

## ***Prevalence of MRSA Colonization, Antibiotic Sensitivity, and Associated Neonatal Outcome in Term Pregnant Women, Eastern Province, Sri Lanka***

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*Staphylococcus aureus* and methicillin resistant *Staphylococcus aureus* (MRSA) are pathogens capable of causing a range of infections from localized to life-threatening. Individuals colonized with MRSA act as a reservoir for its spread and colonized pregnant women can spread it to their newborns. This study aimed to determine the MRSA colonization rate in pregnant women at term/at delivery, analyze their antibiotic sensitivity pattern and associated neonatal infection related outcomes. In this descriptive cross-sectional study, involving 235 pregnant mothers admitted for delivery at the Teaching Hospital in Batticaloa, three swabs (nasal, rectal and lower vaginal swab) were collected from each participant from May to August 2023. Routine microbiological methods and disc-diffusion antibiotic sensitivity testing (ABST) were done to identify the *Staphylococcus aureus* and MRSA strains. The association between MRSA colonization and outcome of the neonate at one month was analyzed using the Pearson Chi-square test. Of 235 pregnant women enrolled in this study 36 (15.32%) were colonized with *Staphylococcus aureus*; 9 (3.83%) in the nasal area only, 24 (10.21%) in the recto-vaginal region only, and 3 (1.28%) at both sites. Thirty-three (14.04%) participants were colonized with MRSA. Three participants were colonized at both sites, bringing the total number of MRSA strains to 36. Overall, MRSA was isolated from nasal site 12 (5.11%) and 24 (10.21%) from recto-vaginal sites. 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%). No significant association was found between overall MRSA colonization and neonatal outcome such as hospitalization (p=0.3741) and infections within one month of birth (p=0.1738). Overall, a 14.04% colonization rate with MRSA was found among pregnant women in admitted for delivery at the study site, indicating the need for further assessment of risk factors for colonization.

**Keywords:** MRSA, Colonization, Pregnancy, Risk Factors, ABST