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Review of factors associated with prolonged hospital stay in very low birth weight infants at a teriary hospital in South Africa

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Abstract

Background: Many factors have been shown to influence the duration of hospital stay, namely gestational age, birth weight and neonatal morbidities. In middle-income countries with limited resources such as South Africa, understanding factors associated with PHS will assist in resource planning, policy amendments and highlight areas for quality improvement projects.

Objectives: Our objectives were to determine the prevalence of PHS in VLBW infants and maternal, postnatal and neonatal factors associated with PHS and compare the characteristics of neonates with and without PHS.

Methods: This was a retrospective observational study. The population included all neonates with a 500 to 1500-gram birth weight, born at Charlotte Maxeke Johannesburg Academic hospital (CMJAH) in Johannesburg, South Africa, between 1 January 2013 and 31 December 2017. Pre-hospitalisation maternal and neonatal factors and complications were analysed. Maternal and neonatal characteristics of infants with PHS were compared to those without, defined by a hospital stay of 60 days or more.

Results: The survival rate in this study was 87.3%, and the prevalence of PHS was **11,8%.** The mean birth weight was 993 grams (SD 186.144), and the average gestational age was 28.27 weeks (SD2.179). Lower birth weight and gestational age were associated with PHS. NOS (odds ratio 2.329; 95% Confidence interval 0.3 – 3.1), BPD (odds ratio: 4.9; 95% Confidence interval 1.93 – 5.424) and PDA (odds ratio: 2.702; 95% Confidence interval:0.33 – 5.424) a were associated with PHS.

Discussion: This study showed that 11.8 % of VLBW preterm infants at CMJAH have PHS. Prematurity is an independent risk factor for PHS. Complications associated with the latter, such as NOS, BPD, PDA and lower gestational age, prolongs the hospital stay further. However, an association between PHS with PDA was unique to our current study.

Conclusion: It is critically important to modify risk factors and morbidities associated with PHS.Prevention of BPD and PDA are required to reduce PHS in our setting. This will ultimately maximize the resource and reduce financial burden in our hospitals.