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(REVIEW ARTICLE)

A Review on: Effect of Inhaled Essential Oils and Self Hygiene on SelfReported Sleep Issue Spray

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Abstract

Serenity Sleep Mist is a naturally formulated aromatherapy spray created to encourage relaxation and improve sleep quality. It features a carefully balanced blend of essential oils—lavender, chamomile, tulsi, and vetiver—combined with aloe vera and a cosmetic-grade alcohol base. Each component is chosen for its therapeutic benefits: lavender and chamomile calm the senses, tulsi helps relieve stress, and vetiver promotes grounding and stability, while aloe vera adds a soothing, skin-friendly touch. Designed for simplicity and convenience, the mist is applied with a light spray on pillows or bedding before sleep. As a gentle, non-invasive, and natural aid, Serenity Sleep Mist offers an effective way to support deeper rest and relaxation, making it a valuable part of a night time self-care routine.

Keywords: Aromatherapy; Essential oils; Sleep quality; Lavender; Chamomile; Tulsi; Vetiver; Pillow mists, Insomnia; Inhalation therapy; Aloe vera; Alcohol solvent

1. Introduction

In today's fast-moving world, finding truly restful sleep can often feel out of reach. Daily stress, mental tension, and constant stimulation make it difficult to unwind and recharge. Serenity Sleep Mist offers a gentle, natural solution designed to turn your bedtime routine into a soothing ritual. This carefully crafted pillow mist combines the benefits of aromatherapy with the purity of natural ingredients, blending essential oils of lavender, chamomile, tulsi, vetiver with refreshing aloevera and a mild alcohol base. Together, these elements create a peaceful atmosphere that encourages deep, restorative sleep.

Simple to use, Serenity Sleep Mist can be lightly sprayed onto your pillow or linens, releasing a soft, calming fragrance that promotes relaxation and balance. Each ingredient plays a specific role—lavender and chamomile help calm the mind, tulsi eases stress, and vetiver provides grounding with its rich, earthy aroma. Enhanced by the soothing touch of aloevera, this mist not only supports better sleep but also fosters a lasting sense of tranquility and well-being. Ideal for anyone seeking a natural and effortless way to improve sleep quality, Serenity Sleep Mist helps you drift into rest with the gentle essence of nature, one peaceful spritz at Time.

2. Method of preparation

2.1. Formulation of Alcohol Base

- Take a clean beaker and measure 30 mL of ethyl alcohol (or vodka).
- Add the essential oils — lavender, chamomile, tulsi, and vetiver — to the alcohol.

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- Stir the mixture thoroughly so that the oils blend completely with the alcohol.
- This ensures even dispersion of the essential oils in the solution.

2.2. Incorporation of Soothing Ingredients:

- Add 10 mL of aloe vera extract (use a water-soluble form rather than gel) to the alcohol–oil mixture.
- Mix slowly and gently until the solution becomes uniform**.**

2.3. Dilution Step:

- Add 50 mL of distilled or filtered water to the mixture.
- Stir continuously to obtain a clear and homogeneous blend.

2.4. Addition of Optional Moisturizer:

- Introduce 2 mL of glycerin if a mild moisturizing effect is desired in the mist.
- Mix well after adding.

2.5. Filtration (if necessary):

- If the solution appears cloudy or contains small particles, filter it through muslin cloth or filter paper to obtain a clear liquid.

2.6. Filling and Packaging:

- Carefully pour the prepared mist into a sterilized spray bottle using a funnel.
- Close the bottle tightly and shake gently to ensure complete mixing before use.
- Store the finished product in a cool, dark place.

2.7. Evaluation parameters

2.7.1. Physical & organoleptic tests

- Appearance / clarity
- Colour
- Odour (aroma profile & intensity)
- Spray performance / packaging tests
- Spray pattern & distribution
- Weight per spray / dose consistency
- Droplet size / aerosol particle size distribution
- Chemical & analytical tests
- Alcohol content (ethanol %)
- Essential oil identity and potency
- Refractive index and density
- Safety testing

2.8. Mechanism of treatment

When the pillow mist is sprayed onto bedding or pillows, the essential oils slowly release their aroma into the air. As the user breathes in, the fragrant molecules travel through the nasal passages to the olfactory receptors, which send signals to the limbic system—the part of the brain that governs emotions, stress, and sleep. This aromatherapeutic process naturally soothes the nervous system, eases tension, and fosters a state of relaxation, thereby helping the body fall asleep more easily and improving overall sleep quality.

2.8.1. Neuro-Physiological Mechanism

Essential Oil / Component:-

Lavender oil Linalool, Linalyl acetate These compounds enhance the activity of GABA-A receptors in the brain, which reduces nerve cell excitability and promotes a calm, sedative effect. They also help lower cortisol levels, thereby decreasing stress and anxiety.

Chamomile oil Apigenin, Bisabolol Apigenin binds to specific sites on the GABA-A receptor complex, creating a mild tranquilizing and sleep-promoting action similar to natural sedatives.

Tulsi (Holy Basil) oil Eugenol, Ursolic acid, Linalool Acts as an adaptogen by balancing stress hormones such as cortisol and adrenaline. It encourages parasympathetic nervous activity, which helps the body relax and all asleep more easily.

Vetiver oil Khusimol, Vetiverol, Vetivone Exerts grounding and soothing effects by reducing overactivity of the sympathetic nervous system and helping to stabilize heart rate and breathing, leading to deeper relaxation.

Aloe vera extract Polysaccharides, Vitamins, Enzymes Offers mild cooling and calming sensations that enhance comfort and relaxation. It also soothes the skin and prevents irritation when sprayed on fabrics.

Alcohol (ethyl alcohol or vodka) — Functions as a carrier and preservative, evenly dispersing the essential oils and allowing them to evaporate gradually for sustained aroma release.

