




# Training on traditional massage oil making from adsorbed used cooking oil at a nursing home in Brebes

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ARTICLE INFO	ABSTRACT
<p><b>Article history</b>            Received: 2024-05-27            Revised: 2024-09-06            Accepted: 2024-09-09            Published: 2024-11-01</p> <p><b>Keywords</b>            Community service            Elderly            Massage therapy            Traditional massage oil            Used oil</p>	<p><i>Used cooking oil has become a frightening specter because of the negative impacts it has caused. Used cooking oil can cause carcinogenic properties if consumed. On the other hand, the content of ginger, lemongrass and chili has been proven to produce anti-inflammatory effects. So that used cooking oil can be combined with ginger, lemongrass and chili into massage oil to be implemented in community service activities at Panti Werdha Purbo Yuwono Brebes. This community service aims to provide education and training in making massage oil from used cooking oil combined with ginger, lemongrass and chili. In addition, training is also given on proper massage for the elderly. The method used in this training is Community service activities that have been carried out have a positive impact on the participants, both the elderly and the caregivers of the orphanage. This activity has combined theoretical understanding with practical applications that form the foundation of effective massage therapy education. This study reveals that community service activity participants are provided with a real learning experience with a two-stage training approach outlined, participants not only acquire essential skills but also foster a deeper appreciation of proper massage therapy.</i></p>
<p><b>Kata Kunci</b>            Minyak jelantah            Pengabdian masyarakat            Pijaturut            Minyakurut tradisional            Lansia</p>	<p><b>Pelatihan pembuatan minyak pijat tradisional dari minyak jelantah yang telah diserap di panti jompo di Brebes.</b> Minyak jelantah telah menjadi momok yang menakutkan lantaran dampak negatif yang ditimbulkan. Minyak jelantah dapat menyebabkan sifat karsinogenik jika dikonsumsi. Di sisi lain, kandungan jahe, sereh dan cabai telah terbukti menghasilkan efek anti inflamasi. Sehingga minyak jelantah dapat dikombinasikan dengan jahe, sereh dan cabai menjadi minyak urut untuk diimplementasikan pada kegiatan pengabdian masyarakat di Panti Werdha Purbo Yuwono Brebes. Pengabdian masyarakat ini bertujuan untuk memberikan edukasi dan pelatihan membuat minyak urut dari minyak jelantah kombinasi jahe, sereh dan cabai. Selain itu, diberikan juga pelatihan pijat urut yang benar bagi lansia. Metode yang digunakan pada pelatihan ini yaitu diawali dengan cerah dilanjutkan dua tahap berikutnya dengan pelatihan membuat minyak urut dan pelatihan pijat urut. Hasil kegiatan pengabdian masyarakat yang telah dilakukan memberikan dampak positif bagi para peserta, baik para lansia maupun para pengasuh panti. Kegiatan ini telah menggabungkan pemahaman teoritis dengan aplikasi praktis yang membentuk fondasi edukasi terapi pijat yang efektif. Melalui kegiatan pengabdian ini peserta diberikan pengalaman belajar yang nyata dengan pendekatan pelatihan dua tahap yang digariskan, peserta tidak hanya memperoleh keterampilan yang esensial tetapi juga menumbuhkan apresiasi yang lebih dalam terhadap terapi pijat yang benar.</p> <p>Copyright © 2024, Riyanta, et al            This is an open access article under the CC-BY-SA license</p> 

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## INTRODUCTION

The utilization of traditional medicine has been widely used by the community until now (Harismah & Chusniatun, 2017). Its utilization has increased starting in early 2020 where there was the beginning of Covid 19 until it becomes a pandemic. Family Medicinal Plants "TOGA" (Tanaman Obat Keluarga) became one of the exciting topics at that time (Andriani et al., 2021). Utilizing medicinal plants is useful as a virus preventative and increases immunity to be resistant to covid 19 (Pertiwi et al., 2020). However, it has not been widely utilized in supporting waste diversification opportunities such as used cooking oil.

