


Effects of Energy-Based Therapies on Postoperative Recovery: An Integrative Review of the Literature

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EFFECTS OF ENERGY-BASED THERAPIES ON POSTOPERATIVE
RECOVERY: AN INTEGRATIVE REVIEW OF THE LITERATURE

BY

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A thesis submitted in partial fulfillment of the requirements
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ABSTRACT

Associated with health care reform, there has been a growing interest among healthcare professionals regarding use of energy-based therapies as a complementary therapeutic intervention. The purpose of this integrative literature review was to examine the impact of energy-based therapies (i.e. healing touch, reiki, therapeutic touch) on patients' postoperative recovery. The methodology included identifying appropriate peer-reviewed, English-language research articles on the topic area that were published between 2006 to 2018. Following a search in select data bases, articles focusing on the topic were critiqued, analyzed and synthesized by the researcher. Consistent and inconsistent findings along with gaps in the literature are noted. In general, the research supported positive postoperative recovery outcomes when energy-based therapies were included along with standard postoperative nursing care. This theses highlights implication for nursing practice, education, and policy and identifies study limitations. Given that research is limited on this topic area, additional studies are needed to establish supporting evidence to ascertain the effects of energy-based therapies when used as a complementary postoperative intervention.

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INTRODUCTION

Annually, about 50 million surgical procedures are performed in the United States (Hall, Schwartzman, Zhang, & Liu, 2017). Each procedure has the potential for complications including pain, anxiety, elevated blood pressure, increased respiratory rates, infections, constipation, and fever. Even with the technological advances in modern healthcare, major discrepancies exist in preventing and managing many postoperative complications (Coakley & Duffy, 2010). Additionally, each postoperative intervention is associated with certain complications that may further hinder recovery. Complimentary therapies are being used in conjunction with conventional, evidence-based interventions (Complementary Therapies, 2017) rather than as a replacement to standard medical practices. Complementary therapies, specifically energy-based therapies (EBT), could facilitate the human body's innate ability to heal.

More specifically, energy-based interventions are believed to rebalance human energy fields within the body which, in turn, promotes healing. Forms of EBT techniques include Reiki, Healing Touch (HT), and Therapeutic Touch (TT). Researchers have studied TT in individuals with pain, anxiety, chronic conditions, and acute health processes to evaluate the therapy's effectiveness (Hanley, Coppa, & Shields, 2017). Utilizing EBT techniques, as a complementary therapy along with western medicine postoperative practices, can offer a more holistic, patient-centered approach. Considering individuals as a unitary being and providing TT interventions, nurses care can address all facets of health and, perhaps, facilitate the postoperative recovery period with fewer side effects.

BACKGROUND & REVIEW OF THE LITERATURE

In order to meet an individual's complex needs, complementary therapies are being integrated with westernized medical healthcare. Essentially, complementary medicine is defined as interventions that are used along with standard medical treatments to improve the efficacy of treatment regimens with outcomes (NCCIH, 2016). Complementary medicine practices quickly came to be seen as interventions that do not conform to traditional allopathic conventions which dominate standardized healthcare models. In 1989, Dr. Elmer Green coined the term "energy medicine" and founded The International Society for the Study of Subtle Energies and Energy Medicine (ISSSEEM). Since this time, energy medicine, as a genre, has grown to incorporate multiple treatment modalities considered to be energy medicine. For this literature review, the following EBT techniques will be discussed interchangeably: Healing Touch, Reiki, and Therapeutic Touch. Despite being developed by different organizations and disciplines, these three modalities utilize the same underlying principles and approach to facilitate healing. Henceforth, in this thesis Therapeutic Touch (TT), Healing Touch (HT), and Reiki are considered as EBT.

The National Center for Complementary and Integrative Health [NCCIH] (2017) defined energy-healing therapy as a technique for channeling healing energy from the practitioner's hands to an individual's body with the goal to correct and restore a normal energy balance; thereby, promoting healing and health in the individual. Based on this definition set forth by NCCIH, the leading principles behind Healing Touch, Therapeutic Touch, and Reiki are part of energy-healing therapies.

The underlying theory of energy-based healing techniques centers on the human body having a universal, life force energy. When this energy is out of balance in the body, it impacts one's health status which, in turn, can lead to illness. The procedure for EBT involves a certified EBT practitioner using light "near body" touch to help rebalance the individual's energy (Hutchinson, 2008). On a physical level, EBT is thought to stimulate bioelectromagnetic and physiological changes at the cellular level which, in turn, promotes healing across physical, mental, spiritual, and emotional dimensions. Associated with EBT's supportive nature, the NCCIH considers EBT as a complementary intervention with conventional therapies.

