2015

2013 Jin Shin Jyutsu® Patient Response

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The document mentioned above has been reviewed and accepted by the student’s advisor, on behalf of the advisory committee, and by the Assistant Dean for MSN and DNP Studies, on behalf of the program; we verify that this is the final, approved version of the student's DNP Project including all changes required by the advisory committee. The undersigned agree to abide by the statements above.

Nathan Garrett, Student
Dr. Melanie Hardin-Pierce, Advisor
Final DNP Project Report

2013 Jin Shin Jyutsu® Patient Response

Nathan Garrett, RN, BSN

University of Kentucky
College of Nursing
Summer 2015

Melanie Hardin-Pierce, DNP, RN, APRN, ACNP-BC – Committee Chair
Chizimuzo Okoli, PhD, MPH, RN – Committee Member
Gina Lowry, PhD, RN – Committee Member/Clinical Mentor
Dedication

I would like to dedicate my capstone project to my lovely wife, Sara. You are the motivation behind each of my worthwhile accomplishments in life. I would not be where I am today if not for your encouragement and belief in me. This is also dedicated to my parents who have had faith in me my entire life, even when I did not believe in myself. Who always gave me the tools I needed to succeed in life, and who are my biggest cheerleaders. And to my brothers for achieving advanced degrees, and setting the bar high for me. Finally, this report is dedicated to my child who will be here by the end of this year. I promise to continue working hard in life, reaching for the stars, and striving to be the best version of myself for both you and your mother.
Acknowledgements

I would like to acknowledge the following people, who have each been instrumental in the construction of this final project: Dr. Melanie Hardin-Pierce, Dr. Zim Okoli, Dr. Gina Lowry, and Jennifer Bradley. I feel like I was lucky having the opportunity to work with this Dream Team! And each person had his or her own unique contribution to this project. Dr. Hardin-Pierce has been my DNP advisory committee chairperson, faculty advisor, and is the adult gerontology acute care nurse practitioner (AG-ACNP) track coordinator. I would not have even been in the AG-ACNP track had Dr. Hardin-Pierce not accepted my request to change tracks from the one in which I was originally enrolled. She has taken me under her wing and helped me succeed in the program. Dr. Okoli has been invaluable in the Jin Shin Jyutsu project and is a huge asset to the College of Nursing. His knowledge and genuine love of research are very inspiring, and will certainly motivate those he works with to participate in future research. Dr. Lowry was the person who first introduced me to any type of complementary energy therapy when I was in the BSN program. I remember when she called me to the front of the class to demonstrate what these types of therapies involve. And I cannot express my appreciation enough of the fact that Dr. Lowry retired over half a year ago, yet agreed to stay on my advisory committee. Finally, I’d like to acknowledge Jennifer Bradley, the Jin Shin Jyutsu practitioner who brought this therapy to the University of Kentucky. She has been unbelievably helpful in the project, answering countless emails, teaching me about Jin Shin Jyutsu, and being an overall priceless resource. She does great things for her patients, and has a heartfelt passion for her work. I hope this project helps increase awareness about this wonderful integrative therapy, so we can improve the care we provide to our patients.
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<th>Description</th>
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<tr>
<td>1</td>
<td>Jin Shin Jyutsu Patient Information</td>
<td>80</td>
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<td>84</td>
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<td>5</td>
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<table>
<thead>
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<th>Patient Experience</th>
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<tr>
<td>– Before Session</td>
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<tr>
<td>– After Session</td>
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</table>
Project Overview

Cancer is a widespread illness, and over one million people in the United States are diagnosed with cancer every year (American Cancer Society, 2015). A diagnosis of cancer can be associated with many distressing symptoms, including pain and stress (Miaskowski, 2010; National Cancer Institute, 2012). Pain is often poorly managed in patients with cancer (Deandrea, Montanari, Moja, & Apolone, 2008), and this can negatively impact quality of life (American Cancer Society, 2014a; Wadhwa, Chilkoti, & Saxena, 2015).

Complementary therapies, also known as integrative therapies, can be used to improve pain control, reduce stress, and alleviate other symptoms experienced by individuals with cancer (Running & Turnbeaugh, 2011). Integrative therapies are those used concurrently with pharmacologic therapy (National Comprehensive Cancer Network [NCCN], 2013). A particular type of integrative therapy known as energy therapy will be discussed often in this report. Energy therapy interventions are those in which treatment is directed at energy fields that are “thought to exist in and around the body” (Rosenzweig, 2015, para. 1). This strategy is based on the belief of a universal life energy (Rosenzweig, 2015) that travels throughout the universe and within every living being (Burmeister & Monte, 1997).

In managing adult cancer pain, the NCCN (2013) recommends the integration of nonpharmacologic therapies including physical, cognitive, and spiritual interventions. When needed, integrative interventions including acupressure are encouraged in conjunction with pharmacologic interventions (NCCN, 2013). Henderson (2014) describes Jin Shin Jyutsu (JSJ) as a form of acupressure. In a retrospective chart review,
manuscript three will discuss patient perceptions of pain and stress before and after a first-time JSJ session.

Since cancer is prevalent, and often accompanied by pain and stress, providers should utilize evidence-based symptom management strategies, including energy therapies. There is little published research regarding JSJ and its application for pain and stress management. However, it is likely to be a useful energy therapy for these symptoms given the literature that exists along with positive research findings of other energy therapies including acupressure and Reiki (Bao et al., 2011; Berger, Tavares, & Berger, 2013; Birocco et al., 2012; Bodhise, Dejoie, Brandon, Simpkins, & Ballas, 2004; Hsieh, Kuo, Yen, & Chen, 2004; Matsubara et al., 2011; Meland, 2009; Richeson, Spross, Lutz, & Peng, 2010; Shannon, 2002; Searls & Fawcett, 2011; Yeh et al., 2013; Yeh, Chien, Huang, & Suen, 2014; Yeh et al., 2014a).

This practice inquiry project will investigate the issues of cancer-related pain and its undertreatment. It will also discuss the impact of poorly treated pain on quality of life, review energy therapy literature, and report findings from a JSJ program at the University of Kentucky Medical Center. Ideally, this project will help healthcare providers understand the issues surrounding poorly managed cancer-related pain, and encourage utilization of a holistic approach, including JSJ, for managing pain and stress for those afflicted by these symptoms.

Three manuscripts were composed, and together they make up the final DNP capstone report:

1. Manuscript one is a concept paper that discusses the impact of cancer-related pain on quality of life. The purpose of manuscript one is to discuss barriers to pain management
for patients with cancer, the effects of pain on quality of life, and implications for practice.

2. Manuscript two is a review of literature on energy therapies. Specifically, this literature review will explore research regarding the effects of energy therapies on pain and stress. The three types of therapies that are reviewed include acupressure, JSJ, and Reiki.

3. Manuscript three is a report on a retrospective chart review in which data from 2013 was reviewed for patients who underwent JSJ. A pretest-posttest design was used to examine the perceptions of pain and stress levels among cancer patients before and after a first-time JSJ session.
Manuscript 1

The Impact of Cancer-Related Pain on Quality of Life

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University of Kentucky
Abstract

Cancer is a widespread illness in the United States that is associated with varying degrees of pain. A large proportion of those with cancer experience pain resulting from the invasive malignancy itself, diagnostic procedures, and/or treatment-related side effects. Unfortunately, cancer-related pain remains inadequately managed in about half of those with a diagnosis of cancer. One of the effects of poor pain control in the individual with cancer is a decreased quality of life. Barriers to pain management in the patient with cancer have been identified. Healthcare providers need to be aware of these barriers, and work diligently to ensure their patients’ pain is optimally managed. The purpose of this paper is to discuss the following: 1) barriers to pain management in patients with cancer, 2) the effects of pain on quality of life, and 3) implications for practice.

Keywords: Cancer-related pain, quality of life, barriers
The Impact of Cancer-Related Pain on Quality of Life

Cancer is a common illness in the United States, and one million people are diagnosed with this disease annually (American Cancer Society, 2015). There are currently over 14 million people in the United States living with cancer, or who have a history of a cancer diagnosis (American Cancer Society, 2015a). Of those, a large proportion will experience pain (Miaskowski, 2010). A large number of those with pain will face inadequate pain management (Deandrea, Montanari, Moja, & Apolone, 2008). For these reasons, it is important to understand barriers to pain management in the oncology population, effects of pain on quality of life, and ways to remedy the problem of ineffective management of cancer-related pain (see Table 1).

Cancer-Related Pain

Pain may be considered the most feared of all symptoms associated with cancer (Decker & Lee, 2010). Cancer-related pain results “from direct invasion of tumor into nerves, bones, soft tissue, ligaments, and fascia, and may induce visceral pain through distension and obstruction” (Christo & Mazloomdoost, 2008, p. 279). Individuals with cancer may also experience pain as a result of cancer-related procedures, surgical interventions, and other treatments, including side effects from radiation therapy or chemotherapy (American Cancer Society, 2014).

Up to three-fourths of people with cancer have pain at the time they are diagnosed (Miaskowski, 2010), and pain is undertreated in nearly half of the oncology population (Deandrea, Montanari, Moja, & Apolone, 2008). Poorly-managed pain can negatively impact a person’s “mood, functional status, and quality of life” (Burrows, Dibble, & Miaskowski as cited in Miaskowski, 2010, p. 390; Deng et al., 2012; Morgan, Small,
Donovan, Overcash, & McMillan, 2011). Deng et al. (2012) evaluated patients in a hospice center to see if there was a relationship between pain intensity and quality of life. It was found that participants with mild pain intensity had higher quality of life than those with moderate and severe pain intensities (Deng et al., 2012). Participants with severe pain had the lowest quality of life score (Deng et al., 2012). For these reasons, healthcare providers should be aware of the issues with undertreated pain, and its negative impact on quality of life for those affected. This paper will discuss the following: 1) barriers to pain management in patients with cancer, 2) the effects of pain on quality of life, and 3) implications for practice.

**Barriers to Pain Management in Patients with Cancer**

Multiple barriers have been identified as reasons for under-treatment of pain for people with cancer. These can include issues related to healthcare providers, the patient, patient families, or all three. An example of a provider-related barrier is when providers fail to thoroughly assess pain (Jablonski & Duke, 2012; Thomas et al., 2012). Sometimes, providers are afraid of patients becoming addicted to pain medications (Al Khalaileh & Al Qadire, 2012; Christo & Mazloomdoost, 2008), and may under-prescribe or under-administer opioids (Christo & Mazloomdoost, 2008). Al Khalaileh and Al Qadire (2012) found the fear of patients becoming addicted was the main barrier to nurses administering pain medication. Using a Likert-type questionnaire, 96 nurses were surveyed and rated that particular fear as 3.6 out of five (Al Khalaileh & Al Qadire, 2012). Nurses have cited their lack of medical knowledge as another reason for failure to administer pain medications (Jablonski & Duke, 2012), and have verbalized fears of overmedicating and harming the patient (Al Khalaileh & Al Qadire, 2012; Jablonski &
Duke, 2012). Providers may lack understanding of opioid dosing and alternate administration routes (Christo & Mazloomdoost, 2008). Additional provider-related barriers to optimal pain management include fears of medication causing respiratory compromise along with lack of knowledge regarding adjuvant analgesics and targeted interventional procedures (Christo & Mazloomdoost, 2008). Furthermore, mass production of educational materials from providers might not always meet individual patient needs (Thomas et al., 2012).

Barriers from patients or their families include the fears of addiction and developing tolerance to pain medications, along with concerns of annoying a healthcare provider with reports of pain (Christo & Mazloomdoost, 2008; Jacobsen et al., 2014; Naveh, Leshem, Dror, & Musgrave, 2011; Sun et al., 2012). Patients may not believe that medication or intervention will improve analgesia, and they may have concerns that pain medications could mask progressive disease (Christo & Mazloomdoost, 2008; Jacobsen et al., 2014; Naveh et al., 2011; Thomas et al., 2012). In some instances, patients believe if they discuss their pain, the provider may be distracted from working to cure their cancer (Naveh et al., 2011; Reddy, Yennurajalingam, & Bruera, 2013). Additionally, patient families may believe aggressive pain management will hinder efforts to treat their loved one’s cancer, and have been found to encourage a patient to refuse treatment of pain (Reddy et al., 2013). While adolescents with cancer have some patient-specific barriers that are common to adults, they also describe other barriers, including “concerns about restriction of social activities and unwanted parental reactions” (Ameringer, 2010, p. 230). Some patients decrease their use of opioids due to gastrointestinal side effects such as reflux and constipation (Thomas, 2008). Additional
factors that impede adequate analgesia are coexisting patient conditions, such as depression and anxiety, as these have been found to be directly related to pain intensity (Jacobsen et al., 2014). Treatment of a patient’s depression and anxiety may improve outcomes in pain management (Jacobsen et al., 2014).

