reviewed pertained to Reiki, whereas the present review included 26 articles on Reiki. One reason for this discrepancy was that the previous review did not include studies involving animals, plants or in vitro experiments, or qualitative studies, or studies using distance Reiki or Reiki in conjunction with other modalities. In their discussion, Jain and Mills[60] remarked that qualitative data may prove to be vital in understanding the uniqueness or perceived effects of Reiki and thus may be an essential aspect of study design for this field of research. Another systematic review of the therapeutic effects of Reiki, based on only 12 studies, was published recently by vanderVaart et al.[58] However, the authors' inclusion criteria stipulated the presence of a control group and also excluded animal studies. Five of the 26 studies reviewed by the Touchstone Process did not use control subjects, leaving a total of 21 controlled investigations that were reviewed. Of the 12 studies reviewed by vanderVaart et al,[50] 2 were not included in the Touchstone Process; one because it was a master's thesis, and one because it did not use Reiki, per se, but "Reiki-like healing."

The Touchstone Process review provides a more complete picture of the current status of Reiki in the scientific community than do the previously published review articles because the Touchstone Process not only is limited to randomized clinical trials but also includes basic scientific studies. In addition, by including studies that, although peer-reviewed, are methodologically flawed in some way, the process provides clear examples of experimental designs to avoid. The Touchstone Process does have limitations in that the reviews are systematic and not compiled via meta-analysis strategies. To date, Reiki studies are few and heterogeneous in design, so the meta-analysis approach is premature at this time. Future Reiki research article using meta-analysis techniques will be an important contribution to the published Reiki literature.

Another weakness is that in 4 of the reviews, the articles were authored by members of the review team (Baldwin or Vitale). These team members absented themselves from all proceedings for these particular reviews; however, it is possible that the views of the other team members were influenced by this conflict. Summaries of all Reiki articles, including their strengths and weaknesses as inferred by standardized protocols are easily accessible at one Web site, so readers can come to their own conclusions regarding the quality of each article.

Recommendations for future Reiki research studies

The Touchstone Process evaluation of the 26 current peer-reviewed Reiki studies indicates that Reiki shows some promise as a noninvasive tool for healing at the

physical and nonphysical levels, especially when the more recent studies are considered. The predominant focus of investigations with Reiki has been its effectiveness on patient-centered outcomes, that is, pain, relaxation, and anxiety management methods. Before 2006, these inquiries produced more nonsignificant than significant research results.[43,49,52] Nonsignificant Reiki research findings have been challenged by several authors[43,61-63] among others, all of whom concluded that energy work does not readily lend itself to traditional scientific analyses, and the use of linear, quantitative research methodology is not optimal or appropriate to capture the efficacy of energy work. However, nurse researchers Brathovde,[37] Wardell and Engebretson,[52] Wetzel,[53] and Thornton[64] encourage scientific inquiry with Reiki and mixed-methods designs and qualitative methods to expand and explain findings from quantitative studies.

The more up-to-date analysis, using the Touchstone Process, indicates that quantitative research methodology is effective in capturing the efficacy of energy work as long as rigorous research methods are observed, confounding factors are eliminated, and the measured outcomes are of sufficient sensitivity. One major weakness in all the Reiki studies evaluated was that they involved low numbers of experimental subjects. This was probably because the studies were exploratory and little funding was available to pay for large numbers of participants. Further experiments are required with greater numbers of subjects to provide the statistical power necessary for meaningful interpretation. To this end, we recommend that all Reiki research studies include the following:

1. Recruitment of a sufficiently large sample to detect differences across treatment groups.
2. Blinding of participants and data collectors as to the participants' treatment groups to eliminate possible biases.
3. Inclusion of a no-treatment control group as well as a sham Reiki treatment group to be able to account for differential participant effects, such as attention and expectation.
4. Randomization of participants to treatment and control groups, or, if this is not possible, use of statistical procedures that take group differences into account.
5. Utilization of standardized treatment protocols.
6. Inclusion of baseline measurement of all outcomes to draw meaningful conclusions about treatment effects over time, and across treatment groups.
7. Utilization of outcome measures that have been independently validated and that are sufficiently sensitive to detect subtle effects of treatment.

CONCLUSION

The Touchstone Process evaluation of the 26 current peer-reviewed Reiki studies demonstrates that just over half of these investigations did not fulfill many of the criteria essential to effective research design and/or did not make optimal use of Reiki practitioners. Based on the analysis of the higher-quality articles, it appears that quantitative research can be effective in capturing the efficacy of Reiki as long as practices critical to rigorous research methods are observed. Reiki shows some promise as a noninvasive tool for healing at the physical and nonphysical levels, particularly regarding the alleviation of pain, depression, and anxiety. However, further experiments are required with greater numbers of subjects to provide the statistical power necessary for meaningful interpretation. Innovative areas for future study of Reiki include clinically useful Reiki protocols that can be implemented in fast-paced clinical environments, determination of the number of Reiki sessions needed for outcome effectiveness, continued exploration of self-care with Reiki, and investigation of the basic mechanistic principles responsible for Reiki's health benefits.

