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RESEARCH SPOTLIGHT

Jennifer Langsdale on behalf of the AIA Research Committee

Effects of Aromatherapy Combined with Music Therapy on Anxiety, Stress, and Fundamental Nursing Skills in Nursing Students: A Randomized Control Trial.

Son H K, So W Y, Kim M. (2019). Effects of aromatherapy combined with music therapy on anxiety, stress, and fundamental nursing skills in nursing students: a randomized controlled trial. *International Journal of Environmental Research and Public Health*. 16 (21), 4185. DOI:10.3390/ijerph16214185.

Abstract

Content

A Korean study using 98 sophomore nursing students experience 20 minutes of: music therapy, aromatherapy, and music therapy with aromatherapy.

Aims

The researchers conducted a double-blinded randomized control trial (DBRCT) with women at a Korean nursing college who were scheduled to undergo a fundamental nursing test. Participants were enrolled to compare the effects of music therapy and aromatherapy as singular interventions and then combined for a synergistic effect, as possible interventions for those to experience anxiety and stress.

Method

DBRCT design was used on sophomore students. Students were screened and removed for the following: allergies to essential oils, hearing impairments, already using interventions, taking medications, or diagnosed with psychiatric disorder. Participants were enrolled through survey

methods testing anxiety using the Korean version of revised test anxiety scale by Benson and the Likert scale. State anxiety was measured using the Korean version of the Spielberger State Anxiety Inventory, and stress was measured using a numeric rating score.

The participants were randomly assigned to one of the three groups. Aromatherapy was selected with a licensed aromatherapy expert. Marjoram (*Origanum majorana*) and Orange (*Citrus sinensis*) essential oils were selected due to their effectiveness in relieving stress. Aromatherapy was administered via an aromatherapy lamp (unspecified). The music therapy selection was Beethoven's Moonlight Sonata. Prior to intervention, each subject received a 10-minute pretest to assess anxiety and stress. Each intervention was conducted for 20 minutes, using the same temperature in the intervention rooms, as well as lighting. After the intervention time, subjects received a post-test fundamental nursing test to determine anxiety and stress.

Results

There were no substantial differences in the participants' general characteristics during their assessments (age, race, gender). There was a significant difference among all three groups for anxiety and fundamental nursing skill performance. Aromatherapy combined with music therapy was observed to have the most effect to decrease anxiety and stress. There was only a small difference

in the singular test groups: music therapy or aromatherapy.

Discussion

The study confirms the effects of aromatherapy and music therapy combined create a beneficial synergistic effect, decreasing test anxiety, state anxiety, and stress. Increased skill performance compared to the other intervention groups was also found. The

DBRCT- double blind randomized control study means that neither the study participants nor the researchers will know what intervention is being administered. They may be using a placebo or an actual treatment. Usually, participants are assigned their treatment by computer randomization. DBRCTs are considered gold star in research design (Misra, 2012).

essential oil was diffused through a lamp diffuser, and Moonlight Sonata was chosen based on positive results in previous studies. Limitations of this study were listed as only using test subjects who did not vary much in age, race, and gender.

See full article: www.ncbi.nlm.nih.gov/pmc/articles/PMC6861884/

Research article commentary

This study was listed as a DBRCT, or a double-blind randomized control study. Strengths of this study in regards to aromatherapy include:

- The study itself consulted with an experienced aromatherapist, showing us some nice research relating to Orange (*Citrus sinensis*) and Sweet Marjoram (*Origanum majorana*) being used for stress and anxiety relief with

effective results. Not all studies involving essential oils, even human subject studies, consult with an aromatherapist.

- The study discussed the synergy of music therapy and aromatherapy and how the best results were achieved when they were used together. In another study, we see the same synergistic effect for aromatherapy and massage which tells us that aromatherapy “paired” with another CAM therapy can be very powerful.

Weaknesses of the study:

- The study uses 20-minute increments to test their subjects with interventions, but they do not indicate what the participants are doing while receiving treatment. Are they lying down, sitting up in desks, allowed to do homework?

- There is also the question of whether or not this a true DBRCT design. Out of necessity, researchers providing the music therapy knew that the music intervention was being employed as they needed to turn the music on.
- If they were providing both aromatherapy and music, they would also know what they were providing, but is the blind part of the study perhaps that they did not know what essential oils were being used?
- As an aromatherapist, I would want to know what the dosage in the aroma lamp was, essential oil brand, and GC/MS report, as well as what aroma lamp they are using. Without this information, we cannot replicate the study.
- Can you be a licensed aromatherapist in Korea? The study refers to licensure twice.

References

Misra S. (2012). Randomized double blind placebo control studies, the “Gold Standard” in intervention based studies. *Indian Journal of Sexually Transmitted Diseases and AIDS*. 33 (2), p131-134. DOI:10.4103/0253-7184.102130.

If you are new to research, please look to our new PRO TIPS to help you understand evidence-based research terms, help with the study design, and learning how to assess outcomes. PRO TIPS can be found in the highlighted boxes throughout the research spotlight section of the journal.

