Research Education Home Study Course

3 CE Hours
Text and Online Study Guide

Presented by the:

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Instructions for the Research Education home study course

Thank you for investing in the Research Education home study course, a 3 CE hour course designed to further your knowledge on the topic of research in the massage therapy field. This course will explain what research is, how it is done, why it is important, and will outline 15 relevant research studies conducted on massage therapy and bodywork.

This guide will contain all of the instructions you will need to complete this course. This is a 3 CE hour course, so that means it should take you approximately 3 hours to read the text, and complete the examination and course evaluation.

PLEASE READ THE FOLLOWING DIRECTIONS FOR COMPLETION OF THIS COURSE.

The following are steps to follow in completing this course:

1. **Read the instructions and review the text and exam.**

2. **Access the online examination in your account at www.massagetherapyceu.com.**

3. **Complete your examination and print your certificate. The exam is open book and there is no time limit for completion.**

You must pass the exam with a 70% or better to pass this home study course. You are allowed to access and take the exam up to 3 times if needed. There is no time limit when taking the exam. Feel free to review the text while taking the exam. There are no trick questions on the exam. All of the answers are clearly found in the text. The exam is also included at the end of the text for review before taking the exam.

It is advised to answer the exam questions in the study guide before testing online. That way, when you are testing you do not have go back and forth through the online exam.

Good luck as you complete this course. If you have any questions please feel free to contact us at 866-784-5940, 712-490-8245 or info@massagetherapyceu.com. Most state boards require that you keep your “certificate of achievement” for at least four years in case of audit. Thank you for taking our Research Education home study course.

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Research Education Text

Introduction

Drawings depicted in the Tomb of Akmanthor in Egypt provide evidence of the practice of massage therapy dating back as far as BC 2330. However, historical documented evidence on the effectiveness of massage therapy is harder to find. In recent years, more and more research on massage therapy and its effectiveness have been done and documented. It is with this documented research that massage therapy as an authentic complementary alternative medical (CAM) treatment will grow. As a massage therapist, awareness of documented research on the effects massage therapy will help educate you on how the treatment you give to clients' works. It may also help you better understand mechanics of the body and how massage techniques may affect them.

If at any time, through the course of your work you need assistance, please contact the Center for Massage Therapy Continuing Education, LLC at 866-784-5940 or via email at info@massagetherapyceu.com and someone will promptly assist you. We are here to serve you and answer any questions you may have. This course is revised often and every effort is made to ensure the accuracy of the content. Should you have any concerns please contact us at the above listed sources.

NCBTMB research requirement

Based upon feedback from the profession, The National Certification Board for Therapeutic Massage and Bodywork (NCBTMB) no longer requires 3 CE hours of research for Board Recertification. You can still use these hours toward your Board Recertification and state renewal, they are just no longer required.

What is research?

Research is a general term which covers all types of studies to find responses to questions by means of a scientific approach. *Research* can be defined as:

> "The systematic investigation into and study of materials and sources in order to establish facts and reach new conclusions."

Research is an investigation to describe, explain, predict, and control an experimental phenomenon, such as the effects of massage therapy. It consists of steps such as finding a topic, performing the study, interpreting the results, and presenting the results. In practice, research methods vary widely depending on the topic, needs of the study, and/or the person conducting the research. Research is not an independent activity, but rather an activity of the entire entity to which it pertains. It takes knowledge expanding on previously acquired knowledge to perform new research studies and present newly acquired data on any topic of study. Research is an ongoing, cooperative process with no finishing point.

The general aims of research are to:

- Define
- Describe
- Determine the causes
- Determine the effects
- Explain

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- Observe
- Predict

What are the steps in the research process?

Depending on where you look and the type of research, you may find anywhere from 6 to 15 steps on performing a research study. For the purpose of this course, there are 9 basic steps in the research process. Each one is outlined below. Each step also gives examples using a hypothetical research study topic: "the effectiveness of massage therapy on fibromyalgia".

1. Identify the topic – The first step in the research process is to develop a topic, identify a problem, and/or state a hypothesis. The topic can be anything the researcher feels is worth investigating. The topic serves as the focus of the study, and in many cases, the topic will be stated in hypothesis form, such as "Is massage effective in relieving fibromyalgia pain and fatigue?". Selecting the topic of research is the most important step. Without a topic, the study will not proceed.

2. Review prior research and literature – After a topic is developed, it is important to read and review other similar, relevant studies and literature. This allows the researcher to learn more about the topic being investigated. Reviewing prior research and literature can be done by internet searching, electronic database searching, reading journals/magazines, and reviewing books. The review of literature educates the researcher on what similar studies have already been conducted on the topic, how they were conducted, and what results were reported.

3. Specify/clarify the purpose of the study – Sometimes the initial topic of the study is too broad in subject matter. After comprehensive literature review and thought, the researcher may go back and narrow the scope of the study or hypothesis. For example, instead of "the effectiveness of massage therapy on fibromyalgia" as a topic, the researcher may narrow down the topic to "the effectiveness of deep tissue massage on people diagnosed with fibromyalgia experiencing pain and fatigue". The resulting hypothesis could then be "Does receiving 30 minute massages, three times per week for 4 weeks, decrease fibromyalgia pain and fatigue?".

4. Define the concepts and terms – The concepts and terms are words and/or phrases used throughout the study that need to be defined in advance to minimize confusion for the audience. Defining any applicable terms and concepts in advance will help readers understand the meaning of the study as they apply. For example, in the hypothetical study on fibromyalgia, terms that may need to be defined are fibromyalgia, deep tissue massage, fibromyalgia fatigue, fibromyalgia pain, and/or fibromyalgia diagnosis.

5. Define the population, goals, and objectives – Research projects can focus on many different things such as people, ideas, events, philosophies, healthcare, cultures, facilities, finances, trends, styles, genders, etc. There are thousands of options available for researchers to choose from. This step in the research process clearly states the population of the study and the objectives of the study. For example, if the study is "the effectiveness of deep tissue massage on people diagnosed with fibromyalgia experiencing pain and fatigue", the population could be defined as "people who have been diagnosed with fibromyalgia in the past two years who are experiencing symptoms of pain and fatigue". The goal and objective of the study would then be

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to determine if a set deep tissue massage regimen, such as 30 minute deep tissue massages, 3 times per week for 4 weeks, has an effect on a person diagnosed with fibromyalgia experiencing pain and fatigue.

6. Develop the plan of study – The plan of study is essentially the back bone of the entire study. It states exactly how the study will proceed, from beginning to end. The plan of study outlines:
    a. Who will be participating in the study (e.g. 50 people diagnosed with fibromyalgia in the past two years experiencing symptoms of pain and fatigue)
    b. The definition of the populations/groups (e.g. 2 groups, a test group and a control group, of 25 people each diagnosed with fibromyalgia with in the past two years)
    c. How the study will be carried out (e.g. the test group will receive 30 minute deep tissue massages, three times per week for 4 weeks and the control group will receive their regular medical treatment)
    d. What data will be collected (e.g. pain scale rating questionnaires, interviews, and medical assessment)
    e. How and when data will be collected (e.g. before and after the 4 week massage period)
    f. Where data will be collected (e.g. a medical facility or massage practice)
    g. How the results will be reported (e.g. formal typed report with charts, graphs, and/or statistics)

7. Collect the data – Once the plan of study has been created and finalized, the actual study is carried out and data collection begins. Every study conducted has some type of data collection. Some studies collect data throughout the study, while other studies collect data at the beginning and at the end, or only at the end. In the hypothetical study on fibromyalgia, the collection of data is done both at the beginning and at the end.

    The collection of data is imperative to the study because it sets a base point for the research and helps to answer the hypothesis. For example, if a pain scale rating questionnaire is given to each participant asking them to rate their pain and fatigue on a scale of 0-10 (with 10 being the worst) in both the beginning and the end of the study; those scores will be compared to determine if the massage treatment made a difference. If the scores remain the same, the treatment did not have an effect. If the scores are different, the treatment most likely had some kind of effect. Without data collection, there is no way to prove or disprove the hypothesis.

8. Analyze the data – Once all of the data is collected and the study is complete, the researcher then analyzes the data to determine if the hypothesis can be answered or explained. For example, the researcher would collect pain scale rating questionnaires, interviews, and medical exams from both groups and compare each person's beginning questionnaire, interview, and exam to their ending questionnaire, interview, and exam. The researcher is looking to see what, and if any differences exist in the data to determine if the deep tissue massage treatment had an impact on fibromyalgia pain and/or fatigue levels.

9. Present the data – Any and all results of the study are then composed in a report containing data findings explained in paragraph form as well as in charts, graphs, diagrams, and/or statistics. Researchers can include anything and everything relative to the study in this report. A summary

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of this report is called an abstract. The results may not always be conclusive, and can either prove or disprove what the researcher proposed in the beginning of the study.

The above 9 steps are summarized in the table below.

STEP	EXAMPLE
1. Identify the topic or question	The effectiveness of massage therapy on fibromyalgia
2. Review prior research and literature	Look for similar or recent studies that have been performed
3. Specify the purpose of the study	Does receiving 30 minute deep tissue massages, three times per week for 4 weeks, decrease fibromyalgia pain and fatigue
4. Define any concepts or terms	This will clarify concepts and terms for readers
5. Define the population, goals, and objectives of the study	Population - People diagnosed with fibromyalgia in the past two years experiencing pain and fatigue Objective/goal – To determine if receiving 30 minute deep tissue massages, three times per week for 4 weeks, decreases fibromyalgia pain and fatigue
6. Develop the plan of study	Pain questionnaires, interviews, and medical exams will be given both before and after the 4 week deep tissue massage period
7. Collect the data	Conduct the research and collect the surveys, questionnaires, and exams
8. Analyze the data	Compare the before and after data
9. Present the data	Report the results and the differences if there are any

As mentioned, there are many ways to carry out research. Roughly speaking there are two main approaches to conducting research studies, qualitative and quantitative.

Qualitative Research

Qualitative research studies focus primarily on explanations, descriptions, meanings, and social phenomena rather than statistics and statistical information. Qualitative studies are designed to explain the behavior of a group and the motivations that drive it in reference to a specific topic. Qualitative research is used traditionally in the study of society and relationships between individuals, but can also be used in market research and other situations. Qualitative researchers aim to explain human behavior and the motivations that compel such behavior. Qualitative studies are used to collect data about the cultural values, opinions, and behaviors of societies as well as identifying aspects such as social norms, gender roles, and religion.

Common methods of data collection used in qualitative research include:

- Content analysis
- Focus groups

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- Interviews
- Observation and notation
- Pilot testing

There are four major types of qualitative research. They include:

- Phenomenology
- Ethnography
- Grounded theory
- Case study

Phenomenology is the "study of phenomena". It is the descriptive study of how people experience a phenomenon. Phenomena can be events, situations, experiences, or concepts (e.g. love, death of a loved one, a particular religion, back pain). The basic question asked by the researcher in phenomenology is: "What is the meaning and/or rudimentary experience of this phenomenon by a person, group of people, or a specific population?".

Ethnography means "portrait of people". Data collected in ethnographic studies defines and explains the culture of a group or society. The basic question asked by the researcher in ethnography is: "What are the cultural features of this group of people or of this society?". Ethnographic studies require comprehensive investigation by the researcher and include methods such as interviewing and observation. The researcher attempts to interpret data from the viewpoint of the population of the study. The results provide in depth descriptions of the culture or the group being studied communicated from the perspective of the group. In many cases, the researcher will return to the group to check the results with the participants to validate the data before presenting the findings.

