Providing Massage Therapy for People with Advanced Cancer: What to Expect

Marlaine C. Smith, R.N., Ph.D.,¹ Traci E. Yamashita, M.S.,² Lucinda L. Bryant, Ph.D.,³
Linnea Hemphill, R.N., M.S.,⁴ and Jean S. Kutner, M.D., M.S.P.H.⁵

Abstract

There is very little information in the literature to prepare massage therapists for what they might expect when they provide treatment to people with advanced cancer in hospice or palliative care. We report an analysis of a subset of data collected from a large multi-site clinical trial of the efficacy of massage therapy for people with advanced cancer. This is the first analysis of empirical data of patient presentation, massage treatment environment, and the characteristics of massage provided for this population.

Introduction

THE MYTH THAT MASSAGE THERAPY should not be provided to people with cancer has been dispelled by recent evidence supporting the benefits of massage therapy for relieving symptoms associated with the disease process and the effects of treatment.^{1–4} Even so, there is very little information in the literature to prepare massage therapists for what to expect when providing therapy to people with advanced cancer who are receiving hospice care at home or in an inpatient setting. This paper reports an analysis of a subset of data collected from a large multi-site clinical trial of the efficacy of massage therapy for people with advanced cancer. We describe patient presentation, the treatment environment, massage characteristics, and the events surrounding the treatment.

Massage therapists need preparation for what they might encounter when providing massage therapy to patients with cancer.^{2,5} The issues vary depending on the stage of the disease and clinical manifestations. For patients with advanced cancer receiving hospice or palliative care, massage therapy may provide relief from pain,^{6,7} anxiety,⁸ nausea,⁹ fatigue,^{10,11} or depression.^{12,13} Well-meaning therapists who have not had specific training with this population may feel insecure, and wisely hesitant, to work with these patients. Both the patient and the therapist reap benefits when the therapist knows what to expect. Massage therapy programs across the United States are training therapists for specialty work with persons with cancer.¹⁴ The knowledge base is growing, informed by therapists' expertise, experience, and anecdotal

evidence.^{2,11,15–18} To our knowledge, no evidence-based published article provides information to massage therapists about patient presentation, environment of care, how massage is provided, and events surrounding treatment within a population with advanced cancer at end-of-life. This article will add to the body of knowledge needed to care for this important population.

Description of the Primary Study

This paper focuses on secondary outcomes of the Reducing End-of-Life Symptoms with Touch (REST) study (NCCAM-1 R01 AT01006-01A2). The purpose of the primary study was to examine the efficacy of massage therapy for decreasing pain, improving quality of life, and lessening symptom distress in people with advanced cancer. The sample consisted of English-speaking adults with advanced cancer who were experiencing moderate pain. Patients with low platelet counts (<10,000), on anti-coagulant therapy, with a known unstable spine, or having had professional massage in the previous month were excluded from the study. Those enrolled in the study were randomly assigned to receive massage or simple touch over 2 weeks. Massage consisted of light Swedish maneuvers (effleurage and petrissage) with some trigger point therapy. Simple touch, the control condition, consisted of light touch applied to 10 specified locations. Immediate outcomes were collected before and after the touch treatments, and sustained outcomes at 1 week, 2 weeks, and a week after study completion. Findings are reported elsewhere.¹⁹

¹Christine E. Lynn College of Nursing, Florida Atlantic University, Boca Raton, FL.

²Division of General Internal Medicine, ³Department of Preventive Medicine and Biometrics, ⁵University of Colorado Denver School of Medicine, Denver, CO.

⁴Department of Nursing, Denver Veterans Affairs Medical Center, Denver, CO.

Methods Related to Secondary Analysis

As part of the study protocol, massage therapists were required to complete a detailed six-page treatment form to document each therapy session. Study participants received up to 6 treatments, but not everyone completed the entire series due to death, sickness, or interruptions in their schedules. A total of 814 treatment forms were completed for 151 patients who received massage therapy. Treatments occurred primarily at home ($n = 115$) with the remainder ($n = 36$) provided at nursing homes/skilled care facilities or inpatient hospice units.

