

EFFECTIVENESS OF THE USE OF CHAMOMILE AROMATHERAPY ON REDUCING STRESS LEVELS IN PREGNANT WOMEN

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ABSTRACT

Pregnancy is often accompanied by increased stress levels due to physiological and psychological changes, which can negatively impact both maternal and fetal health. Natural and non-invasive methods to alleviate stress during pregnancy are increasingly sought after, with chamomile aromatherapy being a promising option due to its known calming properties. This study aims to evaluate the effectiveness of chamomile aromatherapy in reducing stress levels among pregnant women. Quantitative research, Quasi experiment with a one group pre-post test design. The number of samples used in this research was 30 people using accidental sampling. The research instrument used to measure the stress level of pregnant women is the Perceived Stress Scale (PSS-10). The results of the paired t-test statistical test obtained a p-value of 0.01 ($< \alpha$ 0.05), meaning that there was effectiveness of giving chamomile aromatherapy in reducing stress levels in pregnant women at UPTD Puskesmas Lao. Chamomile aromatherapy is a safe, effective, and accessible method for managing stress in pregnant women, potentially enhancing overall prenatal health and well-being. This study supports the integration of chamomile aromatherapy into prenatal care practices.

Keywords: Chamomile Aromatherapy, Stress Reduction, Pregnancy

INTRODUCTION

Significant physiological and psychological changes, frequently accompanied by elevated stress levels, are hallmarks of the crucial time during pregnancy. High levels of stress during pregnancy have been associated with negative outcomes, such as low birth weight, premature delivery, and problems with the development of the fetus (Lindqvist et al., 2017). Pregnant women experience stress due to a variety of circumstances, including hormonal swings, physical discomfort, and worries about birthing and parenting. To promote the well-being of both the mother and the

fetus, it is imperative to comprehend these stressors and design appropriate remedies. It is critical to manage prenatal stress in order to enhance the health outcomes for expectant mothers and their offspring (Oktapianti & Triyanti, 2021).

Aromatherapy is one of the complementary therapies that has showed promise among them. Because aromatherapy uses essential oils for therapeutic purposes and has the ability to naturally relieve tension and anxiety, it is becoming more popular (Mahmujianah et al., 2023).

Aromatherapy with chamomile has gained a lot of attention as a safe and efficient way to relieve stress, especially for expectant mothers. The relaxing and sedative qualities of chamomile essential oil are the basis for its medicinal application in easing the symptoms of stress and anxiety (Talebi et al., 2022). Breathing in chamomile essential oil helps lower cortisol levels the main hormone associated with stress which in turn promotes mental health and relaxation. Pregnant women, who frequently suffer increased stress owing to physiological changes and worries about birthing and parenthood, can especially benefit from this (Shirzad & Nobahar, 2022).

In addition to its anxiolytic properties, the chamomile aromatherapy is linked to better sleep and psychological stability two things that are extremely important during pregnancy. Pregnant women frequently have poor sleep and mood changes, which can worsen stress and anxiety (Hasan, 2022). Chamomile aromatherapy manages pregnant stress holistically by offering a natural way to improve sleep and mental stability. It also offers a risk-free substitute for pharmaceutical therapies, which could impair a fetus's growth (Mahmujianah et al., 2023).

LITERATURE REVIEW

The use of essential oils from chamomile plants in aromatherapy is a supplementary therapy that is intended to enhance both physical and mental health. In order to utilize the therapeutic benefits of chamomile essential oil, this approach entails inhaling or applying it topically. Steam distillation of the plant's petals yields a concentrated material rich in therapeutic components including bisabolol and

chamazulene, which have relaxing, anti-inflammatory, and antispasmodic properties. This process is used to extract chamomile essential oil (Hasan, 2022).

The main way that chamomile aromatherapy works is by stimulating the sense of smell. Aromatic molecules in chamomile essential oil interact with the nose's olfactory receptors to send signals to the limbic system of the brain, which controls emotions, memory, and stress reactions (Sari et al., 2022). Neurotransmitters like dopamine and serotonin may be modulated as a result of this interaction, easing anxiety and encouraging calmness. Furthermore, when diluted with a carrier oil and used to the skin during massages or baths, chamomile essential oil can be absorbed via the skin, adding to its calming properties by easing muscle tension and fostering general relaxation (Shirzad & Nobahar, 2022).

