Pilot Randomized Controlled Trial of BOLSTER: A Nurse-Led Telehealth Intervention for Patients with Peritoneal Carcinomatosis

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Background: Patients with advanced gynecologic (GYN) and gastrointestinal (GI) cancers frequently develop peritoneal carcinomatosis (PC), a clinical scenario associated with a poor prognosis, reduced health-related quality of life (HRQoL), and palliative surgical interventions. Patients frequently struggle after discharge and report feeling unprepared to new complex care needs. To address this gap, we developed BOLSTER—a four-week, six-session, nurse-led telehealth intervention to support patients with PC and complex care needs and their caregivers—and conducted a pilot randomized controlled trial to assess feasibility, acceptability, and potential efficacy of BOLSTER compared with enhanced discharge planning (EDP).

Methods: Recently hospitalized adult patients with advanced GYN and GI cancers with PC and a new complex care need and their adult caregivers were eligible to participate. Feasibility was ≥50% approach-to-consent ratio and acceptability ≥70% would recommend BOLSTER. Prior to randomization, we assessed patients' HRQoL, self-efficacy, and anxiety and depression. We also assessed caregivers' health status and anxiety and depression. Twelve weeks after enrollment, participants repeated the assessments, and we extracted the frequency of serious illness conversations and patients' days at home from the medical record. Given the exploratory nature of this small pilot study, we compared changes in scores across arms using descriptive statistics.

Results: More than three-quarters (76.8%) of patients who were approached consented to participate. Among these patients, the most common complex care needs included a new colostomy or ileostomy (29.5%), bowel obstruction with parenteral nutrition (31.1%), percutaneous nephrostomy (14.8%), and venting gastric tube (8.2%). Among participants in the BOLSTER arm who provided acceptability data, 20/22 (91.0%) patients and 10/10 (100.0%) caregivers were satisfied with BOLSTER, while 21/22 (95.5%) patients and 10/10 (100.0%) caregivers would recommend BOLSTER. Compared to EDP patients, those in BOLSTER arm experienced greater improvements in mean HRQoL, health status, self-efficacy, anxiety, and depression. They also had more serious illness conversations (69.0% vs. 40.6%) and more mean days at home (68.4 vs. 65.9 days). Compared to caregivers in the EDP arm, those in the BOLSTER arm experienced greater improvements in mean health status and depression; however, caregivers in the EDP arm experienced greater improvements in mean anxiety.

Conclusion: Our findings suggest BOLSTER is a feasible and acceptable intervention with the potential to improve patient- and caregiver-reported outcomes and increase days at home in patients with PC and their caregivers. A full-scale efficacy trial comparing BOLSTER to usual care is underway.