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The effectiveness of Swedish massage with aromatic ginger oil in treating chronic low back pain in older adults: A randomized controlled trial



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KEYWORDS

Chronic low back pain;
Massage;
Randomized controlled trial;
Ageing

Summary

Objectives: To investigate the effects of Swedish massage with aromatic ginger oil (SMGO) on chronic low back pain and disability in older adults compared with traditional Thai massage (TTM).

Design: Randomized controlled trial.

Setting: Massage clinic in Ratchaburi province, Thailand.

Participants: 164 patients were screened; 140 were eligible, and randomized to either SMGO ($n = 70$) or TTM ($n = 70$).

Intervention: Trained staff provided participants with a 30-min SMGO or TTM twice a week for five weeks.

Measurement: The Visual Analogue Scale (VAS) assessed immediate effect (after each massage) and the short form McGill Pain Questionnaire (MPQ) assessed effectiveness of massage in short-term (six weeks) and long-term (15 weeks). Disability improvement was measured by the Oswestry Disability Questionnaire (ODQ) at baseline, short- and long-term.

Results: Both SMGO and TTM led to significant improvements in pain intensity ($p < 0.05$) and disability ($p < 0.05$) across the period of assessments, indicating immediate, short- and long-term effectiveness. SMGO was more effective than TTM in reducing pain ($p = 0.04$) and improving disability at short- and long-term assessments ($p = 0.04$).

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Conclusions: These findings suggest that the integration of either SMGO or TTM therapy as additional options to provide holistic care to older people with chronic low back pain could be considered by health professionals. Further research into the use of ginger as an adjunct to massage therapy, particularly TTM, is recommended.

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Introduction

Chronic low back pain (CLBP) is a disabling condition and a major health problem, with 70–85% of people suffering low back pain (LBP) at some time in their lives,^{1,2} and nonspecific low back pain cited as the fifth most common reason for healthcare provider visits in the United States.³ Chronic low back pain is defined as a chronic condition of lower back pain lasting for at least three months or longer.^{2,4} In the USA, approximately 36% of community-dwelling older people experience a period of back pain every year⁵ and 21% of those report frequent moderate to severe pain.¹ Similarly, the incidence of LBP among older people in Eastern countries such as Thailand is high, with a reported 70% of older Thai people experiencing muscle and back pain.⁶ CLBP impairs quality of life, restricts physical activity, reduces psychosocial well-being, and is therefore costly for society.^{7,8} CLBP costs are estimated to be more than 36 billion dollars per annum in the United States from lost work time and as a result of disability.⁹ Non-pharmacologic interventions for CLBP are recommended when patients do not show improvement with standard treatment.¹⁰

Massage is commonly used for chronic conditions including back pain.^{11–13} Massage has been defined as a systematic and scientific manipulation of the soft tissues of the body with rhythmical pressure and stroking for the purpose of obtaining or maintaining health.^{1,15} Essentially, it is a simple means of providing pain relief through physical and mental relaxation.¹⁴ It is thought to relieve pain through several pathways, including increasing the pain threshold by releasing endorphins¹⁶ and closing the gate of pain at the spinal cord level.¹⁷ Massage also promotes a feeling of well-being and a sense of receiving good care.^{1,18}

Swedish massage is classified as superficial massage and consists of five main stroking actions to stimulate the circulation of blood through the soft tissues of the body.¹⁹ On the other hand, Thai massage techniques are classified as deep tissue massage with acupressure and follow two lines on the back according to the meridians energy-line theory.²⁰ Since The Thai government has supported traditional Thai medicine as national policy, Thai massage has gained credibility in the usual massage in Thailand.²¹ Usually, a lubricant such as an oil or powder is used with Swedish massage techniques. The skin absorbs the oils, which are taken into the bloodstream during the relatively short time of the body massage.²² It has also been suggested that an essential oil may prolong the effects of massage.²³ Ginger has been used as an anti-inflammatory and anti-rheumatic for musculoskeletal pain.^{24–26} Three clinical trials reported the short-term beneficial pain reduction effects of ginger extract taken orally for knee or neck pain^{24,27,28} but no study has examined the use of ginger for back pain. Although CLBP predominately affects older people, no study has specifically investigated the effects of Thai massage, Swedish

massage and aromatherapy in older age groups. Therefore, the present study aims to examine whether CLBP in older people can be reduced by Swedish massage with aromatic ginger oil, and improve the level of disability.

Methods

Study design

A randomized controlled trial was used to investigate the effect of Swedish massage with ginger oil on older people with CLBP. The study was conducted in one massage clinic in Thailand. Participants were randomly assigned to one of two groups: Group I (treatment) received Swedish massage with aromatic ginger oil (SMGO) (2% essential ginger oil with Jojoba oil) and Group II (usual massage) received traditional Thai massage (TTM) delivered through clothing with no oil. After recruitment and screening of participants, baseline self-report assessment was conducted before the intervention. To assess short- and long-term effectiveness a 2nd and 3rd assessment were undertaken on the 6th (short-term) and 15th (long-term) week by telephone interview.

Study sample

Participants aged 60 years and older who attended the massage clinic for CLBP at the time of enrollment were screened. Those who met the following criteria were eligible to participate: aged 60 years and older; able to listen, speak, read and write Thai language; and diagnosed with CLBP by a medical practitioner (lasting for over 12 weeks). Individuals were not included if they had one or more of the following conditions: skin disease, inflammation or infection on back, a history of back fracture or back surgery, body temperature of more than 38.5 °C on the examination day, hemi/paraparesis, infectious diseases (e.g. tuberculosis or AIDS), cancer, prior experience of receiving any type of massage in the three months before this study. The pilot study and actual study were started after receiving ethical approval in principle. Ethical approval was gained from Griffith University Human Research Ethics Committee (Australia) and the Ministry of Public Health in Thailand, and the hospital where the research was conducted provided permission for the conduct of the research. Each participant provided informed consent. The trial was registered with the Australia and New Zealand Trials Registry (ACTRN12612001293853).

Sample size calculations were based on a translated German study by Franke et al.⁴⁰ The Visual Analogue Scale for pain (VAS) was selected as the primary outcome. A total of 128 participants were needed to provide sufficient power, using G-Power to detect an effect size of 0.5 with 95% probability at an alpha of 0.05. However, to allow for a possible

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