Pregnant women who experience stress may experience physical and psychological strain as a result of the many adjustments and difficulties they face during pregnancy. A woman's mood and mental stability can be greatly affected by hormonal variations, such as elevated levels of progesterone and estrogen, which can also lead to elevated stress levels. Stress is made worse by physical discomforts as nausea, exhaustion, back pain, and sleep difficulties. The emotional strain during this time might also be increased by worries about the baby's health, the anticipation and fear of birthing, and changes in one's personal and professional life (Yuliastanti Y, 2020).

Stress during pregnancy can have serious consequences that could affect the health of the mother and the fetus. Chronic stress increases the mother's risk of

developing high blood pressure, gestational diabetes, and mental health conditions like depression and anxiety (Oktapianti & Triyanti, 2021). Prolonged maternal stress can cause problems for the fetus, including low birth weight, premature birth, and developmental problems. It is essential to effectively manage stress through social support, healthy living, professional counseling, and relaxation techniques in order to reduce these risks, encourage a healthy pregnancy, and guarantee favorable outcomes for both mother and child (Babatunde et al., 2021).

The significance of this study lies in its potential to provide a natural and non-invasive method for reducing stress levels in pregnant women, a group particularly vulnerable to anxiety and emotional strain. By exploring the effectiveness of chamomile aromatherapy, this research contributes to the broader field of prenatal care, offering evidence-based insights into alternative therapies that can improve maternal well-being. Given the potential adverse effects of chronic stress on both maternal and fetal health, including risks of preterm birth and developmental issues, identifying effective stress reduction strategies is crucial. Chamomile, known for its calming and anti-anxiety properties, presents a promising option. This study not only aims to validate the therapeutic benefits of chamomile aromatherapy but also seeks to

enhance holistic prenatal care practices, providing healthcare professionals and expectant mothers with safe, accessible, and effective tools to manage stress during pregnancy.

METHOD

This type of research is quantitative research, Quasi experiment with a one group pre-post test design where the researcher reveals the causal influence of the two variables studied by involving one group of subjects who are observed before and after being given treatment, namely giving chamomile aromatherapy. The population in this study were pregnant women who underwent Antenatal Care examinations at the UPTD Puskesmas Lao with an average of 38 monthly visits. The number of samples used in this research was 30 people using accidental sampling or opportunity sampling techniques based on the spontaneity factor, meaning that anyone who does not accidentally meet the researcher and matches the characteristics of that person can be used as a research respondent. The research instrument used to measure the stress level of pregnant women is the Perceived Stress Scale (PSS-10) After obtaining the results, the researcher has processed the data of the research results using the Paired Samples T-Test.

RESULTS

Table 1. Frequency Distribution of maternal age, pregnancy trimester, maternal employment, stress level (Pre-Test) and stress level (Post-Test)

Maternal Age	Frequency	Percentage (%)
<20 Years	12	40
20 - 30 Years	14	46,7
>30 Years	4	13,3
Pregnancy Trimester	Frequency	Percentage (%)
1	7	23,3
2	15	50
3	8	26,7
Maternal Employment	Frequency	Percentage (%)
Housewives	9	30
Employee	7	23,3
Farmer	6	20
Entrepreneurial	8	26,7
Stres Level (Pre-Test)	Frequency	Percentage (%)
Low Stres	2	6,7
Moderate Stres	16	53,3
High Berat	12	40
Stres Level (Post-Test)	Frequency	Percentage (%)
Low Stres	11	36,7
Moderate Stres	19	63,3
Total	30	100.0

Based on the table above, it can be seen that the majority of mothers who were respondents were 20-30 years old, with 14 respondents (46.7%). Based on the trimester of pregnancy, it is known that the majority of respondents are in Trimester 2 with 15 respondents (50%). Based on maternal occupation, the majority of respondents were housewives with 9

respondents (30%). Meanwhile, based on the measurement results, it was found that the highest level of stress before being given chamomile aromatherapy was moderate stress, amounting to 16 respondents (53.3%) and the highest stress level after giving chamomile aromatherapy was moderate stress, amounting to 19 respondents (63.3%).

