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Relaxation Therapy with Guided Imagery for Postoperative Pain Management: An Integrative Review

Márcia Marques dos Santos Felix, MSc, PhD Candidate [*], Maria Beatriz Guimarães Ferreira, PhD [*], Luciana Falcão da Cruz, MSc, PhD Candidate [*], Maria Helena Barbosa, PhD [†,*]

[*] Stricto Sensu Graduate Program in Health Care, Universidade Federal do Triângulo Mineiro, Uberaba, Minas Gerais, Brazil
[†] Didactical-Scientific Department of Hospital Care Nursing, Stricto Sensu Graduate Program in Health Care, Universidade Federal do Triângulo Mineiro, Uberaba, Minas Gerais, Brazil

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ABSTRACT

Objective: To identify the evidence in the literature about relaxation therapy with guided imagery for postoperative pain management.
Method: Integrative review.
Data source: PubMed, Lilacs, Cochrane, Embase, Web of Science, Scopus and Cinahl, between August 2006 and December 2016. Descriptors: Postoperative Pain, Imagery (Psychotherapy) and Guided Imagery. Study selection: original studies published in English, Spanish and Portuguese. 291 studies were identified and eight were selected. Descriptive data analysis, presented in detail, with a summary of the knowledge produced in each study.
Results: In the primary studies included, the use of guided imagery associated with other complementary therapies was highlighted: hand and foot "M" technique, education on postoperative pain management with analgesic drugs, relaxation exercises, respiration exercises, meditation, soothing biorhythmic music combined with positive and encouraging assertions and music with nature sounds.
Conclusions: The knowledge synthesis resulting from this study indicates that evidence could be identified on the use of guided imagery associated with relaxation therapy as a complementary approach to drug analgesia in postoperative pain control strengthens its indication for nursing practice. This evidence, however, demonstrates that the quality of the use of this therapy is limited, and it is necessary to carry out new randomized clinical studies to fill the existing gaps in this topic.

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Address correspondence to Maria Helena Barbosa, PhD, Av. Getúlio Guaritá, 107, Bairro Abadia, CEP: 38025-440, Uberaba, MG, Brazil.
E-mail address: mhelena331@hotmail.com (M.H. Barbosa).

Human pain relief is considered an important mission of health professionals. Despite the advances in the pharmacologic treatment of pain, many of the patients admitted for surgeries still do not receive appropriate treatment for postoperative pain relief (Rognstad et al., 2012). Reducing the incidence of postoperative pain represents a challenge for the multidisciplinary team (Matkap, Bedirli, Akkaya, & Gümüs, 2011; Rico et al., 2013).

Postoperative pain is classified as acute pain resulting from the combination of anxiety, tissue injury, and pain. Its occurrence depends on the influence of cultural and psychological factors, previous illnesses, place and type of incision, extent of the trauma during the surgical intervention, and technical aptitude of the surgeon (Darnall, 2016; Miranda, Silva, Caetano, Sousa, & Almeida, 2011). The lack of appropriate pain relief in the perioperative

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context entails negative effects for the results of the surgery and the patient's satisfaction. If left unsolved, these can cause physiologic changes that can result in chronic pain, entailing losses for the health and quality of life (Miranda et al., 2011; Rico et al., 2013).

Brazilian and international studies have found that a significant number of patients continue to report moderate to severe postoperative pain, signaling one of the most important problems in surgery, with significant impact on the health system (Boezaart, Munro, & Tighe, 2013; Robleda, Sillero-Sillero, Puig, Gich, & Baños, 2014; Sanansilp, Dejarkom, & Deetayart, 2016; Serrano & Oliveira Júnior, 2016; Suksompong, Chaikittisilpa, Rutchadawong, Chankaew, & Von Bormann, 2016).

The appropriate treatment of postoperative pain should be emphasized because it is fundamental for the patient's comfort and for the optimization of the surgery results (Rico et al., 2013). The pharmacologic approach seems to be the best way to control and fight this pain, but there are nonpharmacologic interventions that grant the patient a greater feeling of pain and anxiety control, interfering positively in the control of postoperative painful stimuli (Lin, 2012).