**Effects of Pain on Quality of Life**

The obstacles and barriers noted above can lead to unfortunate consequences for the patient. The American Cancer Society (2014a) states inadequate treatment of pain can have negative effects on an individual’s quality of life, and can be associated with serious depression. Wadhwa et al. (2015) add that pain affects many aspects of life, especially an individual’s quality of life. Research findings regarding pain and its impact on quality of life will be discussed after defining quality of life.

Quality of life can describe either a broad concept, or a more specific concept such as health-related quality of life (Henoch & Lövgren, 2014). Health-related quality of life is defined as “a multi-dimensional concept that includes domains related to physical, mental, emotional, and social functioning. It…focuses on the impact health status has on quality of life” (U.S. Department of Health and Human Services [USDHHS], 2014, para 1). One of the goals of Healthy People 2020 is to “improve health-related quality of life and well-being for all individuals” (USDHHS, 2014a, para 2).

Morgan et al. (2011) found that patients with different types of cancers, who were all experiencing pain, had significantly decreased quality of life as a direct result of pain (-0.51; \( P = .05 \)). In examining the impact of pain on quality of life for patients in a hospice center, it was noted as pain levels increased, quality of life scores decreased to a
statistically significant degree (Deng et al., 2012). Patients with mild, moderate, and severe pain intensities had average quality of life scores, using a Chinese Quality of Life Instrument, of 36.6, 33.8, and 28.2, respectively (Deng et al., 2012). The Chinese Quality of Life Instrument scores range from zero to 60, where less than or equal to 20 indicates the worst quality of life score, and 51 – 60 indicates the best quality of life score (Deng et al., 2012). Furthermore, patients who lived only two weeks or less after being admitted to the hospice unit had higher levels of pain intensity, and lower quality of life than those who lived longer (Deng et al., 2012). It was noted that pain levels had a significantly “negative impact on the physical domain of [quality of life], including appetite, sleep, fatigue, pain intensity, daily activity, side effect, and general appearance” (Deng et al., 2012, p. 56). In this sample, pain scores were also found to have a significant negative impact on patient mood (Deng et al., 2012). Ovayolu et al. (2013) observed as pain severity increased for patients with cancer, “their quality of life deteriorated” (p. 442).

Pain and a cluster of related symptoms have been noted to negatively influence the global quality of life rating for patients with inoperable lung cancer (Henoch & Lövgren, 2014). In lung cancer patients who had recently undergone surgical intervention, Lin, Chen, Yang, and Zhou (2013) recognized the co-existence “of pain, fatigue, disturbed sleep and distress was negatively correlated” (p. 1287) with subjects’ functional status and quality of life. In adult Taiwanese oncology patients, it was found that those with a lower reported “worst pain” intensity and less pain-related life interference had a higher quality of life than those with higher “worst pain” levels and pain-related life interference (Liang et al., 2015).
Conclusion and Implications for Practice

Pain is a common symptom experienced by patients with a cancer diagnosis (Miaskowski, 2010). Although pain can negatively impact quality of life for patients with cancer (Deng et al., 2012; Henoch & Lövgren, 2014; Lin et al., 2013; Ovayolu et al., 2013; Morgan et al., 2011; Wadhwa et al., 2015), it remains inadequately managed for approximately half of this population (Deandrea, Montanari, Moja, & Apolone, 2008). Healthcare providers need to find ways to remedy this common and distressing problem.

Barriers to successful management of pain in patients with cancer need to be identified so better care can be provided. Since nurses and other providers may lack sufficient knowledge regarding pain management (Al Khalaileh & Al Qadire, 2012; Jablonski & Duke, 2012; Wadhwa et al., 2015), more staff education is necessary (Wadhwa et al., 2015). An advanced practice nurse trained in oncology would be invaluable in creating staff education programs focusing on pain assessment and management for patients with cancer. Staff education regarding guidelines for measuring pain, appropriate use of assessment tools, and education on the topic of treatment options has been found to improve pain control for geriatric patients in an Australian residential aged care facility (Savvas, Toye, Beattie, & Gibson, 2014). In the oncology population, education should discuss that routine screening for pain should be performed in patients with active malignancy, and those who report pain should undergo a comprehensive pain assessment and treatment plan (Portenoy & Dhingra, 2015). Education can also teach that most side effects to opioids, including constipation, vomiting, and itching can successfully be prevented or treated (American Cancer Society, 2014; Thomas, 2008). Some side effects, such as drowsiness, nausea, and vomiting usually cease to be a
problem after taking the medication for a few days (American Cancer Society, 2014). Education provided to patients and providers should also be aimed at increasing awareness that there are strategies beyond pharmacologic management of pain, including “relaxation, biofeedback, imagery, distraction, hypnosis, skin stimulation, transcutaneous electrical nerve stimulation (TENS), acupuncture, exercise or physical therapy, and emotional support and counseling” (American Cancer Society, 2014). By providing pain education via a video and booklet to patients with cancer, Lovell et al. (2010) noted a statistically significant reduction in average pain intensity by a level of 1.17 on a zero to ten scale. The video portrayed discussions of cancer-related pain and management strategies among patients, caregivers, and healthcare providers (Lovell et al., 2010). The booklet used by Lovell et al. contained cartoons and text regarding the topic of cancer-related pain and its management. Therefore, educational handouts such as booklets and videos should be utilized in this population.

As suggested by Jacobsen et al. (2014), certain barriers to pain management, including anxiety and depression, need to be effectively managed in order to successfully treat pain. Therefore, if a patient is also suffering from depression and/or anxiety, either an anxiolytic, an antidepressant, or nonpharmacologic interventions should be used to address these comorbidities. Involving experts, such as those trained in palliative care, can also be beneficial for managing patients with cancer and improving their quality of life (Moreira Freire, Sawada, de França, Geraldo da Costa, & Bezerra, 2014).

There are many barriers to adequate pain management for patients with cancer. Many barriers related to the healthcare provider, such as fears of overmedicating and harming the patient (Al Khalaileh & Al Qadire, 2012; Jablonski & Duke, 2012), lack of
understanding opioid dosing and alternate administration routes (Christo & Mazloomdoost, 2008), and provider fear of patient addiction (Al Khalaileh & Al Qadire, 2012; Christo & Mazloomdoost, 2008) are the result of education deficiencies. Additionally, a lack of education contributes to patient and patient family-related barriers, including fears of addiction and medication tolerance, along with concerns of annoying a healthcare provider with reports of pain (Christo & Mazloomdoost, 2008; Jacobsen et al., 2014; Naveh, Leshem, Dror, & Musgrave, 2011; Sun et al., 2012). Through provider and patient education efforts, thorough pain assessments, and discussions related to pain between providers and patients, pain can be better managed among patients with cancer.
Table 1

*Cancer-Related Pain and Quality of Life*

<table>
<thead>
<tr>
<th>Problem</th>
<th>Effects of pain on quality of life</th>
<th>Barriers to effective pain management</th>
<th>Ways to overcome barriers</th>
</tr>
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<tr>
<td>• One million diagnosed annually</td>
<td>• Negatively affects quality of life</td>
<td>• <strong>Provider-related barriers:</strong>&lt;br&gt;  - Poor assessment&lt;br&gt;  - Under-prescribing&lt;br&gt;  - Under-administering medication&lt;br&gt;  - Fears of overmedicating&lt;br&gt;  - Lack of knowledge regarding adjunctive medication and interventional procedures</td>
<td>• Acknowledge barriers&lt;br&gt; • Staff education regarding pain assessment and management&lt;br&gt; • Staff education regarding treatment of medication-related side effects&lt;br&gt; • Improve patient education efforts&lt;br&gt; • Non-pharmacologic interventions&lt;br&gt; • Treat depression and anxiety&lt;br&gt; • Involve experts trained in palliative care</td>
</tr>
<tr>
<td>• &gt; 14 million in the U.S. with cancer or cancer history</td>
<td>• Depression&lt;br&gt; • Poor sleep quality&lt;br&gt; • Fatigue</td>
<td>• <strong>Patient-related barriers:</strong>&lt;br&gt;  - Fear of addiction&lt;br&gt;  - Belief that medication or procedure won’t improve pain&lt;br&gt;  - Fear of masking disease progression&lt;br&gt;  - Fear of annoying provider with complaints</td>
<td></td>
</tr>
<tr>
<td>• Large number will have pain</td>
<td></td>
<td>• <strong>Nonspecific barriers:</strong>&lt;br&gt;  - Side effects of medication&lt;br&gt;  - Depression and anxiety</td>
<td></td>
</tr>
<tr>
<td>• High likelihood of poorly-managed pain</td>
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References


doi: 10.4103/0973-1075.150180
Integrative Energy Therapies for Pain and Stress Management in Patients with Cancer:

A Review of Literature

Nathan Garrett, RN, BSN

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Abstract

**Background:** Pain is a common presenting symptom of patients who are diagnosed with cancer. It often remains undertreated. In addition, individuals with cancer may face stress as a result of the physical, emotional, and social effects of their disease. Integrative therapies can be used to improve pain or stress experienced by individuals with cancer.

**Objectives:** The objectives of this review are to identify integrative energy therapies, also known as biofield therapies, and to evaluate their appropriateness for use in the plan of care for patients with cancer who suffer from pain and stress.

**Methods:** A literature search was conducted in CINAHL and MEDLINE for original research studies with available full text published between 2002 and 2014. Keywords searched included the following: cancer, oncology, cancer pain, chronic pain, stress, Jin Shin Jyutsu, acupressure, and Reiki.

**Findings:** More research is needed, but energy therapies show promise in helping cancer patients’ pain and stress, and should be incorporated into their plan of care.

**Keywords:** Energy therapy, biofield therapy, cancer pain, stress
Integrative Energy Therapies for Pain and Stress Management in Patients with Cancer: A Review of Literature

‘Pain’ is a word often associated with a diagnosis of cancer. It can also be the most feared cancer symptom (Decker & Lee, 2010). Up to 75% of oncology patients have pain at the time of their cancer diagnosis (Miaskowski, 2010), and pain is undertreated in nearly one of two patients (Deandrea, Montanari, Moja, & Apolone, 2008). According to the American Cancer Society (2014a), undertreatment of pain can have negative effects on an individual’s quality of life and can be associated with serious depression. In examining patients in a hospice center, it was noted as pain levels increased, quality of life scores decreased to a statistically significant degree (Deng et al., 2012). Patients with mild, moderate, and severe pain intensities had average quality of life scores, using a Chinese Quality of Life Instrument, of 36.6, 33.8, and 28.2, respectively (Deng et al., 2012). The Chinese Quality of Life Instrument scores range from zero to 60, where less than or equal to 20 indicates the worst quality of life score, and 51-60 indicates the best quality of life score (Deng et al., 2012). In this sample, pain scores were also found to have a significant negative impact on patient mood (Deng et al., 2012).

According to Miaskowski (2010), “Opioid analgesics are the mainstay of chronic cancer pain management” (p. 394). Among the adult cancer population, the National Comprehensive Cancer Network [NCCN] (2013) clinical practice guidelines recommend the use of short-acting opioids, considering adjuvant analgesics as appropriate such as antidepressants and anticonvulsants, providing psychosocial support, and optimizing integrative interventions in addition to pharmacologic therapy when needed. Integrative
therapies, also referred to as complementary therapies, are those used concurrently with pharmacologic therapy (NCCN, 2013). The NCCN (2013) groups nonpharmacologic integrative interventions as physical, cognitive, and spiritual modalities. Physical modalities include physical therapy, massage, heat application, acupuncture, and acupressure (NCCN, 2013). Cognitive modalities include imagery, relaxation training, and distraction training (NCCN, 2013). Spiritual modalities can include rituals, home remedies, and prayer (NCCN, 2013).

In addition to pain, individuals with cancer may have stress as a result of the physical, emotional, and social effects of their disease (National Cancer Institute, 2012). Artherholt and Fann (2011) state, “In newly diagnosed patients and those experiencing a recurrence, estimates of significant distress range from 20% to 40%” (p. 23). Integrative therapies can be used to improve pain control and reduce stress experienced by individuals with a cancer diagnosis (Running & Turnbeaugh, 2011).