Along the way and at the beginning of 2023 the government has declared the covid 19 pandemic to be free (Diahwahyuningtyas & Pratiwi, 2023). The benefits of traditional medicine are still being utilized with more advanced diversification efforts. Various medicinal plants are processed into forms of topical dosage formulas such as creams, gels, and balsams (Dimpudus et al., 2017; Nakoe et al., 2020; Nasrullah et al., 2021). However, one of the diversification efforts that can be utilized is making massage oil because it is easier to make (Purba et al., 2021). Sequential oil can be made by mixing oil with nutritious ingredients such as ginger, lemongrass and chili with a heating process. These ingredients are proven to provide pharmacological effects such as relaxing muscles and reducing skin rashes (Riyanta & Amananti, 2024). Massage oil is a hereditary legacy from the ancestors (Pelawi et al., 2022). The culture of massage using oil aims to provide a slippery sensation in order to avoid skin irritation so that no wounds occur during the massage process (Arisanti & Mukhlisin, 2023). Along with the times the use of massage oil has been combined with various medicinal plants (Pramitha et al., 2023). The content of metabolites in medicinal plants formulated in massage oil is used to provide pharmacological effects. Ginger, lemongrass, cardamom and chili have been reported to be a combination of massage oil (Arisanti & Mukhlisin, 2023; Dinda Marvida et al., 2023; Suwarni et al., 2018).

Sequential oils combined with medicinal plants are able to provide pharmacological effects such as reducing the effects of inflammation, reducing muscle stiffness, and helping to reduce pain due to the process of repairing bone structures such as sprains and bone shifts from joints (Aryanti, 2018).

Oil used as sequential oils such as VCO or coconut oil. VCO or Virgin Coconut Oil is known to have a high linoleic (omega 3) content that can be used as an antioxidant that can reduce inflammatory effects (Rohman et al., 2019). In addition, there are olive oil, fish oil and other oils used as a base for massage oils (Auliasari et al., 2018; Defandi, 2015). However, due to the greater use of these oils, they are becoming increasingly expensive. For this reason, it is necessary to diversify the replacement of these oils with other oils such as used cooking oil.

Used cooking oil can be an alternative to become a base material for sequence oil (Riyanta, 2016). Used cooking oil does contain lower antioxidants than VCO, fish oil and olive oil. There has even been damage to the structure of its content such as trans oil and peroxide (Rohman et al., 2020). So that pretreatment is needed such as absorption with activated carbon (Mardina et al., 2012). In addition, it can be combined with medicinal plants that have higher antioxidant content such as ginger, secang, and others to increase its anti-inflammatory effect.

The application of adsorbed used cooking oil as a base material for massage oil has not been widely recognized by the public (Riyanta & Amananti, 2024). So that socialization activities and increasing knowledge for the community are needed. The target that can be done is to provide education and training for massage oil users such as the elderly or community groups that still have a massage culture.

This activity aims to achieve Indonesia's SDGs related to healthy and prosperous lives, clean and affordable energy and partnerships to achieve the goals. So these activities carried out was to provide socialization about processing adsorbed cooking oil into traditional massage oil at Purbo Yuwono Nursing Home in Brebes. This Werdha Home was one of the homes under the auspices of the Central Java provincial social service as a service partner object. This partner object was aimed at caregivers and residents of the orphanage who would be given education and training on how to make used cooking oil into massage oil with various efficacious family medicinal plants. It was hoped that this activity would add value and knowledge to caregivers and residents in reducing environmental impacts related to used cooking oil and efforts to diversify it into massage oil.

## METHOD

This service activity is made in the form of socialization related to the diversification of used cooking oil to make massage oil. Then the activity continued by providing training on how to make massage oil. The massage oil that has been made is then applied by providing massage training by professionals to participants. This activity also involved participants from the managers and residents of Purbo Yuwono Brebes Nursing Home. The activity was also accompanied by entertainment in the form of door prize distribution.

Evaluation was carried out after the activity is carried out as an indicator of learning achievement. The evaluation results are then used for plans to continue similar activities or develop activities that have been carried out by establishing cooperation.



Figure 1. Activity plan of service activities

Each activity is coordinated with the manager and caregiver of the orphanage considering that the residents of the orphanage are elderly people who require special attention, especially physical activity that needs to be reduced. The activity plan is then divided into several stages which are presented in table 1 below.

Table 1. Timeline community service activity

Activities						
Licensing the location, then determining the time of the activity by Focus Grup Discussion	Socializing massage products therapy materials.	Carry out training by starting with a pretest then a demo related to how to make massage oil then practice massaging and end with a posttest.	out	Data tabulation, data analysis, interpretation and discussion of activity results. Evaluation of activities with interviews with participants	Evaluation and follow-up of cooperation plans between the Polytechnic and Panti agencies	

The training included two phases of activities. 1. Making massage oil with the guidance of students. 2. Application of massage oil for massage accompanied by students with expert instructions.

