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POSTER ABSTRACTS

903.HEALTH SERVICES AND QUALITY IMPROVEMENT -MYELOID MALIGNANCIES

Oncology Care at Home: A Patient-Centered Approach to Managing Care for Bone Marrow Transplant and CAR-T Cell Therapy Patients

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Introduction. More than half of patients with cancer who receive cytotoxic chemotherapy and/or immunotherapies experience deleterious side effects such as febrile neutropenia, infection, neurotoxicity, and cytokine release syndrome. Early intervention and treatment for these side effects can help avoid complications and improve outcomes, but delays in treatment administration are common as most outpatient management approaches depend on patient self-assessment and patient-initiated pursuit of follow-up care. Remote patient monitoring through digital health technologies offers the opportunity to bridge this gap without imposing undue burden on either patients or healthcare providers. This feasibility study assessed the results of a technology-assisted in-home oncology care program to remotely monitor bone marrow transplant and CAR T-cell therapy patients and provide early intervention for symptomatic episodes needing clinical management. The program also offered support for patients to obtain routine lab draws, hydration, antiemetics, intravenous antibiotics, and a provider assessment at home. Technical and operational feasibility were evaluated together with perceived user experience among patients, caregivers, and providers.

Methods. Ten patients between 18-89 years old participated in the study for up to 90 days following allogeneic bone marrow transplant and up to 30 days following CAR T-cell therapy or autologous bone marrow transplant. Patients used continuous-wear biometric sensors for passive vital sign monitoring around the clock seven days per week and engaged with a chatbot by SMS text for health status checks and symptom reporting. Scheduled home care was administered by licensed home health providers. Virtual care center personnel evaluated patient status based on wearable data and patient messaging and followed up directly with patients or engaged patients' treating clinicians for notification and management of urgent issues as needed. Patients and caregivers were asked to complete surveys about their experience with and perceptions of the program at midpoint and study completion, while providers were asked to complete end-of-study surveys to capture their perspectives across all patients. Patients were also asked to participate in brief interviews at study midpoint and at the end of the study.

Interim Results. Eighty percent of patients participated in the program as intended through wearing devices and responding to engagement prompts. Wearable sensors detected a total of 184 outpatient alerts from patients between April and July 2023, of which 57 led to follow up with patients, 12 required further follow up with the clinical care team, and 5 required follow up care in a clinical setting due to elevated temperature or respiratory rate. Sixty percent of patients responded more than 50% of the time to requested health assessment surveys. Patient engagement with the chatbot and symptom reporting system led to 48 events needing virtual care team follow up, of which 20 were to answer patient questions and 28 were in response to reports of concerning symptoms. A total of 11 events were further referred by the virtual care team to the clinical care team, of which 5 required follow up care in a clinical setting. Study data collection will complete in August 2023.

Initial Conclusions. Technology-assisted remote patient monitoring is feasible for use with bone marrow transplant and CAR T-cell therapy patients at home. Successful integration with clinical practice settings requires tailoring to existing workflows. Further assessment of patient acceptance for short-term versus long-term monitoring is recommended.

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