The Theory of Unitary Human Beings (Martha Rogers, 1990) introduced to nurses the idea of a human being's "energy field" and his or her surrounding environment interacting. (Petiprin, 2016). This energy field is the fundamental framework for viewing humans and their environment as irreducible wholes. Hence, a pattern emerges from energy field interactions which contribute to well-being or sickness; and, influences one's perception of the experience. When an energy pattern is disrupted in either the environment, the human body, or both, it can affect the person psychologically, spiritually, emotionally, or physically. Essentially, Roger's theory provides a framework for use of EBTs as a complementary nursing intervention promoting a positive interaction between a unitary human being and his or her environment (Science of Unitary Beings, 2016). When Roger's theory was introduced in the mid-1960s, HT and TT was introduced in nursing curricula (Vitale, Priscilla, 2006). Both HT and TT were further developed by nurses in an effort to expand the connection with clients and, also offer non-pharmacological options.

According to Zamanzadeh et. al (2015), studies in the USA have shown 67% of American patients who are hospitalized do not receive any form of holistic care treatment. Additionally, most nurses have been trained with the biomedical allopathic mindset. A client's corporeal needs are met, thus resulting in major discrepancies in a nurse's ability to effectively manage a client's postoperative recovery symptoms such as pain, nausea, anxiety, and other postoperative complications. Consequently one can surmise EBT as a postoperative complementary therapy is underutilized postoperatively.

In summary, this thesis includes a comprehensive review of evidence-based research that may be used to guide healthcare providers considering energy-based therapies as a complementary intervention during the postoperative recovery period.

Purpose

The purpose of this integrative review is to examine the effects of EBT on postoperative recovery as a complementary, holistic nursing intervention.

METHOD

For this integrative literature select research articles will be analyzed and synthesized to fully understand the impact of energy-based therapies on post-operative outcomes. MEDLINE (EBSCOhost), CINAHL, and PubMed databases were searched to locate research articles pertaining to the use of energy-based therapies in a post-operative setting. The search was limited to professional journal, peer reviewed articles published from 2008 to 2017. Articles prior to 2008 of significant value are included in the literature review. Search terms included ‘therapeutic touch,’ ‘healing touch,’ ‘reiki,’ ‘nursing,’ ‘post-operative,’ ‘energy therapy,’ ‘surgery,’ ‘recovery,’ ‘biofield therapy,’ ‘holistic nursing,’ ‘complementary therapy,’ and ‘intervention.’ Exclusion criteria includes articles published in a language other than English or outside of the published time frame. An evidence table was developed to summarize findings for each article (Appendix: Table 1). Subsequently, all the article critiques were individually analyzed; then, key findings were extracted, and consistent and inconsistent findings are discussed along with research gaps in the literature.

RESULTS & DISCUSSION

A search for original research focusing on EBT as a postoperative intervention yielded twelve studies utilizing Healing Touch, Reiki, and Therapeutic Touch. Of the twelve, only one study (VanderVaart et. al., 2011) conclusively found no statistically significant effects of EBT during the postoperative period. The other eleven studies showed varied results related to different aspects of postoperative care including: pain, anxiety, depression, nausea, blood pressure, pulse, respiratory rate, and length of stay. Ten studies evaluated pain; of these, eight found decreased pain perception after receiving an EBT postoperatively (Baldwin et. al, 2017); Coakley & Duffy, 2010; Hardwick et. al, 2012; Midilli & Gunduzoglu, 2016; Notte, Fazzini, & Mooney, 2016; Sasikala, 2013; Vitale & O'Connor, 2006). Eight studies collected anxiety scores; of these, only one study showed EBT not affecting anxiety levels (MacIntyre et al., 2008). As for pain medication administration, eight studies collected pain medication usage; of these six reported a decrease in medication when EBT was used as a complementary therapy (Baldwin et al., 2017; Hardwick et. al, 2012; Hausladen, 2016; MacIntrye et al, 2008; Midilli & Eser, 2015; Midilli & Gunduzoglu, 2016; Notte, Fazzini, & Mooney, 2016; VanderVaart et al., 2010; Vitale & O'Connor, 2006). One study (Coakley & Duffy, 2010) reported postoperative clients receiving TT reported significantly lower levels of pain, lower cortisol levels, and lower natural killer cell levels collected before and after receiving TT compared to the control group. Additionally, three studies (MacIntyre et al., 2008; Notte, Fazzini, & Mooney 2016; Hardwick, Pulido, & Adelson, 2012) reported higher client satisfaction scores at the time of discharge. Overall, these results had positive outcomes for individuals postoperatively, albeit the sample sizes were small.

An unexpected outcome for three of the studies was an EBT program being adopted at the facilities where research was conducted (CITE SOURCES). Common themes that lead to implementation included healthcare providers requesting ongoing services, positive client feedback, and improved postoperative patient experiences. These themes were not data-based but rather were anecdotal in nature.

