

11th International Conference on

Hematology & Hematological Oncology

November 08-09, 2017 | Las Vegas, USA

Improving patient outcomes in the neutropenic population using the culture buddy system

Dustin Khoshreza

University of Kentucky, USA

Neutropenia and infection play a major role in the outcomes of patients both inside and outside the hospital. Receiving appropriate care in a timely fashion has always been a cornerstone of the nursing profession, but it becomes even more relevant when dealing with neutropenic patients. Increased fever may be the only sign of infection in the neutropenic patient, requiring immediate antibiotic administration. The purpose of this project was to determine the amount of time it took for nurses in the Bone Marrow Transplant Unit at the University of Kentucky to complete the neutropenic fever protocol, before and after implementation of the Culture Buddy System. The Culture Buddy System is a collaborative approach between nurses allowing them to work more quickly and efficiently. A literature review was conducted to review standard procedure for blood culture collection and optimal timing of antibiotics. Best practice recommends having a broad-spectrum antibiotic started within 60 minutes of onset of fever. However, a study in 2014 showed that receiving antibiotics within 30 minutes of onset of fever reduced mortality to 3%, compared to the mortality rate of 18% at the 60-minute mark. The Culture Buddy project yielded a decreased time from onset of fever to administration of antibiotics by 18 minutes (from 40-22 minutes). The Culture Buddy system demonstrated completion of neutropenic fever protocol in less than 30 minutes. The post-implementation surveys also found to have a positive impact on nursing teamwork and the feeling of being supported on the unit; this has been correlated with improved patient outcomes. Further research is needed to determine the effect of decreased time from fever to antibiotic administration on sepsis and mortality.

Biography

Dustin Khoshreza has two years of hematology and bone marrow transplant experience. He has earned his BSN from the University of Kentucky in 2015 and is currently working on his DNP at the University of Kentucky. He is the Chair for the Communication Committee for the Bone Marrow Transplant at UK and also serves on the IMPACT team examining documentation usability inside the University of Kentucky Chandler Hospital.

dustin.khoshreza@uky.edu

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