

# Effect of Foot Reflexology and Aromatherapy on Anxiety and Pain During Brachytherapy for Cervical Cancer

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**OBJECTIVES:** To determine if the addition of aromatherapy and foot reflexology to the standard of care improves pain and anxiety in patients receiving brachytherapy for cervical cancer.

**SAMPLE & SETTING:** 41 women with locally advanced cervical cancer who received intracavitary brachytherapy as part of their treatment.

**METHODS & VARIABLES:** Participants were randomized to either the control group, which received the standard-of-care management during brachytherapy, or the intervention group, which received the addition of aromatherapy and foot reflexology to standard of care. Participants rated their pain on a numeric rating scale and anxiety on the State-Trait Anxiety Inventory (STAI) and a numeric rating scale at five different time points.

**RESULTS:** All average pain and anxiety scores were equal or lower at each key time point for the intervention group. Statistically significant differences were found for the intervention group for anxiety on the numeric rating scale and on the STAI, but only post-reflexology.

**IMPLICATIONS FOR NURSING:** Nurses and other healthcare providers can be trained to provide reflexology during painful, anxiety-producing procedures to increase patient tolerance of these treatments and overall quality of life.

**KEYWORDS** aromatherapy; reflexology; pain; anxiety; brachytherapy; cervical cancer

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Integrative therapies, such as relaxation, guided imagery, massage, aromatherapy, and reflexology, are becoming more commonly used by patients with cancer (Blackburn et al., 2017; Candy et al., 2020). However, there is a lack of clear scientific evidence to support their use. Integrative therapies are safe, comparatively inexpensive, and may offer an alternate or additive option when conventional techniques fail to rid the patient of symptoms. Some experts report that aromatherapy and foot reflexology have the potential to improve pain and anxiety (Blackburn, 2018; Candy et al., 2020; Schiff et al., 2019; Wyatt et al., 2012, 2017) and, therefore, may be beneficial to patients who experience these symptoms. This study aimed to determine if the addition of two common integrative therapies, aromatherapy and foot reflexology, would decrease patients' pain and anxiety when receiving brachytherapy treatment for cervical cancer.

## Background

### Integrative Therapies

Interest in the use of integrative therapies has grown during the past two decades, particularly in the population of patients with cancer (Blackburn et al., 2017; Candy et al., 2020). These techniques are used to enhance physical and mental health and wellness, manage pain and other symptoms, and empower individuals to take responsibility for their own health (National Center for Complementary and Integrative Health, n.d.). The techniques, when used with allopathic or Western medicine, are called complementary therapies. In more recent terminology, integrative therapies refer to a combination of mainstream medicine and complementary therapies based on scientific evidence of safety and effectiveness (National Center for Complementary and Integrative Health, 2018).