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The Efficacy of Complementary Therapies in Reducing Cancer-Related Pain

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Running Head: THE EFFICACY OF COMPLEMENTARY THERAPIES

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Abstract

Pain is a persistent and troubling condition for patients with cancer. Because medications often provide incomplete management of cancer-related pain, adjunct treatment may be necessary to provide more complete pain management. Complementary and alternative therapies are becoming increasingly prevalent in cancer pain management. However, lack of knowledge regarding the efficacy of complementary therapies may prevent patients and nurses from implementing them. The purpose of this article is to provide a review of literature on the efficacy of various complementary and alternative therapies for managing cancer-related pain, including massage, aromatherapy, hypnosis, and music therapy. Eighteen recent research articles related to this topic are included in this review. Results of the research are that several complementary therapies, including massage therapy, hypnosis, and music therapy, have been demonstrated to be useful adjuncts for managing cancer-related pain. Additional research can provide further insights on the efficacy and conditions for successful use of the therapies considered in this review.

The Efficacy of Complementary Therapies in Reducing Cancer-Related Pain

Symptom management in patients with cancer is a paramount and elusive goal of treatment. Among the most distressing of these symptoms is pain. Whether caused by tumor invasion, surgery, or post-surgical treatments such as chemotherapy and radiation, pain is a persistent and troubling condition for patients with cancer. While pharmacological treatment is a universal intervention, it is not a panacea. Medications often provide incomplete management of cancer-related pain. It has been estimated that 70% of patients with cancer suffer with unmanaged pain (Perron & Schonwetter, 2001). Moreover, medications frequently produce undesirable side effects that may actually intensify pain. For these reasons, adjunct therapies are becoming increasingly prevalent in the management of symptoms related to cancer. An estimated 64-83% of patients with cancer use some form of complementary or alternative medicine (Richardson, Sanders, Palmer, Greisinger, & Singletary, 2000; Richardson, Ramirez, Nanney, & Singletary, 1999). The potential of these therapies to alleviate pain while providing a sense of hope and control can make them powerful tools in managing cancer-related pain (Balneaves, Kristjanson, & Tataryn, 1999; Richardson, Post-White, Singletary, & Justice, 1998).

Despite the increasing prevalence of complementary therapies in managing cancer-related pain, knowledge remains limited among patients and healthcare professionals alike regarding the different modalities available and their implementation and efficacy. According to one survey of patients with cancer, 64.5% did not discuss complementary and alternative medicine with healthcare providers because of uncertainty about the benefits (Richardson et al., 1999). In a survey of registered nurses conducted by King, Pettigrew, and Reed (2002), the mean score for knowledge of complementary

therapies was lower than the mean score for perceived efficacy of complementary therapies. The implication is that nurses may fail to implement therapies or recommend them to patients, despite perceptions of efficacy, due to lack of knowledge. Recent years have provided valuable new research regarding the use of complementary therapies in the management of cancer-related pain. The purpose of this article is to provide a review of literature on the efficacy of various complementary and alternative therapies for managing cancer-related pain, including aromatherapy, massage therapy, hypnosis, and music therapy.

Method

Search Strategy

Electronic searches were conducted on CINAHL, MEDLINE, PsycINFO, and Alt-Health Watch (1997 to March 2007). Search terms included pain, cancer, neoplasm, hospice, oncolog*, complementary, alternative, massage, aromatherap*, hypno*, and music. The ancestry approach was utilized to identify additional pertinent studies.

Selection Strategy

Eighteen articles were analyzed in this review. Articles published in the English language containing original research regarding the effects of complementary and alternative therapies on cancer-related pain were included. Specific types of complementary and alternative therapies included were aromatherapy, massage therapy, hypnosis, and music therapy. In order to analyze the most recent literature, studies prior to 1997 were excluded from this review.

