

Rose Aromatherapy Mask and Hedonic Test

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Abstract

Rose aroma therapy is an aromatherapy that contains linalool and geraniol which have soothing properties and provide a relaxing effect on the central nervous system by stimulating the olfactory nerve. The mechanism of action of rose aromatherapy in the human body takes place through two physiological systems, namely the body's circulation and the olfactory system. When the aroma therapy of rose essential oils is inhaled, volatile molecules will carry the aromatic elements contained in it such as geraniol and linalool to the top of the nose where cilia arise from the receptor cells. When molecules attach to cilia, electrochemical messages are transmitted through the olfactory channels into the limbic system. This will stimulate memory and emotional response. The hypothalamus, which acts as a regulator, gives rise to messages that must be conveyed to the brain. The messages received are then converted into actions in the form of electrochemical compounds that cause feelings of calm and relaxation and can facilitate blood flow. The purpose of this study was to measure the effectiveness of rose aromatherapy masks on reducing blood pressure and measure preferences for rose aromatherapy masks based on the aroma and comfort. During the pandemic, the use of masks is a behavior that must be habituated so that it becomes a daily behavior. The second year's research report is a preference test or hedonism test. The content of aromatherapy oils applied to masks is made in four levels, namely 100%, 75%, 50% and 25%. The method of applying aromatherapy oil to masks uses evaporation at room temperature with different durations, namely; 6 hours, 12 hours, 18 hours and 24 hours. The results of the test of liking and comfort in wearing aroma therapy masks (hedonic) according to respondents (100%) felt comfortable with a level of 50% with an application time of 6 hours.

Keywords: Rose aromatherapy mask, hypertension

1. Introduction

Background

Aromatherapy is a term used for a healing process that uses pure aromatic plant essences. The goal is to improve physical, mental and emotional health. The aromatic plant juice used is obtained through various processing methods and is known as essential oil (Aisyah, 2018). Commonly used types of aromatherapy such as, sandalwood (*Santalum Album*), lemon (*Citrus lemon*), Jasmine (*Jasminum grandiflorum*), Kenanga (*Cananga odorata*), Rose (*Rosa centifolia*), lavender (*Lavendula augustifolia*), (Aisyah, 2018) (Alivian & Taufik, 2021).

The scent of soft and much-liked flowers is the scent of roses because the fragrance is softer than the scent of other flowers. In addition, rose oil is widely available in pharmacies and supermarkets so it is easy to get. Rose aromatherapy is an aromatherapy that contains linalool and geraniol which have soothing properties and provide a relaxing effect on the central nervous system by stimulating the olfactory nerve. Some of the chemicals contained in rose essential oil include geranyl benzoate, caryophyllene, linalool and Eugenol, phenylethyl, alcohol, farnesol, nonyl, and aldehyde (Anggraeni et al., 2021). Inhaling aromatherapy will increase alpha waves in the brain and these waves are what help us to relax, it can reduce the activity of vasoconstriction of blood vessels, blood flow becomes smooth, thus lowering blood pressure (Kune et al., 2022). The mechanism of action of rose aromatherapy. When the aroma therapy of rose flower essential oil is inhaled, volatile molecules will bring the aromatic elements contained in it such as geraniol and linalool to the top of the nose where cilia appear from receptor cells. When the molecules attach to the hairs, an electrochemical message is transmitted through the olfactory channels into the limbic system. This will stimulate memory and emotional response. The hypothalamus, which acts as a regulator, gives rise to messages that must be conveyed to the brain. The messages received are then converted into actions in the form of electrochemical compounds that cause feelings of calm and relaxation and can facilitate blood flow (Mailani & Burhanto, 2022).

