

Making Scents (Sense) of Emotions: Does Aromatherapy have an impact on Depression, Anxiety and Stress?

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Abstract

Hospitals are usually thought of as using medication as the solitary modality of treatment for patients. The purpose utilizing aromatherapy was to develop and demonstrate the usefulness of this complementary modality as an effective tool to decrease depression, anxiety, and/or stress.

Aromatherapy is an easy to learn holistic tool that can be incorporated within our scope of practice. A LCSW created a program to utilize aroma therapy within a 45-bed acute care hospital. Along with an RN, the program was operationalized. Our aromatherapy group, 'Making Scents (Sense) of Our Emotions', utilized the hospital endorsed doTERRA aroma therapy essential oils (Lavender; Peppermint; Wild Orange). Eighty-six Voluntary patients participated in the pilot study group, both pre/post.

Our research tool: The DASS 21 showed significance in all areas, meaning, that with the use of aroma therapy there was: Reduction of Depression, Anxiety and Stress. Our research also showed significance regarding varying diagnosis as well, including Mood Disorders, Thought Disorders, and Other Disorders.

Introduction

Many studies have been published regarding the value of aromatherapy with most focused on sleep assistance and pain relief, and few directed explicitly toward mental health (Yang, 2016; Sanchez-Vidana, 2017; Hekmatpou et al., 2017). One recent study completed in 2016 (Han et al., 2017) does demonstrate that aromatherapy can have a positive effect on the Positive and Negative Affect Scale (PANAS). Mental health issues in the United States have created an economic and healthcare problem that has led to a significant public health crisis (Han, 2017). There is a need to create additional options for immediate interventions and especially ones that have limited to no side effects.

Anxiety is a common symptom of many mental health disorders – both mood and thought disorders. Often, it is a symptom that results in additional medication. On an inpatient psychiatric unit, anxiety might lead to agitation, lack of sleep, inability to concentrate – all of which might impact length of stay or treatment course. Aromatherapy might provide an avenue that is complementary to the treatment for any person receiving care for mental health. (van der Watt, G. et al., 2008).

While the literature is growing, there remains a void in specific interventions for reducing these symptoms that are common on inpatient psychiatric units. This is compounded by many factors, including: Use of medications, physical comorbidities and lack of

knowledge regarding follow up care. However, aromatherapy may be a potential intervention that could be beneficial even if only during the inpatient stay.

Within a small community hospital with a 45-bed inpatient psychiatric unit, a Licensed Clinical Social Worker (LCSW) created a study to look at the benefits of aromatherapy. The study aligned with the holistic caring approach used throughout the hospital and supported the practice model of Relationship Based Care. This LCSW as researcher, along with a Registered Nurse co-facilitator, had as an initiative, the goal to evaluate the use of aromatherapy as a complementary intervention for reduction of anxiety/stress symptoms.

The research tool chosen, was the DASS-21 (Depression, Anxiety, and Stress Screening tool). The DASS-21 is a well-established instrument for measuring depression, anxiety, and stress with good reliability and validity reported from Hispanic, American, British, and Australian adults. The DASS-18, a modified version, was found to be potentially more reliable with the Asian population, although these results are preliminary (Oei, et al., 2014). The DASS-21 scale has been used across cultures, and populations including traumatic brain injury rehabilitation (Randall, et al., 2017), chronic pain (Taylor, et al., 2005) and adolescents and young adults (Sahoo, et al., 2010).

Study

The overall purpose of the study is to assess the patient's perception of the value of aromatherapy relating to their self-assessment of depression, anxiety and stress. This pilot study was conducted to evaluate the impact of aromatherapy for patients admitted to acute care for mental health stabilization. The organization IRB (Institutional Review Board) approved the protocol, consent and methodology. All English speaking adult voluntary patients were invited to participate. Demographics of gender, age, and diagnosis were collected from each subject.

Patients were invited to participate in this study and the group process session via announcements throughout the day, and at the start of this group. The group was open to all patients, whether they participated or met criteria to participate. Only those that volunteered to participate were included in the study. It was highlighted to the patients that participation was voluntary.

The DASS-21 was administered pre- and post-group. The group included: Use of aromas, and discussion of memories and feelings evoked by aroma. The aromas were rotated with only one aroma used in each session: Lavender, Wild Orange, or Peppermint. After the participants shared their feelings, they were invited to share a word or phrase that expressed their feelings which were elicited by the aroma. Participants used the words or phrases to form an aroma poem.

As with any process group activity, the content expressed sometimes guided the group. A variety of expressive therapies was offered: Singing, song-writing, and meditation. The

LCSW, also trained in Expressive Art Therapies, facilitated the group, summarized the activity and ensured that all feelings were addressed appropriately. The hospital approved vendor for oils, doTERRA, was the essential oil product used in the study.

The following demographics were collected from each participant over the 11-week study: Gender (Table 1), Diagnostic Categories (Table 2) and Essential Oils Used (Table 3).