The Touchstone Project and the Center for Reiki Research were developed to be a central clearinghouse of Reiki research information for practitioners and researchers alike. Exploration of this site is encouraged before other clinical Reiki studies are designed, especially to help guide the utilization of sound research process and methods useful to advance evidence-based Reiki practice and research. A consultative service to help others design robust Reiki research investigations is also offered through the Web site.

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APPENDIX

Primary Evaluation Form for Qualitative Studies

Study citation:

Reviewer's name: _____

Review date: ___/___/_____

STUDY DESIGN (check all that apply):

☐ Anthropological/Ethnographic study
☐ Case study
☐ Focus group
☐ Anecdotal
☐ Archival
☐ Interview
☐ Systematic observation
☐ Other qualitative _____

NATURE OF SAMPLE

Gender (check all that apply):

☐ Male
☐ Female

Age group (check all that apply):

☐ Early childhood (0-4)
☐ School age (5-11)
☐ Early adolescent (12-14)
☐ Adolescent (15-17)
☐ Young adults (18-24)
☐ Adults (25-60)
☐ Older adults 60 and over

Race ethnicity (check all that apply):

☐ American Indian/Alaskan Native
☐ Asian
☐ Black (non-Hispanic)
☐ Hispanic
☐ Native Hawaiian/Pacific Islander
☐ White (non-Hispanic)
☐ Other race _____

CRITERIA

1. Sample Size—the sample should be large enough to allow for statistical interpretability or to assure data saturation:

0 Data saturation not assured
1 Data saturation clearly assured

2. Sampling Criteria:

0 Sampling Criteria not defined
1 Sampling Criteria clearly defined

3. Assurances to Participants:

0 No evidence that participants were advised of confidentiality/anonymity of their responses
1 Protocol includes assurance to participants of the confidentiality/anonymity of their responses (eg, IRB approved, use of informed consents)

4. The Phenomenon of Interest is Clearly Defined:
0 The phenomenon of interest is not clearly defined
1 The phenomenon of interest is clearly defined

5. Data Management Methods Were Clearly Described:
0 No description of data collection procedures
1 Some description of data collection procedures
2 Clear description of data collection procedures

6. Methodology:
0 The paradigm and design are not clearly based on the research question/goal/study objective
1 The paradigm and design are based on the research question/goal/study objective

7. Data Collection, Analysis and Interpretation:
0 The identified research tradition is not congruent with the methods used to collect, analyze, and interpret the study data
1 The identified research tradition is congruent with the methods used to collect, analyze and interpret the study data

8. Assurance of Rigor and Trustworthiness of Results:
0 No description of decision trail audits, decision processes, member checks and other procedures to promote credibility of results
1 Some description of decision processes for data analysis and interpretation, but decision trail audit or member check information is missing—this is how I would rate this study
2 Decision trail audits, decision processes, member checks and other procedures to promote credibility of results are presented

9. Findings Made Good Use of Participants Excerpts:
0 Findings were not well-grounded in the collected data
1 Findings were well-grounded in the collected data

10. Interpretation of Results (attrition, missing data, confounding, and bias)
0 Procedures to minimize potential researcher bias was not addressed
1 Procedures to minimize potential researcher bias was clearly addressed

11. Generalizability—Results can be applied to a wide variety of settings and populations:
0 Results are not usable
1 Results are of utility

12. Treatment Protocol—The treatment protocol was implemented consistently throughout the study, including how training was done for protocol implementation:
0 NA
1 Treatment protocol appears to have been implemented consistently, but authors do not provide evidence of this
2 Authors provide evidence that treatment protocol was implemented consistently

TOTAL POINTS _____ (out of 15)
OVERALL IMPRESSION: ☐ Excellent ☐ Very Good ☐ Satisfactory ☐ Weak

Primary Evaluation Form for Quantitative Studies

Study citation:
Reviewer's name: _____
Review date: ___/___/_____

STUDY DESIGN
☐ Posttest only, with comparison group
☐ Pretest/Posttest, treatment group only
☐ Pretest/Posttest, with comparison group

☐ Repeated cross sections, with separate measurements at each time period
☐ Repeated measures, with treatment and comparison group
☐ Time series/repeated measures, treatment only
☐ Other quantitative _____

NATURE OF SAMPLE
Gender (check all that apply):
☐ Male
☐ Female
Age Group (check all that apply):
☐ Early childhood (0-4)
☐ School age (5-11)
☐ Early adolescent (12-14)
☐ Adolescent (15-17)
☐ Young adults (18-24)
☐ Adults (25-59)
☐ Older adults (60+)
Race ethnicity (check all that apply):
☐ American Indian/Alaskan Native
☐ Asian
☐ Black (non-Hispanic)
☐ Hispanic
☐ Native Hawaiian/Pacific Islander
☐ White (non-Hispanic)
☐ Other race _____
Animal Species/Strain
0 Not clearly defined
1 Clearly defined