One of the most promising findings in all twelve studies was that EBT having no reported adverse events associated with this complementary therapy. MacIntyre et al. (2008) studied Healing Touch on individuals admitted to a cardiovascular intensive care unit after open heart surgery and reported no adverse events or effects to providing EBT. Likewise, Midilli & Eser (2015) utilized Reiki on post-cesarean clients with the same conclusion of no adverse events or effects for implementing EBT being found. Since EBT was able to be implemented in two very different client populations with no negative aspects associated, the possibilities for implementation into other aspects of individualizing healthcare is extremely promising.

A major limitation noted was study participants and healthcare providers' preconceived notions on the place of EBT as a complementary intervention. Both study participants and healthcare providers reported to researchers that their view of EBT was that of a pseudoscience rather than an evidence-based intervention. Zamanzadeh et al. (2015) noted healthcare providers having very little, if at all, training about applying holistic care models in the client care setting. This is problematic when conducting research that expects practitioners to not only understand the intricacies of holistic care, but implement complementary modalities, such as EBT, within this framework. By not having proper training within a holistic care model, healthcare providers'

perceptions can greatly influence data quality and collection processes that ultimately influence outcomes and results within each study.

IMPLICATIONS FOR NURSING

“The essence of nursing is healing through caring” (Hardwick, Pulido, & Aderlson, 2012). Nursing is a profession of caring for a person on mental, spiritual, emotional, and physical levels; in essence, caring for a person as a whole. Within today’s healthcare settings and the increasing use of technology however, a nurse’s interaction with a client has been significantly reduced (Zamanzadeh et al., 2015). For this reason the nursing interventions that are implemented must facilitate healing and result in quality patient outcomes; the interventions must also be evidence-based. Henceforth, EBT is within this definition and has many positive implications to further nursing care, but evidence is needed to support this intervention.

Practice

As for EBT impacting nursing practice, the impact is widespread. With current nursing interventions, many interventional barriers come between the nurse and his or her ability to care for a client. Barriers can be financial, physical, and/or organizational in nature. Meanwhile, barriers to implementing EBT’s are minimal contributing to increased autonomy of the nurse. Nurses certified in an EBT do not require additional personnel, physician orders, specialized equipment, or a designated area for delivery of an EBT. This allows the nurse to independently care for clients as needed, increasing the breadth of nursing practice and increasing feelings of self-worth and fulfillment within the nursing profession. An exceptional benefit of professional autonomy is the nurse’s ability to offer “self” to facilitate client healing and foster positive nurse-client relationships. In turn, a nurse can promote positive perceptions of care that may ultimately result in higher patient satisfaction scores upon discharge. This positive perception can influence

client outcomes related to physical, mental, spiritual, and psychological health while also providing financial reward to the healthcare facility.

Higher costs associated with today's healthcare interventions have many healthcare facilities considering the use of complementary therapies, such as EBT, associated with the small financial obligations related to implementation. EBT only requires a "healer" and a client. No expensive supplies or equipment are required to be purchased for integration into numerous healthcare settings thereby making EBT easily attainable. Therefore, EBT can be considered of low financial risk to healthcare facilities aim to provide cost-effective, non-invasive options to clients while also creating an additional chargeable point-of-service. For nurses, this can equate to higher pay, better benefit packages, and potentially a more patient-centered healthcare setting that is rewarding and nurse driven. Furthermore, EBT can supersede constraints on nurses put forth by economic and legal requirements by both healthcare facilities and providers. These aspects of EBT foreshadows a high likelihood implementation is not only cost effective, but an extremely low-risk complementary therapy across all spectrums of healthcare systems that indecently often improves patient satisfaction.

As for the ramifications EBT presents within nursing practice, a multitude of positive influences may be found. Current nursing practice and education promote nurses to be more pathophysiologically focused. A major problem with this framework is an individual's mental, spiritual, and emotional health is quickly either overlooked or undertreated. EBT grants nurses an opportunity to refocus their care efforts to directly meet the client's mental, physical, spiritual, and psychological needs. Once again, by refocusing the view of clients as unitary beings, nurses build a client's trust of a nurse's ability to care for all aspects of their health and well-being.

Through these intimate interactions, healthy nurse-client relationships can be fostered in a multitude of healthcare settings and be provided anytime nurses wish to utilize EBT with clients.

Correspondingly, unifying EBT with current nursing policies and procedures is sensibly attainable because EBT aligns with current healthcare goals of providing individualized, patient-centered care. Under current nursing practice acts, EBT falls within a nurse's scope of practice thereby negating lengthy legislature processes. Future policies created can integrate an individual's ability to also request access to non-pharmacological interventions (i.e., complimentary therapies), such as EBT; thereby ensuring non-pharmacological interventions remain available. Therefore, pending future research findings, EBT should be addressed in policies as a complimentary therapy in managing postoperative side effects.

