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Effects of Reiki on Pain, Anxiety, and Blood Pressure in Patients Undergoing Knee Replacement

A Pilot Study

■ *Ann Linda Baldwin, PhD* ■ *Anne Vitale, PhD, APN, AHN-BC* ■ *Elise Brownell, PhD*
■ *Elizabeth Kryak, DrNP, RN-BC* ■ *William Rand*

This blinded, controlled pilot study investigated the effects of Reiki on 46 patients undergoing knee replacement surgery. Of the 3 groups, Reiki, Sham Reiki, and Standard of Care, only the Reiki group showed significant reductions in pain, blood pressure, respiration rate, and state anxiety, which provides evidence for a full-scale clinical study. **KEY WORDS:** *anxiety*, *knee surgery*, *pain*, *Reiki* *Holist Nurs Pract* 2017;31(2):80–89

Reiki is a Japanese stress-reduction technique in which the practitioner's hands are used to induce a therapeutic effect in the human energy field, which, in turn, encourages the body to heal itself.[1] The National Center for Complementary and Integrative Health[2] classifies Reiki as a biofield therapy and indicates that working with energy moves the human system into a more relaxed state that is connected to health and healing. Reiki is becoming ever more popular in the United States as evidenced by a survey conducted in 2007 that indicates that 1.2 million adults and 161 000 children received 1 or more sessions the previous year in which Reiki, or a similar bioenergy therapeutic method, was used.[3] The National Center for Complementary and Integrative Health and other US reports indicate that Reiki is now more frequently used by a growing number of Americans for relaxation, musculoskeletal conditions, pain management, anxiety, and depression.[3,4]

USE OF REIKI IN HOSPITALS

Hospitals and medical clinics are also adding Reiki to the list of services offered to patients. A *USA Today* article reported that, in 2007, 15% of US hospitals (>800) offered Reiki as a regular part of patient services.[5] In many of these programs, physicians, nurses, and other medical personnel with Reiki training are providing the sessions. Reiki began being used in hospital operating rooms as early as 1995[6] and is now included in a holistic nursing "scope and standards of practice" publication as an accepted form of care.[7]

Despite its widespread application, most reports about the efficacy of Reiki are still anecdotal. There is little research addressing potential mechanisms either to explain the Reiki healing process or to support the use of Reiki therapy in patient care; however, research evidence is emerging, both on the general

Author Affiliations: Laboratory for the Advances in Consciousness and Health, Department of Psychology (Dr Baldwin), and Department of Physiology, College of Medicine (Dr Baldwin), University of Arizona, Tucson; College of Nursing and Health Professions, Drexel University, Philadelphia, Pennsylvania (Dr Vitale); ZephyrBiotech, LLC, Lafayette, California (Dr Brownell); Department of Nursing Informatics, Abington Memorial Hospital, Abington, Pennsylvania (Dr Kryak); and Center for Reiki Research, Southfield, Michigan (Mr Rand).

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Correspondence: Ann Linda Baldwin, PhD, Laboratory for the Advances in Consciousness and Health, Department of Psychology, University of Arizona, Tucson, AZ 85721 (abaldwin@u.arizona.edu).

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physiological effects of Reiki, as reviewed previously,[8] and on those related specifically to control of pain and anxiety, as reviewed by Thrane and Cohen.[9] More rigorous scientific studies are required to assess Reiki's value and usefulness as a scientific and evidence-based practice. The evidence is not strong regarding the efficacy of Reiki in reducing pain and improving anxiety management regarding hospitalized, surgical patients,[8-10] but over the last several years, a body of work is emerging.