Results

Description of Studies

Eighteen articles were analyzed for this review. There was only one study designed using a descriptive, correlational approach (Flaugher, 2002). The remainder consisted of nine quasi-experimental studies (Kite et al., 1998; Grealish, Lomasney, & Whiteman, 2000; Krout, 2001; Louis & Kowalski, 2002; Smith, Kemp, Hemphill, & Vojir, 2002; Toth et al., 2003; Cassileth & Vickers, 2004; Jane, 2005; Peynovska, Fisher, Oliver, & Mathew, 2005), and eight randomized controlled trials (Wilkie et al., 2000; Kwekkeboom, 2003; Liossi & Hatira, 2003; Post-White et al., 2003; Taylor et al., 2003; Elkins, Cheung, Marcus, Palamara, & Rajab, 2004; Soden, Vincent, & Kraske, 2004; Liossi, White & Hatira, 2006). Three studies involved aromatherapy (Kite et al.; Louis & Kowalski; Soden, Vincent, & Kraske), nine studies involved massage therapy (Grealish, Lomasney, & Whiteman; Wilkie et al.; Smith, Kemp, Hemphill, & Vojir; Post-White et al.; Taylor et al.; Toth et al.; Cassileth & Vickers; Soden, Vincent, & Kraske; Jane), four studies involved hypnosis (Liossi & Hatira; Elkins, Cheung, Marcus, Palamara, & Rajab; Peynovska, Fisher, Oliver, & Mathew; Liossi, White, & Hatira), and three studies involved music therapy (Krout; Flaugher; Kwekkeboom). For a summary of the articles reviewed and statistical values, see Table 1.

Aromatherapy

Researchers for two of the aromatherapy studies used a quasi-experimental approach (Kite et al., 1998; Louis & Kowalski, 2002), and one researcher used a randomized, controlled design (Soden, Vincent, & Craske, 2004). Aromatherapy was implemented in conjunction with other therapies in two of the studies (Louis & Kowalski; Soden, Vincent, & Craske). Finally, researchers in one study measured the long-term effects of aromatherapy on pain index (Kite et al.), and researchers in two of

the studies compared the pre-intervention and immediate post-intervention pain scores for participants (Louis & Kowalski; Soden, Vincent, & Craske).

Kite et al. (1998) studied the impact of aromatherapy on physical symptoms and psychological distress in patients at a European cancer center receiving aromatherapy treatments. Symptom data was collected from participants before and after a course of six aromatherapy treatments which were held at roughly one-week intervals as part of an evaluation of the aromatherapy program. Of the sixteen participants who ranked pain as one of their top two presenting symptoms, 69% reported a significant improvement of pain level to “total” or “almost total” relief at the completion of aromatherapy interventions (Kite et al., p.175).

Louis and Kowalski (2002) studied the effects of lavender oil aromatherapy on physical and psychological symptoms in hospice participants with cancer (n=17). Pre- and post-intervention symptom scores were taken pre-intervention and sixty minutes following interventions. Participants all received sessions of no intervention (to obtain baseline measures), humidified water treatment, and essential lavender oil treatment, with each session lasting sixty minutes. While researchers found some decrease in pain and anxiety scores after the aromatherapy and water humidification treatments, none of the differences were statistically significant (Louis & Kowalski).

Soden, Vincent, and Craske (2004) compared the long-term effects of aromatherapy massage and non-aromatherapy massage on physical and psychological symptoms in people with cancer. Participants (n=42) were randomized to three groups: massage with essential lavender oil, massage with inert carrier oil, and no massage. Participants in the massage groups received a 30-minute back massage weekly for four

weeks. Pain measurements were obtained in the week before therapy initiation, immediately before massage sessions, four hours after massage sessions, and in the week following the last massage. Researchers found a significant decrease in pain scores four hours after the second treatment of both massage and aromatherapy massage. The pain scores between the aromatherapy and non-aromatherapy massage groups were not significantly different (Soden, Vincent, & Craske).

Massage Therapy

Researchers in five of the studies on massage used a quasi-experimental approach (Grealish, Lomasney, & Whiteman, 2000; Smith, Kemp, Hemphill, & Vojir, 2002; Toth et al., 2003; Cassileth & Vickers, 2004; Jane, 2005) and four used a randomized, controlled design (Wilkie et al., 2000; Post-White et al., 2003; Taylor et al., 2003; Soden, Vincent, & Kraske, 2004). Massage was implemented in conjunction with other complementary therapies in three of the studies (Post-White et al., Soden, Vincent, & Kraske, Taylor et al.). For a description of the study on aromatherapy massage (Soden, Vincent, & Kraske), see the previous section.

Grealish, Lomasney, and Whiteman (2000) studied the effects of foot massage on pain and nausea in 87 patients hospitalized with cancer. Participants received foot massage on two occasions and acted as their own control during a session of no massage. Massage sessions lasted ten minutes, with five minutes of massage from the toes up to the knees on each side. Massage was performed at the same time of day to control for the effects of regularly schedule pain medications. Researchers found a significant decrease in pain and nausea immediately following the intervention (Grealish, Lomasney, & Whiteman).