Education

In order to promote EBT within the scope of nursing practice, educating healthcare professionals and the community about EBT is essential. To achieve further understanding, nursing schools or healthcare organizations can introduce EBT as an evidence-based, non-invasive, and non-pharmacological therapy techniques in multiple healthcare settings while refocusing the view of an individual as a unitary being. A similar approach can be taken within communities when educating about EBT. Education for communities may take place in town halls, churches, local healthcare facilities, doctor offices, or possibly support groups. The more the community is educated about EBT as a non-invasive procedure, the demand for EBT will carry over into healthcare situations; thus, continuing the cycle of integration into nursing. By providing education on EBT in both the clinical and community setting, negative barriers and

stigmas surrounding EBT can be overcome and generate support for EBT within the nursing profession.

Research

Current findings suggest EBT has many potentially positive attributes to offer the nursing profession and postoperative clients. However, further research is needed in order to fully understand the impact EBT may have throughout the nursing profession and healthcare delivery systems. In order to fully understand EBT, future research should include: EBT's impact on healthcare systems and practitioners; how EBT affects individuals of various ages or diagnosis in different settings; the impact on the nurse-client relationship; and methods to effectively implement EBT as a complimentary therapy. Continuing research of these topics can eventually lead to a better understanding of how best to implement EBT to foster the highest therapeutic effect and minimize overall healthcare impacts.

Policy

EBT provides an opportunity for healthcare facilities to offer another point-of-service that can be billed to third-party payers such as health insurance companies. Based on current literature findings, third-party payers should fully cover EBT interventions due to EBT demonstrating a likelihood of decreasing postoperative complications, length of stay, and need for pain medication administration. By fully covering EBT underneath a client's healthcare plan, both the facility and the insurer financially benefit.

In order to support EBT integration into nursing practice, policies should be put into place that allow nurses to use complimentary therapies as part of the patient treatment care plan. The policy needs to outline nurse competency requirements, client inclusion criteria, and

appropriate terms of implementing complementary therapies. When healthcare facilities adopt policies that encompass these aspects of nursing care, this aids in ensuring individuals receive adequate access and maintain standards of the complementary therapy.

LIMITATIONS

Based on the research evaluated, numerous limitations were noted within the research studies that could influence data conclusions. A major limitation was pain being a subjective experience (e.g. patient, nurse) in postoperative recovery. Data collection related to pain is qualitative in nature and difficult for researchers to adequately quantify within a study let alone across numerous studies. Additionally, the types of anesthesia utilized during surgical procedures can influence multiple data points, including pain, during postoperative recovery leading to further difficulties of data collection. The length and type of surgical procedures performed greatly influences a client's needs during the postoperative period and influences the degree of care required from healthcare staff; but also impacts the client's viewpoint of nursing care. Since clients can be exposed to multiple postoperative settings, the inability to control environmental factors (e.g. type of room, noise, privacy) during EBT therapies has the capability of influencing both qualitative and quantitative data collection from both clients and healthcare staff.

Other notable limitations within the research were small sample sizes and a client's preexisting medical and emotional conditions at the time of EBT utilization. Smaller sample sizes decrease reliability of the data collected and can be easily influenced to support or disprove EBT utilization. Meanwhile, individuals with pre-existing medical and emotional conditions upon enrollment to the study can also greatly impact data results. Pairing smaller sample sizes with participants who may have preexisting conditions limits the credibility of findings.

CONCLUSION

Overall, energy-based therapies, such as Healing Touch, Reiki, and Therapeutic Touch, showed anecdotal evidence of aiding clients during their postoperative period. Even with mixed results, all studies recommended EBT due to EBT having no associated adverse events and unofficial feedback made from different groups within the study conveying interest of EBT continuation after study completion. These findings warrant further research be conducted on larger sample sizes and attempt to quantify the experiences of those involved.

