Implementation of the Kaiser early onset sepsis calculator in the new born nursery at a local community medical center in Baltimore, MD

Ke-Ni N. Tien

University of Maryland, USA

Antibiotics are the most commonly prescribed medications in the neonatal population. Early antibiotic exposure is associated with asthma, allergic reaction, autoimmune disease, and obesity later in childhood. In this newborn setting, the providers most commonly refer to the 2010 CDC guideline for managing infants at risk for Early-Onset Sepsis (EOS). However, the interpretation of the guideline varies among providers. Evidence suggests that implementing a neonatal Early Onset Sepsis (EOS) calculator decreases the number of infants requiring antibiotic prophylaxis and reduces antibiotic exposure safely. The purpose of this Quality Improvement (QI) scholarly project was to implement the EOS calculator for infants ≥35 weeks Gestational Age (GA) with infection risk factors, but well appearing, in a New Born Nursery (NBN) at an urban medical center setting in Baltimore, Maryland. The QI expected outcomes were to reduce the need for laboratory evaluation, reduce antibiotic exposure and the need for IV access and to standardize practices. Focus-Analyze-Develop-Execute/Evaluate (FADE) was the Quality Improvement (QI) model used for this project. All infants born at 35 0/7 weeks' gestation (n= 190) at the study hospital were enrolled over 11 weeks, September 9, 2018, to November 22, 2018. A retrospective chart review was also conducted to establish a baseline of comparison (n= 144). During the project timeline, 174 out of 190 infants (91.6%) were managed utilizing the EOS calculator from birth to 12 hours of life. Seven out of 174 infants (4%) received sepsis laboratory evaluation, compared to 25 out of 144 infants (17.3%)

receiving sepsis laboratory evaluation, during pre-implementation retrospective chart review. The results of this project revealed a decrease in infants needing laboratory evaluation and prophylactic antibiotic when utilizing the EOS calculator (p< 0.05). This decrease suggests that continued and widespread use of the EOS calculator can have a significant impact on antibiotic utilization in this newborn nursery.

Biography: Ke-Ni Tien has been in neonatal clinical practice since 1991, has worked in Taiwan and some of the Nation's top ranked neonatal intensive care units. She currently serves as an neonatal nurse practitioner practitioner (NNP) full-time with Cleveland clinic children's and part-time with Johns Hopkins children's center. She holds a master of science in Nursing from Arizona State University (2007) and is currently a Doctoral Candidate in Nursing Practice (DNP) with the University of Maryland. Her interests concentrate on the synthesis of neonatal research, education and quality improvement projects, transforming data driven interdisciplinary team approaches into tangible improvement outcomes.

niko0929@yahoo.com