The National Center for Complementary and Alternative Medicine [NCCAM] (2012) notes certain complementary therapies have the intent of manipulating putative energy fields, or biofields, to affect health. According to Dean (2003), the human biofield can be “described as an energetic field or network that integrates the functions and systems within a living organism and connects them with the energetic and physical functions and systems in the organism’s environment” (p. 142). Energy healing therapy is where a practitioner channels healing energy through his or her hands, into the patient, with the intent of restoring a normal balance of energy (NCCAM, 2012a). Energy therapy is a type of integrative therapy. Some examples of integrative therapies that involve the manipulation of energy fields include Reiki, Qigong, and healing touch.
(NCCAM, 2012). Additionally, integrative interventions, including acupressure, are encouraged in conjunction with pharmacologic interventions for adult cancer pain (NCCN, 2013). Jin Shin Jyutsu (JSJ) is an energy therapy that is similar to acupressure in that they both utilize gentle pressure on particular parts of the body to stimulate the body’s energy flow (Shannon, 2002).

This review of literature will present research related to the following energy therapies: acupressure, JSJ, and Reiki. This paper will also discuss implications for practice based on the findings in the literature.

**Energy Therapies**

**Acupressure**

In acupressure, pressure is applied to specific trigger points on the body (Gach, 2014). In this energy therapy, some of the stated benefits include pain reduction, tension and stress reduction, and an improved “sense of harmony, health, and well-being” (Gach, 2014a). It is similar to acupuncture, but acupressure does not necessitate needle insertion into the skin (Bao et al, 2011). In researching acupressure articles, search terms “acupressure” and “chronic pain” were used in addition to “acupressure” and “cancer pain” in CINAHL and MEDLINE. Additionally, search terms “acupressure” and “cancer” and “stress” were used in addition to “acupressure” and “oncology” and “stress.” All results from the years 2004 to 2014 were included for review.

In a randomized controlled trial comparing acupressure to physical therapy for control of chronic low back pain, patients who were treated with acupressure were found to have significantly lower post-treatment pain levels than the physical therapy group (Hsieh, Kuo, Yen, & Chen, 2004). Yeh, Chien, Huang, and Suen (2014) found a
particular type of acupressure, auricular point acupressure, to be an effective integrative treatment for reducing participants’ pain medication requirements and pain intensity levels in a sample of subjects with a variety of chronic pain problems. In comparing auricular point acupressure to a sham auricular point pressure treatment, Yeh et al. (2014a) found statistically significant improvements in pain levels among the treatment group. This was found in elderly subjects with chronic low back pain (Yeh et al., 2014a). Similar findings were noted in a previous study of adults, not just elderly adults, by Yeh et al. (2013). Five participants with sickle cell disease, and resultant chronic pain, underwent a “deep tissue/deep pressure massage therapy technique including neuromuscular trigger point therapy with acupressure” (Bodhise, Dejoie, Brandon, Simpkins, and Ballas, 2004, p. 235). This treatment was found to benefit the subjects (Bodhise et al., 2004). Additionally, women with chronic neck pain have been found to have statistically significant improvements in pain as a result of acupressure (Matsubara et al., 2011). The analgesic benefit of an acupressure technique using a negative-pressure suctioning device with a magnetic tip was investigated for patients undergoing bone marrow aspiration and biopsy (Bao et al., 2011). It was found that median pain scores were not significantly different between the treatment group and the sham group (Bao et al., 2011). However, only 2.7% of those in the treatment group reported severe pain during the procedure compared to 8% of those who were in the sham acupressure group (Bao et al., 2011).

Hsieh et al. (2004) found no adverse effects as a result of the acupressure treatments. Very few, minimal side effects were noted in the studies that specifically examined auricular point acupressure (Yeh et al., 2013; Yeh et al., 2014; Yeh et al.,
The adverse effects of auricular point acupressure were related to the “seed” that was taped to the ear in this particular type of treatment, and included discomfort, itching, soreness, and sensitivity of the ear, along with difficulty sleeping on the side that had the acupressure “seed” (Yeh et al., 2014a). Participants stated these adverse effects were minimal and tolerable when compared to the chronic pain (Yeh et al., 2014a). Bao et al. (2011) discussed that 13% of subjects reported mild bruising or a rash at the location where the acupressure suctioning cups were placed, although these findings were only transient. The other acupressure research findings did not discuss side effects of the treatment.

**Jin Shin Jyutsu**

According to Ann Shannon (2002), a certified JSJ practitioner, “JSJ resembles acupressure in the use of gentle, external finger pressure to stimulate the flow of energy within the body” (p. 128). In the Jin Shin style of acupressure, two or more acupressure points are held simultaneously (Gach, 2014b). Unfortunately, in searching for “Jin Shin Jyutsu” and “pain,” and in a search for “Jin Shin Jyutsu” and “stress,” on CINAHL and MEDLINE, without limits on dates published, only two results were found that specifically evaluated Jin Shin Jyutsu. One was a case report of a 56-year-old male with multiple myeloma who underwent JSJ treatments for uncontrolled pain in his ribs (Shannon, 2002). Shannon reports that with each of the six JSJ sessions, the patient had “significant lessening or temporary resolution of pain” (p. 128). The duration of relief experienced varied (Shannon, 2002). In a pretest-posttest study, Searls and Fawcett (2011) found JSJ to improve pain and anxiety in women with a diagnosis of breast cancer. Additionally, those who consistently practiced JSJ self-help found this energy
therapy to be more beneficial than those who were inconsistent in self-help practices (Searls & Fawcett, 2011). There was no discussion of adverse effects related to JSJ in either report (Shannon, 2002; Searls & Fawcett, 2011).

Reiki

In Reiki, the practitioner hopes to facilitate healing by placing his or her hands lightly on, or slightly above, the client in 12 to 15 different hand positions (NCCAM, 2009). In these different positions, practitioners hope to access the “universal (or source) energy that supports the body’s innate healing abilities…allowing it to flow to the body and facilitate healing” (NCCAM, 2009, ‘Practice’ section, para. 1). In CINAHL and MEDLINE, “Reiki” and “pain” full-text articles published in years 2006 to 2014 were searched for in addition to “Reiki” and “oncology” articles published from years 2007 to 2014. In addition, “Reiki” and “stress” and “cancer” was searched from years 2007 to 2014.

Birocco et al. (2012) examined the effects of Reiki on the pain and anxiety of cancer patients undergoing chemotherapy. When compared to baseline, there were statistically significant decreases in pain and anxiety levels for patients who completed the study, receiving four Reiki treatments (Birocco et al., 2012). Pain levels decreased from an average of 4.89 before a first Reiki treatment to 2.57 afterwards (Birocco et al., 2012). Similarly, anxiety levels decreased after a first Reiki treatment from a mean of 5.2 to 2.3 (Birocco et al., 2012). Marcus, Blazek-O’Neill, and Kopar (2013) surveyed patients who had received Reiki at either a cancer infusion center or elsewhere in the hospital to evaluate patient perceived benefits of Reiki. Using a one to five scale where one indicated no benefit, and five indicated a great benefit, patients were asked how they
felt certain cancer-related symptoms responded to Reiki (Marcus et al., 2013). When asked about pain, 44.7% of patients treated in the infusion center reported either much or great benefit (scores 4 or 5), while 49% of patients treated elsewhere in the hospital felt they had much or great benefit. In terms of stress response to Reiki, 83% of patients treated with Reiki in the infusion center, and 72.5% of patients treated in other hospital units said they experienced much or great benefit. Catlin and Taylor-Ford (2011) measured responses in comfort and well-being scores for patients who were receiving chemotherapy at an infusion center. Subjects were assigned to either usual care, a sham Reiki group, or an actual Reiki treatment group (Catlin & Taylor-Ford, 2011). Patients who received both sham Reiki and actual Reiki treatment had statistically significant improvements in their level of comfort and well-being when compared to the usual care group. However, the differences between response to sham Reiki and Reiki were not significant (Catlin & Taylor-Ford, 2011). Assefi, Bogart, Goldberg, and Buchwald (2008) conducted a randomized controlled trial to determine if Reiki can be a valuable adjunctive therapy for those with fibromyalgia. Findings in this study were that neither the real nor sham Reiki treatments were linked to an improvement in “the pain, fatigue, well-being, or physical and mental functioning of participants with fibromyalgia” (Assefi et al., 2008, p. 1121). Richeson, Spross, Lutz, and Peng (2010) examined the effects of Reiki on pain and anxiety levels in older adults within a community. At the conclusion of the study, pain levels as well as anxiety levels decreased among the treatment group (Richeson et al., 2010). Participants reported “decreased back spasm; decreased neck and shoulder pain;…and sleeping better” (Richeson et al., 2010, p. 196). Meland (2009) discussed six cases of elderly patients with dementia at an adult daycare center who
received Reiki. Anxiety levels decreased in all but one of the participants (Meland, 2009). After treatments, two of the three patients with baseline pain reported an improvement in his or her average pain level (Meland, 2009). Furthermore, a palliative care unit in a Canadian hospital began offering the integrative therapies of Reiki and therapeutic touch in addition to massage and aromatherapy (Berger, Tavares, & Berger, 2013). In this pilot project, they found improvements in patients’ pain and anxiety, received positive feedback from staff, and positive feedback from patients and patients’ families (Berger et al., 2013).

According to Birocco et al. (2012), there were no adverse effects noted as a result of Reiki. A depressed mood was noted in some participants (Assefi et al., 2008; Richeson et al., 2010), along with excessive energy or anxiety, and worsening sleep (Assefi et al., 2008). However, Assefi et al. (2008) did not discuss whether or not those who reported these adverse events were in the true Reiki group or the sham group. The one person who reported a depressed mood, out of the twelve who received Reiki in the Richeson et al. (2010) study, had resolution of the depressed mood following a change in the Reiki treatment technique. Meland (2009) and Berger et al. (2013) did not discuss adverse effects related to Reiki.

**Conclusion**

High-quality research on the effects of energy therapies on pain and stress in patients with cancer is limited. Most of the literature found through this review shows promise and support for integrating acupressure, JSJ, and Reiki into the plan of care for patients with cancer who suffer from pain and stress (see Table 2). Furthermore, the literature reviewed does not identify major or life-threatening side effects related to
acupressure, JSJ, or Reiki. The adverse effects were difficult to attribute directly to the energy therapy, except for the side effects of the auricular point acupressure seeds and magnetic acupressure suction cups. Symptoms noted in Reiki research, including a depressed mood (Assefi et al., 2008; Richeson et al., 2010), excessive energy or anxiety, and worsening sleep (Assefi et al., 2008) are possibly the result of something other than Reiki. Therefore, acupressure, JSJ, and Reiki could provide benefit to patients, and these treatment strategies are unlikely to be harmful. An increased awareness of the evidence supporting the use of energy therapies in the treatment of cancer-related pain and stress will help oncology healthcare providers discuss integrative options with patients. By integrating acupressure, JSJ, or Reiki into a patient’s plan of care, healthcare professionals can better meet the holistic needs of patients.