Grounded Theory research is the development of a new theory or idea generated from the collection and analysis of data about a particular topic or idea (e.g. healthcare, grief process, spirituality, holistic care). The concepts discovered from a grounded theory research study are new data about an existing topic and are used to develop new theories about the existing topic or idea. The basic question asked by the researcher in grounded theory research is: "What theory emerges from analysis of data collected about a current phenomenon?". Many different data collection methods are used in grounded theory research such as interviews, observation, and literature review.

Case Study research is the comprehensive explanation, interpretation, and analysis of one or more cases. "Cases" can be a person, group, organization, institution, decision, or event. The basic question asked by the researcher in case study research is: "What are the features and characteristics of this single case or of these comparison cases?". Case study research can be basic (e.g. reviewing a single case) or more complex (e.g. analyzing a social situation over a period of time).

Quantitative Research

Quantitative research is a scientific research method in which numerical and statistical figures are used to present information about phenomena. Data collection in quantitative studies generates statistical, mathematical, and/or numerical data about a topic or idea (e.g. the effects of massage therapy). The quantitative researcher asks a specific question, such as "How many males receive massages each month in the United States?", and then collects a sample of numerical data from participants to answer

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the question. Quantitative research can be used to describe variables/relationships, to examine relationships among variables, and/or to determine cause-effect relationships.

Common methods of data collection used in quantitative research include:

- Experiments
- Measuring values
- Numerical rating scales
- Questionnaires
- Surveys

There are four major types of quantitative research. They include:

- Descriptive
- Correlational
- Causal comparative
- Experimental

Descriptive research describes the existing status of a phenomenon, variable, or subject. It involves collecting data in order to test a hypothesis or to answer questions about the topic of the study. It determines and states the way things are. A hypothesis (e.g. "How often does the average person receive a massage?") is often used and the data collected answers the question in statistical form.

When determining a hypothesis in descriptive research, questions should begin with "How much?", "How often?", or "what percentage?". Most often, descriptive research questions focus on only one variable and one group. However, they can include multiple variables and groups.

Correlational research determines whether and to what degree a relationship exists between two or more variables/topics using statistical data. The relationship, or the result, is expressed by a number between .00 and 1.00 (.00 being no relationship and 1.00 being a very strong relationship). This type of research does not determine a cause-effect relationship, it just determines if any relationship is present. Correlational research usually contains one group with two or more variables.

Examples of correlational research topics include:

- The relationship between income level and people who receive massages regularly
- The relationship between the presence of a medical condition and people who receive massages regularly
- The relationship between massage therapy and physical therapy

Causal comparative research attempts to determine causes for an existing state. Causal comparative studies typically involve two or more groups and one independent variable that is not altered or changed. There is usually a control group and a test group, predetermined by natural factors (e.g. either they have fibromyalgia or not). The test group is exposed to the independent variable, the control group is not. Data collected compares the results from each group in an attempt to establish a cause-effect relationship.

Experimental research is similar to causal comparative research with two main differences: in experimental research the variable can be altered and is given to both groups; and, the groups are

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defined by the researcher, not by natural factors. Experimental research uses the scientific method to establish a cause-effect relationship. In experimental research, subjects are randomly assigned to experimental treatment and control groups who are treated the same except for the treatment variable (e.g. type of massage treatment given).

Examples of experimental research include:

- The effect of lymphatic massage on edema
- A comparison of the effect of Swedish massage vs. deep tissue massage on pain
- A comparison of the effect of reflexology vs. Swedish massage on stress hormone levels

Why is the study of research in massage necessary?

Many massage therapists receive little to no education on the topic of massage research in their initial training. Meaning, if massage therapists want to learn about the effects of massage therapy and practice evidence based massage, they have to learn those skills after completion of school. Historically, the massage industry has not been known to focus initial training on the value of research or on the known and documented effects of massage. The NCBTMB and leaders in the massage profession are attempting to change this by publishing websites related to massage research (e.g. www.massagetherapyfoundation.org), publishing articles in magazines (such as Massage Therapy Journal and Massage Magazine), and performing and publishing further research studies on the effects of massage.

Research performed on the effectiveness of massage therapy is invaluable to massage professionals. Massage research enhances the credibility of the profession, allowing qualified massage therapists to take their rightful place in the healthcare field. Research performed on massage documents proves that what massage therapists do truly makes a difference in the health of clients/patients. Positive effects of massage which are confirmed by research raise the respect for what qualified massage therapists offer. Documented evidence may also help massage therapists and body workers choose the best treatment methods for their clients' issues.

According to a recent survey performed by the American Massage Therapy Association (AMTA), 19% of adults reported discussing massage therapy with their doctors and/or healthcare providers. Of those 19%, more than half (58%) reported their doctors either recommended or strongly encouraged it. In this same survey, 63% of massage therapists reported receiving referrals from other healthcare professionals. Surveys such as these suggest that massage in the healthcare field could be an emerging trend. Research supporting the effectiveness of massage allows healthcare providers to confidently refer patients to massage therapists.

What does science say about the effectiveness of massage?

A considerable amount of the scientific research performed on massage therapy is preliminary, but much of the evidence points toward beneficial effects of massage on pain, hormone levels, circulation, and other symptoms associated with many conditions. Some evidence may also suggest that the beneficial effects may be short term; meaning that people need to keep receiving massages for the benefits to continue. Future research is the key in supporting the positive effects of massage therapy, whether they are short term or long term.

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Research confirms that massage is effective for a variety of illnesses and conditions. Massage therapy and bodywork treatment has been shown to:

- Decrease labor time in expectant mothers
- Improve blood sugar levels in diabetics
- Improve weight gain in pre-term infants
- Increase circulation
- Increase immune function
- Increase joint flexibility
- Increase lymph flow
- Increase range of motion
- Reduce anxiety
- Reduce back pain
- Reduce blood pressure and heart rate
- Reduce edema
- Reduce recovery time in athletes
- Reduce scarring in burn patients
- Reduce spasms and cramping
- Reduce stress levels
- Relieve migraine pain

Researchers are continuing to study the effects of therapeutic massage on many conditions and/or situations, including:

- Anxiety
- Arthritis
- Athletic performance
- Cancer (improving quality of life)
- Carpal tunnel
- Diabetes
- Fibromyalgia
- Headaches
- High blood pressure
- HIV/AIDS (improving quality of life)
- Immune function
- Infant care
- Mental health
- Migraines
- Pain and pain syndromes
    - Neck pain
    - Chronic pain
    - Low back pain
    - Pain syndromes
- Pregnancy
- Pre-term birth
- Stress

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It is important to remember that massage therapy research is at the ground level. More and more research studies on the effectiveness of massage are being performed each year. Organizations like the Massage Therapy foundation, the Touch Research Institute, and the National Center for Complementary and Alternative Medicine are making massage therapy research a priority for the future.

Relevant research studies performed on the effects of massage therapy

Below are abstract summaries of relevant research studies which have been performed on massage therapy. These studies present evidence that massage therapy may have a positive effect on a variety of different conditions. All studies are cited and reproduced with permission from the authors and the United States National Library of Medicine (http://www.ncbi.nlm.nih.gov/pubmed/).

1. The effect of massage therapy on chemotherapy-induced nausea and vomiting in pediatric cancer.

Mazlum S, Chaharsoughi NT, Banihashem A, Vashani HB. Iran J Nurs Midwifery Res. 2013 Jul;18(4):280-4.

Abstract

BACKGROUND: Nausea and vomiting are the most common and unpleasant side effects of chemotherapy, and they may prevent successful treatment completion. Antiemetics not only cannot control nausea and vomiting completely but also have numerous side effects. So it is necessary to find other methods for a better control. This study aimed to assess the effect of massage therapy on chemotherapy-induced nausea and vomiting in pediatric cancer.

MATERIALS AND METHODS: In this randomized controlled clinical trial study, 70 patients (4-18 years of age) under chemotherapy were divided into two (massage therapy and control) groups randomly. In the massage group at 0.5 h and 24 h before and 24 h after chemotherapy, the patients were massaged (Swedish massage) for 20 min, respectively. All indices of nausea and vomiting (incidence, severity, time, and length) were assessed by Visual Analogue Scale (VAS) and BARF scales and other questionnaires and documented.

RESULTS: The results of Mann-Whitney and chi-squire tests indicated that in the massage group, the incidence of nausea was 25.7%, the severity, length, and times of nausea were 20%, 54 min, and 0.35 times, respectively, and the severity and times of vomiting were 0.24 scores and 0.31 times lower than those of the control group ($P < 0.05$), respectively. But vomiting incidence in the two groups showed no significant difference ($P = 0.192$).

CONCLUSIONS: Massage therapy reduced chemotherapy-induced nausea and vomiting. So, nurses can use it and educate it to the patients' families. Nurses, besides using it clinically, can provide instructions to families for involving them in the treatment process and they feel they are more efficient in care of their suffering children.

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2. Massage therapy versus simple touch to improve pain and mood in patients with advanced cancer: a randomized trial.

Kutner JS, Smith MC, Corbin L, Hemphill L, Benton K, Mellis BK, Beaty B, Felton S, Yamashita TE, Bryant LL, Fairclough DL. Ann Intern Med. 2008 Sep 16;149(6):369-79.

Abstract

BACKGROUND: Small studies of variable quality suggest that massage therapy may relieve pain and other symptoms.

OBJECTIVE: To evaluate the efficacy of massage for decreasing pain and symptom distress and improving quality of life among persons with advanced cancer.

DESIGN: Multisite, randomized clinical trial.

SETTING: Population-based Palliative Care Research Network.

PATIENTS: 380 adults with advanced cancer who were experiencing moderate-to-severe pain; 90% were enrolled in hospice.

INTERVENTION: Six 30-minute massage or simple-touch sessions over 2 weeks.

MEASUREMENTS: Primary outcomes were immediate (Memorial Pain Assessment Card, 0- to 10-point scale) and sustained (Brief Pain Inventory [BPI], 0- to 10-point scale) change in pain. Secondary outcomes were immediate change in mood (Memorial Pain Assessment Card) and 60-second heart and respiratory rates and sustained change in quality of life (McGill Quality of Life Questionnaire, 0- to 10-point scale), symptom distress (Memorial Symptom Assessment Scale, 0- to 4-point scale), and analgesic medication use (parenteral morphine equivalents [mg/d]). Immediate outcomes were obtained just before and after each treatment session. Sustained outcomes were obtained at baseline and weekly for 3 weeks.

RESULTS: 298 persons were included in the immediate outcome analysis and 348 in the sustained outcome analysis. A total of 82 persons did not receive any allocated study treatments (37 massage patients, 45 control participants). Both groups demonstrated immediate improvement in pain (massage, -1.87 points [95% CI, -2.07 to -1.67 points]; control, -0.97 point [CI, -1.18 to -0.76 points]) and mood (massage, 1.58 points [CI, 1.40 to 1.76 points]; control, 0.97 point [CI, 0.78 to 1.16 points]). Massage was superior for both immediate pain and mood (mean difference, 0.90 and 0.61 points, respectively; $P < 0.001$). No between-group mean differences occurred over time in sustained pain (BPI mean pain, 0.07 point [CI, -0.23 to 0.37 points]; BPI worst pain, -0.14 point [CI, -0.59 to 0.31 points]), quality of life (McGill Quality of Life Questionnaire overall, 0.08 point [CI, -0.37 to 0.53 points]), symptom distress (Memorial Symptom Assessment Scale global distress index, -0.002 point [CI, -0.12 to 0.12 points]), or analgesic medication use (parenteral morphine equivalents, -0.10 mg/d [CI, -0.25 to 0.05 mg/d]).