In a review, the authors discussed medical practice in response to acute pain and acknowledge that health professionals should see acute pain as a disease process, as well as minimize the use of opioids and promote alternative pain management strategies (Boezaart et al., 2013). Complementary therapies, such as relaxation, massage, guided imagery, and acupuncture, have been found to have benefits for patients admitted for different types of surgeries (Hansen, 2015).

Among the complementary intervention therapies for pain, guided imagery is highlighted; it is an integrative body-mind intervention to relieve the stress, reduce the anxiety, and promote a feeling of peace and calmness (Nelson et al., 2013). This intervention is a cognitive-behavioral strategy that uses the patient's own imagination to form a mental representation of an object, place, event, or situation, perceived through the senses (Fitzgerald & Langevin, 2014). These images are usually visualized within a state of relaxation, possibly with a specific goal in mind, such as pain relief (Posadzki & Ernst, 2011).

Relaxation therapy can be understood as a psychological intervention method that aims to assist the patient to achieve a state of rest (physical relaxation) and inner calm (mental relaxation) (Willhelm, Andretta, & Ungaretti, 2015). The use of relaxation techniques such as diaphragmatic breathing or progressive muscle relaxation is incorporated into the guided imagery strategy to help the patient stay focused. Consequently it will help the patient reduce the stress response and promote relaxation. Physical and mental relaxation facilitates visualization and reduces reactivity to stress as it reshapes stressful situations from negative responses of fear and anxiety to positive images of healing and well-being (Fitzgerald & Langevin 2014; Kosslyn, Ganis, & Thompson, 2001).

Guided imagery can be receptive, when the individual perceives messages issued by the body, or active, when the individual evokes thoughts or ideas. It can be done through audio recordings, videos, or therapists themselves. Normally the session starts with a relaxation exercise, such as diaphragmatic breathing or progressive muscle relaxation, to help the participant to focus. After the participant is relaxed, the therapist suggests an image of a relaxing, calm, or comforting place. Scenes commonly used to induce relaxation include watching a sunset or moonlight, sitting on a hot or warm beach, or floating on the water or through space (Fitzgerald & Langevin, 2014). The therapist can also guide the imagery, using positive suggestions to relieve the symptoms of specific conditions, such as pain (Foji, Tadayonfar, Mohsenpour, & Rakhshani, 2015; Nelson et al., 2013).

This therapy helps to deviate the attention from the physical and psychological discomfort by staying concentrated on pleasant imagery, which can decrease anxiety and pain, reduce analgesic intake, and bring down tension, anguish, fear, heart frequency, and blood pressure, besides promoting psychological well-being, energy, and sleep (Costa & Reis, 2014; Polomano et al., 2017; Salvador, Rodrigues, & Carvalho, 2008; Williams, Davies, & Griffiths, 2009).

The body-mind strategies encourage self-efficacy and active participation in the cure process (Alam et al., 2016; Glickman-Simon & Tessier, 2014). Relaxation therapy with guided imagery is a widely used intervention that can be effective to promote clinical results, including surgical outcomes (Jacobson et al., 2016). Therefore, it is fundamental to investigate health interventions that complement traditional medicine.

In view of these aspects of guided imagery, the objective in this review was to identify the evidence available in the literature on the use of guided imagery associated with relaxation therapy for postoperative pain management.

Method

To achieve the proposed objective, the review method called integrative review was chosen and conducted through the following steps: establishment of the hypothesis and objectives of the integrative review; elaboration of the review question; sampling or literature search for primary studies; extraction of data from primary studies; assessment of primary studies included in the integrative review; analysis and synthesis of review results and presentation of review (Galvão, Mendes, & Silveira, 2010).

The following guiding question was used: What scientific evidence is available in the literature about relaxation therapy with guided imagery for postoperative pain management?

The search for the primary studies was undertaken in the following databases: PubMed, LILACS, Cochrane, Embase, Web of Science, Scopus, and CINAHL. The descriptors were selected according to each search tool in the respective primary databases, using DeCS terms for LILACS and MeSH terms to search the databases PubMed, Cochrane, Embase, Web of Science, and Scopus; and CINAHL Headings for CINAHL. Two of the researchers independently searched the databases and read the abstracts to select the articles included in the review in January 2017. The following controlled descriptors were used: Postoperative Pain, Imagery (Psychotherapy), and Guided Imagery. To guarantee a broad search, various combinations of descriptors were made, including their respective synonyms.