Therapists were required to document an initial assessment of the participant's general appearance, ability to turn/move, and significant comments made prior to beginning the treatment session. Following the treatment session, they documented noise level during the treatment, sources of distraction, attire and position during treatment, body parts addressed during massage, location of trigger points released, and the percent of the total session spent in effleurage and petrissage. Therapists documented early termination of the treatment and the reasons for this. Serious adverse events were tracked during the course of the study. Therapist compliance with these data requirements was monitored by the study coordinator and investigators.

Because these data were both qualitative and quantitative, a mixed methods analysis was employed, including descriptive and comparative quantitative analyses (counting categories of responses) and qualitative analyses of narrative data. Quantitative analyses were performed using SAS v.9.1 (Cary, NC) and qualitative analysis using ATLAS.ti v.5.2 (Berlin, Germany).

Results

General appearance

Study forms contained questions asking therapists to describe the general appearance of the patients before each session, including any significant observations related to skin color, lesions, redness, dressings, ports, catheters, tubes, or edema. Therapists were instructed to record anything of significance. A total of 151 participants had a least one comment about general appearance recorded on their treatment forms. A content analysis was performed by listing the appearance descriptors for each participant, collapsing them into similar categories, and then counting them.

In about 25% of the notes, therapists described color as pale, jaundiced, or cyanotic. Therapists noted edema in 27%, and discoloration, lesions, or bruises present for about 25% of patients. They observed dry or cracked skin in about 7% of patients, pressure ulcers in only 1%, and some interruption of skin integrity other than pressure ulcers (skin tears, incisions, blisters, or abrasions) in about 4%. The therapists noted fatigue, lethargy, sleepiness, or weakness in about 42% of the participants. Over half of the patients had ports, oxygen, IV lines, urinary catheters, feeding tubes, or colostomies.

Most comfortable position for receiving massage

In the pretreatment assessment, massage therapists asked participants about their ability to turn and their most comfortable position. Out of 814 patient encounters, massage therapists recorded this information 612 times (75% response). Almost all (93%) comments related to ability to turn

reflected that the participant could move comfortably in any position. In the documentation, 77% noted that the participants were most comfortable sitting or lying supine (flat, with head raised, or alternating these positions with lying on their sides). Therapists noted in 10% of encounters that the participant's most comfortable position was lateral, prone, or prone and lateral.

Significant patient comments before treatment began

Therapists documented any significant comments made by the participants before treatment. Qualitative analysis began with coding of the comments, using both *a priori* codes based on previous therapy experience and codes that emerged during analysis. Two of the researchers (LB, LH) coded the comments independently and then worked together to reconcile any differences. They then grouped comments with related codes into major categories and finally identified three themes: physical and physiological issues, psychological and psychosocial issues, and communication.

Physical and physiological issues. These included physical reactions to massage therapy at the previous session, comments on increased function or range of motion, and current symptoms. Participants most commonly commented on current symptoms, frequently related to pain. Pain was by far the most frequent comment recorded before the treatment session began. Other symptoms reported by the participants included gastrointestinal problems, respiratory concerns, edema, fatigue or lack of stamina, sleep issues, and skin problems. Participants described physical reactions to earlier therapy experiences, referring to both positive and negative results, and reported changes in symptoms over time. Several attributed enhanced sleep to massage therapy and described better range of motion and energy that they associated with massage.

Psychological and psychosocial issues. Most patients looked forward to sessions with positive anticipation and expectations of pleasure, and expressed regret that sessions were ending. Therapists noted that a few patients without experience of massage therapy were anxious at the beginning, often due to concerns about pain and other symptoms. Patients also shared more general assessments of their mood such as happy, sad, anxious or tense, and concerns about death, family, and financial issues.

Communication. The final category of participant comments related to communication. They described areas that the therapist should avoid and specific requests for treatment related to their symptoms. Spiritual experiences that accompanied the previous sessions were shared as well.

