

# A Mobile Application for Symptom Management in Patients With Breast Cancer

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**OBJECTIVES:** To evaluate the effect of a symptom management mobile application on quality of life and symptom severity in women with breast cancer undergoing chemotherapy.

**SAMPLE & SETTING:** This parallel randomized pilot study consisted of women with breast cancer admitted to oncology outpatient clinics between November 2019 and January 2021 in Turkey.

**METHODS & VARIABLES:** Participants (N = 40) were randomly assigned to the intervention (n = 20) or control group (n = 20). The intervention group used the mobile application in conjunction with usual care. The control group received usual care. Participants were assessed during the first, third, and last chemotherapy cycles. Data were collected using the European Organisation for Research and Treatment of Cancer Quality-of-Life Questionnaire–Core 30 and the Edmonton Symptom Assessment System.

**RESULTS:** During the study, the decrease in general health and physical functioning and the increase in the severity of depression/sadness in the intervention group were statistically lower than in the control group.

**IMPLICATIONS FOR NURSING:** The use of a mobile application for symptom management may promote general well-being and physical function and may alleviate symptoms of depression/sadness in women with breast cancer undergoing chemotherapy. Further studies are needed to evaluate the application in clinical settings with larger groups.

**KEYWORDS** mobile application; breast cancer; symptom management; chemotherapy; quality of life  
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Worldwide, breast cancer is the most common type of cancer in women and the second most common overall (Sung et al., 2021). Breast cancer and its treatment may result in various symptoms that affect quality of life (QOL) and level of function in patients and range from mild to life-threatening (Albusoul et al., 2017; Moradian et al., 2018). Evidence-based strategies have been developed for self-management of common symptoms, and guidelines have been created for patient care (Kwekkeboom et al., 2020; National Comprehensive Cancer Network, 2022; Oncology Nursing Society [ONS], n.d.; So et al., 2020).

Although patient education about symptom self-management is integrated into some clinical settings, many patients are unable to adequately manage the side effects of chemotherapy or develop effective self-management strategies (Albusoul et al., 2017; Kwekkeboom et al., 2020; Sullivan et al., 2018). The severity of symptoms experienced by patients may vary according to cancer type, stage, treatments, and comorbidities (Henson et al., 2020). This highlights the need for effective and innovative delivery models to provide patients with evidence-based information on the management of side effects resulting from cancer and its treatment.

Mobile health (mHealth) applications are a promising yet underutilized strategy for delivering personalized symptom self-management support to patients with cancer (Azizoddin et al., 2021). Use of mHealth can provide a dynamic platform to continually monitor and track symptoms, provide resources for patients and their caregivers, and educate patients on the self-management of symptoms (Kapoor et al., 2020). A recent systematic review identified 12 mobile applications developed specifically for patients with breast cancer. However, none of these care management applications holistically targeted all possible