The inclusion criteria of the primary studies selected for this integrative review were studies on guided imagery for postoperative pain management, research developed on human beings, and studies published in English, Spanish, and Portuguese between August 2006 and December 2016. Narrative reviews of literature, dissertations, theses, and editorials or response letters were excluded from the sample.

In total, 291 articles were identified in the 7 databases investigated: 92 in PubMed, 19 in Cochrane, 30 in Embase, 40 in Web of Science, 68 in Scopus, 42 in CINAHL, and none in LILACS. After reading the titles and abstracts, 18 studies were selected, considering the inclusion and exclusion criteria, which were evaluated for eligibility, with full text.

Among the 18 primary studies selected, 8 were excluded because they did not assess postoperative pain and 1 because other types of complementary therapies were used, not guided imagery. Hence, the integrative review sample consisted of eight primary studies: seven in PubMed and one in CINAHL. The selection process of the studies has been illustrated in Figure 1 by means of the PRISMA flowchart (Moher, Liberati, Tetzlaff, Altman, & the PRISMA Group, 2009) (Fig. 1).

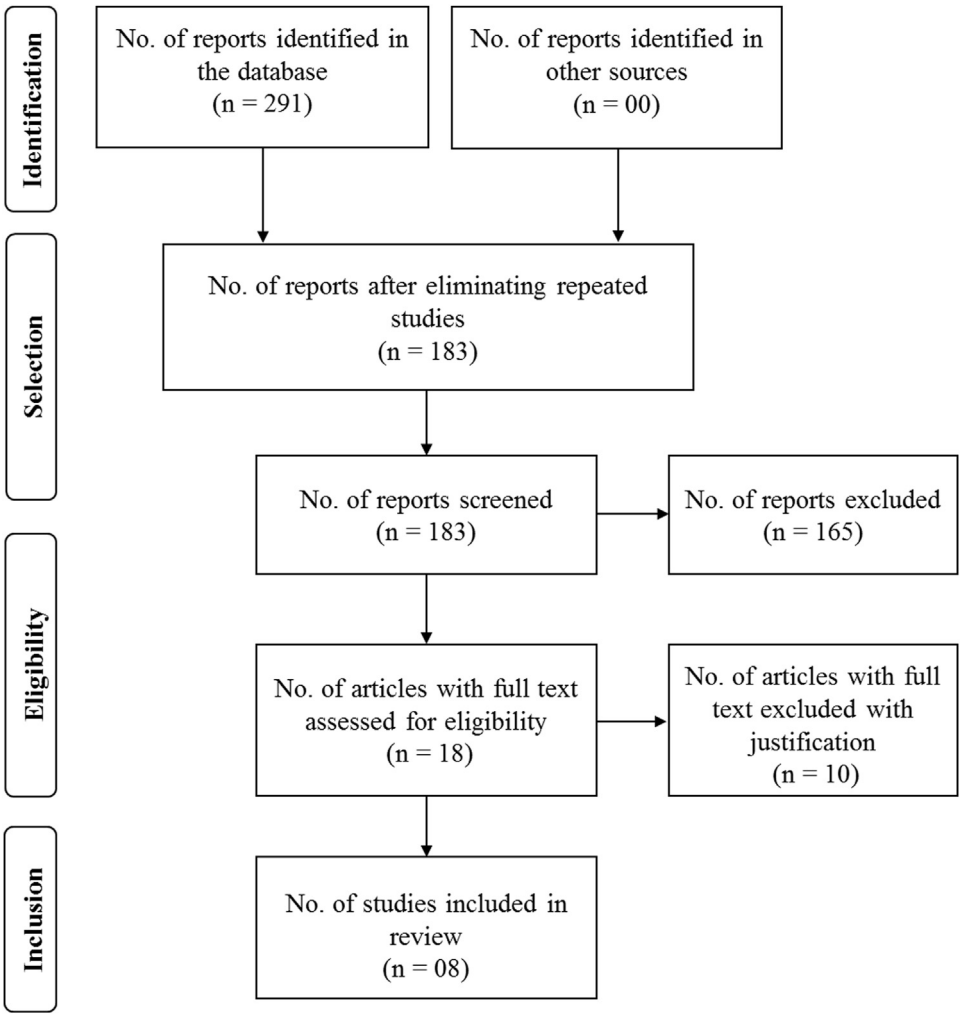

Figure 1. Information flow with different phases of the integrative review.
Adapted from Moher et al., 2009.

