

Asymptomatic bacteriuria, sensitivity patterns of isolated bacteria, and influencing factors in pregnant women attending antenatal clinics of Teaching Hospital Jaffna

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Introduction and objective: In pregnancy, asymptomatic bacteriuria could lead to maternal and foetal complications. Antimicrobial resistance (AMR) remains a challenge in treatment. This study aimed to determine the prevalence of asymptomatic bacteriuria, antibiotic sensitivity patterns of isolated bacteria and associated factors among pregnant women attending antenatal clinics of Teaching Hospital Jaffna.

Methods: This was an institution-based cross-sectional study. Midstream urine specimens were collected from 5th February to 5th March 2020 and inoculated onto appropriate culture media. Sensitivity patterns were tested according to the Laboratory Manual in Microbiology of the Sri Lankan College of Microbiologists. Data were analyzed using chi-square test and Fisher's exact test in SPSS (v23).

Results: Of the 180 samples, 29 (16.1%) yielded significant growth. *Escherichia coli* were most common (48.3%), followed by coagulase negative Staphylococcus (31%), *Pseudomonas aeruginosa* (17.2%) and *Klebsiella pneumoniae* (3.4%). The antibiotic sensitivity pattern of *E. coli* isolates was: nitrofurantoin 85.7%, norfloxacin 92.9%, nalidixic acid 21.4% and ampicillin 64.3%. Coagulase negative staphylococci were mostly sensitive to cefoxitin, nitrofurantoin and norfloxacin, and resistant to penicillin and gentamicin. *Pseudomonas aeruginosa* were mostly sensitive to meropenem, cefepime and netilmicin, and resistant to amikacin, aztreonam, ceftazidime and norfloxacin. *Klebsiella pneumoniae* were mostly sensitive to nalidixic acid and norfloxacin, and resistant to nitrofurantoin and ampicillin. Higher culture positivity was observed in multiparous women, <20 years of age, in the third trimester, having at least GCE O/L, but these associations were not statistically significant.

Conclusion: The observed prevalence of asymptomatic bacteriuria is relatively high compared to reported studies in Sri Lanka. The predominant uropathogens were *E. coli*, coagulase negative Staphylococcus, *Pseudomonas aeruginosa* and *Klebsiella pneumoniae*. Although the majority were sensitive to nitrofurantoin and norfloxacin, AMR remains a problem.

Keywords: Asymptomatic Bacteriuria, Antimicrobial Resistance, Pregnancy