APPENDIX A

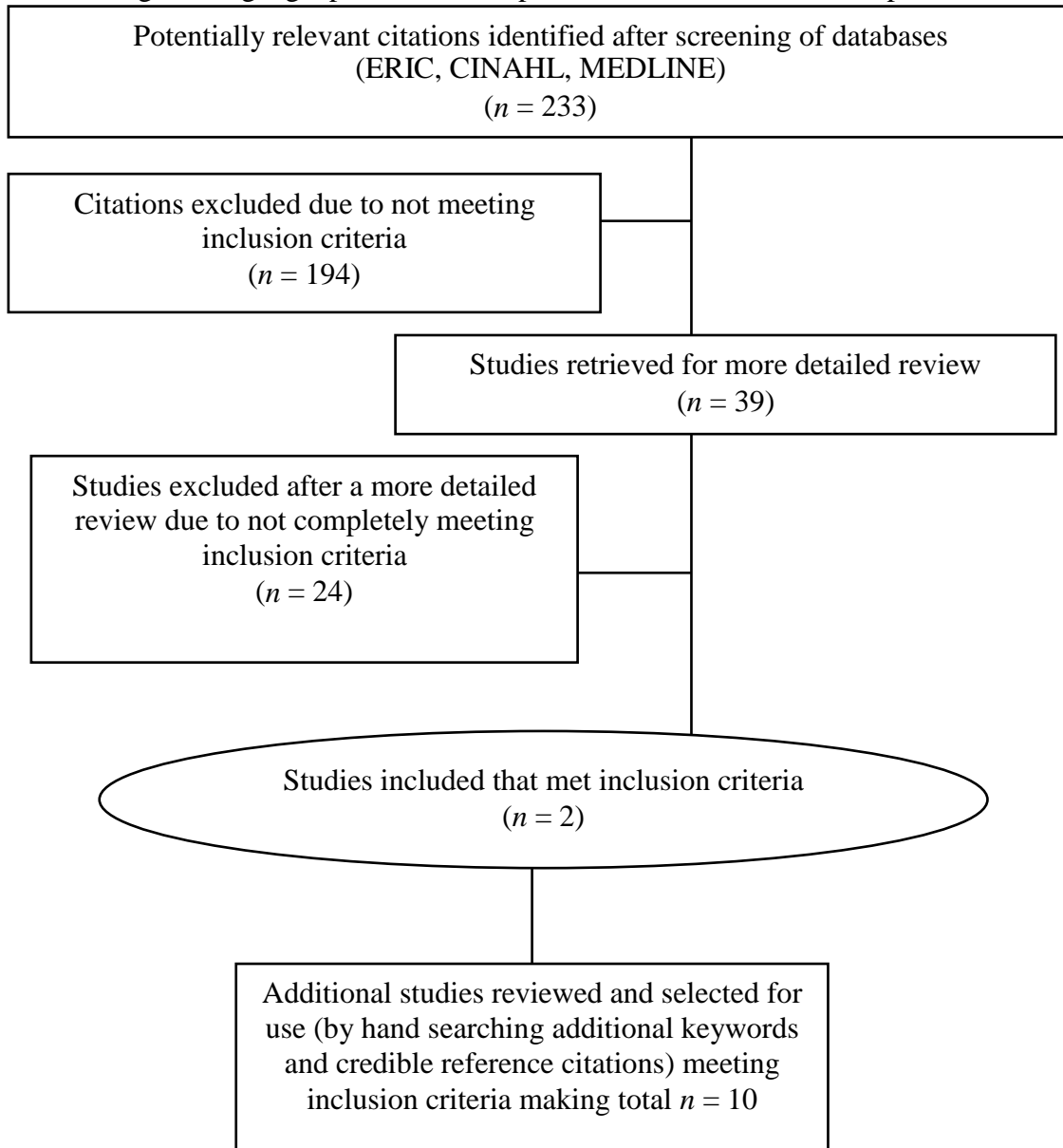
Figure 1: CONSORT DIAGRAM OF THESIS METHODOLOGY

Figure 1: Consort Diagram of Thesis Methodology

Flow Diagram of Study Selection Process

Key Search Terms: healing touch AND postoperative recovery; energy-based therapy in postoperative recovery; therapeutic touch AND postoperative recovery; reiki AND postoperative recovery; postoperative recovery with complementary therapy; energy therapy; biofield therapy AND postoperative recovery

Limiters: English language, peer-reviewed, publication date from 2006 to present



APPENDIX B

Table 1: Table of Evidence of Reviewed Literature

Table 2: Table of Evidence of Reviewed Literature

Author(s) Year Location	Study Design and Purpose	Sample Size	Intervention Protocol	Screening Measures	Key Findings and Limitations
<p>MacIntyre et al. (2008)</p> <p>HealthEast Saint Joseph’s Hospital in St Paul, Minnesota</p>	<p>Randomized clinical trial with three groups: no intervention, partial intervention (visitors), and an Healing Touch group.</p>	<p>N=237</p> <p>No intervention or control group (n=87)</p> <p>Partial intervention group with a visiting nurse (n=63)</p> <p>Healing Touch treatment (n=87)</p>	<p>All 3 groups received the same standard of care from the hospital staff.</p> <p>The HT group received preoperative education for HT and received 3 HT interventions—the day before surgery, immediately prior to surgery, and the day after surgery with the same practitioner providing the treatments during the patient’s stay.</p> <p>Patients in the visitor group received a visit</p>	<p>Inclusion criteria: All clients who chose to undergo first-time elective coronary artery bypass (CAB) were invited to participate in the study</p> <p>Exclusion criteria included: valve or minimally invasive direct CAB patients, patients with a history of CAB surgery, patients who were not competent to answer the study questions, and emergent CAB patients.</p>	<p>Compared with the control group, patients in the HT group had a 120% greater chance of having a length of stay ≤ 6 days. The mean anxiety scores from pre- to postoperative were significantly less in the HT group than the control or visitor group. No significant differences were detected between the 3 groups for amount of narcotic pain medication usage, change of physical functional status, change of mental functional status, incidence of postoperative atrial fibrillation, and patients using anti-emetic medication.</p>

