181. Potential Benefit of Masking and other COVID-19 Infection Prevention Measures on Late-Onset Infections in NICU
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MASKING STUDY GROUP

Session: O-36. Trends in Pediatric Bacterial Disease

Background. Incidence of blood stream infections (BSI) among NICU admissions remains high, with associated mortality and morbidity. Due to COVID-19, there are increased infection prevention (IP) measures in NICUs including universal masking for all healthcare workers and families, social distancing, visitation restrictions, and increased attention to hand hygiene. These measures may also affect late-onset infection rates and offer understanding of novel interventions for prevention.

Methods. We examined BSI rates during the 24 months prior to implementation of COVID-19 IP measures (PRE-period) compared to the months after implementation from April 2020 (POST-period). Late-onset infections were defined as culture-confirmed infection of the blood, urine, or identification of respiratory viral infection interrupted time series analysis. The analysis was performed based on a change-point Poisson regression with a lagged dependent variable and the number of patient days used as offsets. Each month was treated as independent with additional analysis using an observation-driven model to account for serial dependence.

Results. Multicenter analysis to date included all infants cared for at three centers (Level 3 and 4) from 2018-2020. Monthly BSI rates decreased in the POST-period at the three centers (Figure 1). At all centers actual BSI rate was lower than the expected rate in the POST-period (Figure 2). The combined BSI rate per 1000 patient days was 41% lower compared to the rate prior to implementation (95% CI, 0.42 to 0.84, P=0.004 (Table 1). In subgroup analysis by birthweight, infants < 1000g had a 39% reduction in BSI (P=0.023), for 1000-1500g patients there was a 44% reduction (P=0.292) and in those > 1500g there was a 53% reduction (0.083).

Figure 1. PRE and POST MASKING and other COVID Infection Prevention Measures and Monthly BSI Rates.
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