
Enhancing the Knowledge of Elderly Posyandu Cadres in Sukoharjo Village, Malang City Through Aromatherapy Telon Oil Making Training

Venny Kurnia Andika¹, Sugiyanto² and Yolanda Agustina³

^{1,2,3} Pharmacy Program Study, Sekolah Tinggi Ilmu Kesehatan Panti Waluya Malang
Jalan Yulius Usman 62, Malang, 65117

Correspondence: Venny Kurnia Andika (funnyvenny@gmail.com)

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Abstrak. Elderly individuals experience natural aging, which is associated with frailty syndrome. The prevalence of frailty syndrome ranges from 7% in those over 65 years old to 30% in those over 80 years old. Around 35% of the global elderly population and 50% of elderly individuals in Indonesia report sleep quality issues. One non-pharmacological therapy that can be applied to elderly individuals with sleep difficulties is aromatherapy using essential oils. The aim of this community service activity is to enhance the knowledge and skills of Posyandu cadres in Sukoharjo Village, Malang City, regarding the benefits of essential oils and the process of making aromatherapy telon oil. The method used in this activity includes providing information on essential oils and the process of creating aromatherapy telon oil, followed by a practical session on making lavender-based aromatherapy telon oil for Posyandu cadres. The community service activity is conducted in three stages: the first stage involves a presentation on the health benefits of essential oils, the second stage focuses on the process of making aromatherapy telon oil, and the third stage includes a hands-on practice session followed by an evaluation of the participants' knowledge. The evaluation results show a 64.65% increase in the participants' knowledge, based on pretest and post-test scores. This improvement indicates that the information regarding the health benefits of essential oils and the method for making aromatherapy telon oil is well understood by the Posyandu cadres.

Kata kunci: elderly, frailty syndrome, aromatherapy, telon oil, posyandu cadres.

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INTRODUCTION

Puskesmas Bareng is one of the health centers in Malang, located in the Klojen subdistrict at Jalan Bareng Tenes 4A No.639, Bareng, Klojen, Malang City, East Java 65116, Indonesia. It was established in 1982 based on a presidential decree in 1975. The service area of Puskesmas Bareng includes the villages of Bareng, Gadingkasri, Kasin, Sukoharjo, Pisang Candi, and Karang Besuki. Puskesmas Bareng provides various internal services, such as registration desks, general health checks, maternal and child health services, dental care, pharmacy, laboratory, nutrition services, sanitation clinics, emergency procedures, sexually transmitted infections (STI) and HIV care, as well as satellite health centers. External services include Posyandu for children, elderly health services, school health services (UKS/UKGS), sports health activities, counseling services, occupational health efforts, and mobile health services. In 2020, Puskesmas Bareng recorded 18,525 patient visits, with 80 visits for mental health issues. The center employs 5 doctors, including 3 general practitioners and 2 dentists, as well as 5 nurses and 8 midwives. The service area has 4,870 elderly people, with only 44.3% of them receiving health services (Malang City Health Department, 2021).

According to Riskesdas (2013), people over the age of 75 have the highest disability rate (55.9%). In this age group, elderly individuals experience frailty and disabilities, which make them unable to care for themselves, and thus require caregivers. A caregiver is someone, either formally or informally trained, who assists an individual or group that is unable to care for themselves due to physical or mental limitations. In the case of elderly care, the caregiver is known as a "caregiver for the elderly." The role of elderly caregivers includes helping with daily activities such as walking, getting up from a chair, bathing, brushing teeth, dressing, urinating, eating, and more. Caregivers also provide psychological support, especially for elderly individuals who lack emotional support from their families and communities. They help maintain the elderly person's comfort, preserve bodily function, and provide emotional and spiritual support, especially during the end-of-life phase (Atapada et al., 2015).

Aging is a natural process, and as people age, they often experience frailty syndrome. Frailty syndrome is a geriatric condition characterized by reduced functional ability and impaired adaptation, which result from the decline of multiple body systems and increased vulnerability to stressors, leading to diminished functional performance. The prevalence of frailty syndrome is approximately 7% in individuals over 65 years of age and

30% in those over 80 years (Wowor & Wantania, 2020). Sleep quality is a crucial aspect of recovery for the elderly, impacting bodily functions and overall well-being. Aging is often associated with a decline in sleep quality, and while normal aging may cause some changes in sleep patterns, poor sleep quality can lead to health issues (Putri et al., 2018).