					Measured variables are subjective in nature to each individual participant and it is hard to blind the participants to the study group they were assigned too.
Midilli and Eser (2015) Izmir, Turkey	Randomized, controlled clinical trial To investigate the effect of Reiki on pain, anxiety, and hemodynamic parameters on postoperative days 1 and 2 in patients who had undergone cesarean delivery.	N=90 Control group receiving only a 30-minute rest period once every 24 and 48 hours Reiki group received Reiki therapy for 30 minutes every 24 and 48 hours	The control group was given a rest for 30 minutes in the first 24 and 48 hours post-surgery. The reiki group received Reiki treatment to 10 identified regions of the body for 3 minutes each once a day for the first 24 and 48 hours. The first Reiki treatment was performed within 4-8 hours of postoperative analgesic in the patient's room. All groups had access to analgesic drugs when needed.	Inclusion criteria was: planned or unplanned cesarean delivery; Turkish nationality; ability to speak Turkish; age between 18-45 years; hospital length of stay at least 2 days; orientation place and time; operation performed under general anesthesia; only using nonopioid analgesic drug prescribed by a doctor. Exclusion criteria was: operation performed under spinal and epidural anesthesia; presence of any psychiatric disease or allergy to analgesic drugs; presence of any visual and hearing impairment; previous experience with Reiki; serious	Reiki application reduced pain intensity, the value of anxiety, and breathing rate, as well as analgesic requirements post-cesarean delivery; however, it did not affect pulse rate, systolic blood pressure, or diastolic blood pressure

			Equipment used during all treatments were ear plugs, a digital watch, and a digital blood pressure instrument.	complications with the patient or the infant(s) during or after the cesarean birth; and use of a patient-controlled analgesia in treatment.	
Baldwin et al. (2017) Boise State University	Two-group, randomized prospective pilot study To determine whether a Healing Touch (HT) Treatment postoperatively would have an effect on pain, anxiety, blood pressure, and pulse rate in adult postoperative patients.	N=88 HT treatment in addition to traditional nursing care (TNC) (n=42) Control group receiving only traditional nursing care (TNC) (n=39)	The control group received TNC only. The HT group received a HT treatment postoperatively for 30 minutes in addition to TNC. Pre- and post- data collection included measurement of pain, anxiety, blood pressure, and pulse.	Inclusion criteria included scheduled outpatient and emergency patients 18 years and older with surgeries schedules between the hours of 0600 and 1600, Monday through Friday. Exclusion criteria was patients >18 years old, those who were non-English speaking, deemed clinically unstable, or who were unable to legally consent	Researchers did not find significant differences in posttreatment mean levels of pain, blood pressure or pulse. Narcotic administration was lower in the HT group with 52.4% of clients receiving any narcotics compared to 71.8% of the control group. Limitations: small sample size, uncontrolled variables (such as type of surgery and anesthesia), and level of HT practitioner training.

<p>Sasikalla (2013)</p> <p>Porur, Chennai India</p>	<p>Randomized pretest posttest clinical trial</p> <p>Main aim was to assess the effect of Reiki therapy on biophysiological and psychological status of a person after surgery.</p>	<p>N=50</p> <p>Reiki group received one reiki session per postoperative day for seven days. (n=25)</p> <p>Control group received traditional nursing care. (n=25)</p>	<p>The Reiki group received reiki therapy for seven consecutive days from the first postoperative day with no food or movement restrictions. Each reiki session lasted between 30-40 minutes.</p> <p>The control group received only traditional nursing care.</p> <p>In the Reiki group, biophysiological assessments were completed before and one hour after reiki sessions for seven days. For the control group, biophysiological assessment was done twice at 2 hour intervals. Post-operative assessment of anxiety and</p>	<p>Inclusion criteria was: patients married or unmarried in the age group of 20-40 years and who have undergone invasive surgical procedures with no restriction in mobility during the postoperative period.</p> <p>Exclusion criteria involved patients with psychiatric illnesses, who had practiced Reiki therapy, and developed complications during immediate postoperative periods.</p>	<p>Reiki has a strong impact on temperature, pulse, respiration, blood pressure, and pain when compared to the control group. The mean pain scores showed significance between the two groups on postoperative day 1, 6, and 7. There was no significance in diastolic blood pressure between the two groups.</p>
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			depression was collected after seven days of reiki therapy and after 1-2 weeks of reiki therapy. For the control group anxiety and depression were completed on the 7 th , 14 th , and 21 st postoperative days.		
Baldwin et al. (2017) University of Arizona	A 3-armed randomized, blinded, sham-controlled pilot study Aimed to measure how the use of Reiki influences pain, stress, and anxiety levels in hospitalized clients undergoing total knee replacement surgery.	N=56 Control group received 3-4 sessions of quiet time and standard of care (SOC) during the hospital stay (n=12). Reiki group received 3 or 4 30-minute Reiki sessions plus SOC (n=25). Sham Reiki group acted as a placebo group and received 3 to 4 30-minute Sham Reiki	Data was collected from participants prior to and after all treatments/sessions in regards to pain level, blood pressure, respiratory rate, and level of anxiety.	Inclusion criteria included participants male and female in the age range of 50-85 years old who were admitted to an acute care hospital for a scheduled single knee replacement. Exclusion from the study consisted of joint replacement surgery on an urgent basis, previous joint replacement revision, not being able to read/understand English, history of anxiety-related diagnosis, currently taking antianxiety or psychotropic medications within 2 weeks of surgery, and if different anesthetic agents	Reiki was effective in decreasing pain, blood pressure, anxiety, PRN pain medications, and hospital length of stay. When compared with the other groups Reiki was the most effective treatment postoperatively. An unexpected finding was the Reiki group having the highest retention rate for participants within the study compared to the other two groups.

