The Effectiveness of Swedish Massage with Aromatic Ginger Oil in Treating Chronic Low Back Pain in Older Adults: A Randomised Controlled Trial

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Submitted in fulfilment of the requirements of the degree of Doctor of Philosophy

January 2013
Statement of Originality

This work has not previously been submitted for a degree or diploma in any university. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made in the thesis itself.

Netchanok Sritoomma 11 January 2013
Synopsis

Chronic low back pain is a common and major health issue, with a high rate of chronic low back pain (CLBP) in older adults. This pain has an impact on functioning, health-related quality of life and the cost of healthcare. Complementary and alternative medicine (CAM) therapies have been employed to manage low back pain, with massage the most popular CAM therapy for this purpose. Swedish massage (SM) and Traditional Thai massage (TTM) appear to relieve lower back pain but their relative effectiveness has not been clearly established. In this study, an essential oil was used to prolong the effects of Swedish massage. Ginger is one of the most popular herbal remedies as it is used as an anti-inflammatory and anti-rheumatic for musculoskeletal pain. However, no study has examined the use of aromatic ginger oil to treat CLBP, and there are also a number of limitations in the research design of reported massage and/or aromatic ginger oil studies.

This study aimed to investigate the effectiveness of Swedish massage with aromatic ginger oil (SMGO) in treating CLBP in older adults compared to TTM in terms of reduction of CLBP intensity, disability improvement, reduction of depression and improvement of quality of life among a group of 140 older people in Thailand experiencing CLBP.

The study was conducted as a randomised controlled trial (RCT) to provide evidence of the effectiveness of SM with 2% aromatic ginger oil compared to TTM in three time periods: immediate (after each of the 10 massages), short term (after six weeks of massage intervention) and long term (at 15 weeks post completion of intervention). One hundred and forty older people with CLBP, who met the inclusion/exclusion criteria and gave signed consent, were randomly assigned into two groups: SMGO (treatment) and TTM (control) groups. The interventions were given twice a week, with 10 sessions of 30-minute massage over five weeks. A pilot study was conducted and the intervention was monitored to verify and identify practical problems and any adverse effects caused by massage procedures. The primary and secondary outcomes were measured at all
three time points using the McGill Pain Questionnaire (MPQ) for pain intensity, Oswestry Disability Questionnaire (ODQ) for functional ability, 12-item Short-Form Health Survey (SF-12v2) for quality of life and Geriatric Depression Scale (GDS) for depression in Thai short form version. To measure immediate effectiveness, the Visual Analogue Scale (VAS) was used pre-post each massage session.

Most participants were female, married, worked in the agricultural sector, and had only a primary school education. The main cause of their back pain was heavy lifting. Medication was the most commonly reported previous treatment for CLBP. There were no significant differences between both groups in terms of demographic and back pain characteristics at baseline. Participants’ use of medication and other treatments decreased during the study period.

Data on the relative effectiveness of the two therapies in reducing back pain intensity was the primary outcome of the study. Both types of massage significantly reduced back pain intensity across the period of assessments indicating immediate, short- and long-term effectiveness ($p < 0.05$). There was a statistically significant interaction between intervention type and time with MPQ and VAS ($p = 0.02$), indicating effectiveness in the short and long term: the SMGO group had a greater reduction in back pain intensity than the TTM group on the VAS ($p = 0.04$). However, there was no significant difference between groups in the magnitude of back pain reduction in the period of immediate effectiveness ($p = 0.85$).

In terms of secondary outcomes, both types of massage (SMGO and TTM) led to significant improvements on measures of disability, quality of life and depression across the period of short- and long-term assessments ($p < 0.05$). SMGO was more effective than TTM in reducing disability in both the short and long term ($p < 0.05$), and showed significantly greater improvement of physical quality of life than TTM in the short term ($p < 0.05$). There were no significant differences between the SMGO group and the TTM group in terms of mental quality of life and depression.

This study highlights the effectiveness of aromatic ginger oil for CLBP as it is the first trial to test its use for back pain. The study also developed an appropriate protocol for
SMGO, which was assessed by expert agreement. The study recommends that future trials should consider investigating the effectiveness of aromatic ginger oil in reducing pain intensity. The integration of massage therapy in nursing practice for patients with CLBP in hospitals or aged-care facilities may be used as an optional treatment. A standardized massage protocol and guideline may help nurses or massage therapists in providing holistic care for their patients. The usefulness of massage therapy for CLBP management should be integrated into professional development programs for nurses.

The findings support the conceptual framework of the study. The study concludes that SMGO is more effective than TTM in reducing back pain intensity, disability and quality of life in the short and long term. Recommendations from this study may be helpful in informing the direction and focus of future studies and practice.
Acknowledgements

I give faithful acknowledgement in praise to God, who has blessed me with many wonderful opportunities in my daily living, friendship, sponsorship, and the opportunity to complete this study.

