

This file has been cleaned of potential threats.

If you confirm that the file is coming from a trusted source, you can send the following SHA-256 hash value to your admin for the original file.

37b444a686d85484db174674423781b8503d4368261b78ac9be4814b25e94db2

To view the reconstructed contents, please SCROLL DOWN to next page.

The Effectiveness of Using Cold Herbal Compress for Knee Pain in Nakhon Chum Subdistrict, Mueang District, Kamphaeng Phet Province, Thailand

Prangthong Nontakarn¹, Janruethai Charoensri² and Kanokwan Wongsrikaew³

¹ College of Allied Health Sciences, Suan Sunandha Rajabhat University, Samut Songkram Province, Thailand

² Health science Bangkokthonburi University, Bangkok Province, Thailand

³ Health science services center Roi Et Rajabhat University, Roi Et Province, Thailand
Prangthong.no@ssru.ac.th, janruethai.cha@bkkthon.ac.th, kanokwan748555@gmail.com

Abstract.

The study on the use of cold herbal poultices for knee treatment aimed to investigate the effectiveness and satisfaction of using cold herbal poultices in individuals with knee pain. The research was a quasi-experimental study with a one-group pretest-posttest design, conducted with a sample of 31 participants. The research instrument used was a data recording form. Data were analyzed using descriptive statistics, knee range of motion, pain levels, and the Friedman test. After the first application of the herbal poultice, the knee range of motion was 38.4 degrees \pm 2.23, and after the second application, it was 38.8 degrees \pm 2.23. The Friedman test showed a statistically significant difference ($p < 0.001$). Pairwise comparisons using the Durbin-Conover method revealed a statistically significant difference in the range of motion before and after applying the cold herbal poultice in both the first and second sessions ($p < 0.001$). Additionally, the analysis of the average pain levels showed that before using the herbal poultice, the pain level was 3.96 \pm 0.892, after the first application, it was 2.79 \pm 1.15, and after the second application, it was 1.02 \pm 1.10. Pairwise comparisons indicated a statistically significant reduction in pain levels after both the first and second applications of the herbal poultice ($p < 0.001$). Therefore, the use of cold herbal poultices has been shown to effectively reduce knee pain, improve range of motion, and is considered safe.

Keywords: Cold Herbal, Knee Pain, Effective, Satisfaction

1. Introduction

According to studies on osteoarthritis, one of the major health problems in Thailand is bone and joint diseases, with statistics showing a continuous increase in the number of people suffering from these conditions. In 2010, it was reported that over 6 million people were affected by this disease, with the most commonly deteriorated joint being the knee. Osteoarthritis is clinically characterized by joint pain, stiffness, the formation of bone spurs around the joint, impaired joint function, and reduced mobility. If this process continues, it can lead to joint deformities and eventually disability, significantly impacting the patient's quality of life.

There are three main treatment approaches for elderly patients with joint degeneration: non-pharmacologic therapy, pharmacologic therapy, and surgery. Most patients tend to manage

their pain with pain relievers. The advantage of these medications is that they are easily accessible and effectively block pain signals. However, they also have side effects. Research in the United States and the UK has shown an increase in the misuse of acetaminophen, with a rising number of hospital admissions due to acetaminophen toxicity. This is especially concerning for individuals at risk of liver disease, as it increases the chances of developing liver toxicity (hepatotoxicity) and acute liver failure, even without overdosing.

Based on a review of previous research literature, most studies have focused on treating knee osteoarthritis patients using traditional Thai medicine, specifically through massage and herbal compresses. These studies have found statistically significant improvements in patients' symptoms. Only a small number of studies have incorporated knee poultices or used poultices in combination with manual therapy and herbal compresses. Additionally, the poultice formulas used are varied. Therefore, the researcher is interested in studying the treatment of knee osteoarthritis using a newly developed cold poultice formula tailored to the local context. Once this innovation is completed, it could serve as a foundation for future research related to the treatment of knee osteoarthritis using traditional Thai medicine and provide valuable knowledge that can be used as a guideline for treating knee osteoarthritis patients in the future.

A study on the pain condition of elderly patients with knee osteoarthritis in Kamphaeng Phet Province found that most residents in this area are engaged in agriculture, which is a physically demanding occupation involving heavy labor, long hours of walking, and standing. As a result, the number of patients using and purchasing pain relievers to alleviate symptoms has increased. To address this, a project was developed to create an herbal knee poultice innovation aimed at reducing pain in elderly individuals with knee osteoarthritis. The pilot area for this project is the Elderly Club of Nakhon Chum Subdistrict Municipality in Mueang District, Kamphaeng Phet Province. The goal is to raise awareness and understanding of the condition and its progression, teach proper knee joint exercises, and promote self-care using locally available herbs.