		<p>sessions plus SOC (n=19).</p> <p>All groups' first treatments/sessions were to be 1 hour prior to surgery with subsequent treatment/sessions 24, 48, and 72 hours after surgery.</p>		<p>were utilized over standard general anesthesia.</p>	
<p>Anderson et al. (2015)</p> <p>University of Virginia</p>	<p>Quasi-experimental study</p> <p>The study aimed to determine the effectiveness of Healing Touch intervention for reducing pain, nausea, and anxiety after bariatric surgery.</p>	<p>N=46</p> <p>Healing Touch group received a session each 24-hour period during the participant's inpatient stay.</p> <p>Control group received only standardized nursing care during hospitalization.</p>	<p>For the Healing Touch group, data collection for pain levels, anxiety, and nausea was collected before and after sessions.</p> <p>Control group data was collected before and after the surgical intervention at 24-hour periods.</p>	<p>Inclusion criteria were: scheduled for laparoscopic bariatric surgery, the ability to ensure informed consent and completion of assessments, and the ability to speak and understand English.</p> <p>Exclusion criteria was prior regular use of Healing Touch within three months of enrolling in the study and concurrent Healing Touch or other mind-body/biofield therapy outside of the study protocol.</p>	<p>The Healing Touch group had clinically and statistically significant differences in post-intervention pain, nausea, and anxiety. Additionally, pain and anxiety on post-operative day three was decreased compared to the control group.</p> <p>There was no significant difference in post-operative average daily pain ratings or length-of-stay⁸ between the two groups.</p>

<p>Midilli & Gunduzoglu (2016)</p> <p>Manisa, Turkey</p>	<p>Single-blinded, randomized, and double-controlled</p> <p>The aim of the study was to determine the effects of Reiki therapy on pain and vital signs postoperatively for cesarean section.</p>	<p>N=45</p> <p>Reiki group received sessions 24 and 48 hours after the cesarean section for a duration of 15 minutes.</p> <p>Sham Reiki group was performed for 15 minutes at 24 and 48 hours intervals.</p> <p>Control group received 15-minute rest periods at 24 and 48 hour intervals.</p>	<p>Interventions for all patients were performed 24 and 48 hours after the cesarean section within 4-8 hours of the first dose of standard analgesics. All participants were treated in the client's room in the supine position and head of bed between 10-15 degrees.</p>	<p>Inclusion criteria were: planned or unplanned cesarean section; Turkish nationality; the ability to speak Turkish; age between 18-45 years old; a stay of at least 2 days in the unit; orientation in place and time; operation with general anesthesia; and using only the nonopioid analgesic drug diclofenac prescribed by a doctor.</p> <p>Exclusion criteria was: operation with spinal or epidural anesthesia; any psychiatric disease, or an allergy to analgesic drugs; any visual or hearing impairments; previous experience with Reiki; serious complications during or after the cesarean section operation in the patient or infant(s); and use of a patient-controlled analgesic in treatment.</p>	<p>The Reiki group had significantly lower anxiety and pain levels compared with the other two groups. Reiki also increased the length of time for analgesic required and dosage of analgesic. Mean breathing rate, pulse rate, and blood pressure were not significantly different between the three groups.</p>
<p>Notte, Fazzini, & Mooney (2016)</p>	<p>Randomized, single-blinded, pilot study</p>	<p>N=43</p> <p>The Reiki group received one, 20-minute Reiki</p>	<p>Data was collected preoperatively and postoperatively in regard to pain level. Additionally, pain</p>	<p>Inclusion criteria consisted of: 18-80 years old, English-speaking, able to read and understand the subject pamphlet and</p>	<p>Reiki was found to have statistically significant decreases in pain intensity ratings between the</p>