LIMITATIONS: The immediate outcome measures were obtained by unblinded study therapists, possibly leading to reporting bias and the overestimation of a beneficial effect. The generalizability to all patients with advanced cancer is uncertain. The differential beneficial effect of massage therapy over simple touch is not conclusive without a usual care control group.

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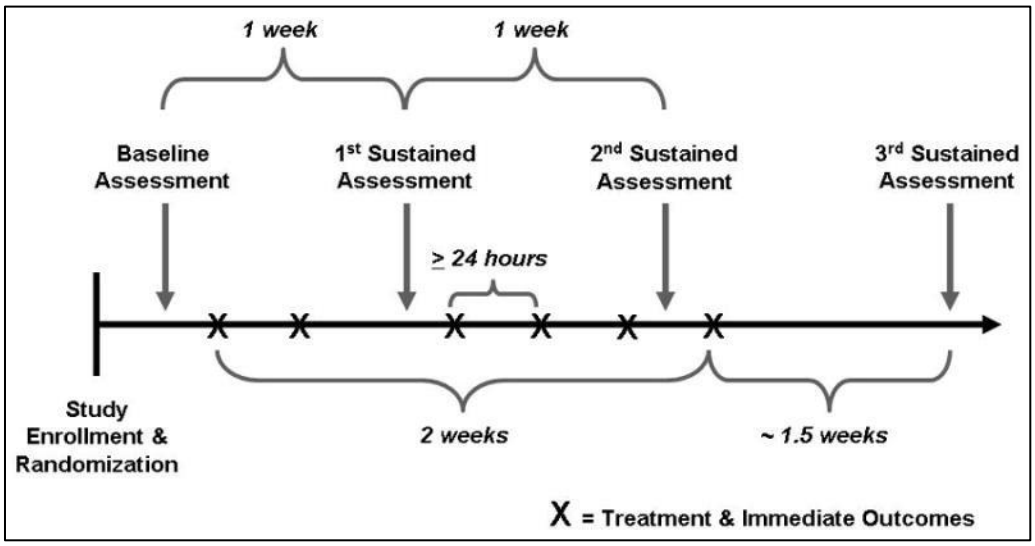
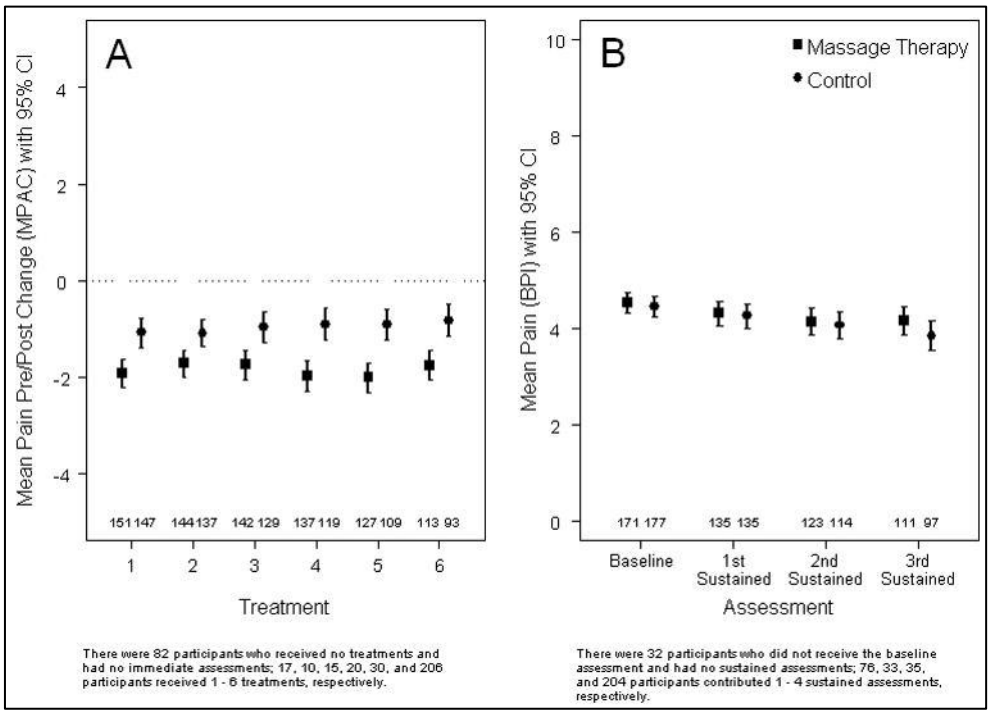
CONCLUSION: Massage may have immediately beneficial effects on pain and mood among patients with advanced cancer. Given the lack of sustained effects and the observed improvements in both study groups, the potential benefits of attention and simple touch should also be considered in this patient population.





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3. Massage therapy for fibromyalgia: a systematic review and meta-analysis of randomized controlled trials.

Li YH, Wang FY, Feng CQ, Yang XF, Sun YH. 2014 Feb 20;9(2):e89304. doi: 10.1371/journal.pone.0089304. eCollection 2014.

Abstract

BACKGROUND: Although some studies evaluated the effectiveness of massage therapy for fibromyalgia (FM), the role of massage therapy in the management of FM remained controversial.

OBJECTIVE: The purpose of this systematic review is to evaluate the evidence of massage therapy for patients with FM.

METHODS: Electronic databases (up to June 2013) were searched to identify relevant studies. The main outcome measures were pain, anxiety, depression, and sleep disturbance. Two reviewers independently abstracted data and appraised risk of bias. The risk of bias of eligible studies was assessed based on Cochrane tools. Standardized mean difference (SMD) and 95% confidence intervals (CI) were calculated by more conservative random-effects model. And heterogeneity was assessed based on the I(2) statistic.

RESULTS: Nine randomized controlled trials involving 404 patients met the inclusion criteria. The meta-analyses showed that massage therapy with duration ≥ 5 weeks significantly improved pain (SMD, 0.62; 95% CI 0.05 to 1.20; p = 0.03), anxiety (SMD, 0.44; 95% CI 0.09 to 0.78; p = 0.01), and depression (SMD, 0.49; 95% CI 0.15 to 0.84; p = 0.005) in patients with FM, but not on sleep disturbance (SMD, 0.19; 95% CI -0.38 to 0.75; p = 0.52).

CONCLUSION: Massage therapy with duration ≥ 5 weeks had beneficial immediate effects on improving pain, anxiety, and depression in patients with FM. Massage therapy should be one of the viable complementary and alternative treatments for FM. However, given fewer eligible studies in subgroup meta-analyses and no evidence on follow-up effects, large-scale randomized controlled trials with long follow-up are warrant to confirm the current findings.

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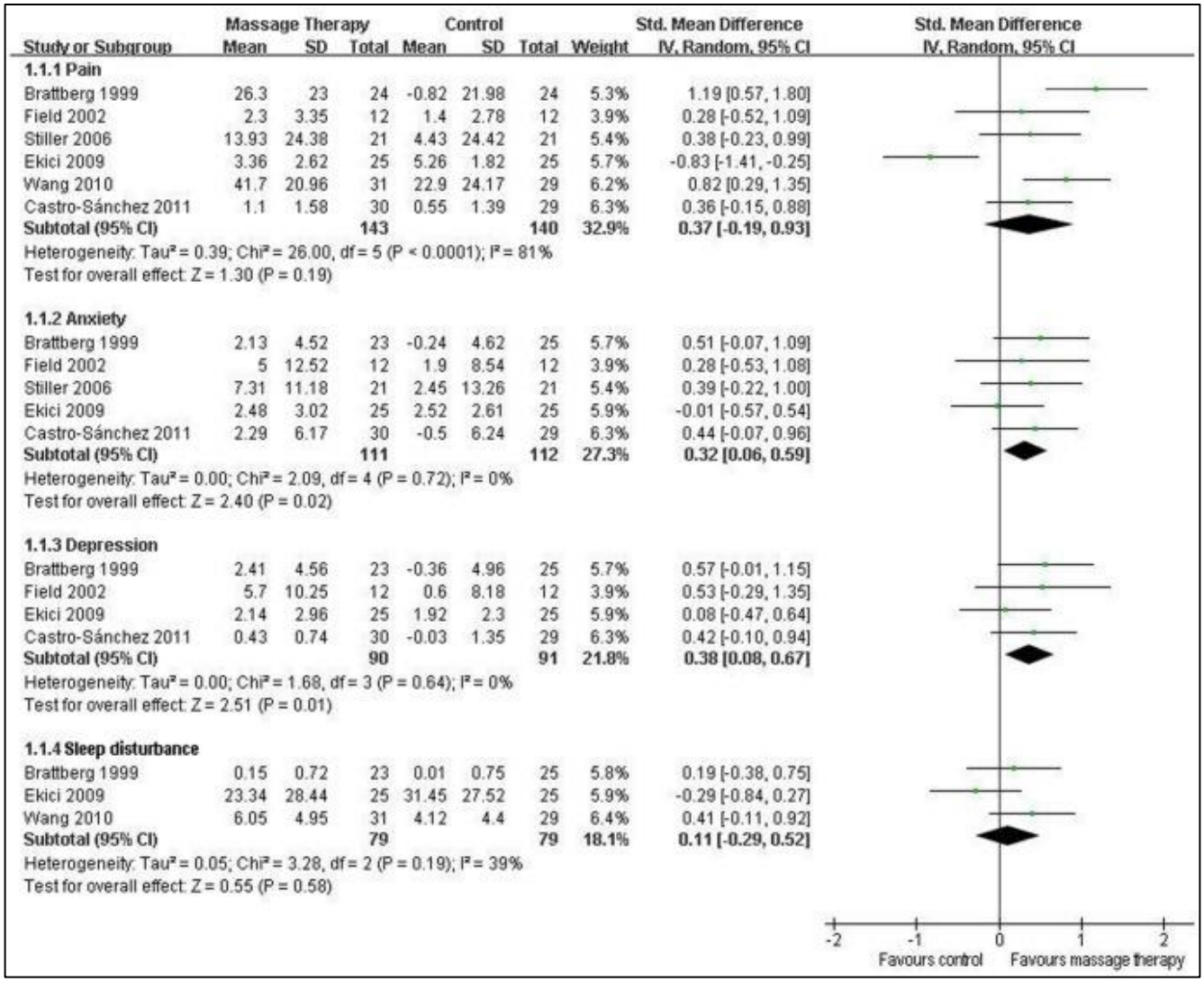

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4. A comparison of the effects of 2 types of massage and usual care on chronic low back pain: a randomized, controlled trial.

Cherkin DC, Sherman KJ, Kahn J, Wellman R, Cook AJ, Johnson E, Erro J, Delaney K, Deyo RA. Ann Intern Med. 2011 Jul 5;155(1):1-9. doi: 10.7326/0003-4819-155-1-201107050-00002.

Abstract

BACKGROUND: Few studies have evaluated the effectiveness of massage for chronic low back pain.

OBJECTIVE: To compare the effectiveness of 2 types of massage and usual care for chronic back pain.

DESIGN: Parallel-group randomized, controlled trial. Randomization was computer-generated, with centralized allocation concealment. Participants were blinded to massage type but not to assignment to massage versus usual care. Massage therapists were unblinded. The study personnel who assessed outcomes were blinded to treatment assignment. (ClinicalTrials.gov registration number: NCT00371384)

SETTING: An integrated healthcare delivery system in the Seattle area.

PATIENTS: 401 persons 20 to 65 years of age with nonspecific chronic low back pain.

INTERVENTION: Structural massage (n = 132), relaxation massage (n = 136), or usual care (n = 133).

