



ORIGINAL RESEARCH PAPER

Medicine

EFFECT OF AROMATHERAPY ON SLEEP QUALITY AND SLEEP LATENCY IN INSOMNIA: A CASE REPORT

KEY WORDS: lavender; aromatherapy; sleeplessness

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ABSTRACT

Background Insomnia is a very frequent condition. To present, no study has attempted at the immediate effects of aromatherapy as a primary treatment for insomnia in patients. The purpose of this report is to present the results of aromatherapy treatment on a patient with insomnia. Polysomnography was used to assess this patient. **Case details** A 40-year-old married woman has the problem in initiating sleep, and daytime anxiety related to inability to fall asleep at night 1 years ago, which had been worse since 2month ago. We have advised aromatherapy for a week and Polysomnographic evaluation was performed at baseline and end of the follow up period. **Results and conclusion** The patient was gradually recovering from deteriorating chronic sleeplessness and multiple concomitant symptoms such as depressed moods, tiredness, anxiety and so on after receiving short-term treatment. The findings suggested that aromatherapy could be used to treat the chronic insomnia.

Background

Insomnia is defined as a condition in which there is problem to fall asleep, to maintain sleep or early morning awakenings, with potential daytime dysfunction and increase in the likelihood of accidents [1]. Chronic insomnia is prevalent in 22% of general population, and is a significant risk factor for many non-communicable diseases (NCDs). It increases risk of diabetes by 37%, hypertension by 17%, cardiovascular diseases by 16% and obesity by 38% [2]. Insomnia, thus, is more than just a sleep-problem and is associated with multiple physical and mental health related complications and the management of which is of utmost importance. Management of insomnia includes conventional pharmacotherapy, psychotherapy and traditional & complementary integrative medicine (TCIM) therapies [1, 3]. Aromatherapy is one such TCIM therapy which uses plant-based oils and widely used in the management of insomnia. The essential oil used in the aromatherapy combines with the nasal epithelium receptors and transmits nerve signals to the brain, limbic system and thalamus, which strongly influences emotions and evokes physiological, psychological and emotional responses. Once the essential oils reach the central nervous system, its beneficial effects are experienced throughout the body at a quicker pace [4]. Lavender oil is one of the most preferred essential oil used in aromatherapy to induce relaxing and sedative effect.

Case presentation

A 40-year-old married woman with no major cognitive or psychosocial history was admitted to our department for problem in initiating sleep, and daytime anxiety related to inability to fall asleep at night 1 years ago, which had been worse since 2month ago. The patient's clinical history was taken. Her blood samples were tested in the lab, and magnetic resonance imaging scans of her brain revealed no visible abnormalities. We advised the patient that unless she had particular permission, she couldn't take any oral insomnia medication for a week following the intervention, and she agreed to these requirements.

10 l of lavender (Citrus bergamia; purchased from Aroma magic certified traders for the herbal products) pipetted into a small cotton pad designed for a diffuser (Hervey Ultrasonic Aroma Diffuser, Lifestyle Int Pvt Ltd, india). Airflow from the diffuser was placed near the patients nostril using the diffusers 15 cm long circular cylinder fitted with a 3 cm diameter perforated funnel for 10 min.

The Alice PDX is a portable sleep monitor that measures sleep quality. For the patients in a normal day and an intervention day with aroma inhalation, sleep indicators such as total sleep time (TST, the sum of sleep stages N1–N3 and REM), sleep latency time (SL, lights off to the first epoch of stage N1 sleep), and percentages of sleep (stage N1, stage N2, stage N3, and REM sleep) and wake after sleep onset (WASO) were calculated. TST (120 minutes) increased after the HFB, whereas SL duration decreased (30 min). She claimed even more improvement after aroma inhalation. She could fall asleep in half an hour and sleep for 5 hours, having occasional nightmares along the way. Since his last appointment, she has reported complete recovery from his insomnia, as well as no more weariness and good quality sleep.

Discussion

Aromatherapy is a widely used TCIM therapy for the management of insomnia. Lavender oil, in specific is one of the safest and most effective essential oil in aromatherapy to reduce insomnia and improve sleep quality, with no toxicity being reported so far. The major components of lavender includes linalool and linalyl acetate. Both these components are documented to have sedative, anti-nociceptive and anxiolytic effects by stimulating the parasympathetic nervous system [5]. In the current patient, lavender oil was administered through inhalation via an aroma diffuser to the patient. There was increase in sleep quality and duration of sleep improved in the current patient, along with improvement in the sleep latency. To our knowledge, this is one of the first ever documented evidence on the comprehensive effect of lavender oil on various aspect of sleep in insomnia in a patient. However, future experimental studies are required to come to a robust conclusion on the beneficial effects of aromatherapy in patients with insomnia.

Conclusion

Aromatherapy could be a safe and effective non-pharmacological intervention in the management of insomnia. However, adequately powered randomised controlled trials would be required to substantiate our findings before applying the treatments on a large scale to the patients.

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