Feasibility of a Text Messaging Intervention to Promote Self-Management for Patients Prescribed Oral Anticancer Agents

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Oral anticancer agent (OA) use for cancer treatment is increasing (Soria et al., 2011). With more than 50 OAs on the market, 25% of cancer treatment is expected to be in pill form during the next decade (Bestvina et al., 2014). The therapeutic outcome of cancer treatment for patients taking OAs depends heavily on self-management (Spoelstra et al., 2013a, 2013b). However, research indicates that managing OAs is a significant problem (Bassan et al., 2014; Puts et al., 2013; Streeter, Schwartzberg, Husain, & Johnsrud, 2011).

Reviews of OA studies consistently demonstrate that adherence to regimens is less than 80% (Bassan et al., 2014; Puts et al., 2013). Studies of patients with cancer also indicate that patients interrupted or stopped treatment when symptoms from side effects of treatment became severe (Spoelstra et al., 2013a, 2013b). Difficulty with self-management of OAs has been reported in systematic reviews and further delineated in the National Comprehensive Cancer Network Task Force Report on OAs (Bassan et al., 2014; Puts et al., 2013; Weingart et al., 2008). Factors that seem to influence adherence include age, gender, race, health beliefs, side effects, self-efficacy, comorbidities, depression, cognitive ability, regimen complexity and cost, self-management knowledge, social support, and provider relations. Evidence also shows that, as the complexity of OA regimen increases, adherence decreases (Spoelstra et al., 2013a). Many OA dosing regimens require taking medication multiple times a day, cycling on and off, or taking multiple medications. In addition, 75% of people with cancer have comorbid conditions, which may interfere with the ability to self-manage (Ogle, Swanson, Woods, & Azzouz, 2000). The limited evidence available suggests that managing OAs is a significant problem that

Purpose/Objectives: To determine proof of concept of a mobile health (mHealth) intervention delivering text messages (texts) to self-manage among patients prescribed oral anticancer agents (OAs) and to examine preliminary efficacy on symptoms and medication adherence.

Design: A longitudinal randomized, controlled trial.

Setting: Two community cancer centers in the midwestern United States and a national specialty pharmacy.

Sample: 80 adults with cancer who were newly prescribed OAs.

Methods: Adherence and symptoms were assessed weekly for 10 weeks in both groups. The intervention group received daily texts for adherence and weekly for symptoms for 21–28 days, and satisfaction with the intervention was assessed.

Main Research Variables: Medication adherence and symptom severity.

Findings: Mean age was 58.5 years (SD = 10.7 years), 48 participants were female, and 48 were Caucasian. Fewer symptoms were found in the intervention group with a moderate effect size. Adherence was higher in the text group using medical record and prescription data (n = 26) with greater relative dose intensity of moderate to large effect size. Regarding acceptability, 57% (83 of 145) of eligible participants consented, 39 of 40 participants completed the entire intervention, 30 participants read texts all of the time, and 34 participants were satisfied with the intervention.

Conclusions: Proof of concept and preliminary efficacy of an mHealth intervention using texts to promote self-management for patients prescribed OAs was demonstrated. Patients had high satisfaction with the texts, and adherence and symptoms improved after the intervention.

Implications for Nursing: Texts show promise for patients with cancer who must manage their OAs. Additional research is needed prior to use in practice.

Key Words: text messaging; SMS; mobile phone; mHealth; cancer; medication adherence; oral agent; PROMIS

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