To extract the data from the articles included in the integrative review, a data collection tool was used that was submitted to face and content validation (Ursi & Gavão, 2006), and consisted of five items: identification of the study, host institution, type of journal, methodologic characteristics of the study, and assessment of methodologic rigor.

The analysis of the research design of the studies included in the integrative review was based on the concepts described by Polit and Beck (2016). The authors classified the studies quantitative in experimental, quasiexperimental, and nonexperimental. For the randomized clinical trials, the methodologic quality of the study was analyzed using Jadad's Quality Scale, which consists of a quality scale to measure the probable bias in the study. The Jadad score is a 5-point scale including three criteria: randomization, level of blinding, and mention of dropouts and withdrawals. One point is attributed for the presence of each criterion. Points are added if randomization and double blinding are described and appropriate (1 point each) or deducted if inappropriate. Out of the 5 potential points, high-quality protocols are scored $\geq$3 and low-quality <3 (Jadad et al., 1996).

The data were analyzed descriptively and presented in detail, including a summary of the knowledge produced in each study (objective, intervention, sample, method, main results, and conclusions).

Results

Among the eight studies included in this integrative review, seven were developed by nurses and one by physicians. As for the language, all studies were published in English, and regarding the research design and methodologic quality, we found five studies with quasiexperimental designs and three randomized clinical trials (Table 1). Among the clinical trials, one scored 3 on the Jadad Quality Scale (maximum total score of 5), indicating that the study was described as randomized, the method to produce the randomization sequence was appropriate, and the losses and exclusions were reported, but without masking. One study received a score of 2 because it was described as randomized but the method to produce the randomization sequence was inappropriate; losses and exclusions were reported, but without masking. And another study received a 0 score because it was described as randomized but the randomized method was inappropriate and there was no masking, nor was there a description of losses and exclusions.

Forward et al. (2015) aimed to investigate the efficacy of the hand and foot "M" technique, which is a hand and foot massage for 18-20 minutes, compared with guided imagery and habitual care in the reduction of pain and anxiety in patients admitted for elective surgery. The sample consisted of 225 patients, adults older than age 18 years, 76 men and 148 women, admitted for elective hip or knee

Table 1
Characterization of Studies Included in the Integrative Review

Title	Authors/Year	Type of Study
1. Effect of structured touch and guided imagery for pain and anxiety in elective joint replacement patients: A randomized controlled trial: M-TIJRP	Forward, Greuter, Crisall and Lester (2015)	Randomized clinical trial
2. Guided imagery for adolescent post-spinal fusion pain management: A pilot study	Charette et al. (2015)	Randomized clinical trial
3. Efficacy of relaxation intervention on pain, self-efficacy, and stress-related variables in patients following total knee replacement surgery	Lim, Yobas, and Chen (2014)	Quasiexperimental
4. An evaluation of the effectiveness of relaxation therapy for patients receiving joint replacement surgery	Lin (2012)	Quasiexperimental
5. Effects of guided imagery on postoperative outcomes in patients undergoing same-day surgical procedures: A randomized, single blind study	Gonzales et al. (2010)	Quasiexperimental
6. Is guided imagery effective in reducing pain and anxiety in the postoperative total joint arthroplasty patient?	Thomas and Sethares (2010)	Quasiexperimental
7. Evaluation of the magic island: Relaxation for kids compact disc	Huth, Daraiseh, Henson, and McLeod (2009)	Quasiexperimental
8. Imagery-induced relaxation in children's postoperative pain relief: A randomized pilot study	Pölkki, Pietilä, Vehviläinen-Julkunen, Laukkala, and Kiviluoma (2008)	Randomized clinical trial

replacement surgery, randomly distributed in one of the three groups (75 patients in each): group A received the “M” technique, group B guided imagery, and group C habitual care. The interventions took place in the immediate preoperative phase, in the immediate postoperative phase, and on the first and second postoperative days. The methods employed to measure the interventions were the Visual Numerical Anxiety Scale, the Numerical Pain Assessment Scale, and the Hamilton Anxiety Scale. The results showed a drop in anxiety and pain using the hand and foot “M” technique and guided imagery in patients admitted for elective full knee or hip replacement surgery. It was concluded that the underlying reason for the impressive benefit of the “M” technique was the use of a specifically structured touch sequence during the intervention process, through the hands of competent and trained professionals.