2. Materials and Methods

The activity is a practical workshop on community health services as part of the Public Health program. It provides education on knee osteoarthritis to elderly individuals with knee joint degeneration and offers herbal cold poultice treatment to those experiencing moderate to severe knee pain for pain relief. The activity takes place over two days at the Nakhon Chum

Elderly Club, Nakhon Chum Subdistrict, Mueang District, Kamphaeng Phet Province. The steps involved are as follows:

1. Collect baseline data including gender, age, date of birth, and occupation.
2. Assess the level of pain using a Numerical Rating Scale (NRS) before treatment.
3. Provide treatment using a cold herbal poultice on the knee for 30 minutes, and give exercise instructions for toe raises (50 repetitions, morning and evening) based on Thai medical practice.
4. Reassess the level of pain using the Numerical Rating Scale (NRS) after treatment.
5. Schedule a follow-up treatment session in 1 week.

Section 1: Sociodemographic Information of the Sample Group

The majority of the sample group are female, with a higher number than male participants. The most common age group is 35-60 years. The most common occupation is agriculture, with farmers making up the largest group. In terms of job characteristics, those who stand while working are the most common. Additionally, most of the volunteers who participated reported an income ranging from 10,001 to 20,000 baht per month.

Section 2: Effectiveness of Using the Cold Herbal Knee Poultice

The Friedman test was used to compare the median values of pain levels.

	χ^2	df	*p-value
Friedman test	54.9	2	< 0.001
	Statistic		*p-value
Before - After (1st session)	12.15		< 0.001
Before - After (2nd session)	21.46		< 0.001
After (1st session) - After (2nd session)	9.30		1.000

*p-value < 0.05

1. Comparison of pain levels before and after the first using the cold herbal session. Statistic = 12.15 and p-value < 0.001. This result indicates a statistically significant difference in pain levels before and after the first using the cold herbal session (p < 0.001). This means that the pain significantly decreased after the first using the cold herbal session.

2. Comparison of pain levels before and after the second using the cold herbal session. Statistic = 21.46 and p-value < 0.001, indicating a statistically significant difference in pain levels before and after the second using the cold herbal session (p < 0.001). This shows that pain significantly decreased after the second using the cold herbal session compared to before the using the cold herbal.

3. Comparison of pain levels after the first using the cold herbal session and after the second using the cold herbal session. Statistic = 9.30 and p-value < 0.001, indicating a statistically significant difference in pain levels after the first and after the second using the cold herbal session (p < 0.001). This means that pain decreased significantly after the second using the cold herbal session compared to the first using the cold herbal session.

The analysis of Pairwise Comparisons (Durbin-Conover) shows that pain levels significantly decreased after the first using the cold herbal session and decreased even further after the second using the cold herbal session. Both using the cold herbal sessions were effective in reducing pain, but the second using the cold herbal session yielded significantly better results compared to the first.

Section 3: Satisfaction with the Use of the Cold Herbal Poultice for Knee.


Descriptive Statistics	Mean	S.D.	Level of Satisfaction
Effectiveness of Using the Cold Herbal Knee Poultice			
1. Helps reduce pain	4.90	0.30	Best
4. Helps improve mobility	4.90	0.30	Best
5. Improves blood circulation	4.97	0.18	Best
6. Has a positive effect on the mind	4.97	0.18	Best
7. Provides clear and worthwhile benefits	4.97	0.18	Best
8. Each step of the method is safe	4.97	0.18	Best
Overall Mean Score by Item	4.95	0.22	Best

According to the overall satisfaction of the sample group was at the highest level (\bar{x} = 4.94, S.D. = 0.23). When examining each aspect, it was found that the effectiveness of the using the cold herbal poultice for knee the highest overall mean score (\bar{x} = 4.95, S.D. = 0.22), with all items showing the highest level of satisfaction, with average scores ranging from 4.90 to 4.97. Similarly, the satisfaction with the using the cold herbal poultice for knee was also at the highest level (\bar{x} = 4.97, S.D. = 0.18). Additionally, the standard deviation of satisfaction across all aspects and items was relatively low (ranging from 0.18 to 0.30), indicating a small data spread and a high level of consensus among the respondents, reflecting the highest satisfaction across all items.



3. Conclusion

In conclusion, the use of herbal poultices, particularly cold herbal formulas, has shown significant benefits in reducing pain and improving mobility for individuals experiencing knee discomfort. The application of herbal poultices can enhance blood circulation and contribute to mental well-being, providing a holistic approach to pain management. Feedback from the sample group indicated a high level of satisfaction with the effectiveness of the treatment, with clear benefits observed after both the first and second sessions. The method is not only effective but also safe, with minimal variability in responses, suggesting that participants generally had a consistent and positive experience. Overall, the use of herbal poultices for knee treatment is a promising and beneficial approach.


