

The Effects of Aromatherapy on Anxiety

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Clinical Question

In individuals who suffer from anxiety, does aroma therapy reduce anxiety?

Sources of Evidence

Donaldson, J., Cynthia, I., Diane, D., Emilou, O. (2017). The effect of aromatherapy on anxiety experienced by hospital nurses. *Medsurg Nursing*, 26(3), 201-206.

Goes, T. C., Antunes, F. D., Alves, P. B., & Teixeira-Silva, F. (2012). Effect of sweet orange aroma on experimental anxiety in humans. *Journal of Alternative and Complementary Medicine*, 18(8), 798-804. doi:10.1089/acm.2011.0551

Goes, T., Ursulino, F., Almeida-Souza, T., Alves, P., & Teixelra-Silva F. (2015). Effect of lemongrass aroma on experimental anxiety in humans. *The Journal of Alternative and Complementary Medicine*. 21(12). 766-773. DOI: 10.1089/acm.2015.0099

Lee, Y. L., Wu, Y., Tsang, H. W., Leung, A. Y., & Cheung, W. M. (2011). A systematic review on the anxiolytic effects of aromatherapy in people with anxiety symptoms. *The Journal of Alternative and Complementary Medicine*, 17(2), 101-108. DOI: 10.189/acm.2009.0277

Synthesis of Evidence

A total of four articles were reviewed as evidence for this report. The different study designs for each article included a variety of methods such as quasi-experimental controlled trials without randomization, random control trial, experimental, systematic review of random control trials and controlled clinical study.

The study by Donaldson et al. (2017), was a quasi-experimental controlled trial without randomization. The study was done to evaluate the use of aromatherapy as an intervention to reduce occupational stress among registered nurses on an orthopedic surgical trauma unit. A convenient sample of 44 hospital nurse who worked the day and night shift too part in the experiment. The interventions included the use of different fragrance of aromatherapy that were set up to diffuse for 3-hour time periods during nurses shifts from 9 a.m to 5 p.m. At the end of the shift, nurses were asked to fill out a questionnaire on how their anxiety was affected. The study findings showed that there was no significant effect of aromatherapy on the nurse's anxiety levels, but there was a very positive overall effect on the use of aromatherapy to decrease stress anxiety.

The study conducted by Lee et al. (2011) is a Level I systemic review of random control trials. This study was made up of 16 randomized control groups, a total of 25,377 participants ages 18-90 who suffered from anxiety symptoms. The study showed that for some of the groups the dropout rate was high due to the long trial period. There are deficient clinical trials examining the effects of aromatherapy among people with anxiety disorders as the primary

illness. The anxiety levels of the participants differed significantly from mild to moderate. The effectiveness of aromatherapy could hardly be compared among participants with different levels of anxiety. Most of the studies indicated positive effects to suppress anxiety. No adverse events were reported. The total number of subjects involved was 25,377, in which the female-to-male ratio was 24,887:490. Healthy volunteers with experimentally induced stress were the second most popular client types that were reported in two studies.

Goes et al. (2012) conducted a random control trial (RCT) to evaluate the potential anxiolytic effect of sweet orange (*Citrus sinensis*) aroma in healthy volunteers that took part in an anxiogenic situation. Forty (40) healthy, male, graduate student volunteers between the ages of 18 and 30 were selected for this study. Psychologic parameters (state-anxiety, subjective tension, tranquilization, and sedation) and physiologic parameters (heart rate and gastrocnemius electromyogram) were evaluated before the test aroma inhalation period and before, during, and after the video-monitored version of the Stroop Color-Word Test. This study concluded that the sweet orange aroma oil used alone has anxiolytic properties and that it was not influenced by expectancy biases, massage, or therapeutic relationship. Results indicate an acute anxiolytic activity of sweet orange aroma with some scientific support, can be used as a tranquilizer by aromatherapists.

The study conducted by Goes et al. (2015), was a Level II controlled clinical study on, the effect of lemongrass aroma on experimental anxiety in humans. This included 40 graduate student males ages (18-30), volunteered at the college of Universidad Federal de Sergipe, Brazil. The volunteers were exposed to lemongrass aroma before, during and after an anxiogenic condition, which was measured by, Stroop Color-Word Test (SCWT). Psychologic parameters (state-anxiety, subjective tension, tranquilization and sedation) and physiologic parameters (heart rate and gastrocnemius electromyogram) were evaluated before through the three periods. Results for this study show lemongrass (*C. citratus*) was able to decrease basal level anxiety but not able to prevent it. Not even diazepam was able to reduce basal anxiety in the volunteers. These results support that brief exposure to lemongrass oil is perceived to have some anxiolytic effects.

Conclusion

All four studies supported the use of aromatherapy to decrease anxiety in individuals. Although the study by Donaldson, Ingrao, Drake, and Ocampo showed no clinical evidence of decreased anxiety in hospital nurses, the study did show that hospital nurses do feel it is an effective way to decrease anxiety during work. The other three studies in this report did find significant clinical evidence of how aromatherapy did help in people who suffered from anxiety. Even though certain fragrances such as sweet orange aroma oil and lemongrass had more beneficial effects on individuals than others, there was still an overall positive effect of the idea of using aromatherapy to decrease anxiety levels.

Implications for Nursing Practice

There is substantial evidence that shows using aromatherapy to decrease anxiety really does work. In any health care organization, we could use aromatherapy not only for the health care workers during their work day, but also for our patients. Aromatherapy can be used for

cancer patients, detox patients, laboring-women, in the in-patient psych unit, the list can go on and on. Studies such as the ones we looked at can give health care workers an insight as to what fragrances have the most beneficial effect for anxiety, and even for other mood variations. The health care field is continually making changes in treatments and medicines, what better way to contribute to this, by finding non-medicinal ways such as aromatherapy to help treat the patients we all care so much about.