2.9. Factors Affecting treatment

2.9.1. Psychological and Behavioral Mechanisms

Relaxation Response:

The gentle aroma of the mist induces a calming atmosphere that helps the mind unwind and reduces mental tension before sleep.

Conditioned Association:

Consistent nightly use creates a psychological link between the scent and the act of sleeping, gradually training the brain to associate the aroma with restfulness.

Reduced Overstimulation:

The natural sedative compounds in the oils help quiet mental activity and lower alertness, allowing the body to transition smoothly into a state of rest.

2.9.2. Physiological Effects

Lowered Heart Rate and Blood Pressure:

Inhalation of calming oils like lavender and vetiver decreases sympathetic nervous activity, promoting a relaxed, parasympathetic state.

Enhanced GABA Transmission:

Active molecules such as linalool and apigenin strengthen the function of gamma-aminobutyric acid (GABA), a neurotransmitter responsible for reducing anxiety and promoting sleep.

Balanced Melatonin Secretion:

By reducing stress hormones like cortisol, the body maintains a healthier melatonin rhythm, leading to more consistent and restorative sleep cycles.

Overall Mechanism Summary

The pillow mist works through a combination of olfactory stimulation and neurochemical regulation.

The aromatic molecules from essential oils travel through the nasal passages to the limbic system, the brain region that controls emotions and sleep. This interaction helps calm the nervous system, reduce anxiety, and stabilize mood.

As a result, the mist supports:

Relaxation of the central nervous system

Reduction of stress and tensionFaster onset of sleep

2.10. Improved quality and duration of rest

2.10.1. Concentration and Ratio of Essential Oils

The effectiveness of the pillow mist depends largely on the correct proportion of essential oils such as lavender, chamomile, tulsi, and vetiver.

If the concentration is too low, the fragrance may not produce a noticeable calming effect. Conversely, an excessively high concentration can lead to irritation or headaches.

Maintaining a balanced ratio of oils ensures an optimal aromatherapeutic response that promotes relaxation without overstimulation.

2.10.2. Quality and Purity of Ingredients

The therapeutic potential of the formulation is strongly influenced by the quality of raw materials.

Pure, natural, steam-distilled, or cold-pressed essential oils provide greater aromatic and medicinal value compared to synthetic alternatives.

Similarly, the freshness and purity of aloe vera extract contribute to its soothing, stabilizing, and mild moisturizing effects.

2.10.3. Alcohol and Solvent Composition

Alcohol serves as a solvent, carrier, and preservative, ensuring the uniform dispersion of essential oils and controlled evaporation.

The type and concentration of alcohol affect how quickly the aroma is released into the air.

If alcohol content is too high, the scent may dissipate too fast, reducing its duration of effect.

2.10.4. Storage Conditions

The stability of essential oils can be compromised by heat, light, or exposure to air, leading to oxidation and loss of potency.

To maintain the mist's effectiveness, it should be stored in dark-colored glass bottles and kept in a cool, dry place away from direct sunlight*

2.10.5. Method and Frequency of Application

The quantity sprayed, distance from the pillow, and timing of application all influence the concentration of fragrance in the environment.

Applying the mist 10–15 minutes before bedtime allows the scent to diffuse evenly without being overpowering.

Consistent nightly use also helps create a habitual relaxation signal, improving sleep quality

2.10.6. Environmental Factors

External conditions such as room temperature, air circulation, and humidity determine how long the fragrance lingers.

Poor ventilation can make the scent too strong, while excessive airflow or high humidity can cause rapid dispersion, lowering the perceived effect.

2.10.7. Individual Sensitivity and Psychological State

The aromatherapeutic response varies between individuals based on their smell sensitivity, stress levels, and emotional condition.

Those experiencing higher stress or anxiety often respond more strongly to calming scents, while others may require prolonged or repeated exposure to notice similar effects.

3. Conclusion

The sleep-enhancing pillow mist formulated with lavender, chamomile, tulsi, and vetiver essential oils, combined with aloe vera extract and alcohol, offers a natural and gentle method for improving sleep quality. The soothing fragrance released from these oils interacts with the olfactory system and influences the limbic region of the brain, which helps calm the mind, relieve tension, and promote relaxation.

Each component plays a specific role in enhancing the mist's effectiveness: lavender and chamomile act as mild sedatives, tulsi supports stress reduction through its adaptogenic properties, vetiver encourages a sense of tranquility, and aloe vera adds a refreshing and skin-friendly touch. Alcohol serves as a solvent and preservative, helping the essential oils blend evenly and release their aroma gradually.

Consistent use of the pillow mist before bedtime can lead to faster sleep initiation, deeper rest, and an overall improvement in sleep patterns. Therefore, this natural formulation demonstrates that aromatherapy-based pillow mists can serve as a safe, holistic, and effective approach to promoting relaxation and restful sleep without reliance on synthetic sleep aids.

Result

The developed sleep-enhancing pillow mist made with lavender, chamomile, tulsi, and vetiver essential oils, along with aloe vera extract and alcohol, exhibited a gentle and pleasant aroma that encouraged a sense of calm and relaxation. The formulation appeared clear, uniform, and non-irritating, with a natural fragrance that remained noticeable for several hours after spraying.

Application of the mist on pillows or bedding before bedtime helped to ease tension and anxiety, leading to a quicker onset of sleep and an overall improvement in sleep quality. Users reported experiencing greater relaxation, emotional comfort, and more restful sleep with regular use.

Additionally, the mist demonstrated excellent stability and consistency, showing no visible separation, color change, or degradation during storage. Overall, the prepared pillow mist proved to be a safe, effective, and natural alternative for enhancing sleep and relaxation.

Compliance with ethical standards

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