Charette et al. (2015) assessed an intervention combining guided imagery, relaxation, and education to reduce the postoperative pain and anxiety in adolescents and young adults between 11 and 20 years of age, admitted for spinal fusion for scoliosis, and seeking to relieve pain intensity, reduce anxiety, and improve coping. The participants were randomly assigned to one of the two groups (20 in the experimental group and 20 in the control group); average age was 15 ± 2.1 years and 7 were male.

On the day of the discharge, 14 days after the discharge, and 1 month after the discharge, the experimental group received (standard) habitual care associated with watching a 30-minute audiovisual presentation (DVD), which provided information on the surgery, postoperative care, and postoperative pain management with analgesic drugs and explanations on how to turn in the bed after the surgery, including various exercises to address the physical and pulmonary functions. In addition, relaxation exercises (Jacobson method) were provided with guided imagery, culminating in a state of tranquility and calmness. The control group only received (standard) habitual care. The Brief Pain Inventory, State-Trait Anxiety Inventory, and Pediatric Pain Coping Inventory were used to measure the pain, anxiety, and coping. The authors noted that adding a DVD with guided imagery and relaxation exercises for use at home was more effective than standard treatment alone for postoperative pain. The coping strategies did not produce significant differences. The authors concluded that, although the intervention was based on spinal fusion for scoliosis, the results may be generalizable to include an intervention with a similar design for any painful procedure in this age range.

Lim et al. (2014) investigated whether a relaxation intervention helped to reduce pain, stress, and anxiety and verified whether it contributed to increase the perceived relaxation and self-efficacy. Eighteen participants completed the relaxation intervention. Most participants were women (n = 13; 72.22%), married (n = 17; 94.44%), Chinese (n = 12; 66.67%), and between ages 65 and 69 years (n = 6; 33.33%). The participants were admitted for full knee replacement surgery and received routine care associated with relaxation, an intervention containing three daily 1-hour sessions. The intervention comprised theoretical and practical components. The theoretical component included general information on the negative effects of emotional tension and physical pain on postoperative recovery, the benefits of practicing the relaxation techniques, and the way these techniques are incorporated in daily activities. The practical component, in turn, involved practical experience with two relaxation techniques, including breathing exercises and guided imagery, using a 20-minute audio instruction. The dependent variables were assessed using a Numerical Pain Assessment Scale, Numerical Stress Assessment Scale, Perceived Relaxation Scale, Expected Self-Efficacy Scale, and State-Trait Anxiety Inventory. After the intervention, the participants reported significantly less pain, stress, and anxiety and greater perceived relaxation and self-efficacy. It was concluded that the use of relaxation techniques can be an alternative or adjuvant strategy to help patients admitted for full knee replacement surgery to mitigate postoperative pain and relieve the emotional tension, thus improving their self-efficacy and enhancing their recovery.

Lin (2012) examined the effect of a relaxation therapy on the reduction of anxiety and pain before and after the total joint arthroplasty. Ninety-three participants were sequentially designated to the control (n = 48) and experimental (n = 45) groups. The mean age was 71.0 ± 11.1; 33 participants (35.5%) were men and 60 (64.5%) were women. Using earphones, the experimental group received guided relaxation therapy with a relaxation audio that contained deep breathing, guided imagery, and meditation in the preoperative phase and on the first, second, and third postoperative days. No interventions were made for the patients in the control group, who were encouraged to relax in the bed. The pain and anxiety levels were assessed using the visual analogue scale (VAS) and the State-Trait Anxiety Inventory. Blood pressure was verified, and cardiac frequency was verified before and after the intervention. The results indicated that the patients admitted for full joint replacement had significantly lower subjective anxiety and pain ratings, as well as lower systolic blood pressure, after receiving relaxation interventions. The relaxation therapy could be incorporated into clinical practice as a routine nursing intervention to help patients in the postoperative phase of full joint arthroplasty to better manage pain and anxiety.