Cassileth and Vickers (2004) analyzed pre- and post-massage scores for various cancer-related symptoms. The symptom scores for pain, stress, depression, fatigue, and nausea were collected from 1,290 participants receiving massage at a large cancer center over a three year period. Massage sessions averaged 60 minutes for outpatients and 20 minutes for inpatients. Inpatient participants most often received foot massage, and outpatient participants most often received Swedish massage. Participants from both groups with lower tolerance received a lighter touch massage. Researchers found that participants from both groups with an initial pain score of at least four on a scale of zero to ten experienced an average 48% reduction in pain level following massage therapy. Adjusting for initial pain scores, researchers found that outpatients, who received longer massages, had significantly lower symptom scores than inpatients following massage therapy. Forty-eight hours following the massage, outpatient pain scores remained low. Researchers also found that, adjusting for inpatient and outpatient baseline pain scores, patients receiving Swedish and light touch massage experienced greater symptom relief than those receiving foot massage. However, the potentially poorer health of participants receiving shorter massages makes it difficult to ascertain whether longer massages have additional therapeutic benefit.

Wilkie et al. (2000) examined the effects of four massages on pain intensity, opiate analgesic doses, hospital admissions, and quality of life in 29 hospice patients with a cancer diagnosis. Participants received either routine care or massage, which consisted of effleurage (rhythmic, gliding strokes) and several optional strokes according to therapist and participant preference. Pain scores were obtained before and after each massage. Researchers found a significant reduction in pain after the first and third

massages and a near-significant decrease after the fourth massage. Participants receiving massage therapy on average experienced a 42% pain reduction over the course of the study, while participants receiving usual hospice care experienced a 26% reduction in pain (Wilkie et al.).

In a pilot study, Toth et al. (2003) studied the effects of massage on pain, anxiety, and alertness in six hospital inpatients diagnosed with metastatic or end-stage cancer. Patients were screened for eligibility on admission. Participants were offered massage interventions every day they were in the hospital. Massage length varied from 10 to 60 minutes, depending on patient tolerance. Of the six participants, complete data were available for four. All four of these participants reported a decrease in pain from baseline at the end of the interventions (Toth et al.).

Smith and associates (2002) hypothesized that participants receiving therapeutic massage would experience a greater decrease in pain than participants in the control group, who received routine care and nurse interaction as an intervention. Patients receiving chemotherapy at a large Midwestern hospital were enrolled in the study, with twenty receiving therapeutic massage and twenty-one receiving nurse interaction. Therapeutic massage was defined as 15-30 minutes of light Swedish massage. Researchers found a significant pain decrease in the massage therapy group following the intervention, while no significant effect was noted in the nurse interaction group.

Post-White et al. (2003) compared the effects of massage therapy, healing touch, and caring presence on symptoms including anxiety, pain, nausea, mood, and fatigue. Participants were randomized to the three intervention groups, with 63 participants completing treatment in the massage group, 56 in the healing touch group, and 45 in the

caring presence group. Healing touch practitioners used their hands above and on the body surface but did not stimulate the deep tissues (Post-White et al.). The caring presence participants experienced the same environment as the other groups (soft music, practitioner presence) but with no physical intervention, although conversation sometimes took place. Participants underwent four weeks of intervention with one session held per week. In addition, all participants received four weeks of a control, which was standard care. Researchers found that pain levels were significantly lower during massage therapy and healing touch than during the control period. Subjects receiving massage used less NSAID medication while in the massage period than during the control. Pain scores were also significantly lower immediately post-intervention for the massage and healing touch groups than for the caring presence group (Post-White et al.).

