Use of Lavender and Mandarin Essential Oils to Decrease Anxiety in the Psychiatric Population by Nurse Driven Groups

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Abstract: The aim of this evidenced based transformational leadership project was to evaluate the effectiveness of Lavender and Mandarin Essential Oils in decreasing anxiety in the Adolescent/Adult Psychiatric Outpatient Program and Eating Disorders Program.

Method: Retrospective chart review approach was the method used for data collection. The use of Lavender and Mandarin essential oils were taught to patients during medication education group as a means to decrease anxiety with current treatments. Pre and Post test data was collected on patients anxiety level before and after group. Monitoring of patient data was collected and charted in the patients electronic medical record.

Results: In 2018, the overall score for Partial Hospitalization in reducing anxiety in our Nurse Driven groups was 83%. The total number of participants for the study was 680 patients.

Conclusions: The use of Lavender and Mandarin essential oils showed it statistically decreased anxiety dramatically in the psychiatric population.

Keywords: Anxiety, Aromatherapy, Lavender, Mandarin, Nurse-Driven Groups

Introduction:

Anxiety is a common psychiatric diagnosis on the medical and the psychiatric units. An estimated 31.1% of U.S. adults experience any type of anxiety disorder at some time in their lives [1]. An estimated 31.9% of adolescents had also experienced an anxiety disorder [2,5]. Many people who suffer from anxiety may loose time from work, have frequent days off or it may become disabling for the individual where they cannot work. Alone, in the United States, anxiety disorders costs approximately 46 million dollars, which is one third of the nations mental health care [3]. In addition to psychotherapy, the use of antidepressants and benzodiazepines are commonly prescribed for the management of anxiety. Benzodiazepines are an effective treatment for anxiety for short term use only. Benzodiazepines have several adverse effects. The benefits of benzodiazepines decrease overtime and there are increase risks such as cognitive decline, poor memory accidental falls, increase in hospital admissions and increase in Emergency Room visits [4]. Benzodiazepine-related overdose mortality has risen dramatically, from 0.6 per 100 000 adults in 1999 to 4.4 per 100,000 in 2016 [5,5a]. Although very effective for immediate relief of anxiety, benzodiazepines are never the first line of treatment for anxiety. And while benzodiazepines are best for short-term use, a new study found that long-term use of these drugs has also risen. From 2005 to 2015, benzodiazepine prescriptions increased by 50 percent. [5,5a] . In a serial cross-sec-

tional study of 386,457 ambulatory care visits from 2003 through 2015, the use of benzodiazepines in ambulatory care increased substantially from 3.8% to 7.4% of visits, including co-prescribing with other sedating medications. Use among psychiatrists was stable (29.6% vs 30.2%) but increased among all other types of physicians, including primary care physicians (3.6% vs 7.5%), who as a group accounted for about half of all benzodiazepine visits [5,5a].

Many providers have become interested in alternative and complementary medicines. Essential oils can be directly inhaled, used in massages, or in a bath to reduce anxiety, insomnia and pain [6]. Kessel and his collegues reported in their study that the use of complementary therapies for the use of anxiety are one of the most common reasons individuals seek complementary therapies. Research in the literature reviewed on aromatherapy has some clinical efficacy in different medical and psychiatric populations [2]. Karan (2019) investigated the use of lavender oil inhalation on anxiety, mood and vital signs. The results of this study concluded that the use of lavender oil reduces peri- operative anxiety. In addition, several electronic scientific bases have been explored (Google Scholar, PUBMED, CINAHL, MEDLINE) assessing and evaluating the efficacy of lavender on decreasing anxiety [7]. In addition, one RTC study supported the use of Lavender in college students with insomnia [8].

But to use it safety and effectively, proper education, training and expertise is required. Before the start of our Nurse Driven Evidenced Based Project on Aromatherapy, our team attended the world renowned R.J Buckle Clinical Aromatherapy course for Hospitals. Nursing Team members were then identified as aromatherapy clinicians for advancing in this holistic practice. The Nursing Team increased their knowledge and expertise on the use of several approved hospital six essential oils. Expertise on safe handling of essential oils and patient safety was reviewed. Risks of sensitive populations were discussed in the hospital approved aromatherapy program, for example, pregnancy and children. Pregnant woman should not be exposed to essential oils. Children are not allowed to ingest essential oils or essential oils should not be added to their bath water [9]. Use of aromatherapy in stress, depression, insomnia, were emphasized in addition to other medical conditions. Review of protocols and policies for integrating aromatherapy into practice were also integrated as part the aromatherapy clinician training. Specifically, this course was approved by the American Holistic Nurses Association's Education www.ahna.org .This continuing nursing education activity was approved by an accredited approver by the American Nurses Credentialing Center's Commission on Accreditation.