Treatment environment

The therapists completed three questions related to the environment of each session. The first question requested a rating of the noise level using a Likert-type scale. Next they indicated the presence or absence of 6 sources of distraction—ambient noise (overhead paging, alarms, pumps), people present, pets present, radio/music on, radio/talking on, and television on. Third, therapists recorded how the patients were clothed during the treatment session, from options of fully clothed to totally undressed.

The environmental noise level was between somewhat quiet to very quiet (89%). As expected, treatment sessions that occurred at home were significantly quieter than those per-

formed in institutional settings. Distractions during the massage most commonly came from people or pets (47%), the television (18%), and ambient noise (17%). For the most part, radios were not on during the sessions. As expected, institutional settings had significantly fewer pets than home settings, but more distraction from ambient noise and television.

Only 23% of the massage sessions were performed with the person undressed or in underwear. Most therapists gave massage over clothing such as pajamas, nightgowns, or light clothing. Twenty-three percent of treatments were given with participants fully clothed. Those receiving massage at home were more likely to elect to remove clothing; however, even at home a considerable percentage of participants received therapy with full or light clothing (74%).

Position and stroke

Most treatment occurred in the supine (47%) or seated (24%) positions. On average, therapists spent 68% of treatment time doing effleurage and 35% doing petrissage. Participants enrolled at the cancer center spent more of their session time lying prone, and participants at hospice sites spent more time seated as compared with those enrolled at the cancer center. These differences reflect the fact that the patients at the cancer center received massage on a table at home; they were less frail than their hospice counterparts, and therefore able to move from prone to supine more easily.

Parts of body treated

The study protocol allowed therapists to use their judgment to decide which body parts to treat. At the conclusion of the massage session, therapists marked on the treatment form the parts of the body that they massaged and the number of minutes spent on each body part. The body diagrams with overlaid pie charts show the mean proportion of times massage therapists touched each body area across all treatment sessions (Fig. 1) and the mean proportion of times they addressed trigger points at that location (Fig. 2). The shaded portions of the circles represent the proportions touched/trigger points addressed. The body diagrams were generated with S-Plus v.7.0 (Insightful Corporation, Seattle, WA).

The therapists most frequently massaged the shoulders/upper back (89%) and posterior neck (86%). They addressed the feet, mid-back, arms, and anterior legs below the knees in 75–80% of the treatment sessions; the lower back, scalp, hands, posterior legs below the knees, and anterior thighs during 60–74% of the sessions; and the posterior thighs, chest and face in 30–40% of the treatments. Less than 20% of the sessions included work on the gluteal and abdominal regions. As expected in this population, therapy addressed relatively few trigger points among the body areas touched. The most frequently addressed trigger points included the shoulders/upper back (26%), mid-back (20%), lower back (19%), posterior neck (18%), and the gluteal region (left, 18%; right, 13%).

Adverse events and treatment termination

At each data collection visit, participants were queried about adverse reactions to the massage. If any were reported then, or at any time during the course of the study, an Adverse Event Form was completed. No serious adverse events were

FIG. 1. Body diagrams with overlaid pie charts show the mean proportion of times massage therapists touched each body area across all treatment sessions. The shaded portions of the circles represent the proportions touched.

FIG. 2. Body diagrams with overlaid pie charts show the mean proportion of times massage therapists addressed trigger points among all areas touched. The shaded portions of the circles represent the proportions of trigger points addressed.

attributable to the massage therapy. Twenty-six people in the massage therapy group and 33 in the simple touch (control) group died while in the study. Since these patients were enrolled in hospice, these deaths were expected. These data confirm the safety of massage for patients with advanced cancer.¹⁹

Massage therapists were instructed to record any reason that required them to stop the 30-minute treatment session early. In the 814 encounters there were only 13 notations (1.6%) of early termination. Reported symptoms of advanced cancer that may have contributed to the participants' requests to stop the massage treatment included restlessness, fatigue, anxiety, nausea, pain, not feeling well, emotional upset, and diarrhea. The remaining reasons for terminating a session were related to the participant's desire to engage in another activity such as visiting with a friend, smoking, or eating lunch. Based on these data, persons with advanced cancer rarely needed to end a massage therapy treatment early. At times symptoms or desires could motivate the person to request early termination.