MEASUREMENTS: Roland Disability Questionnaire (RDQ) and symptom bothersomeness scores at 10 weeks (primary outcome) and at 26 and 52 weeks (secondary outcomes). Mean group differences of at least 2 points on the RDQ and at least 1.5 points on the symptom bothersomeness scale were considered clinically meaningful.

RESULTS: The massage groups had similar functional outcomes at 10 weeks. The adjusted mean RDQ score was 2.9 points (95% CI, 1.8 to 4.0 points) lower in the relaxation group and 2.5 points (CI, 1.4 to 3.5 points) lower in the structural massage group than in the usual care group, and adjusted mean symptom bothersomeness scores were 1.7 points (CI, 1.2 to 2.2 points) lower with relaxation massage and 1.4 points (CI, 0.8 to 1.9 points) lower with structural massage. The beneficial effects of relaxation massage on function (but not on symptom reduction) persisted at 52 weeks but were small.

LIMITATION: Participants were not blinded to treatment.

CONCLUSION: Massage therapy may be effective for treatment of chronic back pain, with benefits lasting at least 6 months. No clinically meaningful difference between relaxation and structural massage was observed in terms of relieving disability or symptoms.

PRIMARY FUNDING SOURCE: National Center for Complementary and Alternative Medicine.

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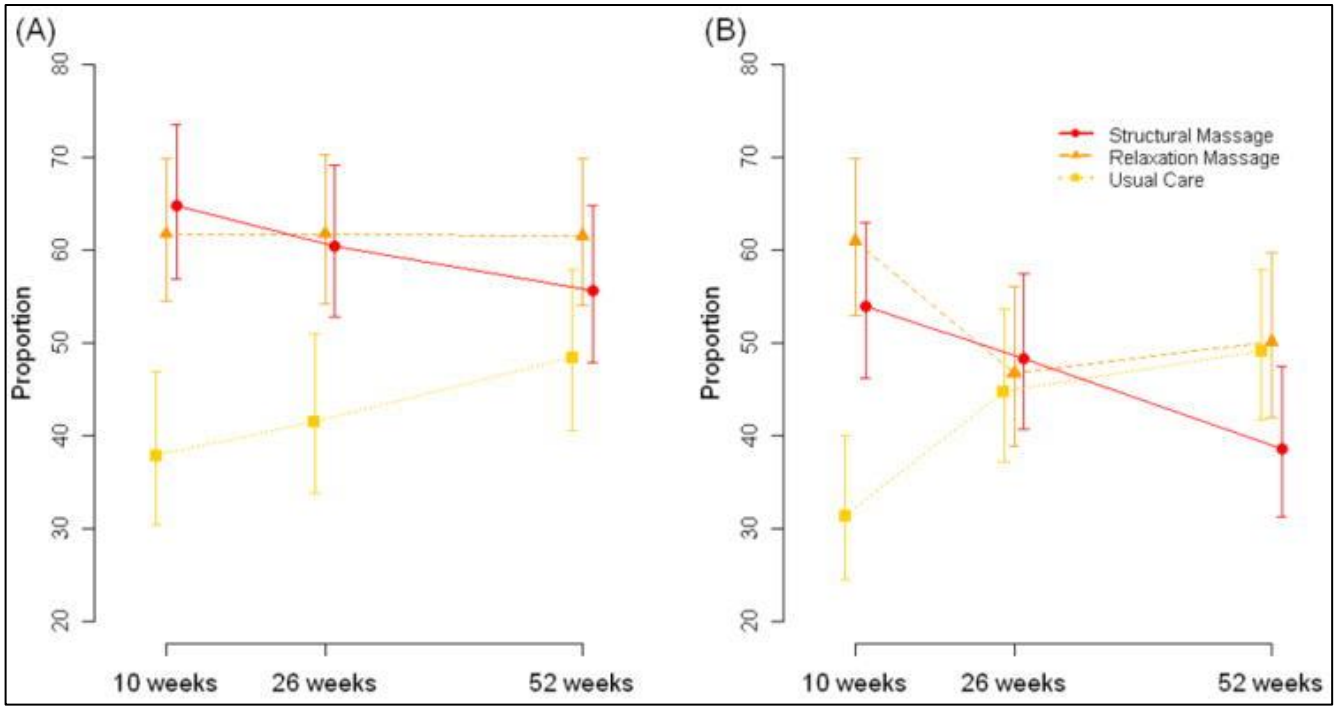

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5. Randomized trial of therapeutic massage for chronic neck pain.

Sherman KJ, Cherkin DC, Hawkes RJ, Miglioretti DL, Deyo RA. Clin J Pain. 2009 Mar-Apr;25(3):233-8. doi: 10.1097/AJP.0b013e31818b7912.

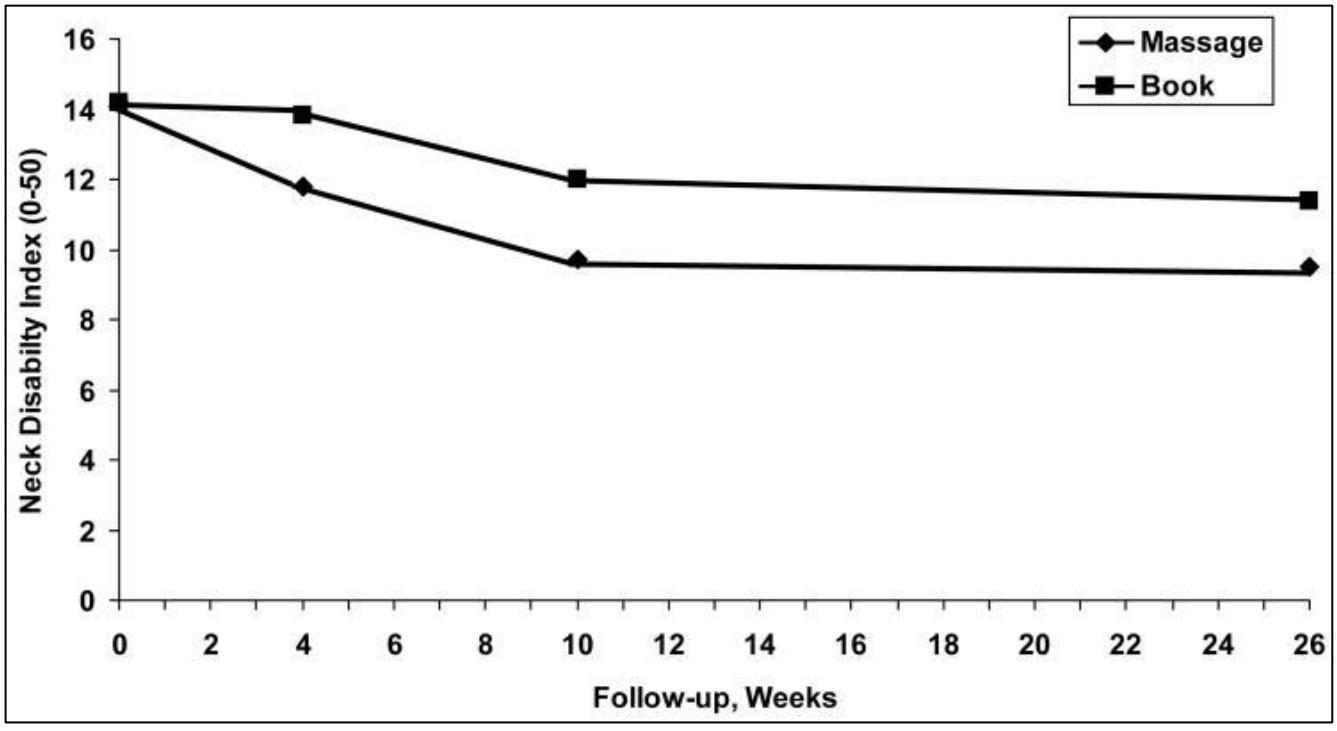
Abstract

OBJECTIVES: Little is known about the effectiveness of therapeutic massage, one of the most popular complementary medical treatments for neck pain. A randomized controlled trial was conducted to evaluate whether therapeutic massage is more beneficial than a self-care book for patients with chronic neck pain.

METHODS: Sixty-four such patients were randomized to receive up to 10 massages over 10 weeks or a self-care book. Follow-up telephone interviews after 4, 10, and 26 weeks assessed outcomes including dysfunction and symptoms. Log-binomial regression was used to assess whether there were differences in the percentages of participants with clinically meaningful improvements in dysfunction and symptoms (ie, >5-point improvement on the Neck Disability Index; >30% improvement from baseline on the symptom bothersomeness scale) at each time point.

RESULTS: At 10 weeks, more participants randomized to massage experienced clinically significant improvement on the Neck Disability Index [39% vs. 14% of book group; relative risk (RR)=2.7; 95% confidence interval (CI), 0.99-7.5] and on the symptom bothersomeness scale (55% vs. 25% of book group; RR=2.2; 95% CI, 1.04-4.2). After 26 weeks, massage group members tended to be more likely to report improved function (RR=1.8; 95% CI, 0.97-3.5), but not symptom bothersomeness (RR=1.1; 95% CI, 0.6-2.0). Mean differences between groups were strongest at 4 weeks and not evident by 26 weeks. No serious adverse experiences were reported.

CONCLUSIONS: This study suggests that massage is safe and may have clinical benefits for treating chronic neck pain at least in the short term. A larger trial is warranted to confirm these results.



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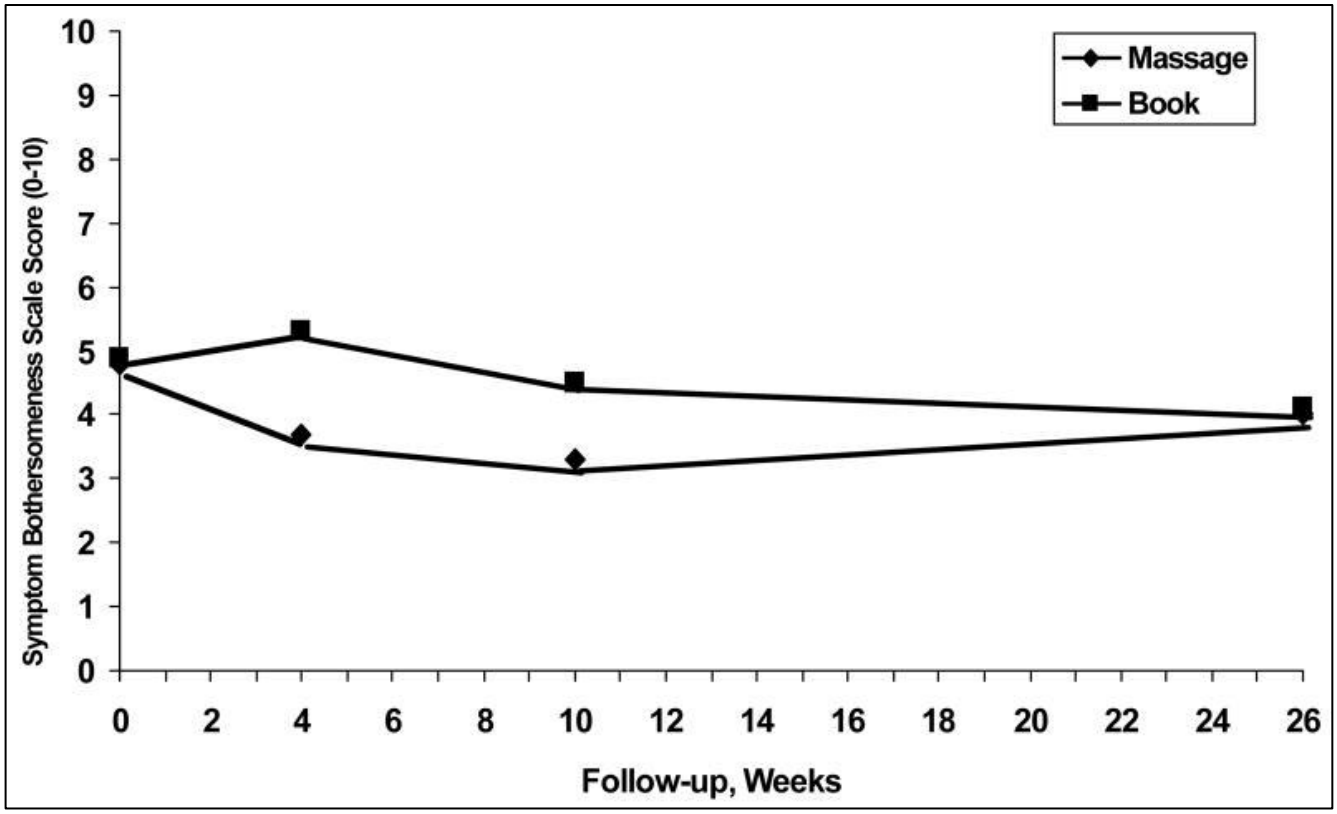

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6. The short-term effect of gloving in combination with Traditional Thai Massage, heat, and stretching exercise to improve hand mobility in scleroderma patients.