Globally, around 35% of elderly people experience decreased sleep quality, and in Indonesia, the figure is around 50%. Aromatherapy using essential oils is a non-pharmacological alternative to help elderly individuals with sleep difficulties. Lavender is one such aromatherapy that can be used. Lavender oil contains linalool and linalyl acetate, which are known to improve sleep quality and promote relaxation (Maharianingsih et al., 2020). Aromatherapy is an ancient healing practice that uses plant-based extracts to enhance physical, mental, and emotional well-being. Common essential oils used in aromatherapy due to their versatility include geranium, eucalyptus, lavender, and rose oils (Foerwanto et al., 2016).

Essential oils are complex mixtures of volatile compounds (monoterpenes and sesquiterpenes) that have specific aromas and are extracted from plants, often through distillation (de Andrade et al., 2021). Aromatherapy has been used for various therapeutic purposes, including improving sleep, reducing stress, and enhancing the immune system. Essential oils such as tea tree, cinnamon, clove, eucalyptus, thyme, rosemary, lavender, and pine are commonly used in aromatherapy for their health benefits (Lee et al., 2017). Aromatherapy can be administered through inhalation, massage, or baths (Hwang & Shin, 2015).

Aromatherapy has been shown to effectively reduce stress and improve sleep quality in adults. Inhaling aromatherapy before sleep has been found to enhance sleep quality in both adults and the elderly, including those with sleep disorders, cancer patients, heart disease patients, hemodialysis patients, burn victims, emergency room patients, and pre-diabetic individuals (Salamung & Elmiyanti, 2023). The chemical compounds in essential oils stimulate the limbic system through olfactory receptors, which activate emotional responses and promote relaxation by reducing stress (Reis & Jones, 2017). Research on elderly individuals receiving aromatherapy massage for 20 minutes, three times a week, showed a significant reduction in anxiety and depression (Mehrabian et al., 2022). Sleep quality also improved significantly in elderly patients with sleep disorders after receiving aromatherapy, as measured by the Pittsburgh Sleep Quality Index (PSQI), with a notable improvement in scores (Faydali & Çetinkaya, 2018; Lee et al., 2017).

Aromatherapy is easy to apply, does not require specialized equipment or skills, and its benefits can be felt relatively quickly (Lee et al., 2017). In addition to inhalation, essential oils can be applied through massage, providing relief for elderly patients, especially those undergoing recovery (Donatelli et al., 2018). Lavender essential oil is the most commonly used aromatherapy due to its calming effects, which help reduce anxiety and improve sleep. Studies have shown that inhaling lavender aromatherapy for 20 minutes before sleep for a week significantly reduces insomnia in elderly individuals (Mahyuvu et al., 2021). Lavender oil also helps increase sleep duration and supports elderly patients with dementia in reducing their dependence on sleep medication (Izadi-Avanji et al., 2019).

In addition to its use in aromatherapy, essential oils also serve as effective natural moisturizers for the skin. Essential oils help prevent xerosis and pruritus in elderly skin by improving epidermal defense and reducing transepidermal water loss (Escuadro-Chin et al., 2019; Yahya et al., 2020). Furthermore, lavender oil has been shown to reduce blood pressure in elderly individuals with primary hypertension (Rahmadhani, 2022). Research has demonstrated that a combination of lavender and nutmeg essential oils can lower blood pressure in elderly hypertensive patients when inhaled via a diffuser, leading to relaxation and activation of the parasympathetic nervous system, which slows the heart rate (Nugraha et al., 2020).

This Community Service activity will be carried out in Sukoharjo Village, Malang, targeting the Posyandu cadres from Puskesmas Bareng, Malang. The village has 21 Posyandu cadres. The aim of this program is to enhance the knowledge of the Posyandu cadres regarding the health benefits of essential oils and how to make telon aromatherapy oil.