Discussion

This is the first analysis of empirical data of patient presentation, massage treatment environment, and the characteristics of massage provided for people with advanced cancer receiving hospice or palliative care. This analysis offers important insights to therapists caring for this population and to future researchers of massage in palliative care.

First, based on these data, it is safe to provide massage therapy to people with advanced cancer in hospice care; no adverse events occurred that were attributed to massage therapy. It is important to note that the therapists were well-qualified and experienced in treating persons with advanced cancer, that the type of massage was limited to gentle effleurage and petrissage, and that the therapists exercised clinical judgment in choices of body parts massaged and time spent working on each body part. These may be important elements to preserve in practice and research in order to retain the safe treatment outcomes in this study.

Massage therapists can expect that this group of patients generally will have compromised energy, often presenting with fatigue, drowsiness, sleepiness, and weakness related to the disease process and/or treatments. For this reason therapists may want to shorten sessions. It is important to carefully assess the patient's willingness and ability to have treatment even for a scheduled session. The therapist should tailor the treatment to the person's level of endurance and to modify it based on that person's symptoms and preferences. This is consistent with suggestions published elsewhere.^{2,4} In this study the patients tolerated the sessions well, choosing to terminate a treatment early in less than 2% of the sessions; however, participants may have felt some commitment related to their involvement in a research study even though they were informed of their right to terminate treatment at any time.

More than half of the participants had ports, IVs, catheters, or appliances requiring modification of massage. Patients presented as pale, but few as cyanotic or jaundiced. Therapists commonly noted edema, lesions, and bruises, but overall skin integrity was intact. These observations suggest the need for treatment modifications. For example, therapists may focus on edematous areas to enhance lymphatic drainage and avoid areas that are bruised. Again, a careful full body skin assessment is important prior to beginning a treatment.

Changes in weight and shape, surgery, appliances and general appearance may precipitate altered body image.² Approaching the body with reverence, and commenting on the beauty of the human body, may mitigate these changes. In addition, many patients previously have experienced touch negatively because of frequent needlesticks, painful palpations, or invasive examinations. It may take some patience for them to learn to relax and receive touch through massage as an expression of nurturing and caring.

In assessing the patient's condition prior to treatment, the therapists noted that participants can and want to provide feedback to therapists about what helps and what does not in relief of pain and other symptoms. Qualitative comments from the therapists documented that the patients generally enjoyed and looked forward to their massage therapy sessions and verbally shared their suffering with the therapists. This study confirms previous advice to therapists that they need to be prepared for expressions of grief, fear, and anxiety related to dying, family conflicts, and uncertainty.² Even though conversation was deliberately limited during the treatment sessions, patients expressed these feelings to the therapists before the sessions began, reflecting the rapport often established between therapist and patient through the intimacy of touch.

The treatment environment was generally conducive to receiving massage. Therapists might expect the frequent presence of family members during the treatments. In this study, over three-quarters of the patients were clothed, so massage was provided over or around clothing. The patients enrolled in hospice were treated in their homes or in an institutional setting where the sources of distractions were more difficult to control by the therapist. Those enrolled through the cancer center more frequently received massage at home on a table and were able to turn and move more easily.

For the most part participants received treatment seated or in a supine position. For this reason massage therapists must be flexible in providing treatment in hospice settings in bed or in a chair. Therapists need to attend carefully to their own body mechanics, finding the best position and location for the patient's and their own comfort and safety. Therapists spent twice as much time in effleurage as petrissage. They massaged the shoulders and upper back most frequently, but an analysis of body parts touched showed a wide distribution of attention. Therapists seemed to provide full body attention while targeting the areas that would be compromised due to inactivity and lying in bed, such as the back, neck, shoulders, scalp, and heels.

Conclusions

Massage can be safe and effective in palliation of symptoms that occur in patients with advanced cancer. More institutions are offering massage therapy as part of their hospice programs. Therapists need to be well-prepared to provide massage to this special population. This analysis offers some insight into what therapists might expect and may lead to better therapeutic approaches.