SIGNIFICANCE TO NURSING PRACTICE

There is growing evidence that hospitals are exploring the usefulness of complementary and alternative medicine as an adjunct to pain management in response to health care provider and consumer demands for caring-healing models of care,[1] and there is even regulatory influence from The Joint Commission on hospital accreditation,[11] for provision of nonpharmacologic approaches for inpatient pain management standards, especially surgical pain. In recent years, patients' perspective of hospital care has been collected and reported by many hospitals, using the Hospital Consumer Assessment and Healthcare Providers System (HCAHPS) survey. HCAHPS data are publicly reported by the Centers for Medicare & Medicaid Services, and patients' perception of pain management during the hospital stay is a critical survey item (www.hcahpsonline.org)

To keep up with growing trends in practice and regulatory environments, more research into the effectiveness of Reiki as a supportive therapy in surgical and nonsurgical pain management of hospitalized patients is warranted among nurses and other health care professionals.

PURPOSE AND RATIONALE

The purpose of this preliminary study was to measure how the use of Reiki, a means of gentle touch, influences pain, stress, and anxiety levels in hospitalized patients undergoing total knee replacement surgery. An equally important goal of this pilot study was to assess the research protocol, including recruitment and enrollment of participants and the feasibility of achieving the data collection end points in an acute care setting in preparation for a multisite clinical trial.

THEORETICAL FRAMEWORK

Selected nursing theory guided this investigation. Touch practices in contemporary nursing are influenced from Florence Nightingale's early work and Martha Roger's Science of Unitary Human Beings. These works continue to provide visionary guidance for nurses and others to consider the healing effects of the energetic environment to maximize health potentials.[12,13] The advancing vision of Jean Watson's[14,15] work in human caring guides nurses to work within a caring-healing model embodied in mind-body-spirit therapeutics to promote wholeness, comfort, and well-being.

MATERIALS AND METHODS

Ethical considerations

This study was approved by the Abington Memorial Hospital Institutional Review Board (IRB) for Human Research Health Sciences. Eligible participants were invited to participate in the study during their preoperative office visit with Dr Star, the orthopedic surgeon, and were asked by a clinical research nurse to sign a consent form in order to enroll. Study participants were assigned a code number, and all data are reported in the aggregate and de-identified. A master list of this information is kept under locked storage as per IRB policy.

Participants

The population for this pilot study was male and female patients in the age range 50 to 85 years who were admitted to an acute care hospital for a scheduled single knee replacement. Exclusion criteria included (*a*) joint replacement surgery on an urgent basis and/or previous joint replacement revision, (*b*) patients who could not read or understand English, (*c*) patients with a history of emotional/psychological or anxiety-related diagnosis, (*d*) patients who received antianxiety or psychotropic medication within 2 weeks of the scheduled surgery, and (*e*) patients whose surgery would be performed using anesthetic agents other than standard general anesthesia.

Study design

This pilot study was designed as a 3-armed (15 subjects per arm), randomized, blinded protocol and

powered to detect trends that would support entry into a larger multicentered study. The sample size was calculated using a power analysis at 80% power, with 5% level of significance. For this calculation, effect sizes for self-reported pain, heart rate, and heart rate variability (HRV) were estimated using the means and standard deviations of an earlier experiment in which Reiki was tested versus other healing modalities or no treatment.[16] No pilot data were available to perform a power analysis for State-Trait Anxiety Inventory (STAI); although the group size (n = 15) is sufficient for the other evaluation outcomes, larger group sizes are generally used for STAI. The STAI was still included to determine data trends for the effects of Reiki on this important parameter.

In this pilot study, one group of participants received three or four 30-minute Reiki treatments plus standard of care (SOC) throughout their hospital stay; a second group received three or four 30-minute Sham Reiki sessions (placebo) plus SOC; and a third group received 3 or 4 sessions of "quiet time" plus SOC. For all groups, the first treatment/session was to be 1 hour prior to surgery, with subsequent treatments/sessions 24, 48, and 72 hours (if not already discharged) after surgery. All treatments/sessions were performed in the patient's room on the postsurgical floor, except for the preoperative session that was carried out in a private patient room in the preoperative area.

