



Clinical research article

Use of aromatherapy to promote a therapeutic nurse environment



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ARTICLE INFO

Article history:

Received 12 January 2016

Received in revised form 18 July 2016

Accepted 13 January 2017

Keywords:

Aromatherapy

Workplace stress

Nurse

Complementary and alternative medicine

Therapeutic

Essential oil lavender

Nurse

Knowledge

ABSTRACT

Background: Workplace stress can affect nurse satisfaction. Aroma therapy as a therapeutic use of essential oil can be beneficial in reducing stress.

Purpose: Assess perceived stress pre-post introduction of Essential Oil Lavender among registered nurses, charge nurses, and patient care technicians in a trauma intensive care unit, surgical specialty care unit and an orthopedic trauma unit.

Methods: Pre-post intervention with a quasi-experimental design. After a pre-survey, Essential Oil Lavender was diffused 24 h per day over 30 days in a designated nursing area that all nurses were not required to enter on each unit.

Results: Dependent sample *t*-test for “how often do nurses feel stressed a work in a typical week” revealed pre-survey mean 2.97 (*SD* = 0.99) which was significantly higher than post-survey mean 2.70 (*SD* = 0.92) with significance, $t(69) = 2.36, p = 0.021$, suggesting a difference in how often staff felt stressed at work in a typical week, trending down from “feeling stressed half of time” to “once in a while”. There were no statistically significant differences in pre-post survey scores for TICU, TOU, or SSC as separate units.

Relevance: Use of essential oils to decrease work-related stress among nursing staff may improve retention, workplace environment, and increase nurse satisfaction.

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Implications for clinical practice

- Use of Aromatherapy to promote a therapeutic nurse environment through use of Certified Pure Therapeutic Grade Essential Oil Lavender to decrease work-related stress among RN's, CN's, and PCT's may improve retention, workplace environment, and increase nurse satisfaction with their nursing role.
- A statistically significant difference was demonstrated in how often staff feel stressed at work in a typical week before and after the educational intervention.

Introduction

Workplace stress is a frequent occupational hazard costing the United States greater than 150 billion dollars annually in stress related problems (Khamisa et al., 2015). Stress can be defined as

“any situation in which internal demands, external demands, or both are appraised as taxing or exceeding the adaptive or coping resources of an individual or group” (Lazarus and Folkman, 1984). Among healthcare professions, nursing remains one of the higher levels of workplace stress (Sonke et al., 2015). A stressful work environment, ongoing organizational changes, increased patient acuity, and excess workloads can add to nurses experiencing psychosocial stress (Hayward et al., 2016). Stress in the workplace is a significant factor that adds to job dissatisfaction, burnout, and nursing staff turnover (Joint Commission, 2012). There is a growing concern with both the Institute of Medicine and the Joint Commission how the well-being of employees affects patient safety (Riehle et al., 2013). Key reasons reported among nursing staff for

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nurse turnover in the workplace environment included, moral distress, increased workloads, higher patient acuity, communication with physicians, and poor leadership (Hayward et al., 2016). Wu et al. (2011) examined factors associated with occupational stress among 510 Chinese female emergency nurses from 16 hospitals in the Liaoning Province of China. The three most frequent reasons for occupational stress included, role boundary, role insufficiency, and role overload (Wu et al., 2011). Drury et al. (2013) conducted a study to examine causes of stress among nurses who practiced at the bedside. Causes of stress identified by nurses included skill deficits, family issues, and patient related issues involving aggression and dying. Taking breaks was essential in managing stress yet nurses were often not able to take breaks at their hospital. Symptoms related to stress included fatigue, frustration, anger, tears, distraction and acting defensively (Drury et al., 2013). Poor sleep, tight muscles, and exhaustion were physical symptoms that were reported. Intervention strategies identified by nurses to assist with stress reduction included talking to a peer, quiet time, trying to clear their minds, and aromatherapy (Drury et al., 2013). Khamisa et al. (2015) examined the relationship between work related stress, burnout, job satisfaction, and the general health of 895 nurses. Of the five stressors causing work related stress, staff issues was the greatest stressor associated with burnout and staff satisfaction.

With nursing the largest work population in healthcare settings, healthcare organizations are implementing strategies for nurse retention in clinical care settings. Use of complementary and alternative medicine (CAM) as a strategy to address workplace stress in healthcare settings where nurses are employed is gaining attention (Buckle, 2015). Aromatherapy is a complementary health therapy utilizing a therapeutic use of essential oils from herbs, flowers and other plants that are absorbed through the skin or through the olfactory system and are proven beneficial in stress reduction (Buckle, 2015). Use of aromatic plants was originally part of herbal medicine and continues to be used world-wide in healthcare systems (Buckle, 2015). Pure Essential oils are intended to calm and balance the mind, body, and spirit. Essential oils are substances that when inhaled, aromatic molecules travel to the limbic system of the brain through the nasal cavity. It is believed the aromatic molecules affect the hypothalamus, endocrine system, and the autonomic nervous system promoting peripheral blood circulation, and regulating respiration, heart rate, and blood pressure resulting in stress relief (Buckle, 2015).