**Implications for Practice**

After reviewing literature and the documented benefits of acupressure, JSJ, and Reiki in terms of pain and stress management, several recommendations for practice are discussed (see Table 1). To increase the availability of energy therapy services to patients, acupressure, JSJ, and Reiki can be made available at cancer centers throughout the country. Healthcare teams can include energy therapy practitioners as part of their multidisciplinary team. Providers can discuss pain and stress with patients at all appointments and during inpatient rounds, and can make a referral to an energy therapy practitioner if the patient suffers from either of those symptoms. However, if a patient has expressed disinterest in energy therapy, a provider should respect the patient and not initiate future conversations on the topic. Energy therapies should not be reserved only for patients who have unmanageable symptoms.
A way to present evidence supporting acupressure, JSJ, and Reiki to a higher volume of patients includes having free brochures and handouts available at cancer centers that include research findings presented in an easy-to-understand format. By making this information more easily accessible to patients, it could help create dialogue between the patient and the provider regarding energy therapy options. Allowing nurses and nurse practitioners the ability to refer patients to energy therapy practitioners would likely increase the number of patients treated by these strategies, thereby improving pain and stress outcomes.
Table 1

*Recommendations for Practice*

<table>
<thead>
<tr>
<th>Recommendations for Practice</th>
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<tbody>
<tr>
<td>• Make integrative energy therapies available at your cancer center.</td>
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<td>• Include energy therapy practitioners as part of a multidisciplinary healthcare team.</td>
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<td>• Do not reserve energy therapies only for patients with unmanageable symptoms.</td>
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<td>• Allow nurses and advanced practice providers the freedom to refer patients for energy therapy.</td>
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<tr>
<td>• Discuss integrative energy therapy options with patients at all outpatient appointments and during inpatient rounds unless the patient has stated he or she has no interest in energy therapies.</td>
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<tr>
<td>• Provide easy-to-read brochures regarding available integrative energy therapies to patients, and have these available in the lobby of your cancer center and clinic.</td>
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</table>
Table 2

*Annotated Bibliography*

<table>
<thead>
<tr>
<th>Source</th>
<th>Type of Literature/Design</th>
<th>Sample</th>
<th>Purpose</th>
<th>Findings and Key Points</th>
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</thead>
<tbody>
<tr>
<td>Hsieh et al., 2004</td>
<td>Randomized controlled trial</td>
<td>One hundred and forty-six individuals with chronic low back pain.</td>
<td>Compare acupressure with physical therapy, seeing which reduces low back pain most effectively</td>
<td>After 4 weeks of treatment, the mean pain level was lower in the acupressure group (2.28) than the physical therapy group (5.05). After 6 months, pain remained lower in the acupressure group (1.08) than the physical therapy group (3.15).</td>
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<td></td>
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<td>- Acupressure group (n = 69)</td>
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<td></td>
<td>- Physical therapy group (n = 77)</td>
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<tr>
<td>Yeh et al., 2014</td>
<td>Prospective observational study</td>
<td>Twenty-five individuals with chronic pain.</td>
<td>This study was to examine adherence to a 4-week auricular point acupressure treatment protocol. Also, researchers wanted to see if auricular point acupressure could reduce pain in subjects with chronic pain.</td>
<td>15 participants completed the 4-week treatment, and 10 participants dropped out before the 4 weeks concluded. Of the 15 who completed the 4-week protocol, everyone reported improved pain along with fewer episodes of pain. Of those same 15, 14 “took less pain medication than before treatment” (p. 191-192). And 13 of the participants who completed the protocol said they felt “much better” (p. 192) following the treatment.</td>
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</table>
**Yeh et al., 2014a**  
**Randomized clinical trial**  
**Pilot study**  
Thirty-seven individuals 65 years of age or older, with chronic low back pain at intensity level ≥ 4/10. This pain has to have been present three months or more.  
- True auricular point acupressure group (n = 19).  
- Sham auricular point acupressure group (n = 18).  

“Examine the feasibility, safety, and initial treatment effects of a 4-week [auricular point acupressure] protocol to manage [chronic low back pain] in an elderly population” (p. 7). Results were compared among subjects who were treated with either auricular point acupressure or sham auricular point acupressure.  
Both auricular point acupressure and sham auricular point acupressure groups had ≥ 85% adherence rate for the 4-week protocol. Adverse effects were minimal, and the subjects reported they were tolerable. “Reductions of pain intensity and improvement of physical functioning and pain quality reported at completion of the 4-week…treatment from baseline in the real [auricular point acupressure] group were all statistically greater than those in the sham…group” (p. 8).

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**Yeh et al., 2013**  
**Randomized clinical trial, feasibility study**  
Nineteen adults 18 years of age or older with chronic low back pain with an average intensity level ≥ 4/10. This pain has to have been present three months or longer.  
- True auricular point acupressure group (n = 10).  
- Sham auricular point acupressure group (n = 9).  

To evaluate the effect of auricular point acupressure on chronic low back pain. Comparisons were made between subjects who had real auricular point acupressure (seeds were taped on the acupoints designated for low back pain) or sham treatment (seeds were taped to sham acupoints, which were not acupoints designated for low back pain) during a 4-week period and at a 1-month follow up.  
Subjects who underwent true auricular point acupressure reported statistically significant reductions in their “worst pain” and “overall pain intensity” when compared to those who were in the sham group (p. 6). There were minimal adverse effects reported.
<table>
<thead>
<tr>
<th>Bodhise et al., 2004</th>
<th>One group pretest-posttest design</th>
<th>Five African-American subjects with sickle cell disease; four adults and one 12-year-old. All participants had painful conditions as a complication of sickle cell disease.</th>
<th>Use “a deep tissue/deep pressure massage therapy technique including neuromuscular trigger point therapy with acupressure” (p. 235) to evaluate the impact on participants’ pain levels. Also, to see if this treatment would reduce “tension, opioid consumption, and increased relaxation and activities of daily living” (p. 235).</th>
<th>When comparing pain intensity before the treatment to 24-28 hours after, there was a significant reduction in pain and tension (or stress/mood discomfort). There was also an improvement in the ability to perform activities of daily living. In the 24 hours following the treatment, only one patient had to take opioids, and that was at a 50% reduced dose compared to before the therapy.</th>
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<tr>
<td>Matsubara et al., 2011</td>
<td>Experimental design</td>
<td>Thirty-three females with chronic neck pain. Randomly assigned to one of the following groups:  - Local acupuncture point group (n = 11)  - Distal acupuncture point group (n = 11)  - Control group (n = 11)</td>
<td>To apply pressure to local and distal acupuncture points, and evaluate the effect of this therapy on pain and heart rate variability for women with chronic neck pain.</td>
<td>Significant reductions in pain intensity were noted in both the distal and local acupuncture point groups immediately following the treatment when compared to before the treatment. There were also significant reductions in pain-associated anxiety levels in both the distal and local acupuncture point groups.</td>
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</table>
| Bao et al., 2011 | Randomized, blinded, controlled trial | Seventy seven adults with cancer who had never had a previous experience with acupuncture or acupressure. All patients were going to have a bone marrow aspiration and biopsy procedure.  
- Treatment group with magnetic acupressure (n = 37).  
- Group who received sham treatment (n = 40). | Evaluate effect of magnetic acupressure on pain for patients having bone marrow aspiration and biopsy. | Between the two groups, there were no significant differences in median pain score. However, 8 subjects in the sham group reported severe pain compared to only 1 subject reporting severe pain in the treatment group. No serious side effects related to the acupressure. Thirteen percent of the subjects reported mild bruising or a rash at the location where the acupressure suctioning cups were placed, although these findings were only transient. |
<p>| Jin Shin Jyutsu | Shannon, 2002 | One 56-year-old male with multiple myeloma, and “uncontrolled rib pain” (p. 128). | A case report to discuss the patient’s response to the utilization of JSJ for symptoms related to his illness. | For the rib pain, the JSJ practitioner utilized a particular “flow” on six different occasions. Each time, the patient reported a significant reduction of pain, or reported the pain temporarily resolved. The amount of time this relief persisted varied in duration from several hours to several days after a JSJ treatment. There was no discussion of adverse effects related to JSJ. |</p>
<table>
<thead>
<tr>
<th>Study</th>
<th>Design</th>
<th>Population Description</th>
<th>Outcomes</th>
<th>Results</th>
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<tr>
<td>Searls &amp; Fawcett, 2011</td>
<td>Both qualitative and quantitative outcomes were measured in this pretest-posttest design.</td>
<td>Twenty-nine women aged 31 to 75, with breast cancer or a history of breast cancer. The participants were either in treatment for cancer or has finished “treatment within the past 3 years and were experiencing lasting effects such as chronic fatigue, depression, or an inability to get back into the flow of life” (p. 272).</td>
<td>To evaluate participant responses to JSJ after 10 weekly treatments. Participants were also instructed on JSJ self-help practices, which they were supposed to practice daily on their own.</td>
<td>JSJ was found to improve pain and anxiety in participants. Additionally, those who consistently practiced JSJ self-help found this energy therapy to be more beneficial than those who were inconsistent in self-help practices (Searls &amp; Fawcett, 2011). There was no discussion of adverse effects related to JSJ.</td>
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<tr>
<td>Birocco et al., 2012</td>
<td>One group pretest-posttest design</td>
<td>One hundred and eighteen adults with cancer at any stage and receiving any kind of chemotherapy</td>
<td>To evaluate the effect of Reiki on pain, anxiety, and global wellness of participants. Participants underwent a maximum of four Reiki treatments, which were given during four different chemotherapy infusions.</td>
<td>One hundred and eighteen participants completed the first Reiki session. The number of participants decreased with each subsequent treatment. There were statistically significant decreases in pain and anxiety levels after each session when compared to before that session, aside from pain before and after a fourth session. However, when compared to baseline and after a fourth session, the reductions in both pain and anxiety were statistically significant ($P &lt; .05$). No side effects of Reiki were noted by any participants.</td>
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| Assefi et al., 2008 | Randomized controlled trial | Ninety three adults with fibromyalgia, and pain intensity $\geq 4/10$ on a visual analog scale, received the intervention. Groups were as follows:  
- Direct Reiki from a true Reiki practitioner ($n = 23$)  
- Distant Reiki from a true Reiki practitioner ($n = 24$)  
- Sham direct Reiki from an actor ($n = 23$)  
- Sham distant Reiki from an actor ($n = 23$) | To determine if Reiki could be considered a beneficial adjunctive treatment for fibromyalgia. The primary outcome would be subjective pain level, which would be measured at four weeks, eight weeks, and again at three months following the end of Reiki treatment. | None of the treatments were found to improve participants’ pain, fatigue, or well-being. Also, treatments were not found to improve physical and mental functioning of participants. Some participants reported excessive energy and anxiety, and some reported sleep disturbances and a depressed mood. However, there was no discussion of whether or not those who reported these adverse events were in the true Reiki group or the sham group. |
| Richeson et al., 2010 | Both an experimental component (quantitative) and a descriptive (qualitative) component | Twenty participants completed the study. Ages 57 to 76 years.  
- Reiki treatment group ($n = 12$)  
- Control group ($n = 8$) | Examine the effects of Reiki on pain and anxiety levels “in community-dwelling older adults” (p. 190). Participants in the treatment group underwent Reiki once a week for eight weeks. Those in the treatment group participated in the descriptive/qualitative part of the study. Control group participants did not receive Reiki treatment during the study. | Pain, depression, and anxiety significantly improved among the treatment group when compared to the control group. In the qualitative component, treatment group participants reported “decreased back spasm; decreased neck and shoulder pain;...and sleeping better” (p. 196). During the fourth week of treatment, one treatment group member reported a depressed mood. However, after altering the Reiki technique, the depressed mood stopped. |
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<th>Source</th>
<th>Description</th>
<th>Details</th>
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<tr>
<td>Meland, 2009</td>
<td>Series of case reports</td>
<td>Six elderly participants aged 68 to 91 years. Participants have been diagnosed with dementia along with pain and anxiety. Evaluate the effects of Reiki on this sample. Included in evaluation were pain and anxiety levels. Participants received two Reiki sessions a week for four weeks. Each session was 20 minutes long.</td>
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<td>Berger et al., 2013</td>
<td>Report of a pilot program for utilizing different integrative therapies into a palliative care unit. This study utilized different evaluation methods, including both qualitative and quantitative measures.</td>
<td>Sample included patients, patient families, and staff associated with the particular palliative care unit that was piloting the integrative therapy program. Thirty-one patients/patient families provided data before and after one or two complementary sessions, which was used in the quantitative evaluation piece. Patients, patient family members, and staff also provided qualitative data. Evaluate different patient and unit-specific outcomes associated with integrating a complementary therapy program in a palliative care until. Therapies included massage, aromatherapy, Reiki, and Therapeutic Touch. The objectives of this pilot study were to improve patient and family feelings related to quality and satisfaction of the end-of-life care and to evaluate whether or not the integrative therapies improved patient symptoms. Findings from the thirty-one patients noted a statistically significant decrease in the following:  - Pain  - Discomfort  - Restlessness  - Tension  - Anxiety  - Feelings of depression Improvements noted in terms of feeling inner stillness/peace. Patients, families, and staff provided positive feedback to the complementary therapy program.</td>
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<tr>
<td>Study (Year)</td>
<td>Design</td>
<td>Participants</td>
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| Marcus et al., 2013 | Convenience sample using a survey | 145 participants who had received Reiki either at a cancer center’s infusion center or at a different location in the hospital. | Evaluate the benefits patients perceived to experience as a result of Reiki. Patients rated perceived benefit from one to five, where one indicated no perceived benefit and five indicated a great benefit. | Response rate was 34.5%. Perceived benefit of either four or five (much or great) in terms of pain:  
- 44.7% of patients who received Reiki at infusion center  
- 49% of patients who received Reiki at other units in the hospital  
Perceived benefit rated as either four or five in terms of stress:  
- 83% of patients at infusion center  
- 72.5% of patients elsewhere in hospital |
| Catlin & Taylor-Ford, 2011 | Double-blind randomized controlled trial | 189 patients undergoing chemotherapy at an infusion center.  
Usual care group: n = 63  
Sham Reiki group: n = 63  
Actual Reiki group: n = 63 | To determine if Reiki could improve patient comfort and well-being | Both Reiki and sham Reiki improved comfort and well-being to a statistically significant degree when compared to usual care. However, there were not statistically significant differences between responses to sham Reiki or the actual Reiki treatment. |
References


Is Jin Shin Jyutsu a Valuable Integrative Intervention for Managing Pain and Stress in Adults with a Cancer Diagnosis?