PROBLEM

Based on previous observations of the PkM (Community Service) partner, the elderly Posyandu cadres at Puskesmas Bareng in Sukoharjo Village, Malang City, face several issues. One of the main problems is the limited elderly Posyandu program, which needs further development to support the improvement of elderly health as part of the Posyandu services in Sukoharjo Village.

Currently, the elderly Posyandu program is primarily focused on general health check-ups, conducted once a month. These check-ups include weighing, blood pressure measurement, blood sugar levels, cholesterol, and uric acid tests. However, the elderly

Posyandu cadres require additional information and knowledge that can help improve the health and quality of life for the elderly. This information could take the form of empowerment programs or training.

One of the key issues identified is that the Posyandu cadres lack knowledge about the health benefits of essential oils and how to create telon aromatherapy oil, which can be beneficial for the elderly. The implementation of this PkM activity aims to address these issues. This community service project will empower the elderly Posyandu cadres, enabling them to make their own telon aromatherapy oil and understand the health benefits of essential oils, particularly for the elderly in Sukoharjo Village.

METHOD

The method used to address the challenges faced by the elderly Posyandu cadres in Sukoharjo Village involves an empowerment activity that engages all cadres in the process. The method applied in this PkM activity includes delivering material to the Posyandu cadres, specifically regarding the benefits of essential oils for health, the process of making telon aromatherapy oil, and a practical session on how to make telon aromatherapy oil.

The empowerment activity is carried out in three stages. The first stage is preparation, which involves several key steps: establishing coordination with the Posyandu cadres in Sukoharjo Village, formulating the activity according to the planned implementation, scheduling the activity, and preparing the necessary facilities and equipment for the PkM implementation.

The second stage is implementation. The activity is carried out over three meetings. The first meeting begins with a pre-test for the participants (elderly Posyandu cadres), followed by a presentation on the health benefits of essential oils. A set of 10 pre-test questions is given to the participants, covering general knowledge about essential oils, their health benefits, the composition of telon aromatherapy oil, and the process of making it. After the pre-test, the session continues with a detailed presentation on the health benefits of essential oils. In the following meetings, participants learn how to make telon aromatherapy oil through a presentation from the community service team. The final meeting includes a hands-on session where the Posyandu cadres practice making telon aromatherapy oil themselves. A post-test is conducted at the end of the activity to assess the knowledge gained by the participants.

The third stage is evaluation. The increase in the Posyandu cadres' knowledge is measured through the pre-test and post-test conducted at the beginning and end of the activity. Both the pre-test and post-test consist of 10 questions. Knowledge improvement is considered significant if there is an increase of at least 50% in the post-test score compared to the pre-test score. The percentage increase in scores is calculated using the following formula:

$$\text{Increase of pre-test value} = \frac{\text{mean post-test} - \text{mean pre-test}}{\text{mean pre-test}} \times 100\%$$

RESULT AND DISCUSSION

The Community Service Program (PkM) in Sukoharjo Village, under the jurisdiction of Puskesmas Bareng in Malang, is a follow-up initiative to the collaboration between STIKes Panti Waluya Malang and the Malang City Health Office. Puskesmas Bareng, which operates under the Malang City Health Office, covers several areas, including Bareng, Sukoharjo, Gading Kasri, and Kasin, all of which are located in the Klojen District of Malang. This PkM activity is conducted in Sukoharjo Village, with the involvement of the posyandu (community health post) cadres for the elderly as the primary partners of the program.

There are 21 cadres in the Kartini Posyandu for the elderly. The implementation of the PkM program is carried out in stages, including the pretest, delivery of material on the benefits of essential oils for health and how to make aromatherapy telon oil, practical training on making aromatherapy telon oil by the cadres, and a post-test to measure the knowledge improvement of the posyandu cadres after participating in the program.

The evaluation of pretest and post-test scores reveals a significant improvement in the post-test results, with an increase of 64.65%. The average pretest score for all participants was 55.24, while the average post-test score was 90.95. Both the pretest and post-test consisted of ten questions, and the pretest was administered at the beginning of the activity, with the post-test conducted at the end. The average pretest score indicates that the posyandu cadres had limited knowledge about essential oils, particularly their health benefits and how to make aromatherapy telon oil.