Method:

Prior to starting the Nurse Driven Evidenced Based Transformational Project, the nursing team attended the R.J. Buckle approved aromatherapy certification class. Two essential oils utilized for the research study was Lavender and Mandarin. Lavender is a plant from the Lamiaceae family. Lavender is associated with stimulation of the autonomic nervous system , which decreases anxiety, improves mood and produces sedation [10]. Mandarin uplifts the mood and decreases nervous tension. Essential oils were properly stored and continuous quality control was done daily by one of the psychiatric nurses according to clinician training. The quality of essential oils changes with continual use and over time. It is essential to keep essential oils in a refrigerator or cool place, replace caps immediately after use, take note of expiration date or if there is no date, use within 12 months of the first opening and in addition, one must keep essential oils away from heat/flames/candles. Essential oils are very flammable and many have flash points of 50-60 C [9].

How Do Essential Oils Work?

***Oils immediately reach the olfactory epithelium located on the roof of our nasal cavity[11].**

***Stimulate receptors & carry signals to the olfactory bulb & the olfactory cortex[11].**

***This causes you to recognize the particular scent of the oil.**

***Cells also carry signals from the essential oil scent to other areas in the limbic system; the primal brain responsible for memory, instinct and mood.**

***The olfactory system is the only sensory mechanism that involves the limbic system and amygdala in its pathway. Some mitral cells connect directly to the amygdala, the brain structure involved in emotional learning and memory. This explains the connection between smell and memory [11].**

After completing the course, several quality improvement and performance improvement meetings were held to discuss the specific protocols of the study and the gathering of the data. Patients attended aromatherapy groups bimonthly. In these aromatherapy groups, Lavender alternated with Mandarin, in addition with a mindful breathing exercises in decreasing their anxiety.

Olfactory stimulation causes immediate psychological changes in blood pressure, muscle tension, skin temperature, heart rate and brain wave patterns [12]. Prior to group, each patient completed an anxiety questionnaire and consent form. After the 60 minute group led by the Psychiatric Registered Nurse/Psychiatric Nurse Practitioner, the patients completed their response to the essential oils utilized. All findings were reported in the patients electronic medical record that was specifically

designed to capture statistics by our Nursing Informatics Team. Statistics were retrieved using a retrospective chart review of the progress notes. [See Table I].

Results:

As part of a solution in alleviating anxiety for patients with anxiety, the use of Lavender and Mandarin serve as a viable alternative treatment for effective management of anxiety symptoms. When considering our results in the partial hospitalization program, pre-post test improvement in anxiety levels was significant. In 2018, 83% of patients in the Partial Program reported a significant decrease in anxiety. The total number of participants were 680 [Table II]. Although, lavender/mandarin may produce side/adverse effects, none were reported to our psychiatric nurse leaders. The Psychiatric Nurse is educationally prepared to provide comprehensive psychiatric management of anxiety management after proper clinician training and expertise in aromatherapy clinical use. This overall increases patients satisfaction and most importantly effective in decreasing anxiety. Patients verbalized improved patient outcomes on our internally developed monitor scores. In addition, recommendations are made for adding aromatherapy to clinical areas to decrease anxiety in patients and potentially decrease the use of benzodiazepines. Benzodiazepines are also involved in many presentations to the emergency department as well as falls and falls from elderly patients, motor vehicle crashes, and

overdoses [13]. These risks are more dangerous and can lead to mortality and death when benzodiazepines are combined with alcohol, opioids, or other medications that affect the central nervous system [5].

