

Original Article

Asymptomatic bacteriuria during pregnancy – health professional's perspective

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Abstract

Objectives: To evaluate the knowledge, attitude and practice among the health professionals regarding asymptomatic bacteriuria (ASB) during pregnancy. **Methods:** 118 doctors practicing obstetricians responded to a questionnaire covering professional details of the doctor, awareness/knowledge about ASB in pregnancy, attitude towards screening and practice of treating ASB in pregnancy. **Results:** 96.6% doctors were aware of ASB in pregnancy. 59.3% had knowledge about prevalence, maternal and neonatal complications. 76.2% screen for ASB during pregnancy using urine culture sensitivity mostly in the first trimester. Only 72 out of 90 doctors treat their patients and prefer penicillin/cephalosporin group of drugs upto 7-10 days. Private practitioners and doctors having postgraduate degree in obstetrics and gynecology more regularly screen and treat for ASB during pregnancy. **Conclusion:** ASB in pregnancy with its associated maternal and fetal morbidity needs to be diagnosed and treated. More awareness and active participation of doctors is required for this entity.

Key words: Asymptomatic bacteriuria in pregnancy, screening, treatment

Introduction

Asymptomatic bacteriuria (ASB), defined as persistent bacterial colonization (colony count = 10^5 /ml) of the urinary tract in the absence of specific symptoms, occurs in 2-14% of all pregnancies¹⁻³. Diagnosis and treatment of ASB is important^{1,4,5} as it is implicated for various fetal and maternal complications like acute pyelonephritis, hypertension, anemia, preterm labor, low birth weight infants and intrauterine growth

restriction^{1,2,4,6}. The aim of the present study was to survey the knowledge, attitude and practice among doctors regarding this entity.

Methods

Three hundred questionnaires were distributed among the doctors practicing obstetrics who had come to attend the VIII World Congress and XVI Indian Conference on Reproductive and Child Health. One hundred eighteen responded by filling the questionnaire. This questionnaire covered the following areas:-

- A. Professional details of doctors (Age, qualification, years of experience, place and city of work).
- B. Awareness/knowledge about asymptomatic bacteriuria (prevalence, maternal and neonatal complication, dipstick test).

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- C. Screening for ASB (Yes or No; all or selected pregnant females, timing, frequency, method used).
- D. Treatment for ASB (Yes or No, regimen, duration). The data was analyzed using chi-square test.

Results

Of the doctors who filled up the form, 69.49% were MD/MS and 22% were DGO, 6.7% were MBBS and 1.6% were (Bachelor in Unani Medicine and Surgery) BUMS/ (Bachelor in Ayurvedic Medicine and Surgery) BAMS who were practicing obstetrics.

Of the MD doctors, 60.9% were working in medical colleges, 24.3% were doing private practice. Among DGOs 61.5% were into private practice. Among the MBBS doctors 50% were working in government hospitals and all the BUMS/BAMS doctors were into private practice.

Among the doctors 49.1% had more than 10 years of working experience while 32.2% had less than five years of working experience in the field of obstetrics and gynecology.

Among the health professionals 114/118 (96.6%) were aware of asymptomatic bacteriuria but only 70/118 (59.3%) had knowledge about the prevalence, maternal and neonatal complications. Only 62/118 (52.5%) were aware of the dipstick reagent strip test used for screening ASB in pregnancy. The most common maternal complications known to them were preterm labor, pyelonephritis and UTI. Only few were aware of anemia, PIH, IUGR. There were 90/118 (76.2%) doctors

who replied that they screen for ASB. Out of the 90 doctors screening for ASB 56/90 (62.2%) screened all the antenatal patients while 34/90 (37.7%) screened selected antenatal patients. Preferred time for screening ASB was first trimester by most of the doctors.

Doctors having postgraduate degree in obstetrics and gynecology more frequently screen and treat pregnant females for ASB as compared to MBBS or BUMS/BAMS doctors practicing obstetrics (Table 1,2).

Preferred method for screening by MD doctors was urine culture/sensitivity while DGO doctors preferred urine routine/microscopy for screening ASB in pregnancy (Table 1). Seventy two out of ninety (80%) doctors screening for ASB treat their patients when diagnosed to be having asymptomatic bacteriuria during pregnancy. Most common organism causing ASB was found to be E. Coli, Klebsiella, Pseudomonas.