Disturbances in blood flow or hemodynamics that often occur can be overcome by using essential oils that lower blood pressure, including dandelion oil, rose oil, marygold, and lavender (N. D. Putri, 2019) (Silalahi et al., 2020). Research on aromatherapy that has been carried out by pouring rose oil into a place filled with hot water, or using Electric steam appliance (aromatherapy diffuser). This method has several drawbacks, including requiring a special room so that the steam is easily inhaled, not scattered everywhere, if there are other people who don't like it, it will be disturbed, and it is impractical (A. D. Putri & Anwar, 2021). Based on these shortcomings, researchers are interested in making innovations in aroma therapy methods using masks (aromatherapy masks). During the pandemic, the use of masks is a behavior that must be habituated so that it becomes a daily behavior. It is possible that the use of masks will continue without knowing the end of the deadline. This research has been running since the first year, namely in 2022 Prototype of aromatherapy mask rose with expert testing, then the second year of qualitative research on consumer preference and comfort or hedonic test which was carried out from the end of 2022 to early 2023, the third year of the effectiveness test on blood pressure reduction was carried out at the end of 2023 to mid-2024.

2. Method

The research method used in the test of consumer preference and comfort in the use of rose aromatherapy masks is qualitative descriptive research. The preference test or hedonic test was carried out to measure the level of preference of respondents for rose therapy scent masks. This test was conducted on 25 respondents or panelists, in this hedonic test for aromatherapy masks, the panelists were not specifically trained, because this research focuses on general consumer experiences. Therefore, a panelists consisting of ordinary consumers (untrained panelists) is more appropriate. They have previous experience using aromatherapy products (can provide a more precise assessment) and do not have allergies or sensitivities to the ingredients used in aromatherapy masks. A scale to measure the extent to which panelists like or dislike a product based on the dimensions of strongly dislike, dislike, like and really like.

Type of Research

This research is qualitative research and is carried out by a descriptive method, namely a preference test or hedonic test of rose aromatherapy masks with the concentration of aromatherapy oil applied to masks made at four levels, namely 100%, 75%, 50% and 25%. The method of applying aromatherapy oil to masks uses evaporation at room temperature with different durations, namely; 6 hours, 12 hours, 18 hours and 24 hours. Next, a hedonic test was carried out.

Place and Time of Research

This research was conducted in the Campus Laboratory of the Bandung Nursing Department. This research was conducted in August 2022.

Research Sample

Twenty-five respondents or **panelists**

3. Tools and Materials

Notebooks and timekeepers (stopwatches). The material used in this study is a rose aromatherapy mask with a concentration of aromatherapy oil applied to the mask made in four levels, namely 100%, 75%, 50% and 25%. The method of applying aromatherapy oil to masks uses evaporation at room temperature with different durations, namely; 6 hours, 12 hours, 18 hours and 24 hours.

The preference test or hedonic test was carried out to measure the level of preference of panelists for rose therapy scent masks. This test was conducted on 25 panelists with questions such as dislike, like and really like. The following are the results of the hedonic/preferred test of aromatherapy masks.

Table 1. Respondents' Preferences (hedonic) test for 100% concentration therapy aroma masks.

It	Evaporation time length 6 hours	Frequency	Percentage
1	Dislike	15	60
2	Like	10	40
3	Really Like	-	

Table 1 shows that 60% of panelists stated that they do not like the smell because it is too strong or pungent.

Table 2. Respondents' Preferences (hedonic) test for concentration therapy aroma masks 75%

It	Evaporation time length 6 hours	Frequency	Percentage
1	Dislike	12	48
2	Like	10	40
3	Really Like	3	12

Table 2 shows that 48% of panelists stated that they did not like the aroma because it was too strong, the same as the 100% concentration, but there were those who liked the 75% concentration, which was as much as 52%.

Table 3. Panelists' Preferences (hedonic) test for aroma masks with 50% concentration therapy

It	Evaporation time length 18 hours	Frequency	Percentage
1	Dislike	-	-
2	Like	2	8
3	Really Like	23	92

Table 3 shows that 100% of panelists stated that they liked the scent with a concentration of 50%, felt more comfortable starting from inhaling and getting more comfortable with the scent over time.

Table 4. Panelists' Preferences (hedonic) test for aroma masks with concentration therapy 25%

It	Evaporation time length 6 hours	Frequency	Percentage
1	Dislike	5	20
2	Like	10	40
3	Really Like	10	40

Table 2 shows that 20% of panelists stated that they did not like the aroma because it was not strong with the 25% concentration, but there were those who liked the 25% concentration, which was as much as 80%.