Vannajak K, Boonprakob Y, Eungpinichpong W, Ungpansattawong S, Nanagara R. J Ayurveda Integr Med. 2014 Jan;5(1):50-5. doi: 10.4103/0975-9476.128859.

Abstract

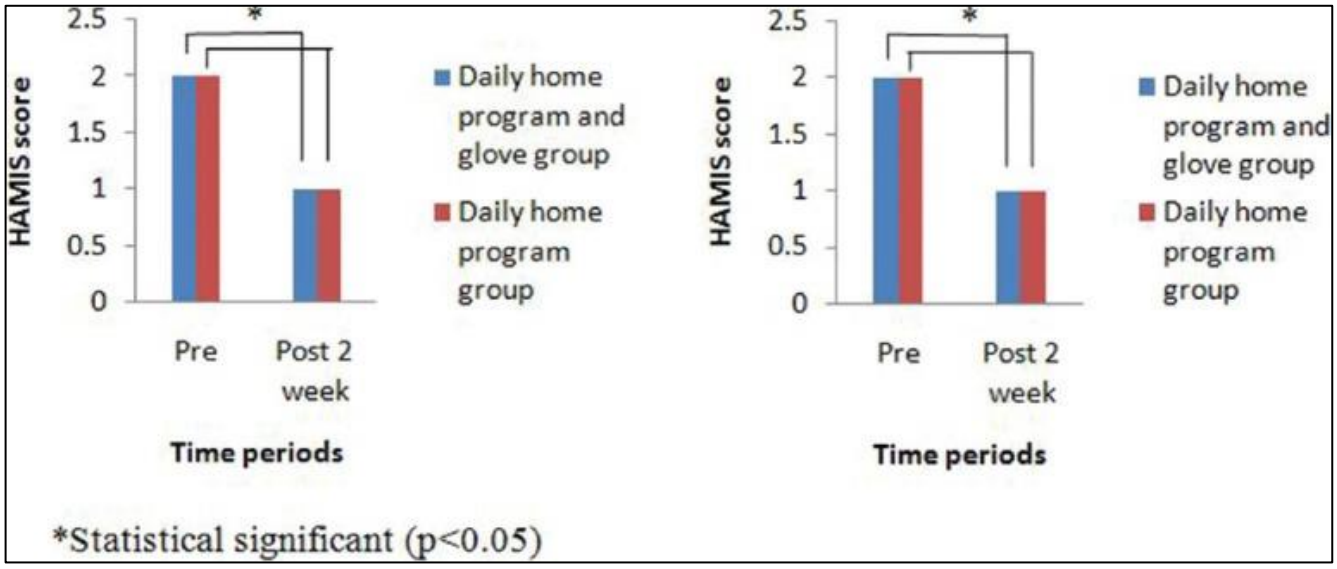
BACKGROUND: Systemic sclerosis (SSc) is a chronic, multisystem connective tissue disorder characterized by autoimmune activation, microvascular endothelium damage, and excessive collagen proliferation. The most affected hand presents claw hand deformity and microvascular disease. Deformed hands can cause functional disability and decrease the quality of life. A daily home program can improve mobility of scleroderma patients.

OBJECTIVE: We sought to determine the effect of a daily home exercise program on hand mobility among scleroderma patients.

MATERIALS AND METHODS: This was a randomized control trial. Twenty-eight participants were divided into two groups, both of which received the same daily home treatment: Group 1 with gloves (n = 14) and Group 2 without gloves (n = 14). The 2-week daily home program combined traditional Thai massage (TTM) with stretching exercises and heat. Hand mobility was assessed using hand mobility in scleroderma (HAMIS). The study was conducted in patients who were already on vasodilator drugs.

RESULTS: Both groups showed a significant improvement in hand mobility after 2 weeks of daily home exercise program ($P < 0.05$). Wearing the glove, however, resulted in better thumb mobility.

CONCLUSIONS: A daily home exercise program improved hand mobility among patients with scleroderma and wearing gloves may improve thumb mobility.



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7. Rheumatoid arthritis in upper limbs benefits from moderate pressure massage therapy.

Field T, Diego M, Delgado J, Garcia D, Funk CG. Complement Ther Clin Pract. 2013 May;19(2):101-3. doi: 10.1016/j.ctcp.2012.12.001. Epub 2013 Feb 6. Reprinted for educational use from Elsevier.

Abstract

METHODS: Forty-two adults with rheumatoid arthritis in the upper limbs were randomly assigned to a moderate pressure or a light pressure massage therapy group. A therapist massaged the affected arm and shoulder once a week for a 4-week period and also taught the participant self-massage to be done once daily.

RESULTS: The moderate pressure vs. the light pressure massage therapy group had less pain and perceived greater grip strength following the first and last massage sessions. By the end of the one month period the moderate pressure massage group had less pain, greater grip strength and greater range of motion in their wrist and large upper joints (elbows and shoulders).

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8. Five-week outcomes from a dosing trial of therapeutic massage for chronic neck pain.

Sherman KJ, Cook AJ, Wellman RD, Hawkes RJ, Kahn JR, Deyo RA, Cherkin DC. Ann Fam Med. 2014 Mar-Apr;12(2):112-20. doi: 10.1370/afm.1602.

Abstract

PURPOSE: This trial was designed to evaluate the optimal dose of massage for individuals with chronic neck pain.

METHODS: We recruited 228 individuals with chronic nonspecific neck pain from an integrated healthcare system and the general population, and randomized them to 5 groups receiving various doses of massage (a 4-week course consisting of 30-minute visits 2 or 3 times weekly or 60-minute visits 1, 2, or 3 times weekly) or to a single control group (a 4-week period on a wait list). We assessed neck-related dysfunction with the Neck Disability Index (range, 0-50 points) and pain intensity with a numerical rating scale (range, 0-10 points) at baseline and 5 weeks. We used log-linear regression to assess the likelihood of clinically meaningful improvement in neck-related dysfunction (≥5 points on Neck Disability Index) or pain intensity (≥30% improvement) by treatment group.

RESULTS: After adjustment for baseline age, outcome measures, and imbalanced covariates, 30-minute treatments were not significantly better than the wait list control condition in terms of achieving a clinically meaningful improvement in neck dysfunction or pain, regardless of the frequency of treatments. In contrast, 60-minute treatments 2 and 3 times weekly significantly increased the likelihood of such improvement compared with the control condition in terms of both neck dysfunction (relative risk = 3.41 and 4.98, P = .04 and .005, respectively) and pain intensity (relative risk = 2.30 and 2.73; P = .007 and .001, respectively).

CONCLUSIONS: After 4 weeks of treatment, we found multiple 60-minute massages per week more effective than fewer or shorter sessions for individuals with chronic neck pain. Clinicians recommending massage and researchers studying this therapy should ensure that patients receive a likely effective dose of treatment.

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9. To Compare the Effect of Vibration Therapy and Massage in Prevention of Delayed Onset Muscle Soreness (DOMS).

Imtiyaz S, Veqar Z2, Shareef MY. J Clin Diagn Res. 2014 Jan;8(1):133-6. doi: 10.7860/JCDR/2014/7294.3971. Epub 2014 Jan 12.

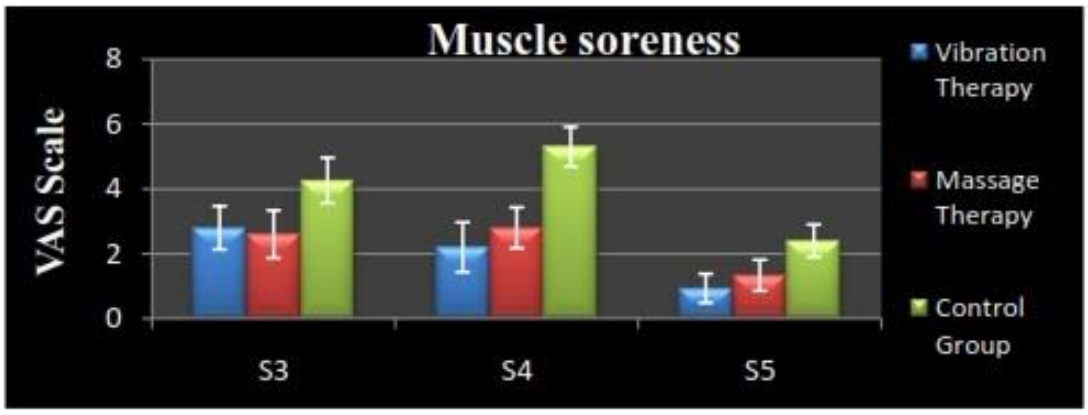
Abstract

OBJECTIVE: To compare the effects of vibration therapy and massage in prevention of DOMS.

METHODS: Pre-test and Post-test Control-Group Design was used, 45 healthy female non athletic Subjects were recruited and randomly distributed to the three groups (15 subject in each group). After the subject's initial status was measured experimental groups received vibration therapy (50 Hz vibration for five minutes) or massage therapy (15 minutes) intervention and control group received no treatment, just prior to the eccentric exercise. Subjects were undergoing the following measurements to evaluate the changes in the muscle condition: muscle soreness (pain perception), Range of Motion (ROM), Maximum Isometric Force (MIF), Repetition maximum (RM), Lactate dehydrogenase (LDH) and Cretain Kinase (CK) level. All the parameters except LDH, CK and 1RM were measured before, immediately post intervention, immediately post exercise, 24 hours post exercise, 48 hours post exercise and 72 hours post exercise. LDH, CK and 1 RM were measured before and 48 hours post exercise.

RESULTS: Muscle soreness was reported to be significantly less for experimental (vibration and massage) group (p=0.000) as compared to control group at 24, 48, and 72 hours of post-exercise. Experimental and control group did not show any significant difference in MIF immediate (p=0.2898), 24 hours (p=0.4173), 48 hours (p=0.752) and 72 hours (p=0.5297) of post-exercise. Range of motion demonstrated significant recovery in experimental groups in 48 hours (p=0.0016) and 72 hours (p=0.0463). Massage therapy showed significant recovery in 1RM (p=0.000) compared to control group and vibration therapy shows significantly less LDH level (p=0.000) 48 hours of post exercise compare to control group. CK at 48 hours of post exercise in vibration group (p=0.000) and massage group showed (p=0.002) significant difference as compared to control group.

