SUMMARY

Asymptomatic bacteriuria (ASB) is common in diabetes mellitus and diabetic women show high prevalence of ASB. ASB on its own is a major risk factor for developing symptomatic urinary tract infection. The prevalence and the microbiology of asymptomatic bacteriuria in diabetes mellitus have not been well described in our environment.

The author investigated the pattern of asymptomatic bacteriuria among our type 2 diabetic women with a view to documenting the prevalence, determinant factor(s), type of organism(s) responsible and the antibiotic sensitivity pattern as well as making recommendation on its management.

The study was a hospital based cross-sectional study employing semi-structured questionnaire. The method involved socio-demographic data collection and urine sample for microscopy, culture and sensitivity. Two hundred and twenty non-pregnant type 2 diabetic women, aged 30 years and above, attending the general out-patient clinic of NAUTH, Nnewi were recruited consecutively. Subjects with overt diabetic nephropathy or nephropathy from other causes were excluded. In addition, subjects with symptoms of urinary tract infection (UTI) or use of antimicrobial drugs in the preceding 14 days were excluded. Sociodemographic data were collected, urine samples were collected for microscopy, culture and sensitivity. The samples were cultured on chocolate and MacConkey agar and incubated at 37°C aerobically for 24 hours. The isolates were tested against antibiotics which included ofloxacin, nitrofurantoin, ampicillin, ceftriaxone, gentamycin and cotrimoxazole by the disc diffusion method. Asymptomatic
bacteriuria was defined as the presence of at least $10^5$ colony-forming units per ml of one or two bacterial species, in two separate cultures of clean-voided mid-stream urine.

The prevalence of ASB was 19.5%. The prevalence rate was more among the 50-59 years age group, among the married group and among the social class IV group. Prolonged duration of diabetes and poor glycaemic control were associated with ASB in type two diabetic women ($P<0.005$). No association between asymptomatic bacteriuria and age ($P=0.919$), marital status ($P=0.961$), parity ($P=0.533$), or educational level ($P=0.351$) was found. *Escherichia coli* was the most prevalent pathogen isolated in the subjects, (30, 52.6%), followed by *Staphylococcus aureus*, 10(17.5%) and *Klebsiella*, (9, 15.8%). The isolates showed resistance to ampicillin and cotrimoxazole but were sensitive to ceftriaxone and ofloxacin.

We concluded that asymptomatic bacteriuria was very prevalent in type 2 diabetic women and may as well be listed as a complication of diabetes mellitus. The most commonly isolated bacteria in this study were *Escherichia coli*. The organisms were sensitive to cephalosporin and fluoroquinolone. Early and good glycaemic control is advised to prevent development of symptomatic UTI. We suggest a large scale study on a wider population in health facilities as well as community settings, to show how duration of diabetes and poor glycaemic control are associated with ASB.