Randomization of participants

After participants had consented to the study, they completed a demographics form (see the Appendix) that was placed in an envelope. The clinical research nurse assigned a number to the envelope, in order of completion, and then randomly assigned the number (and hence patient) to one of the 3 groups, according to the throw of a dice.

Reiki and Sham Reiki providers

Reiki treatments were performed on each patient in the Reiki group by one of 3 expert (Master Level) Reiki practitioners. Each Reiki practitioner was provided with a detailed printed protocol describing the exact hand positions to be used and in which order. Sham Reiki sessions were given to each patient in the Sham group by one of 2 people who were not trained in Reiki or any other touch therapy. The Sham practitioners were also given the printed protocol and placed their hands on the patients in the same positions as the Reiki practitioners. A member of the research team demonstrated and reviewed the Reiki protocol with both the Reiki and Sham practitioners, prior to the sessions on the patients, with return demonstrations to ensure consistency. Reiki practitioners and Sham Reiki providers were all health care providers employed by Abington Hospital. Patients in both groups were each given sessions by the same practitioner/provider throughout their stay.

Outcome parameters

The following data were collected from patients prior to and after all treatments/sessions: pain level (using the 0-10 visual analog numeric pain rating assessment scale used in Abington Hospital), blood pressure (BP), and respiration rate (RR) (using inpatient data monitors). Heart rate (interbeat interval) was also recorded for 5 minutes prior to and after all treatments/sessions using the emWavePC (Institute of HeartMath, Boulder, Colorado) in order to calculate HRV, a measure of sympathovagal balance that is an indicator of level of emotional stress at that moment. Unfortunately, interbeat interval data from many of the patients were not usable due to a prevalence of cardiac arrhythmias in this group and so this measure was discarded.

Patients completed a STAI once before treatment on the day of surgery and again after the last treatment. The STAI is designed to differentiate between the temporary condition of "state anxiety" and the more long-standing quality of "trait anxiety" in adults. The State Anxiety scale evaluates feelings of apprehension, tension, nervousness, and worry, which increase in response to psychological stress at the time of stress. The Trait Anxiety scale evaluates the same feelings over time. The STAI has adequate validity and reliability, with reliability coefficients ranging from 0.83 to 0.92.[17] Attempts were made initially to collect saliva samples for analysis of salivary immunoglobulin A (IgA) before surgery and on the day of discharge, but this measure was soon abandoned because of difficulty collecting samples from these patients.

An additional component was initiated on the day of discharge after the last treatment/session. Each patient was asked: "Which group do you think you were in?" The purpose of this question was to determine how well the study was blinded to participants. Other data collected from the hospital records included length of hospital stay after surgery and usage of narcotics/analgesics after surgery during length of stay. All data were de-identified and collected by trained data collectors.

Analysis of pain medication use

Only subjects who completed all study interventions at 48 hours, who received scheduled oxycontin (10 mg by mouth every 12 hours), and who received a patient controlled analgesia pump in the immediate postoperative period (morphine 2-mg dose; loading dose 0 mg; patient control 0.5-10 mg; lockout [minimum time between doses] 6 minutes; maximum limit 5-10 mg/h) were included in this analysis (9 Reiki subjects, 6 Sham Reiki patients, and 5 SOC patients). Oxycodone 5 mg/acetaminophen 325 mg 1 to 2 tablets every 4 hours as needed (when necessary) was available to patients for breakthrough pain. The number of dosages of this medication used by each patient per day was noted for analysis.

Method of data analysis

Since data for pain level, BP, and RR showed adequate statistical power (80%) for analysis of variance (ANOVA), these parameters were compared among 4 time points (pre- and postintervention before surgery and 24 hours after surgery) within each group, using Friedman repeated-measures ANOVA on ranks. If there was a significant difference between the time points, pairwise multiple comparison procedures were performed with an overall significance level set at .05 (the Holm-Sidak method). Because of attrition at later time points, data from 48 hours after surgery were treated separately using the paired *t* test (or signed rank test if data distribution was not normal) comparing only with the preintervention before surgery data obtained from patients who were discharged at 48 hours or more after surgery. Intergroup comparisons could only be made if the data for a given parameter showed sufficient statistical power (80%) for this type of analysis. The state anxiety data were treated similarly. It was hypothesized that Reiki plus SOC, but not the other 2 treatments, would reduce pain, BP, RR, and anxiety at all time points.