Table 2. Effectiveness Of The Use Of Chamomile Aromatherapy On Reducing Stress Levels In Pregnant Women

Stres Score	Mean	P Value
Pre-Test	23,6	0,01
Post-Test	15,1	

The table above shows that the average stress level before being given chamomile aromatherapy was 23.6 and the average stress level after being given chamomile aromatherapy was 15.1. The results of the paired t-test statistical test

obtained a p-value of 0.01 ($< \alpha 0.05$), meaning that there was effectiveness of giving chamomile aromatherapy in reducing stress levels in pregnant women at UPTD Puskesmas Lao.

DISCUSSION

Chamomile aromatherapy interventions

Chamomile aromatherapy intervention using diffusers is an effective and convenient method for reducing stress, particularly among pregnant women. The use of a diffuser allows for the continuous release of chamomile essential oil into the air, providing a steady stream of therapeutic aromas. This method capitalizes on the olfactory route, where the aromatic molecules are inhaled and detected by the olfactory receptors in the nose (Chang & Chen, 2016). These receptors send signals directly to the brain's limbic system, the area responsible for emotions, memory, and stress regulation, thereby promoting a calming and relaxing effect (Hasan, 2022).

The process of setting up chamomile aromatherapy with a diffuser is straightforward. Typically, a few drops of chamomile essential oil are added to the water reservoir of the diffuser. The diffuser is then turned on, and within moments, the calming scent of chamomile fills the room. This ease of use makes it an accessible option for pregnant women who may be dealing with physical discomforts and limited energy. Furthermore, diffusers can be used in various settings, such as bedrooms, living areas, or even workplaces, providing flexibility and continuous stress relief (Talebi et al., 2022).

Research supports the effectiveness of chamomile aromatherapy via diffusers in reducing stress levels. Studies have shown that regular exposure to chamomile aroma can lead to a significant reduction in cortisol levels, the hormone associated with stress (Maulidawati & Widowati, 2022). Pregnant women who used chamomile essential oil in diffusers experienced lower levels of anxiety and improved overall mood. These findings suggest that chamomile diffusers can play a crucial role in managing prenatal stress, contributing to better mental and emotional health during pregnancy (Shirzad & Nobahar, 2022).

Changes in the stress level of pregnant women

The use of chamomile aromatherapy diffusers has been shown to significantly reduce stress levels in pregnant women. Before the intervention, pregnant women often report heightened stress level. After incorporating chamomile aromatherapy into their daily routine, many respondent experience notable improvements in their overall sense of well-being. The calming properties of chamomile, released steadily through diffusers, help to create a serene environment that alleviates anxiety and promotes relaxation (Yuliastanti Y, 2020).

Studies have documented measurable changes in stress levels among pregnant women who use

chamomile aromatherapy diffusers. Respondent who inhaled chamomile essential oil through diffusers showed a significant reduction in cortisol levels, the primary hormone associated with stress. This biochemical change was accompanied by self-reported improvements in mood and decreased feelings of anxiety. The continuous diffusion of chamomile oil created a consistent calming effect, which was particularly beneficial for pregnant women dealing with the persistent stressors of pregnancy (Afrino & Janah, 2019).

In addition to lowering cortisol levels, the use of chamomile diffusers has been linked to improved sleep quality, which is a critical factor in managing stress. Poor sleep is a common issue during pregnancy due to physical discomfort and hormonal changes, and it can exacerbate stress and anxiety (Zietlow et al., 2019). The soothing aroma of chamomile helps to promote better sleep by creating a peaceful atmosphere conducive to rest. Women using chamomile diffusers reported falling asleep more easily and experiencing fewer disruptions during the night, leading to more restful and restorative sleep (Hasan, 2022).

The emotional benefits of chamomile aromatherapy extend beyond stress reduction. Pregnant women using diffusers often report a greater sense of emotional balance and stability (Babatunde et al., 2021). The regular inhalation of chamomile essential oil helps to mitigate mood swings and enhance feelings of well-being. This emotional steadiness is crucial during pregnancy, as it not only benefits the mother but also positively impacts fetal development. By reducing stress and promoting emotional health, chamomile aromatherapy supports a

healthier pregnancy journey (Shirzad & Nobahar, 2022).

CONCLUSION

Chamomile aromatherapy is a safe, effective, and accessible method for managing stress in pregnant women, potentially enhancing overall prenatal health and well-being. This study supports the integration of chamomile aromatherapy into prenatal care practices.

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