First Step: Making tradisional massage oil from used oil. The tools and materials prepared are small pots, small stoves, beaker glass, stirrers, bottle containers, scales, knives, scissors, measuring cups, funnels then materials prepared used cooking oil, activated carbon, ginger, lemongrass and dried chilies, filter paper, cotton, flannel cloth. The manufacturing steps are as follows.

- Preparing a small pan, stirrer and small stove.
- Preparing ingredients such as ginger, lemongrass and dried chili.
- Slicing ginger and lemongrass in 1 mm thick.
- Heating 100 ml of used cooking oil at 80°C for 15 minutes,
- After the temperature is reached, putting 0.1 grams of activated carbon and stirring for about 60 minutes, then draining it.
- Filtering the oil using filter paper until the cooking oil looks clear (after the adsorption process).
- Preparing a wok then putting ginger: lemongrass: dried chili in a ratio of 3: 2: 1 (60 grams of ginger, 40 grams of lemongrass, 10 grams of dried chili) then adding 100 ml of adsorbed cooking oil.
- Heating the mixture, holding the heating temperature at 60°C±10 for 60 minutes.
- The mixture is then drained, after cooling the mixture is then filtered.
- The finished massage oil is then put into a bottle and ready for use.

Step two: Application of massage oil on participants. The massage oil that has been made is then applied to the participants by asking one of the participants to volunteer to demonstrate the massage practice.

- The therapist gives directions regarding the correct ways to perform massage to be followed by all participants.
- Participants then followed the directions of the therapist and performed the activity in turn.
- Next, the therapist gave an assessment to the participants regarding how to massage the massage that had been taught.

All manufacturing activities have been made into training modules that are distributed to caregivers for application.

## RESULTS AND DISCUSSION

### Pre-implementation: Enhancing massage therapy through practical training

The incorporation of hands-on training in massage therapy education is essential for caregivers and residents to effectively understand the intricacies of the practice for later application. This two-stage approach, involving the creation of massage oils and their practical application under expert guidance, offers a comprehensive learning experience for aspiring therapists such as students.



Figure 2. Introduction of the team and the initial process of community service activities

The service activities began by introducing all team members with their respective duties. The chief executive Aldi Budi Riyanta introduced the team members consisting of Mrs. Istiqomah Dwi Andari as a massage therapist who will be assisted by two students. Furthermore, there was Mrs. Wilda Amananti who will guide the training activities for making massage oil from used cooking oil with a combination of herbal plants.

The activity continued with an introduction from the caregiver team of the Werdha orphanage, namely Mrs. Rustinah as a representative of the Head of the orphanage accompanied by Mrs. Ida, the service department of the orphanage. The activity initiated by Politeknik Harapan Bersama was something that was very useful and can be implemented in the future for residents and caregivers, she said.

### Phase one: Crafting traditional massage oil

The first phase delves into the craftsmanship behind the production of traditional massage oils. This not only educated the residents about the composition of oils for massage therapy. It also instilled an appreciation for the natural ingredients used in therapeutic practices. The meticulous process, from heating the used cooking oil to incorporating key elements such as ginger, lemongrass, and dried chili, underscored the importance of precision and attention to detail in concocting an effective massage oil blend.

In addition, the utilization of materials such as activated carbon for purification demonstrates a commitment to quality and purity in the final product. At each step of the manufacturing process, the residents and caregivers gained insight into the chemical and botanical properties of the components, enriching their understanding of how these elements interact to create a harmonious blend.



Figure 3. Providing material for making traditional massage oil from used cooking oil

Processes such as filtering, purifying, and adding adsorbent materials such as activated charcoal can help remove contaminants and improve the safety of used cooking oil. However, even when treated, the use of used oil should still be limited and not used repeatedly to avoid the accumulation of harmful substances and the potentially associated health risks. It is better to safely dispose of used cooking oil or process it into alternative fuels rather than reusing it for cooking (Alamsyah et al., 2017).

Used cooking oil has a risk of harming health because it still contains food residues from frying, besides that used cooking oil has undergone oxidation to produce free radicals, polycyclic aromatic hydrocarbons (PAH) which are carcinogenic. Used cooking oil can also trigger digestive disorders such as nausea, vomiting and diarrhea (Olanrewaju Alade et al., 2022). For this reason, alternative processing is needed such as making sequence oil.