Nathan Garrett, RN, BSN

University of Kentucky
Abstract

**Background:** Pain and stress are symptoms experienced by many patients with cancer. Integrative therapies including energy therapies can help manage these symptoms. Jin Shin Jyutsu (JSJ) is one such energy therapy, but there is limited research regarding its utility on pain and stress for patients with cancer.

**Objectives:** The following study had two main objectives: 1) evaluate the self-reported perception of pain and stress before and after a first-time JSJ session, and 2) examine gender differences in perceptions of pain and stress following JSJ.

**Methods:** A retrospective study employing a pretest-posttest design was used to examine the perceptions of pain and stress levels among patients with cancer before and after a first-time JSJ session. Data from the year 2013 were de-identified, reviewed, and analyzed using paired-sample t-tests for participants who were positive for pain and/or stress before a first-time JSJ session.

**Findings:** There were 51 total participants. Of those, 39 were positive for pain, and 48 were positive for stress. On average, pre-session pain scores were 4.0 on a 0-10 scale, and post-session pain scores were 2.0. Pre-session stress scores were 5.7 on average, and average post-session stress scores were 1.8. Changes in pain and stress scores pre- to post-intervention remained significant in gender-stratified analyses.

**Keywords:** Jin Shin Jyutsu, cancer pain, cancer stress, energy therapy
Is Jin Shin Jyutsu a Valuable Integrative Intervention for Managing Pain and Stress in Adults with a Cancer Diagnosis?

Pain may be considered the most feared of all symptoms associated with cancer (Decker & Lee, 2010). Up to 75% of oncology patients have pain at the time of their cancer diagnosis (Miaskowski, 2010), and this pain is undertreated in nearly one of two patients (Deandrea, Montanari, Moja, & Apolone, 2008). Under-treatment of pain can have negative effects on an individual’s quality of life (Deng et al., 2012; Morgan, Small, Donovan, Overcash, & McMillan, 2011; Ovayolu et al., 2013), and can be associated with serious depression (American Cancer Society, 2014b). Provider-related barriers that can impact treatment of cancer-related pain include under-prescribing and under-administration of opioids, ignorance regarding opioid dosing and alternate administration routes, fear of patient addiction and respiratory compromise, and ignorance regarding adjuvant analgesics and targeted interventional procedures (Christo & Mazloomdoost, 2008). Patient-related barriers to pain management include fears of addiction and development of tolerance to pain medications, concerns of annoying a healthcare provider with reports of pain, disbelief that medication or intervention will improve pain, and concerns that pain medications may mask progressive disease (Christo & Mazloomdoost, 2008; Jacobsen et al., 2014; Naveh, Leshem, Dror, & Musgrave, 2011; Sun et al., 2012).

appropriate, providing psychosocial support, and optimizing integrative interventions in addition to pharmacologic interventions when needed. Acupressure, relaxation training, acupuncture, physical therapy, massage, imagery, distraction training, and spiritual care are examples of integrative interventions discussed by the NCCN (2013). Jin Shin Jyutsu (JSJ), which will be discussed in more detail later, is described by Henderson (2014) as a form of acupressure.

Soetanto, Chung, and Wong (2006) identified gender differences in pain perception among Chinese adults. Pressure was applied to the middle joint of the middle finger, and pain tolerance and threshold were evaluated using a verbal rating scale (Soetanto et al., 2006). There were found to be statistically significant gender differences in pain threshold and pain tolerance, with women demonstrating a lower threshold and less tolerance (Soetanto et al., 2006). Miaskowski (2004) notes that while research is limited on the topic, men and women have been found to “report similar levels of pain intensity when they experience chronic cancer pain” (p. 140). Miaskowski recommends future studies to improve understanding about whether or not there are clinically-meaningful gender differences in prevalence and severity of cancer-related pain.

In addition to pain, individuals with cancer may have stress as a result of the physical, emotional, and social effects of their disease (National Cancer Institute, 2012). Many complementary, or integrative, therapies can be used to reduce stress, improve pain control, and alleviate other symptoms experienced by individuals with cancer (Running & Turnbeaugh, 2011). The NCCN (2013) recommends the integration of nonpharmacologic therapies for managing adult cancer pain. These may include physical, cognitive, and spiritual interventions. An example of such integrative therapies is Jin Shin Jyutsu (JSJ), an unobtrusive hands-on practice that originated in ancient Japan.
Burmeister and Monte (1997) suggest that JSJ can balance the body’s stress, emotions, reduce pain, and alleviate acute or chronic conditions. Additionally, JSJ can be safely used with any other therapy and medication (Burmeister & Monte, 1997). Searls and Fawcett (2011) state, “Complementary and alternative medicine (CAM) modalities, such as JSJ, focus on the whole person—physically, mentally, emotionally, and spiritually” (p. 270). Unfortunately, at this time, there is very little empirical evidence to support the use of JSJ as an integrative treatment to manage pain and stress among patients with cancer.

Jin Shin Jyutsu

JSJ is an integrative therapy that utilizes gentle pressure on particular parts of the body to stimulate the body’s energy flow (Shannon, 2002). It is considered an art rather than a technique, in that it requires creativity in the approach taken rather than using the same steps each time (Burmeister & Monte, 1997). JSJ is based on an approach to life and healing which recognizes “a life energy that animates all living things” (Burmeister & Monte, 1997, p. 13). To enhance physical and mental being, the flow of life energy within an individual must be strengthened and harmonized (Burmeister & Monte, 1997).

The first hands-on part of JSJ involves the practitioner “listening” to a patient’s energy pulses in his or her wrists (Burmeister & Landon as cited in Jin Shin Jyutsu, Inc., 2015). Assessing the pulses is a strategy utilized in traditional Chinese medicine (Tang, 2012). The next steps involve the energy-harmonizing sequences utilized by a JSJ practitioner, known as a “flow” (Burmeister & Landon as cited in Jin Shin Jyutsu, Inc., 2015). A flow is a distinct pathway in which life energy travels in the body (Burmeister & Monte, 1997). If an energy blockage, constriction, or stagnation occurs along a flow,
the result is disharmony (Burmeister & Monte, 1997). A JSJ practitioner uses his or her hands as jumper cables, contacting different “safety energy locks” with the intent of unblocking disruptions in the flow of energy along a particular pathway (Burmeister & Landon as cited in Jin Shin Jyutsu, Inc., 2015). There are 26 pairs of safety energy locks, which are arranged symmetrically on each side of the body (Burmeister & Monte, 1997). Each JSJ session is unique to the individual patient, so different flows and energy locks are utilized based on what the practitioner senses as the specific patient’s needs (J. Bradley, personal communication, May 7, 2015). These needs are determined based on the energy pulses, the physical appearance of the body, the patient’s diagnosis, and the symptoms of which the patient complains (J. Bradley, personal communication, June 4, 2015).

Specific Aims

The purpose of this study is to examine patient perceptions of pain and stress before and immediately following an initial JSJ session among patients with cancer. A retrospective data review will be used to evaluate findings (collected in 2013) from a single academic medical center, among patients who received a first-time JSJ session. The specific aims of the review are to:

1. Evaluate the self-reported perception of pain and stress for patients treated in 2013 at a single academic medical center, before and after a first-time JSJ session, and

2. Examine gender differences in perceptions of pain and stress following JSJ sessions.
I hypothesize there will be a decrease in patients’ self-reported levels of both pain and stress immediately after an initial JSJ session as compared to before the session. Additionally, I hypothesize that pain and stress reduction following a first-time JSJ session will be demonstrated for both men and women. The findings can support the use of JSJ as a valuable nonpharmacologic integrative intervention for pain and stress management for both men and women with these cancer-related symptoms. The findings of this study can also guide future research on integrative therapies to support pain and stress reduction among patient with cancer.

**Background and Significance**

According to Ann Shannon (2002), a certified JSJ practitioner, “JSJ resembles acupressure in the use of gentle, external finger pressure to stimulate the flow of energy within the body” (p. 128). The National Center for Complementary and Alternative Medicine (2012) notes certain CAM practices have the intent of manipulating putative energy fields, or biofields, to affect health. While integrative interventions, including acupressure, are encouraged in conjunction with pharmacologic interventions for adult cancer pain (NCCN, 2013), minimal literature exists regarding the integration of JSJ in this population for pain and stress management.

**Literature Review**

There is evidence supporting the use of integrative therapies in decreasing pain and anxiety. In a systematic review of biofield therapies, Jain and Mills (2010) examined 66 studies. It was concluded that there is “strong evidence for effects of biofield therapies in decreasing pain intensity in pain populations, moderate evidence for reducing pain in hospitalized populations, and moderate evidence in reducing pain in cancer
populations” (Jain & Mills, 2010, p. 12). There was also found to be moderate evidence that biofield therapies reduce anxiety in hospitalized patients (Jain & Mills, 2010). However, the review did not include any JSJ studies.

Since JSJ is a form of acupressure (Henderson, 2014), a study involving acupressure for patients with low back pain was reviewed. Hsieh, Kuo, Yen, and Chen (2004) compared acupressure to physical therapy for control of chronic low back pain. This was a randomized controlled trial that compared the patient’s pain responses after one month and again after six months of treatment (Hsieh et al., 2004). Six treatment sessions were given to each group over 4 weeks (Hsieh et al., 2004). Post-treatment pain levels were evaluated at the end of the 4-week treatment for 146 participants, and were reevaluated at a 6-month follow-up for 121 participants (Hsieh et al., 2004). At the end of the 4-week treatment, and at the 6-month follow-up evaluations, pain levels were significantly lower in the acupressure group (Hsieh et al., 2004). At the end of the 4-week treatment, the effects of acupressure on pain relief was evident for those who had high pain scores prior to treatment, but there was not a significant effect of acupressure on pain for those who had low pain scores prior to treatment (Hsieh et al., 2004).

However, Hsieh et al. (2004) observed a significant benefit for these participants at their 6-month follow-up. With the strong findings from this high-quality research study, one can see that benefits of acupressure exist for patients experiencing pain. Therefore, findings may be similar with JSJ and adult oncology patients.

Few empirical studies have examined JSJ in patients with cancer. Among them, a case report discusses a 56-year-old male patient with multiple myeloma who underwent JSJ treatments (Shannon, 2002). He sought out these treatments for uncontrolled rib
pain, and JSJ was provided by a relative of the patient who was training to be a certified JSJ practitioner (Shannon, 2002). Shannon (2002) reports the patient received 6 sessions of JSJ targeted at controlling this pain, and with each session, had “significant lessening or temporary resolution of pain” (p. 128). There was much variation in the duration of relief experienced by the patient, ranging from hours to days (Shannon, 2002). A limitation to this report is the fact that the practitioner and author is a relative of the patient who received JSJ.

Searls and Fawcett (2011) examined whether or not JSJ was helpful in several different aspects of life for women with a diagnosis of breast cancer. Twenty-nine subjects received 10 JSJ sessions over a span of 10 to 13 weeks, and some of these women also participated in self-help JSJ practices (Searls & Fawcett, 2011). Both qualitative and quantitative data were collected, but none of the quantitative findings focused directly on pain or stress. However, prior to beginning sessions, each patient indicated personal goals or outcomes they hoped to achieve by participating in the JSJ treatments (Searls & Fawcett, 2011). Five of the participants used the word, “pain,” within their goals, and many of the others had goals that included feeling better, feeling more positive, having reduced anxiety, increased energy, and more relaxation (Searls & Fawcett, 2011). When asked after the tenth session, most participants, including the five who specifically mentioned pain, indicated that their goals had been met. A study limitation discussed by Searls and Fawcett (2011) is that the small sample size and the use of only one practitioner reduce the ability to generalize the findings for the focus population. Another limitation is that there was not a control group. Despite these
limitations, the information elicited from this study suggests that JSJ might be useful for multiple cancer-related symptoms.

**Study Design**

This retrospective study is an evaluation of the outcomes of using JSJ treatment among patients with cancer. This study will employ a pretest-posttest design to examine the perceptions of pain and stress levels among patients with cancer before and after a first-time JSJ session.