Gonzales et al. (2010) assessed the effects of guided imagery on the postoperative results in patients admitted for surgical head and neck procedures. The convenience sample consisted of 44

participants (control group = 22 and experimental group = 22), 26 men and 18 women, ranging in age from 18-71 years, with mean age 34.6 ± 13 years; 34 were white and 10 African American. In the experimental group, the participants listened to a 28-minute CD that guided the patient through a progressive relaxation exercise and guided imagery in the preoperative phase; a second CD with guided imagery was used during the anesthetic induction, before the incision. This CD contained a calm biorhythmic melody, combined with positive and encouraging assertions. The pain was assessed 1 hour and 2 hours after the end of the procedure. Anxiety and pain were measured using the Amsterdam Preoperative Anxiety and Information Scale and the VAS in the preoperative phase at the postanesthetic recovery service and the outpatient procedure service. The control group received 28 minutes of privacy but no CD. The results evidenced a significant reduction in the anxiety levels in the experimental group, but no significant difference in the use of opioids between the two groups. The pain level in the experimental group was also significantly lower than in the control group at 2 hours after the surgery. It was concluded that therapy with guided imagery seems promising to reduce preoperative anxiety and postoperative pain.

Thomas and Sethares (2010) assessed the effect of guided imagery as an intervention to reduce pain and anxiety in patients admitted for full joint arthroplasty. The final sample consisted of 121 participants, who chose to participate in the experimental group (n = 69) or the control group (n = 52). Of the total, 84 (69%) were women and 37 (31%) men; the age range was 43-88 years with a mean age of 67.9 ± 10 years. The experimental group received standard care and listened to a guided imagery CD intended to develop a feeling of relaxation and harmony in the participants. This CD was heard twice per day for 5 days, before and after the surgery, while the patients were in hospital. The control group only received standard care. The pain and anxiety levels in the experimental and control groups were self-reported on postoperative days 1, 2, and 3, using the Numerical Pain Scale and the Beck Depression Inventory. No significant difference was found in the pain and anxiety levels between the groups. The experimental group obtained lower anxiety and pain levels at all times though. The authors concluded that additional research, with greater attention to the implementation of the intervention in a randomized controlled study, can produce significant perceived pain findings.

Huth et al. (2009) checked the efficacy of a CD with guided imagery in the reduction of postoperative pain and increased relaxation in children. A convenience sample of 17 participants between the ages of 7 and 12 years who had been recently admitted for surgery was included in the research. These nine girls and eight boys had a mean age of 9.7 ± 1.9; 11 (65%) were white, 3 (17%) African American, 1 (6%) Asian, and 2 (12%) multiracial. At the surgical service, the participants received earphones and a portable CD player to listen to the audio Magic Island: Relaxation for Kids, which is a 52-minute audio with music and storytelling to help the child to relax. The relaxation and pain scores were measured before and after the intervention. An eight-question tool was used to collect data on the relaxation and pain levels, as well as details on what the child imagined after hearing the CD. To assess the relaxation, a 5-point Likert scale was used (1 = “highly relaxed like a rag doll”; 5 = “very tense”). To assess pain, a modified version of the OUCHER Scale was used. The results indicated that the participants presented reduced pain scores before and after the intervention, with a statistically significant difference. The use of the CD, however, produced no significant increase in the relaxation. These findings indicate that children of school age can use guided imagery and that relaxation may not be necessary to achieve lower pain levels.