A between-group *t* test was performed on the after surgery, post–last intervention data to determine whether the Reiki plus SOC group showed less pain and anxiety on discharge than the other 2 groups. Another between-group *t* test was performed to determine whether there was a differential usage of postoperative analgesics and length of hospital stay according to patient group assignment. It was hypothesized that there would be reduced usage of postoperative analgesics and a shorter length of hospital stay for the patients who received Reiki compared with those in the other 2 groups.

RESULTS

Participant enrollment

The record of participant enrollment and attrition is shown in Table 1. Sample sizes for the Sham Reiki and SOC groups were below the desired value of 15, but the size of the Reiki group exceeded this value.

Pain level

When comparing pain levels assessed before surgery with those at 24 hours postintervention after surgery, there was a trend of pain reduction in the Reiki group (4.25 ± 0.62 [SEM] vs 2.62 ± 0.42 [$n = 18$]) that was not seen in the Sham Reiki (3.21 ± 0.61 [SEM] vs 3.54 ± 0.58 [$n = 12$]) or the SOC groups (5.85 ± 1.09 [SEM] vs 5.70 ± 0.75 [$n = 10$]) (Figure 1).

In comparisons of measurements taken preintervention before surgery with those at 48 hours postintervention after surgery, only baseline data from those patients still within the study 48 hours after surgery were included in the analysis. For this reason, the baseline results listed later are slightly different from those that appear in Figure 1. The Reiki group showed significant pain reduction 48 hours postintervention after surgery compared with baseline (from 4.11 ± 0.72 [SEM] to 1.40 ± 0.40 [$n = 16$], $P = .003$). The large reduction in pain score was of sufficient magnitude to provide adequate statistical power (power 90%) for this comparison. The corresponding results for the Sham Reiki and SOC groups were as follows: from 2.96 ± 0.60 (SEM) to 2.77 ± 0.45 ($n = 11$) (NS) and from 5.43 ± 0.37 (SEM) to 5.71 ± 0.56 ($n = 7$) (NS). The smaller sample sizes for the Sham Reiki and SOC groups resulted in lower statistical powers than those for the Reiki group and for that reason a statistically valid intergroup comparison could not be made. However, only the Reiki group showed a large percentage reduction in pain, 48 hours after surgery (Figure 1).

Blood pressure

Only the Reiki group showed a significant difference among the 4 BP readings taken pre- and postintervention before and 24 hours after surgery. Both systolic and diastolic BP levels were significantly

TABLE 1. On-Study Subject Number at Each Stage

	Consented	Before Surgery, Preintervention	Before Surgery, Postintervention	24 h After Surgery, Preintervention	24 h After Surgery, Postintervention	48 h After Surgery, Preintervention	48 h After Surgery, Postintervention	72 h After Surgery, Preintervention	72 h After Surgery, Postintervention
Reiki	25	19	19	18	18	17	17	9	9
Sham	19	13	13	12	12	11	11	8	8
SOC	12	10	10	10	10	7	7	4	4

Abbreviation: SOC, standard of care.