Table 1. Gender

| | Count | Percentage |
|-------|-------|------------|
| M | 45 | 52.3% |
| F | 41 | 47.7% |
| Total | 86 | 100% |

Table 2. Diagnostic Categories

| | Count | Percentage |
|--------------------|-------|------------|
| Mood Disorder* | 41 | 48.2% |
| Thought Disorder** | 26 | 30.6% |
| Other*** | 18 | 21.2% |
| Total | 85 | 100% |

*Mood Disorders – Bipolar, Manic, Depression, Suicidal Ideation,

**Thought Disorders – Schizophrenia, Psychosis

***Other – not indicated

Table 3. Essential Oils Used

| | Count | Percentage |
|-------------|-------|------------|
| Lavender | 32 | 37.2% |
| Wild Orange | 25 | 29.6% |
| Peppermint | 29 | 33.7% |
| Total | 100 | 100% |

Results

Eighty-six individual self-assessments were used in the final data analysis. A Wilcoxon Signed Rank Test was conducted to look for differences pre-to-post measurements for depression, anxiety, stress, and total score. Significant difference was found across all four measurements at $p < 0.05$ (Table 4).

Table 4. Pre-post comparisons

| Measure | Baseline | Follow-up | Change | P-Value |
|---------------------|--------------|---------------|----------------|-------------|
| Overall (N = 86) | 25.55(14.75) | 12.59 (12.11) | -11.95 (13.26) | $p < 0.001$ |
| Depression (N = 86) | 7.79 (6.13) | 4.19 (4.73) | -3.60 (5.33) | $p < 0.001$ |
| Anxiety (N = 86) | 7.84 (5.23) | 4.23 (4.19) | -3.60 (5.33) | $p < 0.001$ |
| Stress (N = 86) | 8.85 (5.49) | 4.02 (4.30) | -4.83 (4.76) | $p < 0.001$ |

Four mixed-models were created to check for significant changes in pre-to-post measurements for depression, anxiety, and stress or total score while controlling for the effects of the study covariates. The fixed effects were time, age, gender, and diagnoses. Controlling for age, gender, and diagnosis, subjects demonstrated the following change in self-assessment via the DASS-21:

- Depression scores decreased by -3.61 points (95% CI:-4.74,-2.49)
- Anxiety scores decreased by -4.88 points (95% CI:-5.90,-3.87)
- Stress scores decreased by -3.65 points (95% CI:-4.78,-2.52)
- Total scores decreased by -12.06 points (95% CI:-14.87,-9.25)

Discussion

In addition to the quantitative results, a qualitative review of themes emerged. The patients' comments about the aromas fell primarily into three themes: Good Memories, Relaxation, and Outdoor/Nature:

| <u>Good Memories</u> | <u>Relaxation</u> | <u>Outdoor/Nature</u> |
|-----------------------------|-------------------|-----------------------|
| Sentimental thoughts | Free feeling | Meadows |
| Positive familial reference | Calm | Flowers |
| Holiday happiness | Refreshing | Nature setting |
| Smiling | Peaceful | Canoeing |
| Seasonal events | Warm & fuzzy | |

There were a few comments about memories of flavors (vanilla, lemon and orange). Also, there were a few comments about aromas reminding patients of alcohol use or work endeavors, therefore bringing up negative feelings which were processed in the group.

The comments collected during the groups provided a rich narrative, as demonstrated by our collected poems. All poems were titled by group consensus and input.

One poem, generated about Wild Orange essential oil, was created as follows:

Citrus Jubilance

Spring cleaning – Relaxed
Grandma’s grapefruit tree
Mom making juice
Immediate joy
Peeling an orange
Tea and Crumpets in England
Lemon jello makes me happy
Lemonade - Refreshing
Happy thoughts!

The group thought of these songs as related to the aroma:

“My Girl” by the Temptations, (1965)
“Sunshine” by John Denver (1971)
“Summer Time” by George and Ira Gershwin (1926)
“Trombone Music”; “In the Mood” by Glenn Miller (1941)
“Here comes the Sun” by The Beatles (1969)

Implications for Practice

The study results demonstrate that there is a role for aromatherapy as a holistic and complementary intervention in the mental health acute care setting. Managing depression, anxiety and stress, spreads across all spectrums of society. While effective stress management leads to better overall health – both mental and physical (physiological), the intervention of aroma therapy is one that can be easily dove-tailed into a licensed clinical practitioner’s toolbox.

Lessons Learned and Recommendations

Further research is recommended to expand statistical power of conclusions as offered. This pilot study does not compare aromatherapy to another group modality intervention. Therefore, we have not shown this intervention to be better than another, simply that aromatherapy is an effective intervention.

Aromatherapy can be considered a useful non-invasive complementary intervention which easily adapts within any setting to ease depression, anxiety, and stress.

Music References

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Garland, Joe and Razaf, Andy: “In the Mood” Written and Performed. Razaf, Andy added words (1940): The main theme previously appeared under the title of “Tar Paper Stomp” credited to jazz trumpeter and bandleader: Manone, Wingy (August 28, 1930)

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