subgroups according to their infectious status and having clinical signs or not. CRP values were compared between neonates infected and not infected. Receiver operating characteristic (ROC) curves were constructed separately in symptomatic and asymptomatic groups. The sensitivity, specificity, positive predict value, negative predict value, likelihood ratios and post-test probability were determined using different cut-off values.

Results 24,344 infants with 28,830 CRP results were included. Early onset infection was confirmed in 75 (0.31%) cases, 68 of whom had EOS and 7 had local infections (urinary tract or eyes). Discrimination improved after 8 hours of birth in asymptomatic neonates (the area under the ROC curve (AUC) was 0.49 at <8 hours and 0.79 at ≥8 hours), and 24 hours of birth in symptomatic neonates (the AUC was 0.65 at <24 hours and 0.75 at ≥24 hours). High CRP values were less informative in symptomatic neonates than asymptomatic neonates (eg. the likelihood ratio for CRP>10 mg/L was 2.2 in symptomatic and 5 in asymptomatic neonates). Using cut off value of 10 mg/L at ≥24 hours, sensitivity was 72% in symptomatic neonates and 83% in asymptomatic neonates, and specificity was 69% and 86% respectively. Positive predict values were very low (0.3–6%).

Conclusions Diagnostic performance of CRP was poor within 24 hours of birth. However, in asymptomatic neonates, high CRP in 8–24 hours was informative of infection. Because of the low positive predict value, attention should be paid to overtreatment when using CRP for decision making.

389 CONTEMPORARY TRENDS IN GLOBAL MORTALITY OF NEONATAL SEPSIS: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Background Sepsis causes death and morbidity in young infants. Globally, an estimated 1.3 – 3.9 million young infants experience sepsis and 400,000 – 700,000 die from sepsis-related conditions annually. Even though there have been significant progress over the past twenty years in reducing young infant mortality, sepsis currently accounts for up to 15% of all young infant deaths. A thorough understanding of young infant sepsis can inform strategies that span prevention, diagnosis and intervention for young infant sepsis.

Objectives We aimed to perform a systematic review and meta-analysis to investigate the case fatality rates (CFRs) among young infants less than 90 days with sepsis globally.

Methods We used the Preferred Reporting Items for Systematic Reviews and Meta-analysis (PRISMA) 2009 guidelines. We searched PubMed, Cochrane Central, Embase and Web of Science for randomized clinical trials and observational studies in English language, published between 2010 to 2019. Studies involving young infants less than 90 days old with sepsis and reported CFRs were included. We obtained pooled CFRs estimates using the random effects model. Additional stratifications by gestation, birth weight, onset of sepsis (early onset was defined as <72 hours), source of sepsis and gross national income were also performed. Risk of bias was assessed using the Cochrane risk-of-bias tool for randomized controlled trials, and the Newcastle-Ottawa Scale for all observational studies.

Results Among 6314 articles screened, 240 studies with a total of 437,796 patients met the inclusion criteria and were included in our analysis. 99 came from high income countries, 44 from upper middle income countries, 82 from lower middle income countries, 6 from low income countries and 9 were conducted in multiple countries. Overall, the pooled CFR was 0.18 (95% CI, 0.17–0.19). The CFR was the highest in low income countries (0.25 [95% CI, 0.07–0.43]), followed by lower middle (0.24 [95% CI, 0.21–0.26]), upper middle (0.21 [95% CI, 0.18–0.24]) and lastly high income countries (0.12 [95% CI, 0.11–0.13]).

Other factors associated with higher CFRs included prematurity (0.23 [95% CI, 0.19–0.26] vs term CFR 0.10 [95% CI, 0.08–0.13]), low birth weight (0.21 [95% CI, 0.19–0.24] vs normal birth weight 0.19 [95% CI, 0.18–0.20]), early onset sepsis (0.20 [95% CI, 0.17–0.24] vs combined (0.16 [95% CI, 0.14–0.18]) and hospital acquired infection (0.23 [95% CI, 0.17–0.30] vs community acquired infections 0.21 [95% CI, 0.10–0.33]). Time trend analysis showed higher CFRs in the low income countries than the middle and high income countries. A decreasing trend in CFRs over time was observed in high and upper middle income countries, as compared to an increasing trend in lower middle and low income countries.

Conclusions While we saw a declining trend of young infant sepsis CFRs among high and upper middle income countries across the years, the increasing trend amongst lower middle and low income countries highlights a disparity in infant sepsis outcomes based on resource availability. We highlight specific vulnerable patient populations that should be further studied in order to reduce the global burden of young infant sepsis.

390 MEDICATION ERRORS AND NEAR-MISSES IN A PEDIATRIC EMERGENCY DEPARTMENT: A RETROSPECTIVE REVIEW

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Background Medication errors (MEs) are a significant cause of preventable morbidity and mortality. The paediatric emergency department (ED) is a high-risk setting with high patient volume and acuity of care, serving a uniquely susceptible population where weight-based calculations render them vulnerable to dosing errors. Medications are also often kept in stock, and are not audited by a pharmacist prior to administration. Stress, noise, time pressures, and unfamiliarity with paediatric conditions amongst rotating trainees compound this risk.

Objectives To describe the occurrence and type of MEs in pediatric ED and to identify contributing factors.

Methods A retrospective review of all reported MEs in Singapore's largest tertiary pediatric ED from January 2013 to December 2019. MEs were reported via Risk Management System (RMS), while near-misses were extracted from RMS and the pharmacy department's Closed Loop Medication Management System. Descriptive statistics were used to present ME types, severity and contributing factors.

Results Of 101 MEs reported in RMS, 59% were related to wrong dose, 22% to wrong medication and 6% to wrong patient. Wrong doses were related to duplicate dose (48%), wrong weight (20%), 10-fold errors (5%) and calculation errors (5%). Majority of MEs occurred during drug