Acknowledgments

This study was funded by grants from the National Institutes of Health/National Center for Complementary and Alternative Medicine (1R01AT01006-01A2) and the Mendel/Asarch Lung Cancer Family Foundation. We acknowledge

Biotone (San Diego, CA) for their donation of massage cream for the study. We thank all the staff and volunteers from the hospices for their dedication and hard work, and the participants who gave their precious time.

Disclosure Statement

No competing financial interests exist.

References

1. Curties D. *Massage Therapy and Cancer*. Moncton, New Brunswick: Curties-Overzet Publications, 1999.
2. MacDonald G. *Medicine Hands: Massage Therapy for People with Cancer*, 2nd ed. Forres, Scotland: Findhorn Press, 2007.
3. Walton T. Cancer and massage: Essential contraindications. Part 1. *Massage Ther J* 2006;45(summer):119-135.
4. Walton T. Cancer and massage: Contraindications and cancer treatment. Part 2. *Massage Ther J* 2006;45(fall):119-135.
5. Miner W. Training massage therapists to work in oncology. *J Soc Integ Oncol* 2007;5:163-166.
6. Wilkie DJ, Campbell J, Cutshall S, et al. Effects of massage on pain intensity, analgesics and quality of life in patients with cancer pain: A pilot study of a randomized clinical trial conducted within hospice care delivery. *Hosp J* 2000;15:31-53.
7. Stephenson N, Dalton JA, Carlson J. The effect of foot reflexology on pain in patients with metastatic cancer. *Appl Nurs Res* 2003;16:284-286.
8. Wilkinson S, Aldridge J, Salmon I, Cain E, Wilson B. An evaluation of aromatherapy massage in palliative care. *Palliat Med* 1999;13:409-417.
9. Billhult A, Bergbom I, Stener-Victorin E. Massage relieves nausea in women with breast cancer who are undergoing chemotherapy. *J Altern Complement Med* 2007;13:53-57.
10. Post-White J, Kinney ME, Savik KS, et al. Therapeutic massage and healing touch improve symptoms in cancer. *Integrat Cancer Ther* 2003;2:332-344.
11. Cassileth BR, Vickers AJ. Massage therapy for symptom control: Outcome study at a major cancer center. *J Pain Symptom Manage* 2004;28:244-249.
12. Soden K, Vincent K, Craske S, Luca C, Ashley S. A randomized controlled trial of aromatherapy massage in a hospice setting. *Palliat Med* 2004;18:87-92.
13. Toth M, Kahn J, Walton T, et al. Therapeutic massage intervention for hospitalized patients with cancer. *J Altern Complement Med* 2003;9:117-124.
14. Walton T. Developments in oncology massage. *Massage Today* 2006;6:7-23. Document available at www.massagetoday.com/mpacms/mt/article.php?id=13461 Accessed February 2, 2009.
15. Myers CD, Walton T, Small BJ. The value of massage therapy in cancer care. *Hematol Oncol Clin North Am* 2008;22:649-660.
16. Myers C, Walton T, Bratsman L, Wilson J, Small B. Massage modalities and symptoms reported by cancer patients: Narrative review. *J Soc Integ Oncol* 2008;6:19-28.
17. Nelson D. Massage in hospices. *Massage Ther J* 2002. Document available at www.amtamassage.org/journal/sp02_journal/hospices.html Accessed February 2, 2009.
18. Rose MK. *The Gift of Touch—Comfort Touch: Massage for the Elderly and the Chronically and Terminally Ill*. Hospice of Boulder County, 1996.
19. Kutner JS, Smith MC, Corbin L, et al. Massage therapy vs. simple touch to improve pain and mood in patients with advanced cancer: A randomized trial. *Ann Intern Med* 2008;149:369-379.
20. Kutner JS, Main DS, Westfall JM, Pace W. The practice-based research network as a model for end-of-life care research: Challenges and opportunities. *Cancer Control* 2005;12:186-195.

Address reprint requests to:
Marlaine C. Smith, R.N., Ph.D.
Christine E. Lynn College of Nursing
Florida Atlantic University
777 Glades Road
Boca Raton, FL 33431
E-mail: marlaine.smith@fau.edu