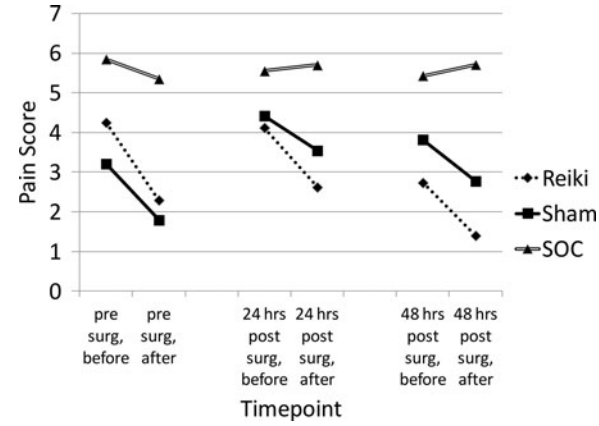

FIGURE 1. Effects of Reiki or Sham Reiki on pain score. Only the Reiki group showed a significant reduction in pain score 24 and 48 hours after surgery. Note: As stated in the "Results" section, because of attrition, the number of patients who contributed to the 48-hour after surgery data was lower than for the other data points. This discrepancy was accounted for in the statistical analysis. SOC indicates standard of care.

reduced when comparing pretreatment, before surgery versus posttreatment, after surgery (systolic: 141.4 ± 3.7 [SEM] mm Hg vs 116.2 ± 3.6 [n = 18], $P < .001$, power = 0.99; diastolic: 73.6 ± 1.9 [SEM] mm Hg vs 59.3 ± 2.4, $P < .001$, power = 1.0).

Comparing measurements taken preintervention before surgery with those at 48 hours postintervention after surgery, only the Reiki group showed significantly reduced systolic BP (143.1 ± 3.9 [SEM] mm Hg vs 115.2 ± 5.9 [n = 16], $P < .001$, power = 0.99) and diastolic BP (74.3 ± 2.1 [SEM] mm Hg vs 60.4 ± 2.8, $P < .001$, power = 1.0). The decrease in systolic BP was a desirable response in the patients because mean systolic BP was bordering onto hypertension before surgery. The Sham Reiki group showed significantly reduced systolic BP (147.6 ± 3.2 [SEM] mm Hg vs 131.0 ± 5.2 [n = 11], $P = .01$, power = 0.78), but diastolic BP was not significantly changed (76.9 ± 3.0 mm Hg vs 68.6 ± 2.4, NS). The SOC group showed a trend for reduction of systolic BP (143.0 ± 4.8 [SEM] mm Hg vs 130.7 ± 7.6 [n = 7], NS) but little change for diastolic BP (79.4 ± 4.6 [SEM] mm Hg vs 74.3 ± 4.2, NS). On the basis of observed trends, it is possible that if the sample sizes for the Sham Reiki and SOC-alone groups had matched those of the Reiki group, there may have been significant reductions in BP for these groups as well, suggesting that this effect may not be mediated by Reiki treatment per se.

Respiration rate

The 4 RRs (pre- and posttreatment, before and 24 hours after surgery) were significantly different from each other within the Reiki group but not within the other 2 groups. For the Reiki group, there was a trend toward reduced RR when comparing pretreatment, before surgery versus posttreatment, 24 hours after surgery. This trend became statistically significant when data obtained from the Reiki group pretreatment, before surgery were compared with those taken posttreatment, 48 hours after surgery (20.1 ± 0.5 [SEM] breath/min vs 17.7 ± 0.5, $P = .008$).

Anxiety state

The State Anxiety scores were only recorded before surgery and 48 hours after surgery. Since 10 patients had either been discharged or been withdrawn from the study by 48 hours after surgery, the small group sizes were reduced even more; thus, the purpose of the resulting data analysis is to reveal promising trends for a future large-scale study. Comparing measurements taken preintervention before surgery with those discharged at 48 or 72 hours postintervention after surgery, only the Reiki group demonstrated significantly reduced State Anxiety scores at discharge compared with intake (39.1 ± 3.3 vs 32.1 ± 2.7 [n = 14], $P = .004$, power = 0.88). The 7 patients who were discharged at 72 hours after surgery had very similar state anxiety levels to those who were discharged 48 hours after surgery. The corresponding results for the Sham Reiki and SOC groups were as follows: 42.2 ± 3.3 (SEM) versus 37.4 ± 2.4 (n = 10) (NS), and 42.6 ± 3.6 (SEM) versus 40.3 ± 4.5 (n = 6) (NS). The majority of the Sham Reiki (8/10) and SOC patients (4/6) were discharged 72 hours after surgery. Since the sample sizes for the Sham Reiki and SOC groups were smaller than those for the Reiki group, leading to inadequate statistical powers, a statistically valid intergroup comparison could not be made. There was a trend of reduced anxiety after Sham Reiki that may have shown significance if the sample size had been larger. However, the Reiki group showed the largest reduction in state anxiety 48 hours after surgery (Figure 2).

