

Colonization Rate, Associated Factors and ABST Pattern of MRSA in Pregnant Mothers Admitted for Delivery at a Selected Hospital in the Eastern Province, Sri Lanka

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Methicillin resistant *Staphylococcus aureus* (MRSA) infection can cause significant morbidity and mortality in neonates. This study aimed to determine the MRSA colonization in pregnant mothers, to identify associated factors, and to analyse their antibiotic sensitivity patterns (ABST). It was a descriptive cross-sectional study. A total of 235 pregnant mothers admitted for delivery at Teaching Hospital, Batticaloa in the Eastern province were enrolled. Nasal, rectal and vaginal swabs were collected from each mother from May to August 2023. Routine microbiological methods and disc-diffusion ABST testing were done to identify the *Staphylococcus aureus* and MRSA strains. Association between MRSA colonization and maternal factors were identified by Chi-square test, and Fisher's exact test was specifically used for cells with frequencies less than 5. Statistical significance was assessed at $p < 0.05$. From 235 pregnant mothers enrolled in this study, 36 (15.32%) were colonized with *Staphylococcus aureus*; 9 (3.83%) only in the nasal area, 24 (10.21%) only in the recto-vaginal region, and 3 (1.28%) at both sites. Thirty-three (14.04%) were colonized with MRSA, three participants at both sites. Therefore, the total number of MRSA strains was 36. Nasal and recto-vaginal site MRSA colonization rates were (12, 5.11%) and (24, 10.21%) respectively. The sensitivity of MRSA isolates was as follows: clindamycin (25, 69.44%), ciprofloxacin (32, 88.89%), co-trimoxazole (31, 86.11%), and tetracycline (34, 94.44%), and erythromycin (01, 2.78%). Significant association between overall MRSA colonization and anemia during pregnancy ($p = 0.032$) was observed. Overall, a 14.04% colonization rate with MRSA was found among pregnant women, indicating the need for further assessment of risk factors for colonization.

Keywords: *pregnant mothers, MRSA, colonization, risk factors, ABST*