Effectiveness of the Cancer Symptom Management System: Symptom Management Improves your Life (SMILE) - A Randomized Controlled Trial

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Introduction

Cancer patients experience various symptoms in relation to cancer and treatment. Electronic symptom management system can facilitate symptom monitoring and management

Objectives

To evaluate the effect of the Cancer Symptom Management System: Symptom Management Improves your Life (SMILE) which combined electronic symptom management and evidence-based patient education for cancer symptom management

Methods

Design: Nonblinded, randomized controlled trial

Sample: Cancer patients starting adjuvant or palliative chemotherapy (CTx) (N = 249)

Procedure: Control) symptom monitoring only

Exp 1) symptom monitoring + report

Exp 2) symptom monitoring + report

+ Oncology Nursing Society putting evidence into practice (ONS PEP)-guided evidence-based symptom management education)

Measurement: 20 symptom list

Analysis: Additional benefit of symptom management education to continuous symptom monitoring was analyzed by comparing the Exp 1 and Exp 2 groups utilizing Mann-Whitney U test and generalized estimating equations (n = 199)

Results

Fatigue and sleep disturbance changes were different between Exp 1 and Exp 2 among patients receiving adjuvant CTx ($p = .042$ and $p = .008$). A gradual decrease in sleep disturbance was observed in Exp 2 after the 2nd CTx cycle, whereas Exp 1 experienced a steady increase in the symptom. Fatigue gradually decreased after a peak at the 1st adjuvant CTx cycle in Exp 2, whereas Exp 1 experienced increasing fatigue until the 3rd adjuvant CTx cycle. Participants were willing to participate in symptom monitoring using the cancer symptom management system. Symptom management education was easy to follow and helpful.

Conclusions

The application of the Cancer Symptom Management System: SMILE incorporating ONS PEP-guided evidence-based symptom management education effectively managed fatigue and sleep disturbance after adjuvant CTx. The feasibility of the system has been demonstrated. Incorporating the system into electronic medical systems and integrating provider input will be necessary

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Figure 1. CONSORT Flow Diagram

Figure 2. Symptom Report and ONS-PEP Guided Evidence-Based Symptom Management Education

Figure 3. Sleep Disturbance Change Over Time

Figure 4. Fatigue Change Over Time