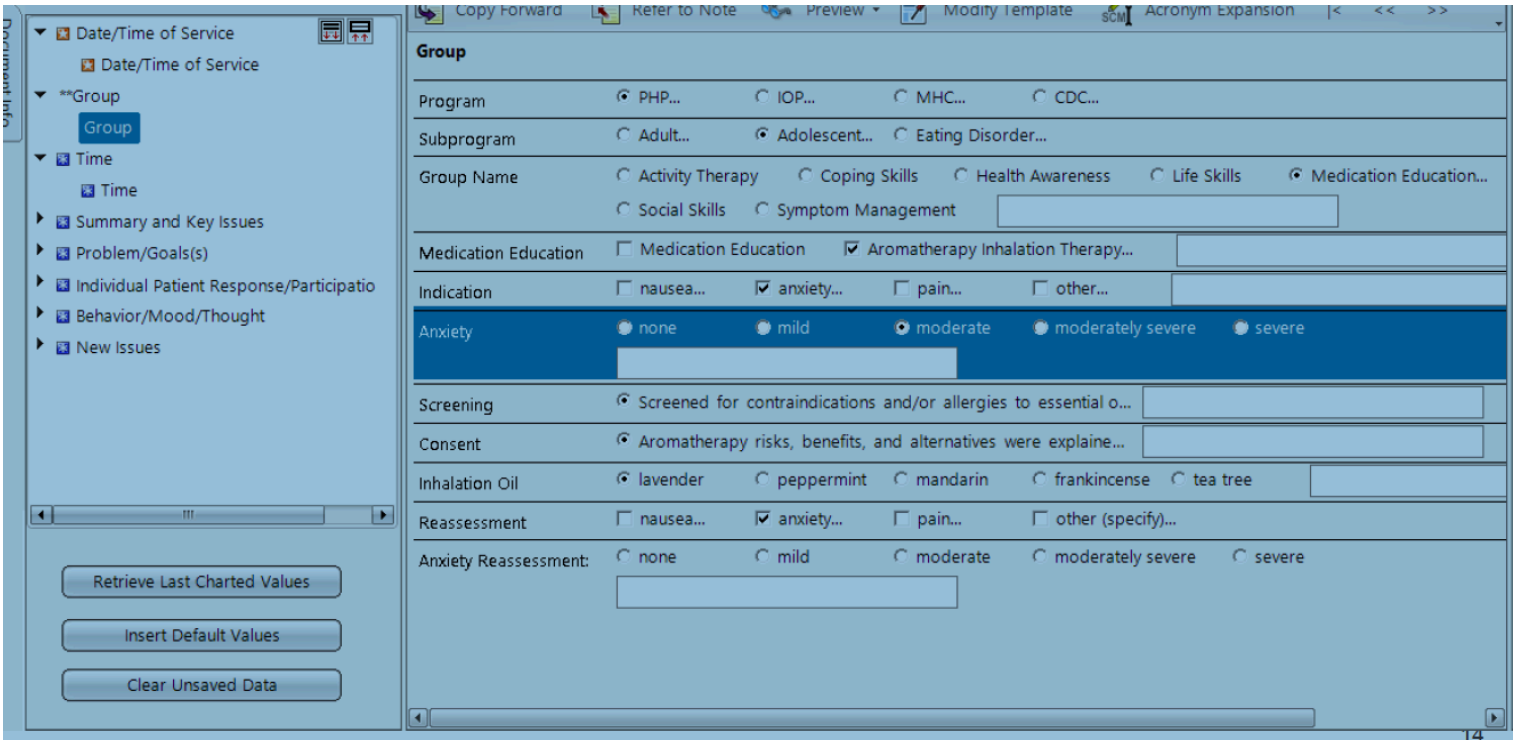
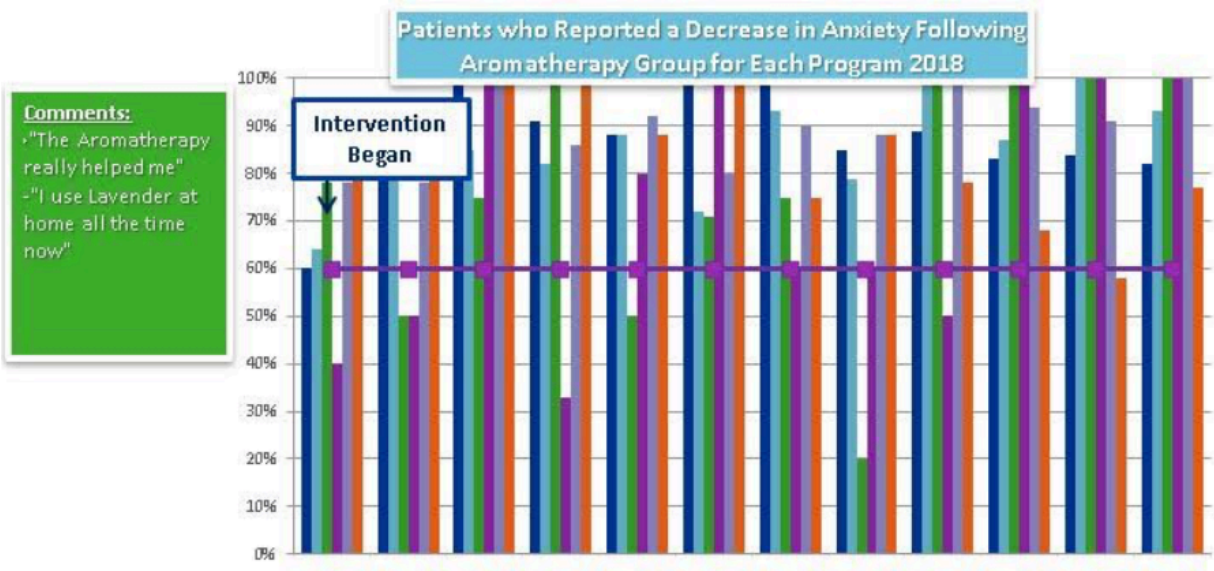


Table I. Patients clinical electronic record.

Table II. Months January 2018 - December 2018.



	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18
Adult Compliance Lavender	60%	86%	100%	91%	88%	100%	100%	85%	89%	83%	84%	82%
Adult Compliance Mandarin	64%	85%	85%	82%	88%	72%	93%	79%	100%	87%	100%	93%
Eating Disorder PHP Lavender	78%	50%	75%	100%	50%	71%	75%	20%	100%	100%	100%	100%
Eating Disorder PHP Mandarin	40%	50%	100%	33%	80%	100%	60%	60%	50%	100%	100%	100%
Adolescent PHP Lavender	78%	78%	100%	86%	92%	80%	90%	88%	100%	94%	91%	100%
Adolescent PHP Mandarin	89%	85%	100%	100%	88%	100%	75%	88%	78%	68%	58%	77%
Benchmark	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%

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