CONCLUSIONS: Vibration therapy and massage are equally effective in prevention of DOMS. Massage is effective in restoration of concentric strength (1 RM). Yet vibration therapy shows clinically early reduction of pain and is effective in decreasing the level of LDH in 48 hours post exercise periods.



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10. A pilot study to investigate the short-term effects of specific soft tissue massage on upper cervical movement impairment in patients with cervicogenic headache.

Hopper D, Bajaj Y, Kei Choi C, Jan O, Hall T, Robinson K, Briffa K. J Man Manip Ther. 2013 Feb;21(1):18-23. doi: 10.1179/2042618612Y.0000000018.

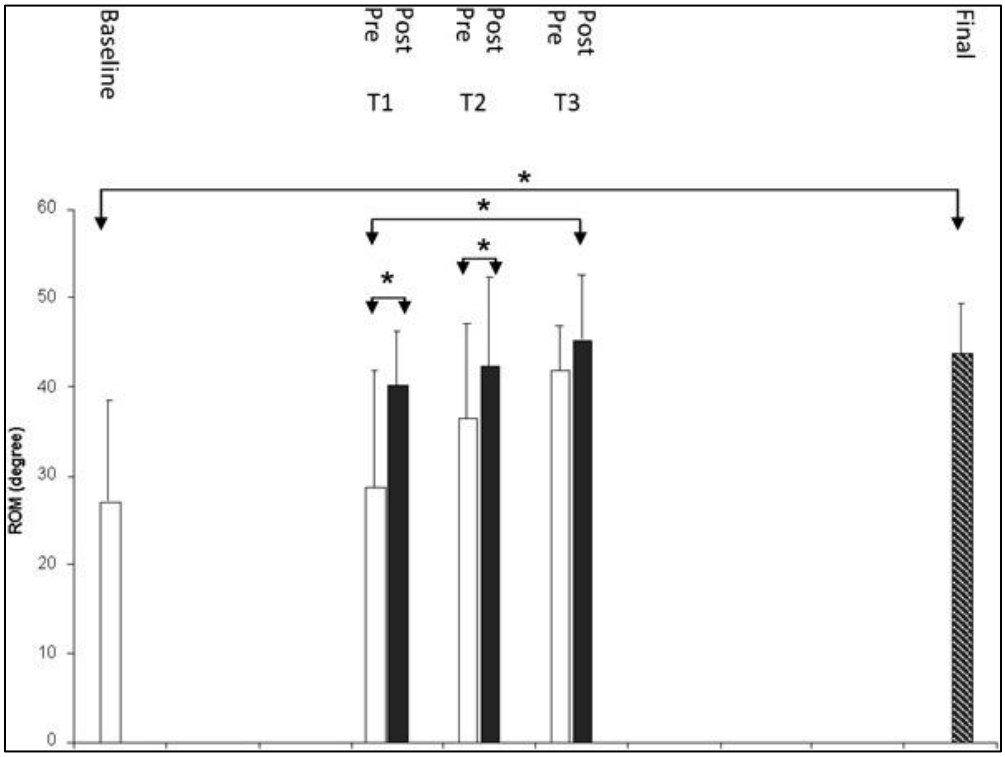
Abstract

OBJECTIVES: Upper cervical movement impairment and muscle dysfunction have been identified as core components of cervicogenic headache (CGH) pathogenesis. The purpose of this single-group pre-post test pilot study was to investigate the short-term effects of a specific soft tissue massage (SSTM) intervention to the cervical spine on range of upper cervical motion.

METHODS: Eight subjects (mean age 28.1 years) with published criteria of CGH (mean history of headache for 7.1 years) were investigated. Range of rotation of the upper cervical spine to the left and right was determined by the flexion-rotation test. Movement was assessed in three phases: pre-intervention, intervention, and post-intervention. The SSTM intervention consisted of an 8-minute soft tissue massage to the cervical muscles bilaterally.

RESULTS: Pre-intervention measures of flexion-rotation test range of motion prior to the intervention over two assessment points were consistent. In contrast, a repeated measures analysis of variance revealed a significant improvement in range of rotation to the left and right after the first ($P<0.01$), second ($P<0.01$), but not third intervention ($P=0.19$), from an average range of 27.5° at baseline to 45.9° at the third treatment session. After the 2-week post-intervention phase, range of motion remained stable without decline, and was considered full range.

DISCUSSION: This pilot study provides preliminary evidence of the potential for SSTM to improve, at least in the short-term, upper cervical range of motion in people with CGH.



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11. Is craniosacral therapy effective for migraine? Tested with HIT-6 Questionnaire.

Arnadottir TS1, Sigurdardottir AK. Complement Ther Clin Pract. 2013 Feb;19(1):11-4. doi: 10.1016/j.ctcp.2012.09.003. Epub 2012 Nov 9.

Abstract

OBJECTIVE: To determine whether or not craniosacral therapy alleviates migraine symptoms.

METHODS: A cross-over experimental design was used with twenty participants, aged between 20 and 50 years, who suffered from at least two migraine attacks per month. Participants were randomly assigned to two equal-sized groups, A and B. All received six craniosacral treatments over four weeks and the groups answered the "HIT-6" Questionnaire four times; every four weeks (Times 1, 2, 3 and 4). Group A, received treatment after answering the questionnaire the first time, but Group B, answered the questionnaire twice before receiving treatment.

RESULTS: Immediately after treatments and one month afterwards there was significant lowering in HIT-6 scorings compared with prior to treatment. There was also significant difference in HIT-6 scorings between Times 1 and 4 ($p = 0.004$). The effect size was 0.43-0.55.

CONCLUSION: The results indicate that craniosacral treatment can alleviate migraine symptoms. Further research is suggested.

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12. Specific and cross over effects of massage for muscle soreness: randomized controlled trial.

Jay K, Sundstrup E, Søndergaard SD, Behm D, Brandt M, Særvoll CA, Jakobsen MD, Andersen LL.
Int J Sports Phys Ther. 2014 Feb;9(1):82-91.

Abstract

PURPOSE/BACKGROUND: Muscle soreness can negatively interfere with the activities of daily living as well as sports performance. In the working environment, a common problem is muscle tenderness, soreness and pain, especially for workers frequently exposed to unilateral high repetitive movements tasks. The aim of the study is therefore to investigate the acute effect of massage applied using a simple device Thera-band roller Massager on laboratory induced hamstring muscle soreness, and the potential cross over effect to the non-massaged limb.

METHODS: 22 healthy untrained men (Mean age 34 +/- 7 years; mean height 181.7 +/- 6.9 cm; mean weight 80.6 +/- 6.4 kg; BMI: 24.5 +/- 1.3) with no prior history of knee, low back or neck injury or other adverse health issues were recruited. Participants visited the researchers on two separate occasions, separated by 48 hours, each time providing a soreness rating (modified visual analog scale 0-10), and being tested for pressure pain threshold (PPT) and active range of motion (ROM) of the hamstring muscles. During the first visit, delayed onset muscular soreness of the hamstring muscles was induced by 10 x 10 repetitions of the stiff-legged dead-lift. On the second visit participants received either 1) 10 minutes of roller massage on one leg, while the contralateral leg served as a cross over control, or 2) Resting for 10 minutes with no massage at all. Measurement of soreness, PPT and ROM were taken immediately before and at 0, 10, 30 and 60 min. after treatment.

RESULTS: There was a significant group by time interaction for soreness ($p < 0.0001$) and PPT ($p = 0.0007$), with the massage group experiencing reduced soreness and increasing PPT compared with the control group. There was no group by time interaction for ROM ($p = 0.18$). At 10 min. post massage there was a significant reduction in soreness of the non-massaged limb in the cross over control group compared to controls but this effect was lost 30 minutes post massage.

CONCLUSION: Massage with a roller device reduces muscle soreness and is accompanied by a higher PPT of the affected muscle.

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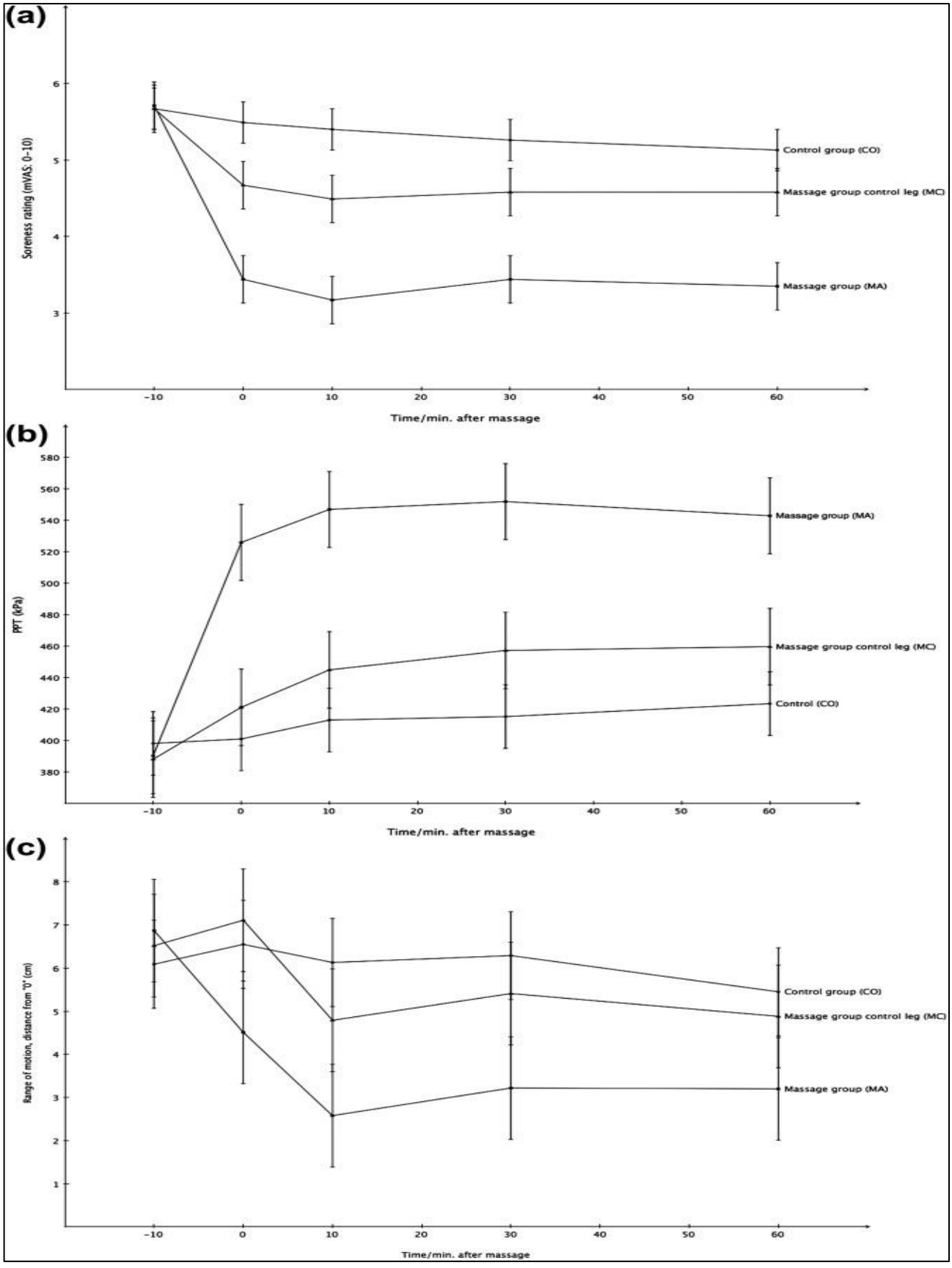

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13. Manual lymph drainage improving upper extremity edema and hand function in patients with systemic sclerosis in edematous phase.