The work and scholarship reflected in this thesis were made possible by effort, support and love of those who surrounded me during my doctoral journey. There are many who deserve formal acknowledgement for their contributions. Firstly, I sincerely thank my wonderful principal supervisors, Professor Wendy Moyle and Professor Marie Cooke for their encouragement and mentoring in research quality, publication and daily life. Great appreciation also goes to my associate supervisor, Dr Siobhan O'Dwyer for data analysis, thesis and paper publication advice. Throughout the past three years, these people willingly gave invaluable guidance and constructive criticism in relation to my research. They have been mentors, counsellors and friends, providing their expertise in creating exciting new challenges and lifting the study beyond my highest expectation.

A sincere note of thanks to those who have served with their expertise to enrich my doctoral study: Professor Marianne Wallis, who gave useful comments on my confirmation of candidature seminar as an independent assessor; Associate Professor Virginia S. Cowen and Assistant Professor Uraiwan Chatchawan, who contributed to a panel of experts in the review of the intervention protocol; Professor Denise Polit, who gave me advice on sample size and research design; Dr Peter Grimbeek and Associate Professor Luckman Thalib, who also provide advice for sample size calculation; Dr William Hatherell for his assistance in the editing of this thesis; and the Aging and older people Publication Syndicate from RCCCPI who provided me with useful comments on my journal publication paper.

In regards to the data collection, my gratitude is also extended to my research team at Damnoensaduak hospital, Thailand especially Dr Wichian Tonsuwannon MD, Mr Paduksak Buakham, and Ms Nongnuch Ponboon for data collection and training course
for massage therapists. Thanks also go to Damnoensaduak hospital and my research assistants who offered me the opportunity to perform and complete my research. I also thank both Human Research Ethics Committees: Griffith University Ethics Committee in Australia, and the Human Research Ethics Committee from Institute of Thai traditional medicine under the Ministry of Public Health of Thailand. Furthermore, I am truly thankful to those participants who were willing to contribute to this study.

Finally, a special acknowledgement and the most heartfelt thanks are given to my father, and my mother who is in heaven, for their never-ending support, faith, encouragement and financial support. I would like to express my gratitude to my husband, daughter, and brother, who were an unfailing source of support and tolerance. I would like to give heartfelt thanks to Joy and Michael Secomb, my home stay family, for daily life support and taking care of me as their sister. I also give my gratitude to Pharmaquip Healthcare in Brisbane, Australia for a part-time contract and sponsorship at international conferences and the healthcare industry.

To have accomplished this without the sustaining, long-term support of my dear friends would not have been possible, in particular, my fellow PhD friends and nursing colleagues at Griffith University: Vanida, Salima, Juli, Azlina, Julia, Jean, Jenny Chan, and Dr Rachel Walker. Funding for this study was provided by the Christian University of Thailand and a thesis completion assistance scholarship was awarded by the School of Nursing and Midwifery and postgraduate school, Griffith University. This thesis would not have been completed without the support and contributions of all of these people.
Dissemination of Study Results


Take nursing to the next level; In good hands: Netchanok Sritoomma’s research could deliver relief from lower back pain. Pulse, Issue 4, autumn 2011: 6 (Interview).

The effectiveness of Swedish massage with aromatic ginger oil versus traditional Thai massage in treating chronic low back pain in older people. Three-minute thesis competition (faculty round), July 2010, Nathan, Griffith University.
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Abbreviation

1. APM: Acupuncture Massage
2. BMI: Body Mass Index
3. BP: Blood Pressure
4. CAM: Complementary and Alternative Medicine
5. CLBP: Chronic Low Back Pain
6. CO: Colorado
7. HRV: Heart Rate Variability
8. GDS: Geriatric Depression Scale
9. KPCO: Kaiser Permanente Colorado
10. LBP: Lower Back Pain
11. MD: Mean Difference
12. MEPS: Medical Expenditure Panel Survey
13. MPQ: McGill Pain Questionnaire
14. MTrPs: Myofascial Trigger Points
15. NSAIDs: Nonsteroidal Anti-inflammatory Drugs
16. ODQ: Oswestry Disability Questionnaire
17. PPI: the Present Pain Index
18. PPT: Pressure Pain Threshold
19. PRI: the Pain Rating Index
20. PSQI: Pittsburgh Sleep Quality Index
21. RCT: Randomised Controlled Trial
22. SF12v2: The 12-item Short-Form Health Survey
23. SM: Swedish Massage
24. SMGO: Swedish Massage with Aromatic Ginger Oil
25. TTM: Traditional Thai Massage
26. USA: United States of America
27. VAS: Visual Analogue Scale