Pölkki et al. (2008) evaluated the efficacy of guided imagery and relaxation on postoperative pain relief in hospitalized children (aged 8-12 years) admitted for surgery. Sixty participants were randomly designated to the experimental (n = 30) or control group (n = 30). Of the total, 32 were men and 28 women, with a mean age of 10.5 ± 1.3. The experimental group listened to a CD, which included imagery and relaxation, developed specifically for children of this age range in cooperation with a therapist. The CD allowed for the scope of the child's own pleasant imagery and offered tranquility and repetitive music with nature sounds to reach a profound state of relaxation. The control group received standard care and was invited to proceed with its normal activities, such as reading or watching television. The child and the nurse assessed pain intensity in three phases: before the intervention or the standard care (phase 1), immediately afterward (phase 2), and 1 hour after (phase 3) the intervention or the standard care, using a VAS. It was noted that the children who heard the CD reported less pain than the children with received standard care immediately after the intervention but not 1 hour after the intervention, which may indicate that the CD did not exert the expected effect to reduce the pain 1 hour after the intervention. The study suggests that the guided imagery and relaxation technique for pain relief should be encouraged, even after a small surgery. Nevertheless, further evidence-based knowledge is needed on the long-term effects of these interventions.

Discussion

This review evaluated the available evidence in the literature on the use of guided imagery with relaxation therapy for postoperative pain treatment. Eight studies met the eligibility criteria. Six (75%) suggested that the intervention was effective and two (25%) found no significant effects on postoperative pain, indicating that the evidence is encouraging but not conclusive.

In the primary studies included in this integrative review, the use of guided imagery associated with other complementary therapies was highlighted: hand and foot “M” technique, education on postoperative pain management with analgesic drugs, relaxation exercises, respiration exercises, meditation, soothing biorhythmic music combined with positive and encouraging assertions, and music with nature sounds.

Proper postoperative pain treatment is not only a concern for recovery but also an ethical and economic issue. Besides reducing pain levels, guided imagery and other complementary therapies, such as music, meditation, massages, and biofeedback, can be used as inexpensive nondrug interventions with no side effects to reduce anxiety levels in stressful situations, like in preoperative period (Foji et al., 2015).

Nelson, Adamek, and Kleiber (2017) evaluated the effects of introducing music-assisted relaxation training to adolescents before spinal fusion surgery. Forty-four participants between the ages of 10 and 19 were enrolled. Participants were randomly assigned to the experimental group that watched the video at the preoperative visit or to the control group that did not watch the video. On the second postoperative day all patients received a music therapy session. The video was 12 minutes and showed descriptions of music therapy and music-assisted relaxation and demonstration to practice music-assisted relaxation and breathing techniques. The session therapy music consisted of 5 minutes of breathing technique, 10-15 minutes of guided autogenic relaxation and safe place imagery, and another 10–15 minutes of patients' favorite songs sung by music therapy session. Data collection included self-reported pain and anxiety before and after the music therapy session. A 0–10 numeric rating scale was used to measure the variables of pain and anxiety, with anchors of “no pain at all (or no stress at all)” and “pain as bad as it could be (or very bad stress).” Pain and anxiety scores for both groups decreased from pretherapy to posttherapy.

In a study developed in New Zealand involving 60 patients admitted for laparoscopic cholecystectomy, it was evidenced that a 45-minute psychological intervention, based on relaxation and guided imagery, by means of a CD during 3 days before and 7 days after the surgery reduced stress and improved the wound healing of surgical patients (Broadbent et al., 2012).

Proper pain management is still a common problem that nurses face in the postoperative period. In view of this reality, a Chinese study found statistically significant differences in the reduction of postoperative pain related to thoracic surgery with the use of complementary therapy by music. A randomized clinical trial was performed with 112 patients in an experimental (n = 56) or control (n = 56) group, in which the first group, besides standard care, received a soft music intervention of 30 minutes for 3 days, and the control group received only standard care. In addition to pain, the experimental group had a statistically significant decrease in levels of anxiety, systolic blood pressure, and heart rate. Evidence favors the use of music therapy as a complementary therapy for the management of postoperative pain and other alterations (Liu & Petrini, 2015).

