In this month’s newsletter we will explore research into aromatherapy for one of the most important diseases in the world, cancer. Research published this year reported that the lifetime risk of developing cancer is greater than 50%, so unfortunately, chances are we will know a sufferer or be affected ourselves.

While some research has shown essential oils as having anti-cancer activities, this is based on the killing of cancer cell cultures in vitro (in the lab). To know if essential oils are effective anti-cancer treatments we would need to perform clinical trials to determine their efficacy compared to other chemotherapy, safety and dosing regimen.

However, and an increasing proportion of cancer sufferers are turning to aromatherapy to ease the symptoms of chemotherapy and radiation therapy. Chemotherapy and radiation cause a plethora of side effects, including nausea, mucous membrane irritation, gastrointestinal problems, pain and fatigue; and patients also frequently suffer from anxiety and depression. As such, aromatherapy treatments for cancer aim to attenuate these symptoms, which would help improve the quality of life for the cancer patient.

**Massage Alone**

Ahles (1999) studied the effect of massage compared to no massage on anxiety, stress and depression on 34 cancer patients due to undergo bone marrow transplants. The massage intervention consisted of up to nine 20 minute Swedish massages to the shoulders, neck and head during a hospital stay by a trained therapist. Control patients
were asked to have a 'quiet time' in their room for 20 minutes between pre and post assessments. After the first session, significant improvements in distress, fatigue, nausea and anxiety were seen in both the massage group and control group, however the massage group improved more than control. The massage group improved significantly more than the control group in terms of distress, nausea and anxiety. Blood pressure was also significantly reduced for this group. By final assessment, only fatigue showed a significantly greater further improvement for the massage group. No effect was found between groups on depression. This study suggests that massage may be useful for the relief of distress, nausea, anxiety and fatigue, so even if essential oils are not shown to have a significant effect, the massage may have a positive influence on the cancer patient.

**Massage with Essential Oils**

Eight 30 minute back massage sessions were given by trained aromatherapists, each one week apart. A 2% dilution of lavender, rosewood, lemon, rose and valerian in sweet almond oil was used and compared to massage with sweet almond oil alone and no massage for improvement in anxiety, depression and other quality of life measures such as symptom distress. Improvements in symptom distress were noted for all 3 groups over time. Overall symptom scores were not significantly different between the groups, but essential oil versus control group scores were significantly different for pain, mobility and communicating with family, with the essential oils group doing better. Control group did significantly better than the essential oils group for symptoms relating to diarrhoea, ability to eat and food texture. Anxiety decreased from first to last assessment for the aromatherapy massage group but did not decrease significantly for the carrier oil group over this time. No change in depression was detected for any group over the study (Corner, Cawley and Hildebrand, 1995). The essential oil blend may, therefore, not be useful as an all-round relief of symptoms and for helping with depression, but may be useful as a complementary therapy for easing pain and improving mobility and reducing anxiety. As it is an essential oil blend unfortunately we could not attribute the effects to a single oil and the effects would be different with different blends, so you could not generalise this to all essential oils or blends for cancer patients.
In contrast, Wilkinson et al. (1999) compared full body massage with carrier oil and 1% roman chamomile essential oil or with carrier oil only. Three massages were given over three weeks by licensed massage therapists. Anxiety, symptom and quality of life scales were used to determine improvements. For the whole group, significant improvements were seen for psychological (16% reduction), quality of life (13% increase), severe physical symptoms (14% reduction) and severe psychological symptoms (30% reduction) after treatment. For the essential oil group, significant improvements were seen for physical symptoms (19% reduction), psychological symptoms (17% reduction), quality of life (28% increase), severe physical symptoms (32% reduction) and severe psychological symptoms (43% reduction) from pre- to post-test. No significant differences were seen in the activity. For the carrier oil group, there were no significant changes in any parameters were seen. Improvements in anxiety improved for both groups, with immediate reductions in anxiety of 27-31% for the aromatherapy group and 30-32% for the carrier oil group after each massage. At final assessment there were no significant differences between the two groups in anxiety levels. Thus, according to this study, although greater reductions in anxiety were noted following massage than following no intervention, contradictory evidence exists as to any additional benefit on anxiety conferred by the addition of 1% Roman chamomile oil. However, other psychological symptoms were improved in the aromatherapy massage group (with a 17% decrease in psychological symptoms and a 43% reduction in severe psychological symptoms) but none for the carrier oil massage group, suggesting Roman chamomile may help with other psychological symptoms than anxiety. In addition, this study demonstrated that 1% roman chamomile massage could be useful at easing other symptoms associated with chemotherapy and cancer.