Taylor et al. (2003) studied the effects of massage therapy, vibration therapy, and standard care on symptoms, including sensory and affective pain, in postoperative women (n=105) who underwent abdominal laparotomy for suspected cancerous lesions. Sensory pain refers to the location, duration, and intensity of pain, while affective pain refers to the unpleasantness or aversive qualities of the pain experience (Taylor et al.). Participants were randomized to massage, vibration, and usual care treatment groups. Researchers used physiotonal vibration therapy, where a computer-driven amplifier transmitted inaudible, low frequency sound waves between 27 and 113 Hz (Taylor et al.). Participants in the massage and vibration therapy groups received a standardized, practitioner-administered intervention lasting 20 minutes for vibration therapy and up to 45 minutes for massage on the night of surgery and the two following nights. In addition,

participants in the vibration therapy group received instructions on how to initiate vibration treatments and could activate the therapy device when desired throughout the day, to “closely approximate real-world conditions” (Taylor et al., p.82). In analyses without correction, massage therapy on the same day as surgery was significantly more effective than usual care at managing affective and sensory pain and significantly more effective than vibration therapy at managing affective pain. However, after controlling for multiple comparisons and outcomes, researchers found no significant differences among any of the groups for the symptoms under study. The results should therefore be interpreted with caution (Taylor et al.).

The immediate and long-term effects of massage therapy were examined in one study (Jane, 2005). Participants in the study (n=30) received a full-body massage lasting between 38 and 50 minutes. Baseline scores for pain, anxiety, heart rate, and blood pressure were obtained 24 hours before and immediately prior to massage intervention. Post-intervention measures were obtained immediately following massage and at eight subsequent intervals, with the last scores obtained 16-18 hours following the massage. All mean post-intervention pain levels were significantly lower than the pre-intervention scores, including those obtained at 16-18 hours. The lowest average score was twenty minutes following massage.

Of the seven studies involving pain measurement immediately following massage, six involved a significant decrease in pain immediately following the massage interventions (Cassileth & Vickers, 2004; Grealish, Lomasney, & Whiteman, 2000; Jane, 2005; Post-White et al., 2003; Smith, Kemp, Hemphill, & Vojir, 2002; Wilkie et al., 2000). In the remaining article on the immediate effects of postoperative massage, a significant

decrease in pain was indicated before but not after controlling for multiple comparisons (Taylor et al., 2003). This may imply a functional distinction between cancer-related postoperative pain and other cancer-related pain.

Of the studies in which researchers examined the effects of massage four or more hours following the intervention, results overall indicated an analgesic effect that persisted beyond the immediate post-intervention phase. In four of the five studies, pain was reduced for a four-hour to a three-week period (Cassileth & Vickers, 2004; Jane, 2005; Wilkie et al., 2000; Toth et al., 2003). In the remaining study, there was a significant decrease in pain from the pre-study baseline four hours after one of the sessions, but not after the other three sessions. Additionally, there was no significant decrease in pain scores from baseline the week following the interventions (Soden, Vincent, & Kraske, 2004).

Hypnosis

Liossi and Hatira (2003) investigated the efficacy of a clinical hypnosis intervention in alleviating pain in 80 pediatric cancer patients undergoing regular lumbar puncture (LP). Subjects were randomized to four treatment groups comprised of two hypnosis groups (direct and indirect) and two control groups (attention control and standard medical treatment). Direct hypnosis involved direct hypnotic suggestions for analgesia, and indirect hypnosis involved indirect or metaphorical suggestions for analgesia (Liossi & Hatira). Participants in both hypnosis groups first experienced guided hypnosis (direct or indirect) and later learned and implemented self-hypnosis, in which they entered and came out of hypnosis independently. Researchers measured participant pain scores at three lumbar punctures prior to the implementation of interventions to

obtain a baseline pain level. Researchers found a significant decrease in pain following both direct and indirect hypnosis interventions. No significant decrease took place in the control groups. However, pain scores during LP returned towards pre-intervention (baseline) levels when self-hypnosis was implemented (Liossi & Hatira).

Elkins, Cheung, Marcus, Palamara, and Rajab (2004) studied the therapeutic effect of a four-session hypnosis intervention. Thirty-nine oncology patients were randomized to hypnosis (n=22) and supportive intervention (n=17) groups. Researchers found a progressive decrease in pain as hypnosis sessions progressed. The difference in pain scores after session one approached significance for the hypnosis group compared with the control group. Differences in pain scores for the second, third, and fourth sessions were all significant, with each successive session resulting in a pain reduction more significant than that of the previous session (Elkins et al.).

Peynovska, Fisher, Oliver, and Mathew (2005) examined the effects of hypnotherapy on various physiological symptoms, including pain. Twenty-two terminally-ill participants at a European hospice center completed the study, with twenty participants receiving three hypnotherapy sessions and two participants receiving two sessions. Pain was assessed before the first session and after the last session, with follow-up taking place after 3-4 months. Of the eight subjects whose presenting symptom was pain, all reported a significant reduction in pain and a decrease in daily opiate analgesic dose. Follow-up data of pain scores at 3-4 months was not available.