4. Discussion

Fondness for rose aromatherapy

In this study, rose aromatherapy is used because the majority of people like rose aromatherapy for various reasons, including: the scent of roses is soothing scents That is, the scent of roses is known to calm the mind and relieve stress. This makes it popular as an option for relaxation. In addition, it has Emotional Benefits That is, roses are often associated with love and beauty, so their scent can improve mood and give a sense of happiness (Adhnan, 2019) (Agustina, 2019). The scent of roses also has Antidepressant Properties It can be seen in some studies showing that the scent of roses can help reduce symptoms of depression and anxiety, making it an attractive option for many people (Alivian & Taufik, 2021). Roses have been around for a long time Ritual use That is, roses are often used in various rituals and celebrations, so their scent has a sentimental meaning for many people. Roses are often associated with love, romance, and beauty. The scent of roses can evoke positive feelings and good memories, so many people love them (Anggraini, 2017) (Ardela et al., 2017). And another reason the scent of roses is good combination i.e. the scent of roses is also easily combined with other essential oils, making it flexible in the use of aromatherapy(Arjuni et al., 2022)(Ashar et al., 2018)(Yoshiko & Purwoko, 2016).The results of the study showed that at the concentration of 50%, the panelists had the most scores, namely very much (92%) and liked (8%), so all

panelists (100%) felt that they liked the concentration of 50% compared to the other concentrations. This is because there is an increase in the volume of essential oils at concentrations of 100% and 75% so that it produces a stronger odor than the concentrations of 50% and 25%. In line with the results of previous research according to (Lestari et al., 2019) showing that the formula has a lot of essential oil content and then a 50% preparation, the results show that the formula has a more pronounced rose aroma and has a high value of 'very like' and 'like' the test to the panelists (N. K. Y. Lestari et al., 2022) (LESTARI, 2018) (Y. Lestari et al., 2022). At a concentration of 50%, the aroma of roses is at a level strong enough to be recognized and provide an aromatherapy effect, but not so strong that it disturbs or causes excess olfactory stimulus. Scents that are too strong can cause discomfort, dizziness, or even nausea in some people, while scents that are too light may not have enough impact to provide comfort. 50% concentration is the optimal point that provides a balance between aroma intensity and psychological comfort. The aroma of roses at this level can provide a sensation of relaxation, emotional balance and calming, which is generally liked by many people. Aromatherapy masks at 50% concentration have a tendency to disperse evenly in the air, creating a consistent sensation in the surrounding space. This allows panelists to experience the effects of aromatherapy in a more harmonious way. An aroma that is too strong or too weak may not disperse effectively, reducing the overall experience of an aromatherapy mask. The aroma of roses in the right concentration can stimulate the production of the hormone's serotonin and endorphins, which play a role in improving mood and reducing anxiety. At a concentration of 50%, aromatherapy masks may provide these positive effects without providing excessive stimulus, allowing panelists to experience physical and emotional comfort more naturally.

Effects of Therapy Felt by Panelists

In this study, aromatherapy masks used essential oils, Rosemary (*Rosmarinus officinalis* L.) oil with concentrations of 100%, 75%, 50% and 25%. With different application times on masks, evaporation methods are 6 hours, 12 hours, 18 hours and 24 hours. The results of the hedonism test conducted by all panelists (100%) liked the concentration of 50% and the evaporation time of 6 hours.

The therapeutic effects felt by the panelists, after inhaling aromatherapy oils, the panelists said that various therapeutic effects, among others, provide a Relaxation effect or a calming effect. Many feel increased relaxation and reduced muscle tension. The scent of roses, can calm the nervous system. Some panelists reported feelings of happiness or euphoria, especially after inhaling the scent of roses, which could improve mood. Reduce Stress and Anxiety i.e. the scent of roses can help relieve anxiety and stress, providing a sense of calm. Increased focus and concentration on these conditions of rosemary or rose therapy aroma oils can help improve alertness and concentration, making panelists feel more focused. Improved sleep quality in this case some panelists reported a better sleep after using soothing scents, such as roses. Physical sensations in this condition There are also those who feel physical sensations, such as warming the body or relieving headaches, after inhaling the scent of roses used in masks (Sitepu, 2021).