Pain medication usage

The Reiki group used the lowest number of doses of as-needed pain medication (22 doses or 2.4 doses per patient) compared with the Sham Reiki group (36 doses or 6 doses per patient) and the SOC group (29 doses or 5.5 doses per patient).

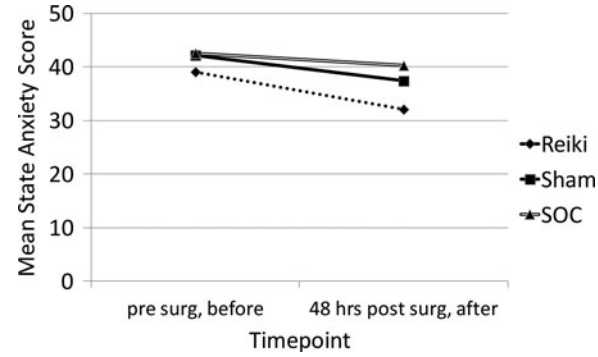

FIGURE 2. Effects of Reiki or Sham Reiki on State Anxiety score at discharge. Only the Reiki group showed a significant reduction in state anxiety at discharge. SOC indicates standard of care.

Retention in study

The Reiki group had the highest percentage retention rate in the study up to, and including, the 48-hour after surgery time point, whereas the SOC group had significant drop-offs between 24 and 48 hours after surgery (Table 1 and Figure 3).

Hospital stay

The Reiki group had the highest percentage of discharges at 48 hours rather than at 72 hours (Figure 4), implying fewer complications leading to later discharge.

Believed group assignment

Blinding of groups 1 and 2 (Reiki and Sham Reiki, respectively) was assessed by asking patients on discharge to guess the group to which they had been

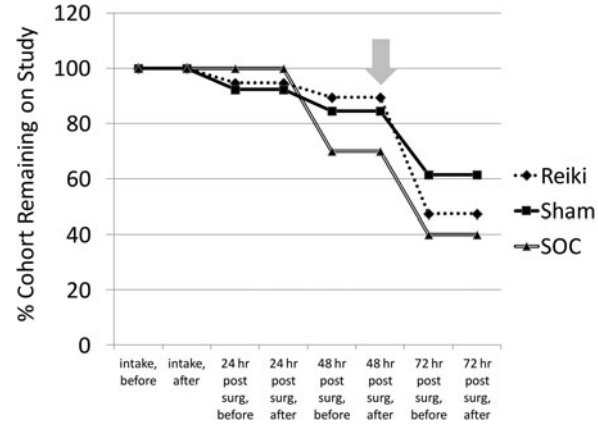

FIGURE 3. Effects of group assignment on percentage retention in study. The Reiki group showed the highest percentage rate of retention in the study up to, and including, the time point 48 hours after surgery, after which half of the patients were discharged. SOC indicates standard of care.