Bongi SM, Del Rosso A, Passalacqua M, Miccio S, Cerinic MM. Arthritis Care Res (Hoboken). 2011 Aug;63(8):1134-41. doi: 10.1002/acr.20487. The American College of Rheumatology.

Abstract

OBJECTIVE: In systemic sclerosis (SSc; scleroderma) patients in edematous phase, hand edema is often present. Manual lymph drainage (MLD) stimulates the lymphatic system and reduces edema. Our aim was to evaluate the efficacy of MLD in reducing edema and in improving functionality of the hands and perceived quality of life (QOL) in SSc patients in edematous phase.

METHODS: Of 35 SSc patients with edematous hands, 20 were treated with MLD according to the Vodder technique once a week for 5 weeks (intervention group), and 15 served as the observation group. Patients were evaluated at enrollment, at the end of treatment (T1), and after 9 weeks of followup (T2) by volumetric test (assessing hand volume), the Hand Mobility in Scleroderma (HAMIS) test, and 4 visual analog scales (VAS; scored 0-10) evaluating the perception of hand edema and pain and their interference on daily activities. QOL and disability were assessed by the physical synthetic index (PSI) and mental synthetic index (MSI) of the Short Form 36 (SF-36) and by the Health Assessment Questionnaire (HAQ).

RESULTS: In the intervention group, hand volume, the HAMIS test, and the 4 VAS were improved significantly at the end of treatment ($P < 0.001$). The results were maintained at T2 ($P < 0.001$). The HAQ and the PSI and MSI of the SF-36 also improved significantly at T1 ($P < 0.001$), but only PSI improvement was maintained at T2 ($P < 0.001$). In the observation group, no improvement at T1 and at T2 was observed.

CONCLUSION: In SSc, MLD significantly reduces hand edema and improves hand function and perceived QOL.

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14. The effect of aromatherapy massage with music on the stress and anxiety levels of emergency nurses: comparison between summer and winter.

Cooke M, Holzhauser K, Jones M, Davis C, Finucane J. J Clin Nurs. 2007 Sep;16(9):1695-703. School of Nursing & Midwifery, Research Centre for Clinical Practice Innovation, Griffith University, QLD, Australia.

Abstract

AIMS AND OBJECTIVES: This research aimed to evaluate the use of aromatherapy massage and music as an intervention to cope with the occupational stress and anxiety that emergency department staff experience. The study also aimed to compare any differences in results between a summer and winter 12-week massage plan.

BACKGROUND: Emergency nurses are subjected to significant stressors during their work and it is known that workloads and patient demands influence the role stress has on nurses. The perception that winter months are busier for emergency departments has long been held and there is some evidence that people with cardiac and respiratory dysfunction do present more frequently in the winter months. Massage has been found to decrease staff anxiety.

DESIGN: The study used a one-group pre-test, post-test quasi-experimental design with random assignment.

METHOD: Staff occupational stress was assessed pre- and post- 12 weeks of aromatherapy massage with music and anxiety was measured pre and post each massage session. Sick leave was also measured. Comparisons of summer and winter data were undertaken.

RESULTS: A total of 365 massages were given over two 12-week periods, one during summer and the other during winter. Analysis identified that aromatherapy massage with music significantly reduced anxiety for both seasonal periods. Premassage anxiety was significantly higher in winter than summer. No differences in sick leave and workload were found. There was no difference in the occupational stress levels of nurses following the two 12-week periods of massage.

CONCLUSION: Emergency nurses were significantly more anxious in winter than summer but this cannot be attributed to increased sick leave or workloads. Aromatherapy massage with music significantly reduced emergency nurses' anxiety.

RELEVANCE TO CLINICAL PRACTICE: High levels of anxiety and stress can be detrimental to the physical and emotional health of emergency nurses and the provision of a support mechanism such as on-site massage as an effective strategy should be considered.

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15. Effects of Swedish Massage Therapy on Blood Pressure, Heart Rate, and Inflammatory Markers in Hypertensive Women.

Supa'at I1, Zakaria Z, Maskon O, Aminuddin A, Nordin NA. Evid Based Complement Alternat Med. 2013;2013:171852. doi: 10.1155/2013/171852. Epub 2013 Aug 18.

Abstract

METHOD: Swedish Massage Therapy (SMT) is known for its therapeutic relaxation effects. Hypertension is associated with stress and elevated endothelial inflammatory markers. This randomized control trial measured the effects of whole body SMT (massage group) or resting (control group) an hour weekly for four weeks on hypertensive women. Blood pressure (BP) and heart rate (HR) were measured before and after each intervention and endothelial inflammatory markers: vascular endothelial adhesion molecules 1 (VCAM-1) and intracellular adhesion molecules 1 (ICAM-1) were measured at baseline and after the last intervention. Massage group (n=8) showed significant systolic BP (SBP) reduction of 12 mmHg (P=0.01) and diastolic BP (DBP) reduction of 5 mmHg (P=0.01) after four sessions with no significant difference between groups. Reductions in HR were also seen in massage group after sessions 1, 3, and 4 with significant difference between groups. VCAM-1 showed significant reduction after four sessions: the massage group showed reduction of 998.05 ng/mL (P=0.03) and the control group of 375.70 ng/mL (P=0.01) with no significant differences between groups. There were no changes in ICAM-1. In conclusion, SMT or resting an hour weekly has effects on reducing BP, HR, and VCAM-1 in hypertensive women.

PARTICIPANTS: Twenty-three women fulfilled the criteria and were screened for any health conditions that may influence their blood pressure. Blood pressure of these women was monitored for two weeks prior to the intervention. Blood samples were taken to ensure that the liver, thyroid, and renal function and the fasting blood glucose level were normal. Resting electrocardiogram (ECG) and stress tests were also carried out to ensure normal cardiac function. Fasting body composition was measured before and after the intervention to ensure that the body fluid distribution remains unchanged. Twenty women successfully passed their screening. These women were randomly assigned to two groups: the massage group and the control group using random numbers generated through the SPSS version 15 software. However, only 16 women (8 per group) successfully completed the intervention.

METHODS: In this study, the massage protocol is an hour of Swedish Massage Therapy to the whole body, once a week for four weeks. An hour of massage allows enough time to apply all the Swedish massage techniques to the whole body which was expected to produce positive effects on BP and HR [30, 31]. Massage sessions once a week for four weeks are considered not too frequent as they prevent the subject from showing any signs of relaxation prior to the massage session as would be expected if the sessions are more frequent.

Eight women in the massage group underwent an hour of whole body Swedish Massage Therapy once a week for four weeks at the Clinical Trial Ward, UKMMC. A qualified massage therapist with a certificate in Holistic Therapy from the Institute of Bioproduct Development, Universiti Teknologi Malaysia, carried out the massage on each of the subjects. The massage techniques used are a combination of petrissage or kneading, tapotement or beating/hacking/cupping, and effleurage or long strokes. These techniques are applied at medium pressure. Olive oil was used as the lubricant. These massage sessions were carried out during working days between 8 and 10 a.m.

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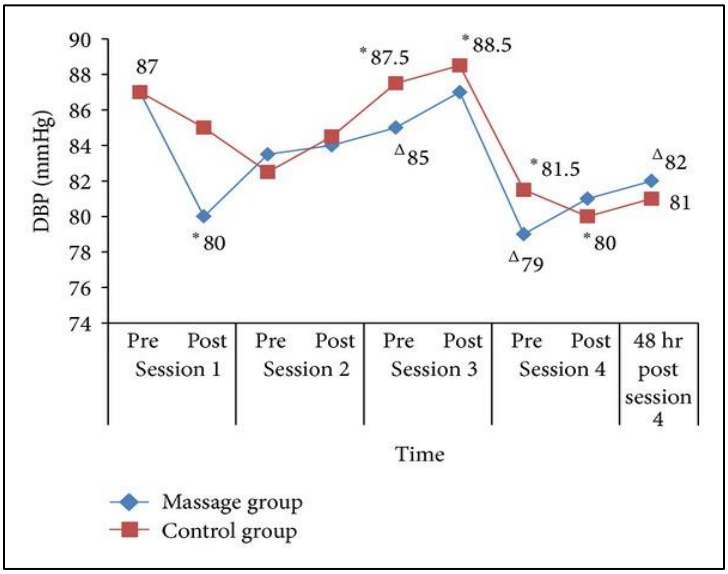
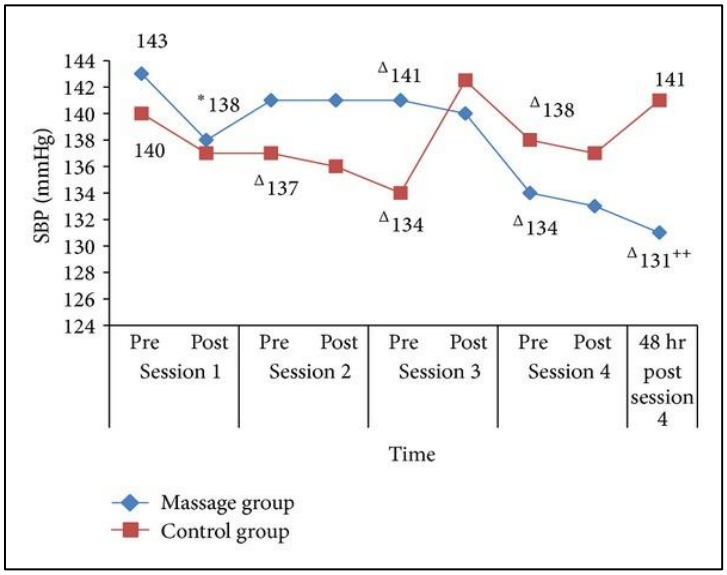
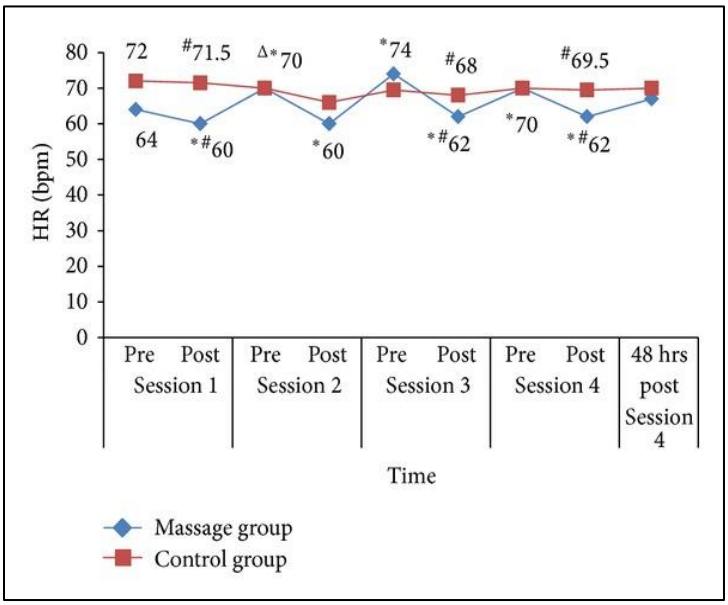
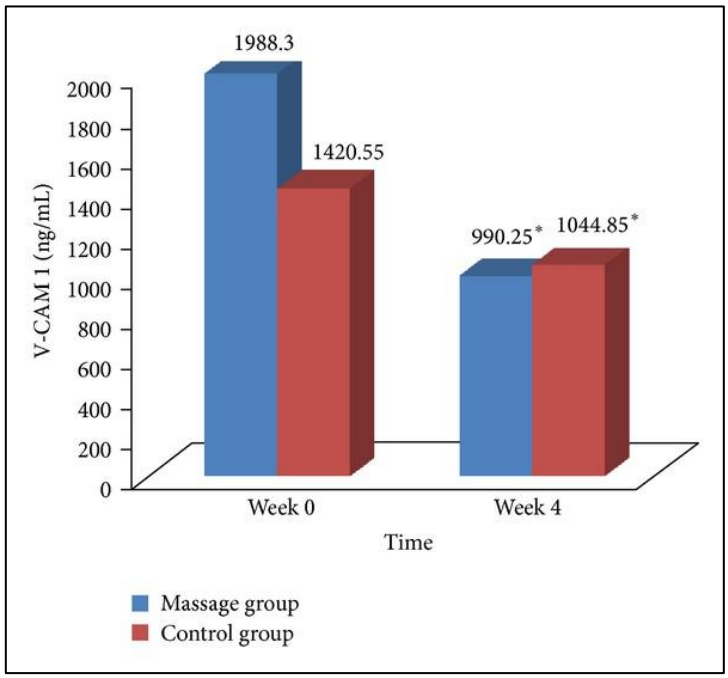
MEASUREMENTS: Blood pressure and HR were taken before and after each massage and rest session and 48 hours after the last session. Blood pressure was taken twice at five-minute interval using the mercury sphygmomanometer and HR through palpation.