CRITERIA
1. Sample Recruitment—the sample should be representative of the population that it purported to address:
0 Convenience sample
1 Representative sample
2. Sampling and Recruitment Approaches Clearly Described:
0 No
1 Yes
NA for animal studies
3. Sample Size—the sample should be large enough to allow for statistical interpretability or to assure data saturation:
0 Sample size selected not large enough to yield interpretable results
1 Sample size of sufficient size to yield interpretable results
4. Randomization of Participants:
0 No comparison group or nonrandom assignment
1 Groups of participants randomly assigned to treatment and comparison groups
2 Individuals randomly assigned to treatment and comparison groups
5. Method of Correcting for Initial Noncomparability:
0 No evidence that differences in treatment and comparison groups were addressed
1 Differences in treatment and comparison groups were controlled for in a nonstatistical manner
2 Differences in treatment and comparison groups were controlled for in a statistical manner
3 Demonstration of no significant baseline differences between treatment and comparison groups-

6. Blinding—Data Collectors:
0 Data collectors were aware of participants' treatment condition
1 Data collectors were not aware participants' treatment condition
7. Blinding—Participants:
0 Participants were aware of their treatment condition
1 Participants were not aware of their treatment condition
8. Assurances to Participants:
0 No evidence that participants were advised of confidentiality/anonymity of their responses
1 Protocol includes assurance to participants of the confidentiality/anonymity of their responses (eg, IRB approved, use of informed consents)
NA for animal studies
9. Treatment Protocol—The treatment protocol was implemented consistently throughout the study, including how training was done for protocol implementation:
0 No evidence that treatment protocol was implemented consistently
1 Treatment protocol appears to have been implemented consistently, but authors do not provide evidence of this
2 Authors provide evidence that treatment protocol was implemented consistently
10. Outcome Variables Clearly Defined (eg, anxiety, stress):
0 Study variables were not clearly defined
1 Study variables clearly defined
11. Data Management Methods Were Clearly Described:
0 No description of data collection procedures
1 Description of data collection procedures
12. Outcome Measures—Reliability:
0 No evidence of measure reliability
1 Studies by independent investigators show that some of the measures used have acceptable levels of reliability
2 Studies by independent investigators show that all measures have acceptable levels of reliability
13. Outcome Measures—Validity:
0 No evidence of measure validity
1 Measure has face validity
2 Studies by the researcher show that the measure has criterion-related validity OR if not a validated scale, but rather an objective measure of responses, the researchers mention procedural checks that confirm data validity
3 Studies by independent investigators show that the measure has criterion-related validity OR if not a validated scale, but rather an objective measure of responses, the researchers have adequately documented procedural checks that confirm data validity
14. Theory-Driven Selection of Analytic Methods:
0 Analytic methods are not consistent with the intervention's theories or hypotheses OR analytic methods were chosen after the initial data analysis
1 Analytic methods are not inconsistent with the intervention's theory or hypotheses, but applicant provides a viable rationale for their use.
2 Analytic methods are accepted by experts as the most consistent with the intervention theory or hypotheses, but no documentation showing methods were selected prior to data analysis.
3 The analytic methods are consistent with the study's research theories or hypotheses AND analytic methods were chosen prior to initial data analysis
15. Data Analysis Meets Statistical Assumptions:
0 Analyses were not appropriate for the nature of the data AND/OR assumptions were violated, rendering analysis un-interpretable

1 There were minor violations of assumptions for most or all analyses, making interpretation of results arguable.
2 There were minor violations of assumptions for only a few analyses; results were generally interpretable.
3 Analyses were appropriate to the nature of the data, no assumptions were violated

16. Potential Confounding Variables Were Controlled For:
0 No evidence that potential confounding variables were controlled for
1 Potential confounding variables were controlled for in a nonstatistical manner
2 Potential confounding variables were controlled for in a statistical manner

17. Missing data:
0 Missing data was an issue and was taken into account inadequately OR levels of missing data were too high to control for bias
1 Missing data was an issue and was taken into account by simpler methods (mean replacement, last point carried forward) that simplistically estimate missing data.
2 Missing data was an issue and was taken into account by more sophisticated methods that model missing data.
3 There was little or no missing data

18. Interpretation of Results (attrition, missing data, confounding, and bias)
0 Researchers conclusions do not take into account factors such as attrition, missing data, confounding or bias.
1 Researchers conclusions indicate that factors such as attrition, missing data, confounding or bias have been taken into account.

19. Appropriateness of sample—the sample should be unbiased regarding the hypothesis being tested
0 Biased sample
1 Unbiased sample

20. Treatment Protocol—the treatment protocol should be designed so as to provide easily interpretable, unambiguous results
0 the treatment protocol does NOT lead to unambiguous results
1 the treatment protocol is designed to test a specific hypothesis

21. Generalizability—Results can be applied to a wide variety of settings and populations
0 Results are not generalizable
1 Results are generalizable

TOTAL SCORE: ____(out of 34 for human studies)
(Out of 33 for animal studies)

OVERALL IMPRESSION: ☐ Excellent ☐ Very Good ☐ Satisfactory ☐ Weak