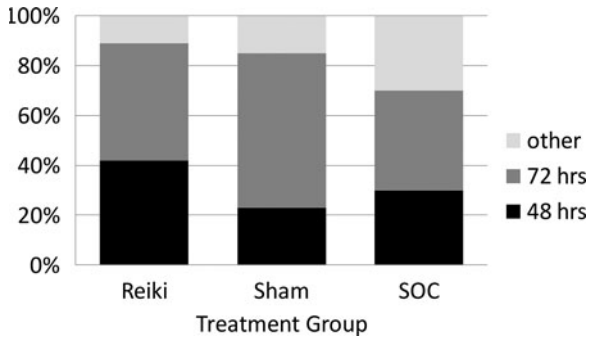

FIGURE 4. Effects of group assignment on the percentage of patients discharged at various times. The term "other" refers to the percentage of patients who were taken off the study prior to 48 hours after surgery due to complications, such as the need to return to the intensive care unit. The Reiki group had the highest percentage of discharges at 48 hours. SOC indicates standard of care.

assigned. Group 3 subjects, receiving only SOC, were not blinded as to their assignment. For group 1, 15 of 16 subjects correctly guessed their assignments, many mentioning that they felt relaxed, less stressed, and fell asleep during their sessions. These comments suggest that there are noticeable effects of Reiki treatment in otherwise naive subjects. It is unlikely that this skewed result was the effect of compromised blinding because the results from the Sham Reiki group (group 2) were highly supportive of the quality of blinding. Here, 6 of the 10 respondents mistakenly believed they were assigned to the Reiki group and 4 guessed otherwise.

Results summary

This blinded, sham-controlled, small pilot study has shown, for the first time, that Reiki significantly reduces pain, stress (as reflected by BP and RR), and diminishes anxiety levels in hospitalized patients undergoing total knee replacement surgery. In addition, Reiki treatments, given pre- and postoperatively, along with a pharmacologic pain management protocol, enhanced postoperative pain management and resulted in less use of narcotic pain medication than Sham Reiki or SOC alone. Overall, Reiki exceeded Sham Reiki and SOC in the improvement and/or quality of all 7 of the parameters measured in this small sample (Table 2).

DISCUSSION

Nursing, posited as a caring science, provides context for the continued exploration of Reiki and its utility in pain management For example, Watson[15] informs nurses to embody mind-body-spirit therapeutics, such as the use of Reiki, to improve patient comfort and well-being. The most striking result of this study was that Reiki reduced pain scores in 18 subjects undergoing single knee replacement surgery, a procedure that is quite painful and that usually involves powerful pain management protocols.

In the field of Reiki clinical research, no other clinical study has been reported in peer-reviewed literature using 3 groups: Reiki plus SOC, Sham Reiki Plus SOC, and SOC alone. The inclusion of Sham Reiki was a critical control for the effects of attention, caring, and touch on pain levels, as many people consider Reiki as having nothing more than a placebo effect. Our exploratory study, however, indicates that Reiki goes above and beyond a placebo effect. The fact that Reiki is effective in reducing pain is highly relevant to the medical field because pain medication is the second largest market in the world of pharmaceuticals, behind cancer, and thus the financial aspect is very important. The reduction of patients' pain in the hospital environment is an important dimension of a caring-healing environment and can enhance the patient experience and satisfaction with care and pain management, influencing data being collected by hospitals for quality and regulatory compliance. Moreover, reduction of postoperative pain

TABLE 2. Rank Order of Positive Results by End Point and Treatment Group

	Pain Improvement	PRN Medications Average Doses/Pt	State Anxiety Improvement at Discharge	Systolic BP Improvement at 48 h	Diastolic BP Improvement at 48 h	Retention on Study at 48 h	% Discharge at 48 h
Reiki	1	1	1	1	1	1	1
Sham Reiki	2	2	2	2	2	2	3
SOC	3	3	3	3	3	3	2

Abbreviations: BP. Blood pressure; PRN, as needed; Pt, patient; SOC, standard of care.

will promote early mobility, begin the rehabilitation phase faster, and minimize complications.

Another strength of the study was the fact that patients were blinded regarding whether they were included in the Reiki group or the Sham Reiki group. The effectiveness of the blinding was verified by asking the participants at discharge to which group they thought they had been assigned. The majority of patients in the Sham Reiki group thought that they had been placed in the Reiki group, indicating that the blinding was convincing, leading to the conclusion that the reported pain assessment differences were well corrected for the placebo effect.