The increase in post-test scores reflects that the cadres gained a clear understanding of the materials presented during the program. The improvement in scores shows that the participants comprehended the content of the training, and the practical demonstration of making aromatherapy telon oil was effectively understood. Prior to the program, the

posyandu cadres had little knowledge of essential oils. Most participants were unaware of the definition and health benefits of essential oils, only recognizing them as aromatic oils commonly used in traditional medicine, such as massage oils, eucalyptus oil, and telon oil. After attending the program and receiving detailed explanations, the participants were able to grasp both the concept and the health benefits of essential oils.

The discussions and Q&A sessions during the program further indicated that the participants could understand the material effectively. These interactions were clear signs that the posyandu cadres were able to internalize the information and were confident in applying the knowledge gained from the program.



Fig 1. Presentation on the health benefits of essential oils

The participants were able to practice making aromatherapy telon oil smoothly after receiving a demonstration from the facilitators. They successfully mixed the essential oils for the aromatherapy telon oil according to the steps taught during the session. The participants gained valuable knowledge about the health benefits of essential oils and acquired skills in making aromatherapy telon oil, which can be used for elderly members in the posyandu (community health posts) in Sukoharjo village.

During the first implementation, the participants received material on the health benefits of essential oils. Essential oils are commonly used in various industries, such as cosmetics, antiseptics, pharmaceuticals, and perfumes. They are often referred to as fragrance oils and are widely used in perfume production (Andila et al., 2020). The participants learned about the definition of essential oils, types of essential oils, and their uses, particularly in healthcare. For instance, eucalyptus, which is a plant that produces essential oil, is used as a raw material in Indonesia's essential oil industry (Syarifuddin & Smith, 2019). The eucalyptus oil contains cineole, which has a fresh, camphor-like scent

and a spicy taste. Eucalyptus is volatile and commonly used in herbal medicines, antispasmodics, analgesics, and cosmetics such as perfumes (Ismanto, 2018). The session also included a discussion between the participants and the facilitators. The participants were enthusiastic and actively participated in the discussion. They were introduced to various essential oils that are commonly used in daily life under different names, such as eucalyptus oil, rose oil, fennel oil, and others.

In the second session, the participants received material on how to make aromatherapy telon oil. The information provided covered the definition and uses of telon oil, the components of each oil in the telon mixture, the composition of telon oil, and how to formulate aromatherapy telon oil. The session included a demonstration by the facilitators, showing how to make the aromatherapy telon oil. The participants were highly engaged and actively asked questions during the Q&A session. Their curiosity focused on the contents of aromatherapy telon oil and the alternative essential oils that could be added to the telon oil.

The practical session on making aromatherapy telon oil took place during the third implementation. The participants actively engaged in making aromatherapy telon oil, following the steps that had been explained earlier, including measuring, mixing the oils in the correct ratio, ensuring the mixture was homogeneous, testing the scent, and finally, packaging the oil. The session concluded with a post-test, consisting of ten questions, to evaluate the participants' knowledge improvement after the training.



Fig 2. Practice of making aromatherapy telon oil by posyandu cadres for the elderly



Fig 3. Posyandu cadres for the elderly with their completed practice results

The aim of this community service activity (PkM) was to provide the posyandu cadres with knowledge about the health benefits of essential oils and to teach them how to make aromatherapy telon oil, which could later be applied in the posyandu program. The elderly members of the Sukoharjo posyandu are expected to directly benefit from these efforts. Additionally, the participants expressed their desire for similar activities to be held in the future, allowing them to expand their knowledge and continue benefiting the elderly in the community.

CONCLUSION

The impact of the community service (PkM) activities felt by the elderly posyandu cadres in Sukoharjo village, within the working area of Puskesmas Bareng, Malang, as PkM partners, is an increase in their knowledge about the benefits of essential oils for health and the process of making aromatherapy telon oil. This is demonstrated by the increase in the average pretest-posttest scores, which shows a 64.65% improvement. Future PkM activities could include similar empowerment programs that support elderly health, such as producing supplementary food for the elderly, especially those with health issues.

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