The mechanism of aromatherapy can cause therapeutic effects and physical sensations because it is related to physiological mechanisms including Interaction with the Limbic System, the aroma of essential oils can affect the limbic system in the brain, which plays a role in regulating emotions, memory, and physical responses. When a person inhales the scent, this can trigger a

strong emotional and physical reaction. Hormone release i.e. inhaled aromas can stimulate the release of hormones, such as serotonin or endorphins, which can improve mood and reduce pain (Suralaga et al., 2020). This may explain why some people feel a comfortable sensation or euphoria. Muscle relaxation in this condition essential oils as essential oils have antispasmodic or muscle relaxant properties, such as rose, lavender or chamomile. When these scents are inhaled, they can help relieve muscle tension, providing soothing physical sensations. Effects on the Nervous System In this case aromatherapy oils can affect the autonomic nervous system, which regulates unconscious bodily functions, such as heart rate and breathing (Pratiwi & Subarnas, 2020). This can lead to changes in heart rhythm or physically perceived breathing. Analgesic properties: Some essential oils, such as peppermint or eucalyptus, have analgesic properties that can help relieve pain, providing soothing physical sensations (Ryskalestari, 2023). Increased circulation in this case aromatherapy can improve blood flow and circulation, which can be felt as a warm or comfortable sensation throughout the body. Roses contain chemical compounds called terpenoids and esters, which create a sweet and delicate aroma. This compound stimulates our olfactory receptors in a pleasant way, the therapeutic aroma of roses can stimulate an emotional response that leads to feelings of calm and relaxation, which in turn can lower blood pressure (Roswita, 2022).

The scent of roses affects the limbic system in the brain, which is the part responsible for emotions, memory, and controlling behavior. The limbic system involves brain structures such as the amygdala (which regulates emotions) and the hypothalamus (which regulates the body's response to stress). When we smell roses, chemical signals from these aroma molecules are sent via the sense of smell to the brain, specifically to the limbic system. For example, the scent of roses can trigger the release of neurotransmitters such as serotonin and endorphins. These two chemicals are known as "happiness hormones" that help relieve anxiety, improve mood, and create feelings of happiness or calm. Therefore, the scent of roses can create feelings of relaxation and reduce emotional or physical tension, helping to calm the nervous system.

Research shows that the scent of roses, like many other essential oils, has calming properties that can reduce symptoms of stress and anxiety. When we inhale the scent of roses, the brain responds by reducing levels of cortisol, a stress hormone circulating in the body. High cortisol levels can cause anxiety and tension, while decreased cortisol contributes to feelings of relaxation and calm. The scent of roses works by activating the body's relaxation mechanisms, reducing the "fight or flight" response triggered by stress, and promoting a more balanced and stable state (WAHYUNINGSIH, 2020).

The scent of roses has mild sedative properties that help reduce anxiety and promote a sense of calm. Some studies show that rose has a calming effect similar to other aromatherapy, such as lavender or chamomile. Rose essential oil, for example, is known to relieve muscle tension and lower blood pressure, two factors that contribute to stress reduction. These sedative effects not only work on an emotional level, but also on a physical level, by helping to lower the heart rate and increase the overall feeling of relaxation (Wahyuni et al., 2020).

The scent of roses is also closely associated with positive memories and symbolism. In many cultures, roses are considered a symbol of love, beauty and peace. This may make the scent of roses feel more calming to many people due to its associated positive associations. A pleasant aroma can stimulate feelings of safety and comfort, thereby helping to reduce anxiety and stress levels. Research on the effects of scent on memory shows that pleasant smells such as roses

can trigger feelings of happiness or calm by evoking positive memories or feelings. In other words, the sense of security and comfort provided by the scent of roses can further strengthen the calming effect on the nervous system (Roswita, 2022)

5. Conclusion

The mechanism of aromatherapy can cause therapeutic effects and physical sensations because it is related to physiological mechanisms. The therapeutic scent of roses can stimulate an emotional response that leads to feelings of calm and relaxation, which in turn can lower blood pressure. The results of the hedonism test conducted in this study all panelists (100%) liked and felt comfortable with aromatherapy at a concentration of 50% and an evaporation duration of 6 hours. It is being considered to develop the production of rose aromatherapy masks as a superior product.

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