Study limitations and benefits

Problems with the study were linked to the fact that this was an exploratory pilot study, one aim of which was to assess the research protocol, including recruitment and enrollment of participants and the feasibility of achieving the data collection end points in an acute care setting in preparation for a multisite clinical trial. Issues that were encountered included low efficiency of recruitment of participants, difficulty obtaining usable measures of HRV from many patients, trouble collecting sufficient saliva from patients, and a high rate of attrition from the quiet time/SOC arm.

The recruitment problem stemmed from the fact that we relied on a single point of enrollment and a single clinical site to perform all recruitment procedures. This single point of enrollment was a bottleneck that could be corrected in a larger study by including multiple centers. In addition, there were patient flow considerations arising from scheduling problems due to the limited capacity of a single center to process subjects accounting for surgeon availability and enrollment officer schedules. All of these situations could be handled effectively by including multiple sites.

The HRV recording as a measure of sympathovagal balance was not useful as a primary end point in this case because many patients presented with arrhythmias. Recordings can be corrected for occasional ectopic beats and arrhythmic events by omitting those RR intervals and interpolating the data.[18] However, when too many RR intervals are interpolated as a percentage of the total number of intervals recorded, this leads to inaccurate results.

Salivary IgA was not a suitable clinical end point in this case because the amount of saliva the patients could produce before surgery was limited since they were instructed to abstain from taking solids or liquids for a certain time prior to admission. This is valuable information because it serves to eliminate saliva-based testing of this patient population.

The cause for the high rate of attrition from the quiet time/SOC arm is not clear but could result from a patient's disappointment at not being randomized to a treatment arm on which some benefit might theoretically be derived. It may also suggest that in larger pivotal studies, only 2 arms are justified: Sham Reiki and Reiki.

In contrast, we found the pain scale to be very useful, as were the simple and inexpensive measurements of time to discharge and as-needed pain medication usage. Although the group size in this study was small for effective implementation of the STAI test, the results were encouraging and indicate that STAI would provide useful information in a larger clinical trial. This study demonstrates that the benefits of Reiki to hospital patients undergoing knee replacement surgery can be clearly observed using cost-effective measures that can be performed by nurses and other health care professionals.

Implications for further research and nursing practice

The next step is to perform a multicenter clinical study with 50 patients per group, in which we focus on the measurements that were informative, such as pain scores, state anxiety, BP, on-time discharge, less as-needed pain medication use, fewer readmissions or trips back to the intensive care unit, and increased patient satisfaction and pain management HCAHPS scores.

The opportunity to differentiate between hospitals on the basis of patient outcomes, patient satisfaction, and readmission rates, for such a low-cost offering as Reiki as a caring-healing approach to patient care, should be of significant financial impact to insurers, patients, and providers. In addition, positioning Reiki as an *adjunct* to SOC should promote a more generalized adoption and acceptance. Reiki is additive and may increase patient compliance while allowing on-time discharge and fewer complications.

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APPENDIX

Demographic Data

Subject # _____

Age (check one):

50-55 years old _____(1) 56-60 years old _____(2)

61-65 years old _____(3) 66-70 years old _____(4)

71-75 years old _____(5) 76-80 years old _____(6)

81-85 years old _____(7)

Gender (check one): Male_____(1) Female_____(2)

Marital status (check one):

Single _____(1) Divorced _____(2) Separated _____(3)

Race (check all that apply):

White _____(1) Black or African- American_____(2)

American Indian _____(3) Asian_____(4) Hispanic _____(5)

Native Hawaiian and Other Pacific Islander _____(6)

Medications used for pain relief taken within the past two weeks:

Medication/s name, dose, how often taken (please write in): _____

Not applicable: _____

Use of other energy touch therapies (check all that apply): Therapeutic touch _____

Healing touch _____ Other/s (**write in)**_____ N/A_____

THANK YOU!