**Setting**

At the studied medical center, patients may receive JSJ treatments in several different settings, including the chemotherapy suite, a treatment room specifically for JSJ, the cancer center inpatient floor, and other units throughout the hospital. The JSJ treatment room is a dimly-lit room within the institution’s cancer center. Within this room are a stained-glass window, a treatment table, and a desk and computer. Patients who are able to get onto the table receive treatment while lying on their back on a padded massage table. Those who cannot lie on the table may be treated in any other way that is comfortable, including in his or her wheelchair, a different chair in the treatment room, or even while sitting on the side of the table. Patients are fully clothed for the session, aside from their shoes, and soothing music may be played in the background (Bell, 2014).

Sessions are generally 60 minutes in length. A primary practitioner provides JSJ at the medical center three days a week. Another practitioner works one day a week. There are also two volunteers; one volunteers approximately eight hours per month, and the other volunteers approximately four hours per month. For the purpose of this study, only data for patients treated in the JSJ treatment room were evaluated since patients treated in
other locations are not routinely asked to report their pain and stress levels, so that data is limited.

**Study Population**

Inclusion criteria for this retrospective review are patients who are 18 years of age and older with a medical history including cancer, who received his or her first JSJ treatment in the JSJ treatment room at a single academic medical center in 2013. Only data from the first session was included in the data analysis. Including results from only a first-time session provided for a more uniform data set to analyze. This also helps identify whether or not a single session may offer some benefit, because some patients may not have the opportunity to experience more than one session due to imminent death or inability to travel for treatment. Inclusion criteria were also met for patients who reported either pain and/or stress before the JSJ session, and had these levels documented. There also needed to be documentation of gender for data to be included in analysis. Aside from inability to meet inclusion criteria as previously noted, there were no other exclusion criteria. The total sample size included 51 participants.

**Informed Consent**

As this was a retrospective review of data, it was not feasible to obtain informed consent from participants. A waiver for the requirement of informed consent was approved by the university’s institutional review board.

**Methods/Procedures**

**Methods**

When treating patients in the JSJ treatment room at this academic medical center, JSJ practitioners ask the patients to fill out a *patient experience form* (see Appendix B)
before and after each session. There are three 0-10 numerical rating scales on the patient experience form in which the patient is asked to indicate his or her level of pain, stress, and nausea before and after the session. On the 0-10 numerical rating scale, zero indicates absence of symptoms, while ten indicates the worst pain, stress, or nausea level the patient could experience. A numerical rating scale (NRS) is a valid, reliable, and appropriate tool for measuring a patient’s level of pain (Williamson & Hoggart, 2005; Jensen 2003). Stratford and Spadoni (2001) examined the test-retest reliability of the NRS for patients with musculoskeletal pain in the neck, back, upper extremities, or lower extremities. They found intraclass correlation coefficient values between 0.64 and 0.86 for the different anatomical locations of pain (Stratford & Spadoni, 2001). Paice and Cohen (1997) found the NRS to have a statistically significant positive correlation with the visual analog scale (VAS) ($r = 0.847$, $p < 0.001$). This strong positive correlation supports the validity of the NRS, because the VAS is widely accepted as a valid instrument in measuring pain intensity (Paice & Cohen, 1997). Additionally, the NRS is easy to use and may be more feasible than other scales that can be used to measure pain, including the VRS [verbal rating scale] or the VAS [visual analogue scale] (Williamson & Hoggart, 2005).

In addition to the patient experience form that was previously described, there is a Jin Shin Jyutsu treatment log (see Appendix B). On this log, the JSJ practitioner indicates the date of treatment, the patient’s name, medical record number, date of birth, the patient’s physicians, the setting where the patient was treated (e.g. chemo suite, treatment room, cancer center inpatient floor, children’s hospital, etc.), session number, the patient’s type of cancer, patient comments/concerns, practitioner comments/concerns,
and information specific to the actual JSJ “flows” that were utilized and other “holds” used by the practitioner. On a third form, called the patient intake form (see Appendix A), the patient responds to several other questions, including demographics; information regarding their physicians, cancer type, comorbidities, history of major illnesses or accidents; session expectations; and questions about the patient’s spiritual, religious, or personal belief system.

Permission to evaluate the 2013 data was granted by the primary JSJ practitioner and the academic medical center Jin Shin Jyutsu program. The institution’s IRB also granted approval for this study. Original copies of Jin Shin Jyutsu treatment logs were in the patient’s medical records. Copies of original treatment records are stored in the JSJ practitioner’s locked treatment room. The copies from the practitioner’s locked treatment room were utilized for data collection. Data was gathered from copies of the patient experience form, the Jin Shin Jyutsu treatment log, and the patient intake form. Data forms were de-identified by a staff support person within the medical center by assigning a unique identification code to each patient. Since all patients did not fill out a patient intake form, which is where gender is indicated, the staff support person used a letter within the unique identification code to indicate whether or not at patient was male (code included an “M”) or female (code included an “F”). No individuals involved in the research analysis had access to information linking patients to their assigned identification codes. Researchers were responsible inputting data into data analysis software, SPSS version 22. From the patient experience form, the following data were collected: date of treatment; JSJ session number; self-reported pain and stress levels, using a 0-10 NRS, before and after the session; and the patient’s level of interest in a
future JSJ session. From the Jin Shin Jyutsu treatment log, the following data were collected: JSJ practitioner, JSJ treatment location, and session length. If reported on the patient intake form, the ethnicity, marital status, educational level, and employment status were collected.

Data Analysis

Descriptive statistics with frequencies and means were used to describe the sample in terms of demographics and length of JSJ sessions. The primary outcome for this study was changes in self-reported perceptions of mean pain and stress scores before and after an initial JSJ session. For this analysis, participants who scored zero on their pre-session pain or stress scores were not included in the analysis of changes in that variable. Paired sample t-tests were used to determine if there were statistically significant differences between the mean pain and mean stress scores before and after the treatment. A secondary study outcome was to examine gender differences in pain and stress scores before an initial JSJ session compared to post session. In gender-stratified analyses, gender-specific differences in mean pain and stress scores before and after treatment were analyzed using paired sample t-tests. All data were analyzed using SPSS and an alpha of 0.5 was used to determine significance.

Results

Sample Characteristics

The majority of the sample was female (72.5%), white (56.9%), married (45.1%), had some college or technical school education (51.0%), and were retired or currently not working (51%). All patients included in data analysis were treated by the primary JSJ practitioner. There were a total of 39 participants who were positive for pain pre-session.
This included 11 males and 28 females. On average, pre-session pain scores were 4.0, and post-session pain scores were 2.0. A total of 48 participants were positive for stress pre-session. This included 14 males and 34 females. Pre-session stress scores were 5.7 on average; post-session stress scores were 1.8. There were no significant gender differences by demographic variables among participants (see Table 1).

**Differences in Pain Scores in Total Sample and by Gender**

There were significant changes in pain scores in the total sample from pre-session to post-session (mean pain score pre-session = 4.0 vs. mean pain score post-session = 2.0; \( t = 7.4 \) [DF = 38], \( p < 0.0001 \)) (see Figure 1). These significant changes were observed in gender-stratified analyses (see Figure 2). In males, mean pain scores changed from 4.8 to 2.6 (\( t = 5.0 \) [DF = 10], \( p = 0.001 \)); and in females, mean pain scores changed from 3.7 to 1.8 (\( t = 5.7 \) [DF = 27], \( p < 0.0001 \)).

**Differences in Stress Scores in Total Sample and by Gender**

There were significant changes in stress scores in the total sample from pre-session to post-session (mean stress score pre-session = 5.7 vs. mean stress score post-session = 1.8; \( t = 11.9 \) [DF = 47], \( p < 0.0001 \)) (see Figure 1). These significant changes were observed in gender-stratified analyses as well (see Figure 3). In males, mean stress scores changed from 6.2 to 2.3 (\( t = 6.1 \) [DF = 13], \( p < 0.0001 \)); and in females, mean stress scores changed from 5.4 to 1.6 (\( t = 10.1 \) [DF = 33], \( p < 0.0001 \)).

**Discussion**

This study aimed to examine changes in pain and stress as a result of JSJ treatment. It also evaluated whether changes differed by the gender of participants. Overall, there were significant reductions in pain and stress following JSJ treatments in
both males and females. This finding recommends JSJ as an integrative therapy for pain and stress management for both male and female patients.

The findings from this current study are consistent with a number of other studies examining nonpharmacologic energy therapies for pain and/or stress management. For example, Matsubara et al (2011) examined the effects of acupressure on women with chronic neck pain. Participants were randomly assigned to one of two treatment groups (different acupressure points were utilized in these groups), or a control group (Matsubara et al., 2011). Significant reductions in the pain intensity ratings and pain-associated anxiety levels were found in both of the treatment groups after acupressure, but there were no significant differences in these variables among the control group (Matsubara et al., 2011). Similarly, in a pretest-posttest study previously discussed, Searls and Fawcett (2011) examined 29 women with breast cancer or a history of breast cancer. The purpose was to evaluate participant responses to JSJ after 10 weekly treatments (Searls & Fawcett, 2011). JSJ was found to improve participants’ pain and anxiety (Searls & Fawcett, 2011). Additionally, those who consistently practiced JSJ self-help found it to be more beneficial than those who were inconsistent in self-help practices (Searls & Fawcett, 2011). Birocco et al. (2012) examined another energy therapy, Reiki, in a one group pretest-posttest study. The goal was to evaluate the effect of Reiki on pain, anxiety, and global wellness of 118 adults with cancer (Birocco et al., 2012). Participants underwent a maximum of four Reiki treatments, which were given during four different chemotherapy infusions (Birocco et al., 2012). They found statistically significant decreases in pain and anxiety levels after each Reiki session when compared to before that session, aside from pain before and after a fourth session.
(Birocco et al., 2012). However, the reductions in pain were statistically significant when comparing pain levels prior to a first treatment to pain levels following the fourth session (Birocco et al., 2012). As one can see, other studies support the findings of our current study that integrative energy therapies can have a beneficial effect on pain and stress reduction.

The findings of our study are in contrast of the findings of Assefi, Bogart, Goldberg, and Buchwald (2008). In a randomized controlled trial consisting of 93 adults with fibromyalgia, and a pain intensity ≥ 4/10 on a VAS, Assefi et al. examined whether or not Reiki could be considered a beneficial adjunctive treatment for fibromyalgia. The primary outcome was subjective pain level, which was measured at four weeks, eight weeks, and again at three months following the end of Reiki treatments (Assefi et al., 2008). Participants were randomly assigned to one of the following groups: direct Reiki from a true Reiki practitioner (n = 23), distant Reiki from a true Reiki practitioner (n = 24), sham direct Reiki from an actor (n = 23), or sham distant Reiki from an actor (n = 23) (Assefi et al., 2008). None of the treatments were found to improve participants’ pain, fatigue, or well-being (Assefi et al., 2008). Also, treatments were not found to improve physical and mental functioning of participants (Assefi et al., 2008). However, as Assefi et al. mentioned, their fairly small sample size may not have detected subtle changes in outcomes. They also mentioned the 12 standard Reiki hand positions were utilized on all participants, with each position being utilized for about 2 minutes (Assefi et al., 2008). They did this instead of modifying treatment hand positions based on individual participant needs, and this is discussed as a possible limitation (Assefi et al., 2008). Their treatment approach was different from the current JSJ study, in which flows
and energy locks were utilized based on what the practitioner sensed as the specific patient’s needs. Another limitation discussed by Assefi et al. is that it was unclear how much time should be spent with the Reiki treatment. They only discussed the treatment duration for the group that underwent direct Reiki from a true practitioner, which was 30 minutes in length (Assefi et al., 2008). As Assefi et al. mentioned, this treatment duration may not have been sufficient for treating chronic pain. In our study, treatment duration was generally 60 minutes.

A novel aspect of our JSJ study was to examine gender differences in the outcomes of JSJ. In our study, there was a dramatic decrease in pain and stress scores among both men and women after JSJ. It is interesting to note that males rated higher mean scores in pain and stress at pre-session as compared to females. As discussed above, Soetanto, Chung, and Wong (2006) identified gender differences in pain perception, finding women to demonstrate a lower threshold and less tolerance (Soetanto et al., 2006). Garcia, Godoy-Izquierdo, Godoy, Perez, and Lopez-Chicheri (2007) also found women to have a lower pain threshold than men. As previously noted, Miaskowski (2004) recommended studies to improve understanding about whether or not there are clinically-meaningful gender differences in prevalence and severity of cancer pain. Future studies may also want to explore differential effects of integrative energy treatments in men and women.