Most of the doctors used penicillin/cephalosporin groups of drugs for the treatment of ASB in pregnancy (Table 2) and they preferred to treat the patients for 7-10 days (Table 3).

No significant difference was found in relation to the years of experience of the doctors and the screening and treatment for ASB in pregnant females (Table 4).

Private practitioners more frequently screened and treated pregnant females for ASB as compared to doctors working in Government Hospitals and Medical Colleges (Table 5) but difference was not found to be statistically significant.

Table 1: Correlation of qualification of doctors to method of screening.

Qualification	Method of screening					Total (n=90)
	Urine C/S	Urine R/M	Both urine-C/S & R/M	Dipstick	Others (Blood) sugar and vaginal-C/S	
MD (n=82)	30 (36.5%)	14 (17%)	19 (23.1%)	2 (2.4%)	2 (2.4%)	67 (74.4%)
DGO (n=26)	6 (23.0%)	13 (50%)	1 (3.8%)	-	-	20 (22.2%)
MBBS (n=8)	-	3 (37.5%)	-	-	-	3 (3.3%)
BUMS/BAMS (n=2)	-	-	-	-	-	0 (0%)

P=0.002

Table 2: Correlation of qualification of doctors to method of treatment.

Qualification	Method of treatment				Total (n=72)
	According to urine culture/sensitivity	Penicillin/cephalosporin	Nitrofurantoin	Quinolones	
MD (n=82)	20(24.3%)	27(32.9%)	8 (9.7%)	-	55(76.3%)
DGO (n=26)	1(3.8%)	9(34.6%)	4(15.3%)	2 (7.6%)	16(22.2%)
MBBS (n=8)	-	1(12.5%)	-	-	1(1.3%)
BUMS/BAMS (n=2)	-	-	-	-	0

P=0.006

Table 3: Duration of treatment for ASB.

Duration	No. of clinicians (%) (n=72)
1-5 days	8 (11.11%)
7-10 days	43 (59.72%)
14-21 days	15 (20.83%)
4 weeks – 6 weeks	4 (5.56%)
Throughout pregnancy	2 (2.78%)

Table 4. Screening and treatment for ASB by doctors according to seniority.

Years in practice	Screening*		Treatment (n=72)**
	Yes (n=90)	No (n=28)	
<5 years (n=38)	26 (68.42%)	12 (31.58%)	20 (52.6%)
5-10 years (n=22)	16 (72.7%)	6 (27.3%)	10 (45.4%)
>10 years (n=58)	48 (82.7%)	10 (17.3%)	42 (72.4%)

*p=0.247; **p=0.086

Table 5: Influence of place of work on screening and treatment.

Place of work	Screening* (n=90)	Treatment** (n=72)
Government Hospital (n=18)	14 (77.7%)	10(55.5%)
Medical College (n=60)	42 (70%)	34 (56.6%)
Private Hospital (n=40)	34 (85%)	28 (70%)

*p=0.222; **p=0.491

Discussion

ASB is an entity with possibly serious consequences in the form of fetal and maternal morbidity if left undiagnosed and untreated^{1,4,6}. That is why there is a need for regular screening for ASB and treatment when present^{1,4,5,7}. Only 90 out of 118 doctors (76.2%) screen for ASB in pregnancy using urine culture and sensitivity as a preferred method. It is the recommended method by most authors^{4,5}. A small percentage of doctors do vaginal culture and sensitivity, blood sugar test to diagnose ASB in pregnancy which is not recommended. Most doctors prefer to screen for ASB during the first trimester. As reported in various studies chances of ASB in the later stages of pregnancy are 1%⁴. Only 80% of the doctors screening for ASB treat their patients when ASB is being diagnosed. However, they treat them adequately using penicillin/cephalosporin group of drugs for 7-10 days as shown in most studies^{2,4}. Few studies recommend urine culture and sensitivity as a guide for the initiation of the type of antibiotics⁵. It is disquieting that a small percentage of doctors even prescribed quinolones for ASB, as these drugs are contraindicated in pregnancy⁷.

No significant difference was found in relation to the years of experience as well as place of work of the doctors and screening and treatment for ASB in pregnancy. This is in contrast to the study conducted in Athens in which younger obstetricians perform screening more often than the older ones⁸.

Doctors and postgraduates in obstetrics and gynecology are well informed about this entity and its

consequences if not treated. Moreover, this questionnaire was filled up by the doctors who were attending the conferences regularly and were aware of the recent advances. The need is to increase its awareness amongst undergraduates also.

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