หนังสือรับรองการใช้ประโยชน์จากผลงานวิจัย นวัตกรรมหรือสร้างสรรค์
มหาวิทยาลัยราชภัฏกำแพงเพชร

ชื่อองค์กร/ชุมชน/ภาคธุรกิจที่นำไปใช้ประโยชน์ แผนกส่งเสริมสุขภาพนักศึกษา คณะพยาบาลศาสตร์
 สถานที่ มหาวิทยาลัยราชภัฏกำแพงเพชร อ.เมือง จ.กำแพงเพชร โทรศัพท์ _____
 ขอรับรองว่าได้อนุญาตให้หน่วยงานเจ้าของสิทธิ์ของมหาวิทยาลัยราชภัฏกำแพงเพชร เรื่อง การขอใช้ประโยชน์จากผลงานวิจัย นวัตกรรมหรือสร้างสรรค์ ของ นางสาวพัชรกิติยาภา นิ่มเมือง มหาวิทยาลัยราชภัฏกำแพงเพชร โดยใช้ประโยชน์
 ในระหว่างวันที่ 23 มิถุนายน 2566 ถึงวันที่ 30 มิถุนายน 2566

โดยวัตถุประสงค์ของการนำไปใช้มีดังนี้ (สามารถระบุได้มากกว่า 1 ประเด็น)
 การใช้ประโยชน์เชิงวิชาการ (โปรดระบุรายละเอียด) ใช้เพื่อทำวิทยานิพนธ์ วิทยานิพนธ์ปริญญาโท สาขาพยาบาลศาสตร์ มหาวิทยาลัยราชภัฏกำแพงเพชร
 การใช้ประโยชน์เชิงสาธารณะ (โปรดระบุรายละเอียด) นำผลงานวิจัยไปใช้ในการเรียนการสอนในชั้นเรียน สาขาพยาบาลศาสตร์ มหาวิทยาลัยราชภัฏกำแพงเพชร
 การใช้ประโยชน์เชิงนโยบาย (โปรดระบุรายละเอียด) _____
 การใช้ประโยชน์เชิงพาณิชย์ (โปรดระบุรายละเอียด) _____
 อื่นๆ (โปรดระบุรายละเอียด) _____

ทั้งนี้ผลจากการที่องค์กร/หน่วยงาน/กลุ่ม ได้นำผลงานวิจัย/งานสร้างสรรค์/งานวิชาการ มาใช้ประโยชน์
 พบว่า _____
 ข้าพเจ้าขอลงนามในหนังสือรับรองการใช้ประโยชน์ด้วยความจริงทุกประการ

ลงชื่อ (ผู้ใช้ประโยชน์) _____
 (นางสาวพัชรกิติยาภา นิ่มเมือง)
 ตำแหน่ง _____
 นักพัฒนาระบบสารสนเทศ

วันที่ 23 เดือน มิถุนายน พ.ศ. 2566 ที่รับรอง _____

References

- Amphon Boonphan, Warinthorn Chidchuthirakun, and Saifon Tanta-yothin. *The Effectiveness of Massage with Plai Oil and Palm Oil on Muscle Pain in the Neck, Shoulders, and Upper Back in Students of the College of Medical Technology and Public Health, King Rama IX Rajabhat University*. Science Update Journal, 18(1), 2018,17-30.
- Dusadee Sritatu, Nopparat Songserm, and Teerawut Ekakun. *The Effectiveness of an Integrated Massage Program for Patients with Neck and Shoulder Pain in the Thai Traditional Medicine and Alternative Psychiatry Unit, Phra Sri Maha Pho Hospital, Ubon Ratchathani Province*. Journal of Public Health Science, 27(1), 2018, 104-113.
- Kanokorn Boonphitak. *Knee Pain and Knee Degeneration: Care and Prevention*. Bangkok: Feel Good Publishing, 2013.
- Thanaporn Thelek, Amphon Boonphan, and Pathama Chanthrapol. *The Effect of Lampong Kaslak Oil Massage on Neck, Shoulder, and Upper Back Muscle Pain from Office Syndrome in Students of the College of Medical Technology and Public Health, King Rama IX Rajabhat University*. Research Journal of Rajamangala University of Technology Srivijaya, 12(3), 2020, 408-419.
- The Thai Traditional Medicine Training and Development Group. *150-Hour General Thai Massage for Health Manual*. Veterans Affairs Organization Printing Press under Royal Patronage, 2010.

Nopporn Chaihomrot. *A Study on the Effectiveness of General Thai Massage and Royal Thai Massage in Reducing Shoulder, Neck, and Head Pain at Nakhon Pathom Hospital*. Thai Traditional Medicine Research Journal, 7(1), 2021, 67-83.

*Clinical Practice Guidelines for the Management of Osteoarthritis Patients***

http://www.imrta.dms.moph.go.th/imrta/images/pdf_cpg/2548/12.pdf

Elderly Care Guide for Knee Osteoarthritis in Chiang Mai Province

<https://www.siampimnana.com/wp-content/uploads/2013/08/>

Elderly Care Guide for Knee Osteoarthritis "Based on Thai Traditional Medicine"

<http://thalihospital.com>

Nursing Department, Thammasat Chalermphrakiat Hospital. *Pain Management Practice Guidelines*, 2018

http://203.131.209.219/km/admin/new/110220_114839.pdf

Orapin Chuchom. Quasi-Experimental Research. Behavioral Science Journal, 2009 15(1).

<http://bsris.swu.ac.th/journal/150952/file/1.pdf>

Rungtip Nilpath. *Service Quality and Satisfaction Related to Repeat Visits of Patients at Paolo Rangsit Hospital*. 2018

<http://www.repository.rmutt.ac.th/dspace/bitstream/123456789/3508/1/RMUTT-161651.pdf>