**Potential Limitations**

A few important limitations need to be considered in interpreting the findings of this study. First, it is important to acknowledge that this was a retrospective study, and as such, was limited to variables that were available from treatment records. Several
important variables were not recorded for approximately one third of the sample, such as the ethnicity, relationship status, educational level, and employment status. This limited the ability to examine treatment effect by other demographic variables. A second limitation is that there are many confounding variables that were not controlled for. For that reason, we cannot say with certainty that JSJ was the lone causative factor that improved pain and stress in the sample. Confounding variables would have needed to be controlled before making that claim. This study did, however, determine there was a significant change in patient perception of pain and stress immediately following a JSJ session when compared to before the session. Confounding variables that were not controlled for in this retrospective review include, but are not limited to, the following: timing and dose strength of pain medications taken in relation to the JSJ session, type and stage of cancer, whether or not relaxing music was played during a session, and whether or not the patient was treated on the treatment table or in a chair. A third limitation is that the pain and stress reported before and after a JSJ session is only a small snapshot of the pain and stress experience of each patient. Pain and stress may change often throughout the day due to patient activity and other stressors encountered. Fourth, the patients’ perception of their benefits/responses to the treatment is shared directly with the JSJ practitioner through the patient experience form. The patient may not report lack of symptom improvement for fear of upsetting the practitioner. Fifth, there was only a single JSJ practitioner who worked with the sample. This makes it impossible to determine if results would be similar with other practitioners. Sixth, there was not a comparison group who underwent sham JSJ. Finally, patients voluntarily undergo JSJ, so this may impact their reported response to treatment. Despite the noted limitations, this
investigation may help to improve understanding of the perceived benefits of JSJ on pain and stress in the adult patient with a cancer diagnosis.

**Suggestions for Future Research**

Future research suggestions include a randomized controlled trial in which patients are blinded and randomized to a treatment or a sham JSJ group. It would be beneficial to also see if opioid use changes in a 24-hour period following JSJ compared to the 24 hours prior to JSJ. This could be a good objective measure of response to treatment. Future studies may also want to examine the cumulative effect of JSJ to see if patients who undergo more treatments experience more benefit. Also, it would be interesting to see if patients of a certain age group respond more than others. A study with a large sample, in which multiple JSJ practitioners are utilized, would help better determine if the findings can be generalized to the target population. Finally, it would be useful to conduct a study in which only those with moderate or high levels of pre-session pain and/or stress are evaluated. This may help researchers see more of an effect, because those with pre-session pain or stress levels of 1 or 2, like in the current study, bring the pre-session means down. That makes the post-session results appear to be less drastic than they might actually be.

**Conclusions**

Based on the results of the current study, JSJ is a valuable integrative therapy, aiding in the reduction of pain and stress, which are common experiences of those with cancer. The findings within this study, and within a review of related therapies, show that including energy therapies in the care plan for patients with cancer can improve their experience to some degree. None of the participants in the current study reported an
increase in pain or stress following JSJ. Given that, there are no identifiable risks of JSJ to weigh against potential benefits. Furthermore, after a JSJ session was finished in the current study, patients were asked about their level of interest in returning for a future JSJ session. This response was recorded on the patient experience form. Of the 51 total participants, 47 indicated they “definitely would like another session,” one said he or she “probably would like another session,” and three did not respond. This is another example of the satisfaction patients received with this service.

Healthcare organizations should utilize energy therapy practices as part of their patient care approach. These treatments help meet the holistic needs of patients, and given the findings of this and other studies, healthcare providers should embrace these strategies. They should also be willing to discuss these treatments with patients as a complement to traditional medical therapy. Healthcare organizations should also offer classes for JSJ and other integrative therapies to their care providers. This would allow for more bedside staff to have the opportunity to learn about complementary therapies, making it easier for them to discuss this topic with patients, and even offer these therapies themselves.
### Table 1

**Sample Characteristics**

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<td>6</td>
<td>16.2</td>
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<td>21.4</td>
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<td>27.0</td>
<td>6</td>
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<th>SD</th>
<th>Mean</th>
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<th>SD</th>
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<td>3.7</td>
<td>2.4</td>
<td>4.8</td>
<td>2.7</td>
</tr>
<tr>
<td>Pain post-session (n = 39)</td>
<td>2.0</td>
<td>1.9</td>
<td>1.8</td>
<td>1.7</td>
<td>2.6</td>
<td>2.2</td>
</tr>
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<td>Stress pre-session (n = 48)</td>
<td>5.7</td>
<td>2.6</td>
<td>5.4</td>
<td>2.4</td>
<td>6.2</td>
<td>2.9</td>
</tr>
<tr>
<td>Stress post-session (n = 48)</td>
<td>1.8</td>
<td>1.8</td>
<td>1.6</td>
<td>1.6</td>
<td>2.3</td>
<td>2.3</td>
</tr>
</tbody>
</table>

Notes: SD = Standard deviation
Non-white category includes 1 American Indian or Alaskan Native, 3 African American, and 1 Hispanic
Part time/full time category includes 2 people who were part time.
Figure 1

*Change in Pain and Stress Scores Before and After Jin Shin Jyutsu Session*
Figure 2

Changes in Pre- and Post-Session Pain Scores by Gender
Figure 3

Changes in Pre- and Post-Session Stress Scores by Gender
References


Conclusion to Final DNP Capstone Report

This capstone report has scrutinized various issues surrounding cancer-related pain, including the harmful impact of undertreated pain in the oncology population. This project also discussed barriers to adequate pain management in this group, pointed out National Comprehensive Cancer Network recommendations for the integration of nonpharmacologic interventions for pain management, and reported the results of a retrospective chart review and secondary data analysis for one such intervention, Jin Shin Jyutsu (JSJ). Given that cancer is a common disease, and often associated with pain and stress, healthcare providers should be prepared to meet complex patient needs. Providers who are educated regarding integrative treatment strategies may be well positioned to increase access to these therapies in their practice. A holistic approach should be utilized when managing pain and stress for patients with cancer. JSJ is one treatment strategy that can be incorporated to meet that need.

Within this project, manuscript one discussed the enormity of the problem of cancer-related pain, and the fact that it is often undermanaged. There are numerous barriers that lead to its under-treatment, including poor assessment on the part of the provider (Jablonski & Duke, 2012; Thomas et al., 2012), provider and patient fears of addition (Al Khalaileh & Al Qadire, 2012; Christo & Mazloomdoost, 2008), and dose-limiting side effects (Thomas, 2008). Healthcare providers knowledgeable in integrative therapies can assist patients and their families to overcome barriers and to improve the delivery of holistic care. The only way providers can get around these barriers is to first recognize they exist. Oncology providers can assess for barriers and incorporate
integrative therapies that complement traditional pharmacologic treatment for cancer-related pain and stress.

In a literature review, manuscript two discussed nonpharmacologic integrative therapies, specifically energy therapies, for managing pain and stress. Within this manuscript, studies including treatment with acupressure, JSJ, or Reiki were critiqued. Although there is a lack of literature regarding these treatments, especially JSJ, the published studies expressed favorable findings for their integration into the pain and stress management plan for most subjects. The literature identified a few side effects from the treatments. Some participants who underwent Reiki reported a depressed mood (Assefi, Bogart, Goldberg, & Buchwald et al., 2008; Richeson, Spross, Lutz, & Peng, 2010), and some reported excessive energy or anxiety and worsening sleep (Assefi et al., 2008). However, no studies reported side effects to be severe. Energy therapies show promise in helping cancer patients’ pain and stress, and should be incorporated into their plan of care. They are low risk treatment strategies that have the potential to improve patient outcomes related to pain and stress.

The findings of a retrospective chart review and secondary data analysis were discussed in manuscript three. This retrospective review used a pretest-posttest design to examine the perceptions of pain and stress levels among patients with cancer before and after a first-time JSJ session. This review also examined gender differences in perceptions of pain and stress following JSJ. Total, there were 51 participants who met inclusion criteria for the study. Of those, 39 were positive for pain, and 48 were positive for stress. Pain and stress were recorded using participants’ self-reported levels on a 0-10 numeric rating scale, where zero was “none” and ten was “worst.” On average, pre-
session pain scores were 4.0. Post-session pain scores were 2.0. Pre-session stress scores were 5.7 on average, and decreased to 1.8 following JSJ. There were no significant gender differences by demographic variables for pre- and post-session pain and stress scores. The findings from this study are consistent with a number of other studies examining nonpharmacologic energy therapies for pain and/or stress management.

Matsubara et al (2011) examined the effects of acupressure on women with chronic neck pain. Significant reductions in the pain intensity ratings and pain-associated anxiety levels were found in both of the treatment groups after acupressure, but there were no significant differences in these variables among the control group (Matsubara et al., 2011). Searls and Fawcett (2011) examined 29 women with breast cancer, or a history of breast cancer, to evaluate participant responses to JSJ after 10 weekly treatments (Searls & Fawcett, 2011). JSJ was found to improve participants’ pain and anxiety (Searls & Fawcett, 2011). Additionally, those who consistently practiced JSJ self-help found it to be more beneficial than those who were inconsistent in self-help practices (Searls & Fawcett, 2011).

A few important limitations need to be considered in interpreting the findings of the current study. First, it is important to acknowledge that this was a retrospective study, and as such, was limited to variables that were available from treatment records. Several important demographic variables were not recorded for approximately one third of the sample. This limited the ability to examine treatment effect by certain demographic variables. A second limitation is that there are many confounding variables that were not controlled for, including but not limited to the following: timing and dose strength of pain medications taken in relation to the JSJ session, type and stage of cancer, whether or not
relaxing music was played during a session, and whether or not the patient was treated on the treatment table or in a chair. For that reason, we cannot say with certainty that JSJ was the lone causative factor that improved pain and stress in the sample. However, this study did determine there was a significant change in patient perception of pain and stress immediately following a JSJ session when compared to before the session.

In future studies, a randomized controlled trial design should be employed in which patients are blinded and randomized to a treatment or a sham JSJ group. This type of study would help validate the findings of the current study. Another recommendation for future research is to see if opioid use changes in a 24-hour period following JSJ compared to the 24 hours prior to JSJ. This observation could serve as an objective measure of treatment response. Also in the future, it would be beneficial to study the cumulative effect of JSJ. This would help determine whether or not patients who undergo more treatments experience more benefit.

Despite noted limitations, findings of this capstone report support the use of JSJ as an integrative therapy for managing pain and stress in the adult patient with cancer. Healthcare providers should be proactive in discussing nonpharmacologic pain and stress management strategies, such as JSJ, with their patients. In this study, no side effects of JSJ were identified. Pain and stress levels decreased following JSJ sessions, and the majority of patients expressed interest in a future JSJ session. For these reasons, it is clear that JSJ can help manage certain symptoms associated with cancer, such as pain and stress.
Appendix A

JSJ Patient Intake Form

Part 1: Jin Shin Jyutsu Patient Information

We would like to document some basic information about you prior to your initial Jin Shin Jyutsu session.

Date: ________________________________

Name:_______________________________ Birthdate:_________ Age______

City:_________________________ County:________

Gender: Male____ Female___

Race: _____ American Indian or Alaska Native
_____ Black or African American
_____ Native Hawaiian or Other Pacific Islander
_____ White
_____ Hispanic/Latino

Relationship Status: __ Single __ Married/Partnership ___ Divorced ___ Separated ___ Widowed

Education: Please indicate highest grade completed:
_____ Less than High School
_____ High School
_____ College: ___ Undergraduate ___ Graduate Degree ___ Doctorate Degree
_____ Technical College or Trade School

Employment Status: __ Full-Time __ Part Time ___ Homemaker ___ Retired ___ Currently not working

How were you referred to the Markey Jin Shin Jyutsu Program? Please check all that apply:

_____ My Physician: ______________________________

_____ Nursing Staff – Please indicate from what area of Markey
_____ Comprehensive Breast Center
_____ Multi-Disciplinary Clinic
_____ Chemotherapy Clinic
_____ Radiation
_____ Hematology
_____ Markey Hospital
_____ Other – Please explain ________________________________

_____ Markey Social Worker

_____ Markey Patient Navigator (American Cancer Society Representative at Markey)

_____ Friend

_____ Family Member: ___ Spouse ___ Sibling ___ Other
I Referred Myself – Please indicate all that apply to your self-referral.