In another study, Liossi, White, & Hatira (2006) hypothesized that children receiving a combination of local anesthesia plus hypnosis would experience less procedural pain than children receiving anesthesia plus nurse attention or anesthesia

alone. 45 children with leukemia or non-Hodgkin's lymphoma undergoing regular lumbar puncture were randomized to the three groups, with 15 participants in each. Children in the hypnosis groups received both guided hypnosis and self-hypnosis training. Researchers found that children receiving local anesthesia plus hypnosis experienced significantly less procedural pain than children in the other two groups (Liossi, White, & Hatira). In addition, researchers found that at follow-up six months later, benefits were maintained for children using self-hypnosis. This was in contrast to the earlier findings of Liossi and Hatira (2003) which were discussed previously in this section.

Researchers in all four studies found a significant reduction in pain following hypnosis (Liossi & Hatira, 2003; Elkins, Cheung, Marcus, Palamara, & Rajab, 2004; Peynovska, Fisher, Oliver, & Mathew, 2005; Liossi, White, & Hatira, 2006). Researchers found both immediate analgesic effects (Liossi & Hatira; Peynovska, Fisher, Oliver, and Mathew; Liossi, White, & Hatira) and progressive, long-term pain reduction (Elkins, Cheung, Marcus, Palamara, & Rajab). All of the studies involved a combination of guided and self- hypnosis, although the degree to which each was emphasized varied. In one study, self-hypnosis in children was not effective at significantly reducing procedural pain (Liossi & Hatira), while in another, children using self-hypnosis six months after interventions experienced sustained pain-relief benefits (Liossi, Palamara, & Rajab).

Music Therapy

Krout (2001) examined the effects of a single-session music therapy intervention on pain, physical comfort, and relaxation. Data were collected from 80 patients with terminal conditions, including cancer, receiving regularly scheduled music therapy at a

Florida hospice center. Therapy sessions were individualized to each patient and included some combination of listening to music, singing, relaxation and imagery, song choice, song discussion, and songwriting. The researcher found a significant decrease in self-reported and observed pain, physical comfort, and relaxation scores following the intervention (Krout). However, as not all the participants had diagnoses of cancer, the results must be interpreted with caution.

Flaugher (2002) studied whether and music of various genres makes a difference in the perceived intensity of pain, anxiety, or depression in individuals with cancer. Participants (n=67) were assigned to three intervention groups: new-age music, music elected by participants, or no music. The no music group agreed to not purposefully listen to any music during the week-long study, although researchers had no way of enforcing compliance. Participants in the music groups listened to music twice a day for the course of a week. Pain scores were recorded at the beginning of the study, before and after music interventions, and after completion of the study. Participants in both music groups experienced significantly less pain than participants in the control group. No significant difference was found between the new-age music and self-selection music groups (Flaugher).

Kwekkeboom (2003) hypothesized that music therapy would alleviate pain in cancer patients during painful procedures such as tissue biopsy and vascular port placement. Participants received music intervention, distraction intervention, or standard (control) treatment during procedures, and pain scores immediately pre- and post-procedure were compared. Participants in the music group used a portable compact disc (CD) player and headphones to listen to a self-selected CD. The distraction group listened

to their choice of a book on tape through a portable cassette player and headphones. Researchers found no significant differences in pain scores among any of the groups (Kwekkeboom).

Researchers in two of the music studies found a significant decrease in pain following interventions (Krout, 2001; Flaugher, 2002). Kwekkeboom (2003) failed to find a significant pain reduction resulting from music therapy implemented after painful cancer-related procedures. As with the research of Taylor et al. (2003) on massage therapy, this may imply a functional difference between cancer procedure-related pain and other cancer-related pain. The difference in findings may also be a result of the different methods used by researchers.