Soden et al. (2004) investigated the long term effects of weekly massages with 1% lavender oil in sweet almond oil compared to sweet almond oil alone by a trained therapist on 42 advanced cancer patients. Outcome measures included pain intensity, sleep, anxiety, depression, symptom distress and quality of life before treatment and after the final week. They were unable to demonstrate any significant long-term benefits of aromatherapy or massage in terms of improving pain control, anxiety or quality of life. However, sleep scores improved significantly in both groups. There were statistically significant reductions in depression scores in the massage group; the addition of lavender essential oil did not appear to increase the beneficial effects of massage. However, this does not exclude the possibility of short term benefits, so this should be studied in the future.
Two hundred eighty-eight cancer patients, referred to complementary therapy services with clinical anxiety and/or depression, were allocated randomly to a course of aromatherapy massage tailored to the individual or usual supportive care alone. Patients who received aromatherapy massage had no significant improvement in clinical anxiety and/or depression compared with those receiving usual care at 10 weeks but did at 6 weeks. Patients receiving aromatherapy massage also described greater improvement in self-reported anxiety at both 6 and 10 weeks. As such, it was concluded that aromatherapy massage does not appear to confer benefit on cancer patients’ anxiety and/or depression in the long-term, but is associated with clinically important benefit up to 2 weeks after the intervention (Wilkinson et al., 2007). However if the same essential oil was used between patients we would have a more detailed view of the effects.

**Inhalation of Essential Oils**

To the best of my knowledge, only one study has been conducted on the inhalation of essential oils on cancer patients. This was conducted by Graham et al. (2003), to investigate the effects of aromatherapy on anxiety during radiotherapy. 313 patients undergoing radiotherapy were randomly assigned to receive either carrier oil with fractionated oils, carrier oil only, or pure essential oils of lavender, bergamot, and cedarwood administered by inhalation concurrently with radiation treatment. Patients were assessed for anxiety and depression before commencement of aromatherapy and at treatment completion. There were no significant differences in depression between groups. However, anxiety scores were significantly lower at treatment completion in the carrier oil only group compared with the other groups. As such, Graham et al. (2003) concluded that aromatherapy was not beneficial. However, other essential oils could be assessed using this method to see if they would benefit in the future.

**Combined Treatment**

To investigate the effectiveness of combined treatment consisting of essential oil inhalation, footsoak, and reflexology against fatigue, a study was performed in 20 terminally ill patients with cancer. Patients inhaled lavender essential oil and were given a footsoak in warm water containing lavender essential oil for 3 minutes, followed by reflexology treatment with jojoba oil containing 1% lavender for 10 minutes. Fatigue was evaluated using the Cancer Fatigue Scale (CFS) before, 1 hour after, and 4 hours after treatment. Total CFS scores improved significantly after this treatment. Among three CFS subscales, physical and cognitive subscale scores were reduced significantly
No adverse effects were experienced. As such, they concluded that combined modality treatment consisting of aromatherapy, footsoak, and reflexology appears to be effective for alleviating fatigue in terminally ill cancer patients (Kohara et al., 2004). However, they did not include a control group so there is no way to confirm that this was not spontaneous or due to other factors in the treatment, and they did not study the treatments alone so it cannot be confirmed that the results were achieved due to the combination of the treatment.

Other Treatments

Nearly 100% of patients who undergo radiotherapy for head and neck tumours are often subject to mucositis, where the oral mucosa, salivary glands and blood vessels are damaged. This leads to inflammation, ulcers and pain and can be very distressing. Maddocks-Jennings et al. (2009) evaluated the effects of an essential oil-based mouthwash on radiation induced mucositis in 19 patients during treatment for head and neck cancers. The mouthwash contained 2 drops of a 1:1 mix of manuka and kanuka in water. Those in the essential oil mouthwash group were observed to have a delayed onset of mucositis and reduced pain and oral symptoms relative to placebo (gargling with water) and the control groups. In addition those in the essential oil group were seen to have less weight loss than the other two groups. The results support the use of manuka and kanuka in a mouthwash can provide a positive effect on the development of radiation induced mucositis, however further research is required to confirm this finding.

In conclusion, there is limited, conflicting evidence to suggest that essential oils are able to relieve physical and psychological symptoms associated with cancer and chemotherapy, however very few studies have been conducted in this area. Further well designed human trials should be conducted comparing specific essential oils with placebos and no treatment to fully understand their benefits for cancer care.
References