	<p>To research the impact Reiki therapy has on the pain perception of people having total knee arthroplasty, satisfaction with Reiki therapy, overall hospital experience and pain medication use following surgery.</p>	<p>session preoperatively and one 30-minute session postop. Additional sessions were for 3 consecutive days for 20 minutes while listening to relaxing music (n=23).</p> <p>The control group received no reiki sessions and were asked to rate their pain with each nurse encounter and when pain medication was requested (n=20).</p> <p>All groups had access to standard nursing care and pain control measures.</p>	<p>intensity was recorded pre and post Reiki treatment in the Reiki group. The control group pain level was collected with each patient-nurse interaction and during pain medication administration.</p>	<p>consent form, and competent to give informed consent.</p> <p>Exclusion criteria was: any neurological impairments, chronic pain disorders, recovering from prior surgery, and/or a history of or current substance abuse.</p>	<p>pre- and post-Reiki treatment in all areas except the PACU. However, the total pain medication received by both groups showed no significant differences.</p>
<p>Hardwick, Pulido, & Adelson (2012) La Jolla, CA</p>	<p>Prospective, block-randomized, quasi-experimental</p> <p>This study wanted to investigate</p>	<p>N= 41</p> <p>For the Healing Touch group, HT was given once daily, a maximum</p>	<p>Pain levels were collected before HT sessions and 30-60 minutes after the session ended. Anxiety levels were</p>	<p>Inclusion criteria was: clinical indication for routine BTKA based on physical exam and medical history, the ability and willingness to complete</p>	<p>The HT group had lower pain VAS levels during every postoperative encounter. The HT group displayed lower</p>

	<p>Healing Touch as a potential therapy to improve postoperative pain control and restore balance to the patient's energy field to facilitate self-healing.</p>	<p>of four days, between two of the client's physical therapy sessions. Each session lasted for approximately 30 minutes.</p> <p>The control group (non-reiki) only received standard nursing protocol.</p>	<p>collected after the Healing Touch session.</p> <p>Control group anxiety and pain levels were collected once daily at least an hour after the first physical therapy session and approximately 2 hours after pain medication administration.</p> <p>Both groups received a questionnaire on discharge day to assess satisfaction rates between the two groups.</p>	<p>pain and anxiety questionnaires, and age greater than 18 years.</p> <p>Exclusions were: having a previously placed knee implant requiring revision, being physically or mentally compromised due to mental alterations, alcoholism, drug abuse, having an indwelling anesthesia catheter left in place postoperatively, being diagnosed with rheumatoid arthritis, or having operative complications.</p>	<p>levels of anxiety on postoperative day 2 and had significantly higher rates of satisfaction upon discharge. However, HT did not decrease opioid consumption postoperatively and did not show a significant difference in recovering gait or range of motion.</p>
<p>Vitale & O'Connor (2006) Villanova, PA</p>	<p>Blinded, Quasi-experimental</p> <p>This research wanted to compare reports of pain and levels of state anxiety after abdominal</p>	<p>N=21</p> <p>Reiki group received 30-minute reiki sessions preoperatively on the day of surgery, 24 hours</p>	<p>Data was collected from the physician/surgeon's office, in the preadmission testing area, and in the client's room prior to being discharged. Data</p>	<p>Inclusion criteria was women who have a scheduled abdominal hysterectomy with their attending physician.</p> <p>Exclusion criteria was a diagnosis of carcinoma due to the expected anxiety</p>	<p>The mean surgical time for the control group was 72 and the Reiki group was 59. The mean rating of pain and anxiety was lower for the Reiki group than the control group. For pain</p>

	<p>hysterectomies after Reiki therapy was utilized.</p>	<p>postoperatively, and 48 hours postoperatively. The participants also received standard nursing care (n=10).</p> <p>The control group only received traditional nursing care during the length of stay (n=12).</p>	<p>collected consisted of pain, anxiety, pain medication usage, and surgery length of time.</p>	<p>state this diagnosis could impose on someone.</p>	<p>medication use, there appeared to be no statistically significant difference, but the Reiki group did not use Dilaudid while almost all of the control group subjects utilized Dilaudid for breakthrough pain.</p>
<p>Bulette & Duffy (2010) Acton, MA</p>	<p>Between-group intervention pilot study</p> <p>Testing the effectiveness of therapeutic touch in aiding to improve pain, cortisol levels, and natural killer cells in postoperative vascular surgery recovery.</p>	<p>N=21</p> <p>The therapeutic touch (TT) group received one TT session during a length of stay (n=12)</p> <p>The control group received only standard nursing interventions and care (n=9).</p>	<p>Data was collected to measure pain, cortisol, and natural killer cells. Prior to receiving any treatment (TT or usual nursing care) clients completed a VAS pain scale and once again after treatments. Blood was drawn immediately before treatments and 1 hour afterwards.</p>	<p>Inclusion criteria required participants: to be English speaking, at least 18 years of age, able to give informed consent, and hemodynamically stable.</p> <p>Exclusion criteria was not listed because hospital staff screened inpatient clients already on the unit for inclusion to the study.</p>	<p>Participants in the TT group had a significantly greater drop in postoperative pain and cortisol level along with significantly higher NKC levels.</p>

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