- From Markey Jin Shin Jyutsu Brochure
- From the Markey Website
- From Television, Newspaper Articles or Advertisement

Other – Please explain _____________________________
Part 2: Physician/Diagnosis Information

The Jin Shin Jyutsu program works hand in hand with your Markey physicians. Communication will be ongoing with them as you progress through your Jin Shin Jyutsu sessions. **You are encouraged to speak with your physicians regarding your Jin Shin Jyutsu. Our combined goal is to give our patients the highest level of care from every aspect.**

Who are the physicians that you are working with here at Markey? (please list)

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

What type of cancer are you currently experiencing?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

What other medical, physical or emotional conditions are you currently experiencing?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

List any major illness or accidents that you have experienced with your approximate age at the time:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

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Part 3: Patient Expectations

You are about to begin your Jin Shin Jyutsu treatment. With this in mind, please answer the next three questions.

1. Using a scale from 0 to 10, with 0 being no improvement and 10 being complete recovery, how much improvement in your pain level do you expect to receive from Jin Shin Jyutsu sessions? Please circle your answer.

   0  1  2  3  4  5  6  7  8  9  10
   No Improvement
   Complete Recovery

2. Using a scale from 0 to 10, with 0 being no improvement and 10 being complete recovery, how much improvement in your stress/distress/anxiety level do you expect receive from Jin Shin Jyutsu sessions? Please circle your answer.

   0  1  2  3  4  5  6  7  8  9  10
   No Improvement
   Complete Recovery

3. Using a scale from 0 to 10, with 0 being no improvement and 10 being complete recovery, how much improvement in your nausea/stomach upset level do you expect receive from Jin Shin Jyutsu sessions? Please circle your answer.

   0  1  2  3  4  5  6  7  8  9  10
   No Improvement
   Complete Recovery
Part 4: Your Spiritual, Religious or Personal Belief System

The following questions ask about your **spiritual, religious or personal beliefs**. Though some of these questions use words such as spirituality and faith, please answer them in terms of your own belief system, whether it be religious, spiritual or personal. **Please circle the answer that most closely reflects your experience in the past 2 weeks.**

1. To what extent do you consider yourself to be a religious person?
   - Not at all
   - Slightly
   - Moderately
   - Very
   - Extremely

2. To what extent do you consider yourself to be part of a religious community or group?
   - Not at all
   - A Little
   - Moderately
   - Mostly
   - Completely
   If so, which religious community group are you a part of? ______________________

3. To what extent do you have spiritual beliefs?
   - Not at all
   - Slightly
   - Moderately
   - Very
   - Extremely

4. To what extent do you have strong personal beliefs?
   - Not at all
   - Slightly
   - Moderately
   - Very
   - Extremely

5. To what extent do your religious, spiritual or personal beliefs help you to tolerate stress?
   - Not at all
   - A little
   - A moderate amount
   - Very much
   - An extreme amount

6. To what extent do your religious, spiritual or personal beliefs help you to get through hard times?
   - Not at all
   - A little
   - A moderate amount
   - Very much
   - An extreme amount

7. To what extent do you feel any connection between your mind, body and soul?
   - Not at all
   - A little
   - Moderately
   - Mostly
   - Completely
8. To what extent do you feel the way you live is consistent with what you feel and think?

Not at all  A little  Moderately  Mostly  Completely

9. To what extent do you feel inner religious, spiritual or personal strength?

Not at all  A little  A moderate amount  Very much  An extreme amount

10. To what extent can you find religious, spiritual or personal strength in difficult times?

Not at all  A little  A moderate amount  Very much  An extreme amount

11. To what extent do you feel peaceful within yourself?

Not at all  A little  Moderately  Mostly  Completely

12. How much are you able to feel peaceful when you need to?

Not at all  A little  Moderately  Mostly  Completely

13. How optimistic do you feel?

Not at all  Slightly  Moderately  Very  Extremely

14. To what extent are you optimistic about your life?

Not at all  Slightly  Moderately  Very  Extremely

15. To what extent does faith give you comfort in daily life?

Not at all  A little  A moderate amount  Very much  An extreme amount
16. To what extent does faith contribute to your well-being?

<table>
<thead>
<tr>
<th>Not at all</th>
<th>A little</th>
<th>A moderate amount</th>
<th>Very much</th>
<th>An extreme amount</th>
</tr>
</thead>
</table>
Part 5: Consent for Access to Medical Records

The Jin Shin Jyutsu Program requests access to your Markey Cancer Center medical records for specific information that will help the practitioner evaluate results and needs during your Jin Shin Jyutsu treatment.

Please choose one of the two options below:

I, ________________________, give my consent to the Markey Cancer Center Jin Shin Jyutsu program to access my medical records for the following specific information only:

- Prior illnesses and/or accidents noted in medical record.
- Ongoing cancer diagnosis and treatment during the period of JSJ treatment.
- All medications including those utilized for chemotherapy, pain, stress/anxiety, and nausea related to the treatment of cancer and other conditions.
- Patient observations during the period of JSJ participation noted in the medical record.
- Physician observations during the period of JSJ participation noted in the medical record.

I, ________________________, DO NOT give my consent to the Markey Cancer Center Jin Shin Jyutsu program to access my medical records.

Name (please print):____________________________________________________

Signature:____________________________________________________________

Date:___________________
Appendix B

JSJ Treatment Log and Patient Experience Form

Markey Cancer Center
Jin Shin Jyutsu Treatment Log 2013

Date: _______ Practitioner: ☑ J Bradley ☐ K DiGirolamo ☐ P Catlett

Patient Name: _________________________ Physicians: ___________________

Med Record#:_________________________ _____________________________

Birthdate: ____________________________ _____________________________

☐ New ☐ Repeat: Session #_____

Location: ☐ Treatment Room ☐ Chemo Suite
☐ Hospital ☐ Markey ☐ Children’s ☐ General/All Other

Session Length: ☐ 15 min ☐ 30 min ☐ 45 min ☐ 60 min

Patient Comments/Concerns: _____________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

Practitioner’s Comments/Concerns: _______________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

_______________________________________
Signature
Date: _______  Practitioner: ✓ J Bradley □ K DiGirolamo

Patient Name: _________________________  Med Record#:________________
Birthdate:__________________________

☐ New  ☐ Repeat:   Session #_____

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<th>R</th>
<th>L</th>
<th>R/L</th>
<th>Description</th>
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<td>1</td>
<td>R</td>
<td>L</td>
<td>R/L</td>
<td>Lung Flow</td>
</tr>
<tr>
<td>2</td>
<td>R</td>
<td>L</td>
<td>R/L</td>
<td>Lg Intestine Flow</td>
</tr>
<tr>
<td>3</td>
<td>R</td>
<td>L</td>
<td>R/L</td>
<td>Stomach Flow</td>
</tr>
<tr>
<td>4</td>
<td>R</td>
<td>L</td>
<td>R/L</td>
<td>Spleen Flow</td>
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<tr>
<td>5,6,7,8</td>
<td>R</td>
<td>L</td>
<td>R/L</td>
<td>Heart Flow</td>
</tr>
<tr>
<td>9</td>
<td>R</td>
<td>L</td>
<td>R/L</td>
<td>Sm Intestine Flow</td>
</tr>
<tr>
<td>10</td>
<td>R</td>
<td>L</td>
<td>R/L</td>
<td>Bladder Flow – Special or Regular</td>
</tr>
<tr>
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<td>R</td>
<td>L</td>
<td>R/L</td>
<td>Kidney Flow</td>
</tr>
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<td>R/L</td>
<td>Diaphragm Flow</td>
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<td>13</td>
<td>R</td>
<td>L</td>
<td>R/L</td>
<td>Umbilicus Flow</td>
</tr>
<tr>
<td>14</td>
<td>R</td>
<td>L</td>
<td>R/L</td>
<td>Gall Bladder Flow</td>
</tr>
<tr>
<td>15</td>
<td>R</td>
<td>L</td>
<td>R/L</td>
<td>Liver Flow</td>
</tr>
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<td>16</td>
<td>R</td>
<td>L</td>
<td>R/L</td>
<td>Chest-Back Expanding</td>
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<td>17</td>
<td>R</td>
<td>L</td>
<td>R/L</td>
<td>Movement Disharmony</td>
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<td>18</td>
<td>R</td>
<td>L</td>
<td>R/L</td>
<td>Spec Body Func 1</td>
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<td>L</td>
<td>R/L</td>
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<td>R</td>
<td>L</td>
<td>R/L</td>
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<td>L</td>
<td>R/L</td>
<td>Spec Body Func 4</td>
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<td>22</td>
<td>R</td>
<td>L</td>
<td>R/L</td>
<td>Spec Body Func 5</td>
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<td>R</td>
<td>L</td>
<td>R/L</td>
<td>Thumb Function</td>
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<td>R</td>
<td>L</td>
<td>R/L</td>
<td>Little Finger Function</td>
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<td>25</td>
<td>R</td>
<td>L</td>
<td>R/L</td>
<td>Main Central Vertical</td>
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<td>26</td>
<td>R</td>
<td>L</td>
<td>R/L</td>
<td>Reverse/Increase 1st D</td>
</tr>
<tr>
<td>27</td>
<td>R</td>
<td>L</td>
<td>R/L</td>
<td>Reverse/Increase 2nd D</td>
</tr>
<tr>
<td>28</td>
<td>R</td>
<td>L</td>
<td>R/L</td>
<td>Reverse/Increase 3rd D</td>
</tr>
<tr>
<td>29</td>
<td>R</td>
<td>L</td>
<td>R/L</td>
<td>Reverse/Increase 4th D</td>
</tr>
<tr>
<td>30</td>
<td>R</td>
<td>L</td>
<td>R/L</td>
<td>Reverse/Increase 5th D</td>
</tr>
<tr>
<td>31</td>
<td>R</td>
<td>L</td>
<td>R/L</td>
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<td>32</td>
<td>R</td>
<td>L</td>
<td>R/L</td>
<td>2nd Method of Correction</td>
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<td>33</td>
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<td>L</td>
<td>R/L</td>
<td>3rd Method of Correction</td>
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<td>34</td>
<td>R</td>
<td>L</td>
<td>R/L</td>
<td>RH LH R/L Opposite Finger &amp; Toes</td>
</tr>
</tbody>
</table>

Other Holds – Please List:                                                                                         
________________________________________________________________________
________________________________________________________________________

Signature: ___________________________________________
Markey Cancer Center Jin Shin Jyutsu

Patient Experience - Before Session

Date: __________  Patient Name: __________________________ JSJ Session #: _______

How are you feeling today? Please note any changes you have noticed since your last Jin Shin Jyutsu session and any specific needs today.
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Please CIRCLE the number that indicates the level of pain, stress, and nausea you are experiencing right now, BEFORE your Jin Shin Jyutsu session. 0 indicates None, 10 indicates the Worst you could experience.

<table>
<thead>
<tr>
<th>Pain Level</th>
<th>Prior to Treatment:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 for No Pain 10 for Worst Pain</td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>Moderate</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stress Level</th>
<th>Prior to Treatment:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 for No Stress 10 for Worst Stress</td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>Moderate</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nausea Level</th>
<th>Prior to Treatment:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 for No Nausea 10 for Worst Nausea</td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>Moderate</td>
</tr>
</tbody>
</table>
**Patient Experience - After Session**

Date:_________ Patient Name:________________________________ JSJ Session #:_______

Please describe what you noticed during today’s Jin Shin Jyutsu Session and how you are feeling now:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Please **CIRCLE** the number that indicates the level of pain, stress, and nausea you are experiencing right now, *AFTER* your Jin Shin Jyutsu session. 0 indicates None, 10 indicates the Worst you could experience.

<table>
<thead>
<tr>
<th><strong>Pain Level</strong></th>
<th><strong>Immediately After Treatment:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>0 for No Pain</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>10 for Worst Pain</td>
<td>None Moderate Worst</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Stress Level</strong></th>
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</tr>
</thead>
<tbody>
<tr>
<td>0 for No Stress</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>10 for Worst Stress</td>
<td>None Moderate Worst</td>
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</tbody>
</table>

<table>
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<th><strong>Nausea Level</strong></th>
<th><strong>Immediately After Treatment:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>0 for No Nausea</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>10 for Worst Nausea</td>
<td>None Moderate Worst</td>
</tr>
</tbody>
</table>

Please indicate your interest in returning for another Jin Shin Jyutsu session:

_____ Definitely would like another session.
_____ Probably would like another session.
_____ Unsure if I would like another session.
_____ Probably would not like another session.
_____ Would not like another session.

Additional Comments:

________________________________________________________________________

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Capstone Project Master Reference List