Discussion

The complementary therapies discussed have the potential to become valuable tools for nurses in clinical practice. Hessig, Arcand, & Frost (2004) suggested four criteria to guide nurses' utilization of complementary modalities: they should be easy to use in a busy clinical setting, easy to learn, inexpensive to patients, families, and facilities (Spross & Burke, as cited in Hessig, Arcand, & Frost), and well-received by patients and families (Hopper, as cited in Hessig, Arcand, & Frost). In an educational intervention study among oncology nurses, they identified massage, imagery, music, touch, art, exercise, humor, journaling, relaxation, and spirituality as therapies that fit these criteria (Hessig, Arcand, & Frost). The basics of massage therapy can be taught to nurses and families (Smith et al., 2002). Halstead & Roscoe (2002) have given useful guidelines for implementing music therapy in nursing practice.

Complementary therapies can also be a valuable tool for family members of patients with cancer-related pain. Researchers have found that family involvement is an essential component of optimal cancer pain management (Ventafridda, 1989; Ventafridda, Selmi, DiMola, Tamburini, & DeConno, 1987). Extensive training is not required for family members to learn and implement the basics of many complementary therapies. Researchers in one study give guidelines for using massage, music, and relaxation therapies in the home (Rhiner, Dean, & Ducharme, 1996). Nurses can play an important role in teaching families how to use complementary therapies and referring them to appropriate resources.

Suggestions for Further Research

Additional research on aromatherapy is required. The sample sizes for the studies ranged from 16-42, and larger samples may be needed to demonstrate the therapeutic benefit of aromatherapy, as indicated by Louis & Kowalski (2002). Two of the studies were quasi-experimental, (Kite et al., 1998; Louis & Kowalski), while one was a randomized, controlled trial in which both interventions included massage (Soden, Vincent, & Kraske, 2004). More controlled studies on aromatherapy would be useful to help prevent Hawthorne effects (Louis & Kowalski) and distinguish between the effects of aromatherapy and the therapeutic effects of participating in programs. Additionally, the benefits of aromatherapy may have been confounded by the benefits of massage in Soden and associates' study. Aromatherapy implemented without other therapies would help determine whether therapeutic benefit for pain relief exists.

Massage therapy was the most researched of the four complementary modalities included in this review. Researchers who studied massage therapy overall indicated a

therapeutic benefit for cancer pain management. However, additional research is needed. Research on massage and cancer-related procedures would be useful to provide further insight on the conditions under which massage is a useful adjunct for pain relief. Pain score before massage intervention may be an important factor influencing the degree of pain relief participants can experience. Research on the correlation between massage efficacy and pre-intervention or baseline pain scores would be insightful. Further research on massage duration would be useful to determine whether therapeutic benefit exists for longer massages. In addition, more research should be done on the efficacy of foot massage or small area massages compared with full back or body massages.

Researchers examining hypnosis found an analgesic effect for adult and pediatric study participants alike. The importance of factors such as anticipatory anxiety and hypnotizability may provide further valuable insights. In addition, determining the efficacy of self-hypnosis and the amount of training needed for successful use of self-hypnosis may prove significant, especially for pediatric patients. The role of parents in facilitating hypnosis and the benefits of providing hypnosis training to parents should be examined (Liossi, White, & Hatira, 2006).

Researchers in the music therapy studies provided interesting and promising findings. Additional research is required to further determine efficacy. In the study by Krout (2001), therapist interaction was an integral part of the music intervention, unlike the studies of Flaugher (2002) and Kwekkeboom (2003). It is important to determine whether music therapy can be effective as a self-guided therapy or if therapist facilitation is necessary so that patients using music therapy at home can obtain maximal therapeutic benefit. As with the massage study by Taylor et al. (2003), there is some suggestion that

music therapy is ineffective at reducing procedural pain related to a cancer diagnosis (Kwekkeboom, 2003). Additional research could provide insight on the circumstances in which music is an effective adjunct therapy for cancer-related pain management.

Conclusion

Pain can be a persistent and troublesome symptom for people with cancer. Complementary therapies can be a useful adjunct to traditional pharmacological pain management, and many patients with cancer seek these therapies. Knowledge of various therapies and their efficacy can be beneficial to people with cancer in helping them manage cancer-related pain. Aromatherapy, massage therapy, hypnosis, and music therapy are complementary therapies that have great potential to be useful adjunct treatments in cancer-related pain management. Several researchers have demonstrated the efficacy of massage therapy, hypnosis, and music therapy. Additional research would help to determine the efficacy of aromatherapy as well as further demonstrate the analgesic benefits of the therapies considered in this review. Nurses can be an important resource in helping patients with cancer understand and implement complementary therapies for management of cancer-related pain.

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