Figure 4. Materials for making massage oil

Ginger has long been recognized for its properties as an effective traditional medicine, including as an anti-pain treatment. Behind these effects are several active components in ginger that are believed to have analgesic, or pain-reducing, effects. gingerol, shogaol, and zingerone have anti-inflammatory properties. These compounds in ginger can also inhibit the activity of certain enzymes involved in the pain perception pathway in the body. In addition, it helps increase blood flow to the area affected by pain. By improving blood circulation, ginger can help reduce muscle stiffness and increase the supply of nutrients to injured tissues, which in turn can reduce pain. So it is not wrong that ginger is widely used as an active substance in massage oils (Budiati et al., 2018).

Lemongrass contains the chemical citronellal, which has anti-pain properties. The distinctive properties of lemongrass can be made a mixture in the manufacture of massage oil (Kamkaen et al., 2015). In addition, chili also contains capsaicin which has hot properties suitable to be a mixture in massage oil to increase the heat effect (Kumari et al., 2018).



Figure 5. Massage oil product from used oil

The elderly have various complaints such as leg pain. Massage therapy is often done alone by the elderly. However, without knowledge regarding the correct way of therapy, the elderly can experience other disorders such as wrong massage and irritation of the part being massaged or even pain that radiates to other parts of the body. Oil is used to reduce irritation that may occur during the massage process (Field, 2016).

On the other hand, nutritious ingredients such as gingerol from ginger, citronella from lemongrass and capsaicin from chili peppers are proven to reduce inflammation (Dacosta et al., 2017; Ramadani et al., 2019; Wijaya et al., 2019). This content can be used in massage oil mixtures made from used cooking oil. Instead of being discarded, used cooking oil is subjected to an adsorption process and then used as a traditional massage oil base (Gunawan & Karda, 2015).

### Phase two: Practical application of massage oil

Pivoting from theory to practice, the second phase immersed the residents and their caregivers in the hands-on application of their carefully crafted massage oils. Through guided instruction by experienced experts, participants learn the proper techniques and protocols for delivering massages effectively. This experiential learning approach not only reinforces theoretical knowledge but also hones practical skills essential for delivering therapeutic massages with finesse and proficiency.

The involvement of volunteer participants in demonstrating massage practices fosters a collaborative learning environment, where the elderly residents of the retirement home can observe and replicate proper techniques under the guidance of experienced therapists. Moreover, the feedback and assessments provided by the therapists offer invaluable insights for the participants to refine their skills and address any areas for improvement.



Figure 6. Participants were trained on how to do a massage

Massage therapy training by asking volunteers to be the material for massage practice. The resource person practiced the correct massage activity to one of the volunteers. Other participants then followed the directions of the resource persons. Participants are accompanied by students to guide if participants experience difficulties in training or incorrectly follow the instructions of resource persons.



Figure 7. Massage assistance by students

Massage therapy using massage oil aims to provide a slippery sensation so as to reduce irritation during massage. One of the massage techniques given is pressing the three gods point channel by pressing the outside of the foot, about 4 fingers below the knee, just below the shin. The location of this point is in the center of the anterior tibialis muscle. This activity can be done by pressing the area for a few minutes or with the massage technique 20-30 times.

### Provision of training modules for caregivers of retirement homes

Upon completion of the training session, participants can summarize these activities. The resource persons have created guidelines that are summarized into a training module that serves comprehensively to disseminate knowledge and skills to a wider audience of caregivers. As caregivers are provided with these modules as necessary tools and techniques, this initiative extends the benefits of massage therapy to various communities, promoting wellness and holistic healing practices.

In conclusion, combining theoretical understanding with practical application forms the cornerstone of effective massage therapy education. Through experiential learning experiences such as the two-stage training approach outlined, students not only acquire essential skills but also cultivate a deeper appreciation for the art of massage therapy.



Figure 8. Participants of the massage oil making and massage training



Figure 9. Memorabilia and provision of training modules

This service activity ended with the provision of souvenirs, modules for massage therapy and making massage oil. Indicators of success after evaluation with interviews for the elderly show positive results related to activities. The 48 elderly as participants there are about 10 people to give the perception that this activity can be directly practiced and useful. Similar activities need to be carried out as a sharing of knowledge and experience from Politeknik Harapan Bersama.

## CONCLUSION

The community service activities that have been carried out have a positive impact on the participants, both the elderly and the caregivers of the orphanage. This activity has combined theoretical understanding with practical application forming the foundation of effective massage therapy education. Through this service activity participants are given a real learning experience with a two-stage training approach outlined, participants not only acquire essential skills but also foster a deeper appreciation for the correct massage therapy.

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