The use of complementary therapies for pain after orthopedic surgeries is common. A quasiexperimental design developed in China aimed to evaluate the effectiveness of an intervention in the reduction of postoperative pain after total knee replacement. Sixty-six patients participated in the study, equally divided into the control and intervention groups. The control group received usual treatment (daily sessions of continuous passive movement therapy and analgesic medications) and the intervention group underwent the usual treatment associated with a biofeedback training session, in which they practiced muscle relaxation by observing how computerized images showed tension or muscle relaxation. The pain was evaluated by a numerical scale. Biofeedback is a monitoring tool that enhances awareness of one's own body functions; individuals can be trained to control body processes and understand the power of the mind to influence them as well as to have more control. The results indicated significantly lower pain scores in the intervention group compared with control, meaning that biofeedback therapy may be an option for nonpharmacologic complementary treatment for the control of postoperative pain (Wang et al., 2015).

In contrast, nurses at a hospital for orthopedics and traumatology in Turkey developed a study that aimed to describe the intensity of pain before and after watching 20 minutes of videos. Patients (n = 90) were divided equally into three groups: group A (watched funny videos), group B (watched dull videos), and group C (did not watch video). The pain was measured by the VAS. The results indicated a reduction of pain when watching both videos, funny or dull; however, the effect lasted for only 30 minutes. Distraction methods are recommended so that nursing can reduce patients' postoperative pain, and future studies are recommended in this context (Elmali & Balci Akpinar, 2017).

Another study that did not produce statistically significant results was developed with 105 patients admitted for outpatient surgery. A randomized clinical trial was intended to assess the effects of different techniques—audio relaxation technique, music intervention, nature video application with music, and nature video application without music—on anxiety, perceived pain, and self-efficacy in healing. The results identified no statistically significant difference in the pain scores, measured using the Numerical Assessment Scale, between the experimental and control groups (Hansen, 2015).

It is important to highlight that pain is a subjective measure and that, specifically in surgical situations, other factors, such as anxiety, tension, anguish, fear, increased perceptions of acute pain, and reduced self-efficacy in healing, affect the pain level (Hansen, 2015; Williams et al., 2009). In addition, for ethical reasons the researcher cannot impede the administration of anti-inflammatory drugs and/or opioids to better assess pain when applying complementary therapies (Hansen, 2015).

Questions are raised regarding why health professionals do not use nonpharmacologic interventions for pain, which tend to be low cost, easy to apply, and free from adverse effects (Tracy, 2010). Therefore, the importance of a trained team is highlighted, who can prevent and recognize the pain signs early and who understand the benefits of nonpharmacologic measures for acute pain, their mechanisms of action, and how to implement these practices effectively (Polomano et al., 2017).

Limitations

The exclusion of other languages is considered a research limitation because this review only included studies in Portuguese, English, and Spanish. Literature reviews, theses, dissertations, and editorials were also excluded, as well as literature prior to August 2006 and those that dealt with “guided imagery” but adopted a different definition that the one that was used in this review.

Implications for Nursing

The use of research results in clinical practice is one of the most effective actions to avoid or minimize postoperative complications such as pain. It is up to the nurses to adequately manage postoperative pain, aiming to bring comfort and well-being to the patient. This review contributes to the construction of knowledge within the complementary practices in health. This review also points to the need to carry out studies with greater methodologic rigor, with larger samples, standardized control groups, and appropriate reports of the research methods.

There is currently an exponential growth in the use of complementary therapies and noninvasive intervention, and guided imagery has the potential to be effective in reducing symptoms in various conditions. It is crucial to conduct evidence-based practices to familiarize nurses with complementary therapies. Nevertheless, it is still important to provide training to these professionals for the use of this approach in the treatment of postoperative pain.

Nurses should seek training courses and/or postgraduate courses, as well as guidelines for acquiring the necessary support for the practice and development of research in this area, thus filling existing gaps in the subject. Questions to be developed include which guided imagery protocols are most appropriate in specific conditions, such as postoperative pain (CD use or session with a professional, duration and number of sessions) and over time, can guided imagery therapy reduce stress, improve coping, and improve well-being?

Conclusions

The knowledge synthesis resulting from this review indicates that evidence could be identified on the use of guided imagery associated with relaxation therapy for postoperative pain management. This evidence, however, suggests that the quality of using this therapy is limited.

The acknowledged benefits of guided imagery associated with relaxation therapy as a complementary approach to drug analgesia in postoperative pain control strengthens its indication for nursing practice. Nevertheless, the scientific community, lacking studies in a wide range of medical and health specialties, still underestimates this therapeutic tool.

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