CONCLUSION: This study has shown that Swedish Massage Therapy or resting an hour weekly significantly reduced BP, HR, and VCAM-1 through the effects that have been discussed. However, the effect of rest on BP does not extend to four weeks as compared to SMT. In addition, massage also reduces resting HR in hypertensive women.









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How can I locate further research studies online?

There are many ways to find research online and even become involved in research projects. The following are some websites that publish massage research or are involved in the research process itself:

- The AMTA - http://www.amtamassage.org/research/index.html?utm_source=%2fresearch&utm_medium=web&utm_campaign=redirect
- The International Journal of Therapeutic Massage & Bodywork: Research, Education & Practice - http://www.ijtmb.org/index.php/ijtmb
- The Massage Therapy Foundation - http://www.massagetherapyfoundation.org/
- The National Center for Complementary and Alternative Medicine - http://nccam.nih.gov/health/massage
- The Touch Research Institute - http://www6.miami.edu/touch-research/AdultMassage.html
- The US National Library of Medicine - http://www.ncbi.nlm.nih.gov/pubmed/

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http://www.sagepub.com/upm-data/36869_muijs.pdf
http://ksumail.kennesaw.edu/~rouyang/ED-research/details.htm
http://www.bcps.org/offices/lis/researchcourse/develop_quantitative.html

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Research Education Exam

1. What is research?
    A. A point of reference; a point, line, or surface used as a basis for measurement or calculation in mapping and surveying
    B. The systematic investigation into and study of materials and sources in order to establish facts and reach new conclusions
    C. Variable quantity determining the result of a scientific experiment and can be altered to vary the result
    D. The systemic investigation into activities that maintain health and related services that aim to maintain health through prevention and treatment of disease

2. What are the general aims of research?
    A. Define
    B. Determine the causes
    C. Observe
    D. All of the above

3. All of the following are steps in the research process EXCEPT:
    A. Choose a researcher
    B. Identify a topic
    C. Define the concepts and terms
    D. Collect the data

4. What is the purpose of reviewing prior research and literature in the research process?
    A. To develop a topic, identify a problem, and/or state the hypothesis of the study being conducted
    B. To educate the researcher on what similar studies have already been conducted on the topic, how they were conducted, and what results were reported
    C. To minimize confusion and help the researcher, the participants, and the readers understand the meaning of the study as it is reviewed
    D. All of the above

5. Which of the following is included in the “develop the plan of study” step of a research study?
    A. Reviewing research and literature
    B. Defining the concepts and terms
    C. Defining the populations/groups
    D. Analyzing the data

6. Data gathered from a research study can be presented in which of the following ways?
    A. Paragraph form
    B. Charts and graphs
    C. Statistics
    D. All of the above

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7. Which of the following are the two main approaches to conducting research studies?
    A. Qualitative and quantitative
    B. Grounded theory and case study
    C. Descriptive and correlational
    D. Phenomenology and experimental

8. Qualitative research studies focus on _____.
    A. Mathematical and numerical data
    B. Statistical data and cause-effect relationships
    C. Explanations, descriptions, and meanings
    D. Relationships among variables

9. Which of the following is a type of qualitative research study?
    A. Ethnography
    B. Correlational
    C. Causal comparative
    D. Experimental

10. What is the basic question asked by the researcher in case study research?
    A. What is the meaning and/or the rudimentary experience of the phenomenon by a person, group of people, or a specific population?
    B. What are the cultural features of this group of people or of this society?
    C. What theory emerges from analysis of data collected about a current phenomenon?
    D. What are the features and characteristics of this single case or of these comparison cases?

11. All of the following are common methods of data collection in quantitative research EXCEPT:
    A. Focus groups
    B. Experiments
    C. Measuring values
    D. Numerical rating scales

12. Which of the following is a type of quantitative research study?
    A. Case study
    B. Experimental
    C. Grounded theory
    D. Phenomenology

13. A hypothesis in descriptive research usually begins with:
    A. How much?
    B. How often?
    C. What percentage?
    D. All of the above

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14. All of the following are reasons why the study of research in massage is necessary EXCEPT:
    A. It allows massage therapists to learn about the effects of massage therapy and practice evidence based massage
    B. It documents that what massage therapists do truly makes a difference in the health of clients/patients
    C. It decreases the credibility of the profession and reduces respect for what qualified massage therapists offer
    D. It helps massage therapists and body workers to choose the best treatment methods for their clients

15. According to a recent survey performed by the AMTA, what percentage of massage therapists reported receiving referrals from other healthcare professionals?
    A. 19%
    B. 35%
    C. 58%
    D. 63%

16. Through research, massage therapy and bodywork treatment has been shown to:
    A. Increase circulation and immune function
    B. Reduce anxiety and edema
    C. Reduce blood pressure and heart rate
    D. All of the above

17. In research study 1, "The effect of massage therapy on chemotherapy-induced nausea and vomiting in pediatric cancer", what was the conclusion of the study?
    A. Massage therapy reduced chemotherapy-induced nausea and vomiting
    B. Massage therapy increased chemotherapy-induced nausea and vomiting
    C. Massage therapy had to no effect on chemotherapy-induced nausea and vomiting
    D. All of the above

18. In research study 3, "Massage therapy for fibromyalgia: a systemic review and meta-analysis of randomized controlled trials", what was the objective of the study?
    A. To determine if massage therapists are able to diagnose fibromyalgia
    B. To compare the effectiveness of two different types of massage on fibromyalgia
    C. To evaluate the evidence of massage therapy for patients with fibromyalgia
    D. To evaluate whether massage therapy or traditional medical care is more effective in treating fibromyalgia

19. Which of the following types of massage were evaluated in research study 4, "A comparison of the effects of 2 types of massage and usual care on chronic low back pain: a randomized, controlled trial"?
    A. Traditional Chinese massage and relaxation massage
    B. Structural massage and relaxation massage
    C. Structural massage and acupressure massage
    D. Neuromuscular massage and relaxation massage

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20. In research study 5, “Randomized trial of therapeutic massage for chronic neck pain”, what was the conclusion of the study?
    A. The study suggests that massage is safe and has decreased clinical benefits for treating chronic neck pain in the long term
    B. The study was inconclusive and makes no suggestions about the effectiveness of therapeutic massage for chronic neck pain in the short term
    C. The study suggests that massage is unsafe and has no clinical benefits for treating chronic neck pain in the short term
    D. The study suggests that massage is safe and may have clinical benefits for treating chronic neck pain at least in the short term

21. In research study 6, “The short-term effect of gloving in combination with Traditional Thai Massage, heat, and stretching exercises to improve hand mobility in scleroderma patients”, how many participants were used?
    A. 7
    B. 14
    C. 28
    D. 56

22. In research study 8, “Five-week outcomes from a dosing trial of therapeutic massage for chronic neck pain”, which of the following “doses” of massage was most effective?
    A. Multiple 15 minute massage treatments per week
    B. Multiple 30 minute massage treatments per week
    C. Multiple 45 minute massage treatments per week
    D. Multiple 60 minute massage treatments per week

23. Which of the following measurements were used to evaluate the changes in the muscle condition in research study 9, “To Compare the Effect of Vibration Therapy and Massage in Prevention of Delayed Onset Muscle Soreness (DOMS)”?
    A. Range of motion
    B. Repetition maximum
    C. Cretain kinase level
    D. All of the above

24. In research study 10, “A pilot study to investigate the short-term effects of specific soft tissue massage on upper cervical movement impairment in patients with cervicogenic headache”, how was range of motion measured and assessed in the cervical spine?
    A. Using the cervical tilt test in three phases: pre-intervention, intervention, and post-intervention
    B. Using the flexion-rotation test in three phases: pre-intervention, intervention, and post-intervention
    C. Using the flexion-rotation test in two phases: pre-intervention and post-intervention
    D. Using the cervical tilt test in two phases: pre-intervention and post-intervention

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25. What type of massage intervention did the test group receive in research study 12, "Specific and cross over effects of massage for muscle soreness: randomized controlled trial"?
    A. 10 minutes of deep tissue massage on both legs
    B. 10 minutes of relaxation massage on one leg
    C. 10 minutes of roller massage on one leg
    D. 10 minutes of heat application on both legs

26. In research study 13, "Manual lymph drainage improving upper extremity edema and hand function in patients with systemic sclerosis in edematous phase", all of the following scales were used to measure Quality of life (QOL) and disability EXCEPT:
    A. Hand Mobility in Scleroderma (HAMIS)
    B. Physical synthetic index (PSI)
    C. Mental synthetic index (MSI)
    D. Health Assessment Questionnaire (HAQ)

27. In research study 15, "Effects of Swedish Massage Therapy on Blood Pressure, Heart Rate, and Inflammatory Markers in Hypertensive Women", what was the conclusion?
    A. That Swedish Massage Therapy (SMT) or resting an hour weekly significantly reduced blood pressure (BP), heart rate (HR), and vascular endothelial adhesion molecules 1 (VCAM-1); however, the effect of rest on BP does not extend to four weeks as compared to SMT
    B. That Swedish Massage Therapy (SMT) or resting an hour weekly significantly increased blood pressure (BP), heart rate (HR), and vascular endothelial adhesion molecules 1 (VCAM-1); however, the effect of rest on BP does not extend to four weeks as compared to SMT
    C. That Swedish Massage Therapy (SMT) or resting an hour weekly had no effect on blood pressure (BP), heart rate (HR), and vascular endothelial adhesion molecules 1 (VCAM-1)
    D. That Swedish Massage Therapy (SMT) or resting an hour weekly only significantly reduced blood pressure (BP) and heart rate (HR); however, there was no effect on vascular endothelial adhesion molecules 1 (VCAM-1)

28. Which of the following is a website in which further research studies can be located online?
    A. The Massage Therapy Foundation - http://www.massagetherapyfoundation.org/
    B. The National Center for Complementary and Alternative Medicine - http://nccam.nih.gov/health/massage
    C. The Touch Research Institute - http://www6.miami.edu/touch-research/AdultMassage.html
    D. All of the above

This completes the Research Education exam.

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