The Research article commentary section of the spotlight is provided by AIA's research committee. The research spotlight is a systemic review. Systemic reviews allow researchers to keep up with the literature (Uman, 2011). These reviews allow us to see data, often presented in a synthesized way to present data in a summary (usually with a table or chart) that presents quantitative data, as this study does. When reading research there are things you want to ask yourself to get yourself started. Today, consider these questions:

- What is the study design method?
- How do you think this study impacts aromatherapy research?

The Effectiveness of Aromatherapy for Depressive Symptoms: A Systematic Review

Sánchez-Vidaña I, Ngai S, He W, Ka-Wing J, Lau B, Tsang H. (2017). The effectiveness of aromatherapy for depressive symptoms: a systematic review. Evidence-Based Complementary and Alternative Medicine. 2017, p1-21. DOI:10.1155/2017/5869315

Abstract

Content

A systematic review revisiting research since 2009 connected to depressive symptoms and the effectiveness of aromatherapy. Twelve randomized control trials met the criteria through various search terms.

Aims

The researchers were interested in evaluating research on depression and aromatherapy from the last published systematic review using references from 2000-2008. They noted that from 2009 to date (2017) ten new RCTs were carried out. Their goal was to provide an updated analysis of current research.

Methods

Using various search terms and databases, articles were collected and then excluded for lack of relevance. They

began with 875 studies and removed studies until a total number of twelve RCT studies met the inclusion for their criteria. Tables of selected studies were provided with descriptions of the interventions and protocols used, and their results.

Results

The analysis of the studies produced diverse studies and subjects using aromatherapy to relieve depressive symptoms. Their findings included benefits and lack of evidence to

PRO TIP: Helpful research terms

- Quantitative**- a collection of data, what the researchers collected in their study to perform it (surveys, polls, questionnaire results) think numbers
- Qualitative**-non-numerical data. Think observations and characteristics. This helps researchers understand people's experiences
- CAM**- Abbreviation for Contemporary Alternative Medicine
- Volatile**- A common aromatherapy term used to describe essential oils. It means to easily evaporate at normal temperatures.
- Pharmacological**-used in aromatherapy to describe usually the way that essential oils play out in the body, which means they have an effect on our body like drugs do.
- Research Methods**- think what procedures were used to collect and analyze the data, think strategy - this is different than research design, but will contribute to the design

improvements connected to inhalation methods, aromatherapy massage, pregnant, and postpartum women using various essential oils and application methods.

Discussion

The researchers discussed effects of aromatherapy massage and inhalation methods as some having seen improvement to intervention and some lacking evidence of improvements. Study design and possible lack of technique in

massage may have lent to poor results within some studies. It is made known that all study platforms were different, including subject assessment tools, so comparison of the evidence among studies provides challenges to understanding the data.

See abstract here: <https://www.hindawi.com/journals/ecam/2017/5869315/>

PRO TIP: When reading research there are things you want to ask yourself to get yourself started. Today, maybe try these:

What is the research problem?

What methods did they use to conduct their research?

What were the results?

Research article commentary

The researchers did present the information in a visual way that is beneficial to seeing a lot of data at once and the presentation really gives the reader room to question how the results were obtained. Using your knowledge of aromatherapy, you can see that some studies are showing us positive and negative results, but you can question what brought the researchers to those conclusions. By using these charts, you can question dilution, study size, and how the administration was presented in these studies using aromatherapy for depression. Not all results are 100% in

favor of effective use of aromatherapy, which is good, it tells us we have more research to do, and it tells us that some applications may be more effective than others. One thing we can see from this review is massage paired with aromatherapy gave better results. This evidence is not conclusive to prove massage with aromatherapy provides better results than inhalation, but it can tell us there is a synergistic effect that we might be able to explore in later research, and we have some adjustment to do with inhalation studies. Lastly, we have to question standardization. There are a lot of unknowns here:

- Who conducted the aromatherapy aspect of the studies?
- How were oils chosen?
- Were they lab produced?
- Were they using a certain brand?
- Who was administering the aromatherapy and the massage?
- Were they experienced in their techniques?

References

Uman L S. (2011). Systematic reviews and meta-analyses. *Journal of the Canadian academy of child and adolescent psychiatry = Journal de l'Academie canadienne de psychiatrie de l'enfant et de l'adolescent.* 20 (1), p57-59.



Jennifer Langsdale will have completed her Master's of Science in Aromatherapy from the American College of Healthcare Sciences in December of 2020. Her passion in aromatherapy is research and using it as a CAM therapy for her holistic professional practice. She is AIA's Midwest Regional Representative and a part of the Research Committee. A fifteen year yoga professional, certified yoga therapist, doula, and Thai massage practitioner, she lives in OH with her two children, two cats, and all her books. Her websites are <http://www.heavenandeartharomatherapy.com> and <http://www.awakenyoga.com>.

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> www.fondation-gattefosse.org