Aromatherapy has been used in practice historically and world-wide by nurses and healthcare systems (Gnatta et al., 2015). In England and France, Aromatherapy is considered a science; the French consider Aromatherapy a medical specialty and the British utilize Aromatherapy as an alternative and complimentary practice (Gnatta et al., 2015). In Brazil, Aromatherapy is supported by the Federal Nursing Council (Gnatta et al., 2015). During the Crimean War, Florence Nightingale introduced and applied the essential oil Lavender in the frontal region of the wounded soldiers to calm them down (Gnatta et al., 2015).

Literature review

McBride and Sturges (2012) examined the feasibility of integrating essential oils to reduce the incidence of workplace stress and increase energy levels among nurses employed in a hospital setting. Nursing staff were surveyed for 30 days pre-post intervention of diffusing essential oils. Prior to implementation of essential oils, 41% of the staff reported frequent work related stress. After use of essential oils only 3% reported frequent work related stress. Feelings of being overwhelmed was reduced from 25% pre intervention to 2% post intervention. Feeling well equipped to handle stressors at work increased from 13% pre intervention to 58% post intervention. Staff perception of having optimal energy increased from 33%

pre intervention to 77% post intervention. Post intervention, 84% of nursing staff strongly agreed and 10% agreed that diffusing essential oils contributed to a positive work environment (McBride and Sturges, 2012).

Chen et al. (2015) examined the effectiveness of lavender oil inhalation to reduce work stress among 110 full time nurses who were randomized into two groups, a treatment group (53) and a control group (57). The treatment group pinned a small bottle containing 3% lavender oil on the clothes of their right chest, and the control group pinned a similar small bottle without lavender on the clothes of their right chest. Differences in the number of stress symptoms pre-test in both the treatment group and control group were not statistically significant ($t=0.431$; $p=0.692$), indicating similar stress levels pre-test (Chen et al., 2015). The control group who received the lavender oil inhalation reported no change in mean effects on post-test days one through four, ($t=-0.039$, -0.124 , 0.043 , and 0.138 ; $M=5.6$, $p=0.969$; $M=5.5$, $p=0.902$, $M=5.7$, $p=0.965$; $M=5.8$, $p=0.900$) (Chen et al., 2015). There were no significant changes between the treatment group and the control group on post-test day one and two, ($t=-1.536$, $p=0.126$), ($t=-1.411$, $p=0.159$). Significant changes were noted on post-test day three and four, with the treatment group having a significantly greater change than the control group ($t=-2.106$, $p=0.035$), ($t=-2.227$, $p=0.026$), (Chen et al., 2015). Aromatherapy was effective in reducing stress symptoms for three to four days. Symptoms of stress in the treatment group decreased from a mean of 6.1–2.8 post aromatherapy intervention ($p=0.12$, 0.15 , 0.035 , and 0.026). The control group who did not receive the lavender oil reported an increase in stress symptoms ($M=5.6$ to $M=5.8$), (Chen et al., 2015).

Pemberton and Turpin (2008) conducted a pre-post design to evaluate the effects of a combined topical application of both 100% True Lavender Essential Oil and Clary Sage Oil mixed in a carrier oil containing Sweet Almond Oil on work related stress among nurses in a medical-surgical intensive care unit. Inclusion criteria were nurses from both a.m. and p.m. shift who were willing to sign informed consent, able to follow directions in use of the oil applications, and were employed full time (three, 12 h shifts per week). Exclusion criteria were nurses who were pregnant, allergic to nuts due to Sweet Almond Oil used as the carrier oil, known estrogen-related cancer, or those who had irritation and or sensitivity to a patch test (Pemberton and Turpin, 2008). A total of 14 (40%) nurse participants were included in the study. Each nurse participant was given two applications for use, application label number one, (carrier oil of Sweet Almond oil) was the control and application label number two, (5% solution of the combined essential oils of True Lavender, 3% and Clary Sage oil, 2%) was the intervention. A stress level log sheet to document stress levels with instructions was also delivered to the nurse participants. Each nurse participant was instructed to apply five drops of application number one to the inner aspect of their forearm and rub it together with their other arm, during three 12 h worked shifts, within 2 weeks or a total of six shifts. The same procedure and instructions were followed using application number two (Pemberton and Turpin, 2008). Median stress levels were calculated for each nurse participant ($n=14$) and his or her three nursing shifts. Median scores for the control group reported (78.6%) no change in perceived stress levels. Median scores for the treatment group reported a (57.1%) decrease in perceived stress in 31 (74%) of the shifts sampled ($n=42$) (Pemberton and Turpin, 2008).

Tomlinson-Pinkham (2014) conducted a nonrandomized, non-blinded pre-post study to examine whether oncology nurses perceived work stress could be reduced after a six week intervention of diffusion of selected essential oils in a central nursing station. The Perceived Staff Work-Stress Questionnaire (PSWSQ) was used to measure staff work stress pre-post intervention. The PSWSQ

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