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Original Research Paper

PROPORTION OF ASYMPTOMATIC BACTERIURIA AMONG PREGNANT WOMEN: A CROSS SECTIONAL STUDY

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A descriptive study was conducted on proportion of asymptomatic bacteriuria among pregnant women. Descriptive design was used as research design. Purposive sampling technique was adopted and 210 antenatal mothers who completed 34 weeks of gestation were selected. The tool used for data collection consisted of socio-personal variables, clinical variables and urine culture and sensitivity report to assess the proportion of asymptomatic bacteriuria among pregnant women. The data was collected by self-reporting method. Data were tabulated and analysed by using descriptive and inferential statistics. Result showed that majority (87.6%) of the subjects had no asymptomatic bacteriuria and only 12.4% of the subjects had asymptomatic bacteriuria. Findings showed that there was an association between proportion of asymptomatic bacteriuria and selected clinical variables such as habit of using under garment , method of drying undergarment are statistically significant (p<0.01) and type of materials used for undergarment is statistically significant (p<0.05).

KEYWORDS : proportion; asymptomatic bacteriuria; pregnant women.

INTRODUCTION

Pregnancy is a unique, exciting and often joyous time in a woman's life, as it highlights the woman's amazing creative and nurturing powers while providing a bridge to the future. Pregnancy comes with some cost, however, for a pregnant woman needs also to be a responsible woman so as to best support the health of her future child. The growing fetus depends entirely on its mother's healthy body for all needs. Consequently, pregnant women must take steps to remain as healthy and well-nourished as they possibly can. Pregnant women should take into account the many health care and lifestyle considerations.

Ninety percentage of pregnant women develop urethral dilatation which starts at about 6th week and peaks at about 22-24 weeks and remains so till delivery. Increased bladder volume and decreased bladder and urethral tone contribute to increased urinary stasis and ureterovesical reflux. This accounts for seventy percent of asymptomatic UTI among unscreened pregnant women. Different determinants of virulence such as presence of adhesions, stasis produced by the gravid uterus etc play a role in the causation of UTI. Urinary tract infections are the most common bacterial infections during pregnancy. These infections can be asymptomatic or symptomatic bacteriuria occurring in five to ten percentage and one to three percentages among pregnant women respectively. Asymptomatic bacteriuria refers to the presence of bacteria in urine. It is a condition in which urine culture reveals a significant growth of pathogens that is greater than 10⁵ CFu/ml, but without the patient showing symptoms of urinary tract infection (UTI). This is common during pregnancy. The apparent reduction in immunity of pregnant women appears to encourage the growth of both commensal and non-commensal microorganisms. The physiological increase in plasma volume during pregnancy decrease urine concentration and up to seventy percentage pregnant women develop glucosurea, which encourages bacterial growth in the urine.

A cross sectional study was conducted on prevalence and outcome of asymptomatic bacteriuria in early pregnancy over a period of twelve months at tertiary care center in Government sector at Trivandrum, Kerala. Four hundred women were selected with gestational age less than 28 weeks attending the outpatient department were included in this study. Results showed that Prevalence of asymptomatic bacteriuria was 8.25%. Commonest pathogen isolated was E.coli in 57.14% cases. Maternal morbidity was higher in women with asymptomatic bacteriuria (24.2%) than those without (12.5%). Fetal morbidity in women with asymptomatic bacteriuria was 24% whereas it was 12.5% in those without it. Preterm labor, preeclampsia and prematurity were the common morbidities noted.

MATERIALS AND METHODS

A descriptive research design using a quantitative approach was used for this study. Formal permission was obtained from institutional research committee and ethical committee and Obstetrics and Gynaecological department of the hospital. Data were collected over a period of four weeks from 8.1 .2018 to 27.1.2018. Two hundred and ten subjects satisfying the inclusion criteria were selected by purposive sampling technique from Obstetrics and Gynecology outpatient department of the Hospital .The purpose of the study was well explained to the study subjects and informed written consent was obtained from the pregnant women. The investigator maintained good interpersonal relationship with the subjects and confidentiality was maintained for each subjects. Tool 1 was used to collect socio personal and clinical variable. Tool 2 is culture and sensitivity test report. Investigator collected previous history of UTI from the time of current pregnancy to 33 weeks of gestational age through previous routine, culture and sensitivity report from the antenatal file. Thereafter, at 34th week of gestational age, obstetrician instructed the subjects to collect the midstream sample of urine. After collection of urine sample and it was sent to microbiology lab for culture and sensitivity test. Researcher will collect report from the microbiology lab after three days. Collected report will be interpreted with the value of 10⁵ CFu /ml. The investigator was able to collect data from twelve subjects per day by spending twenty to thirty minutes with each.

RESULTS

1. Distribution of subjects based on socio personal and clinical variables

Majority (45.2%) of the subjects belonged to the age group of 20-23 years, majority (65.7%) of the subjects were Hindu, Most of the subjects (36.7%) were graduate, 31% of the subjects had completed higher secondary. Among the total subjects, 82.4% were house wife, majority (55.7%) of the subjects, had monthly income less than 5000 rupees, 29.5% of the subjects had monthly income from 5001-10,000 rupees. Majority (68.6%) of the subjects were belongs to nuclear family and 31.4% of the subjects were belongs to extended family. Findings showed that 91.9% of the subjects lived in rural areas and only 8.1% of the subjects lived in urban areas.

Among the total subjects more than half (58.1%) of the subjects were primi gravida and 41.9% of the subjects were multi gravida. Majority (58.1%) of the subjects was primi mothers, 39 % of the subjects had one child and 2.9 % of the subjects had two children. Findings showed that 58.1% of the subjects were primi mothers, 29.5% of the subjects underwent full term normal vaginal delivery

VOLUME-7, ISSUE-12, DECEMBER-2018 • PRINT ISSN No 2277 - 8160 vent LSCS. Majority (84.8%) of the **d. Association between proportion of asymptomatic**

and 12.4 % of the subjects underwent LSCS. Majority (84.8%) of the subjects had no previous history of catheterization and only 15.2 % of the subjects had the history of previous catheterization.

Among the total subjects more than half (69%) of the subjects had previous history of UTI and 31% of the subjects had no previous history of UTI. Majority (60.5%) of the subjects had frequency of micturition for more than four times per day, thirty percentage of the subjects had frequency of micturition for four times per day,7.1% of the subjects have frequency of micturition for three times per day and 2.4% of the subjects had only frequency of micturition for two times per day. Findings showed that 38.6 % of the subjects had fluid intake of 1000-1500ml per day, 35.2% of the subjects had fluid intake of 500-1000 ml per day, 18.6% of the subjects had fluid intake of more than 2000 ml per day. Majority (95.7%) of the subjects had habit of washing genital area after voiding and 4.3 % of the subjects had no habit of washing genital area after voiding.

More than half (54.8%) of the subjects had no sexual intercourse during second trimester, 27.1% of the subjects had sexual intercourse once in a week, 13.3% of the subjects had sexual intercourse twice in a week and 4.8% of the subjects had daily sexual intercourse during second trimester. Findings showed that only 12.4% of the subjects had asymptomatic bacteriuria during antenatal period. Among them, 30.8% of the subjects had less than or equal to 33 weeks of asymptomatic bacteriuria gestation and remaining 69.2% of the subjects diagnosed at 34 th week of gestation. Among majority (57.7%) of the subjects were infected with Escherichia coli,19.2% of the subjects were infected with Klebsiella Pneumonia, 11.6% of the subjects were infected with Others (not specified), 7.6% of the subjects were showed Mixed growth and 3.9% of the subjects were infected with Citrobacter Koseri Findings showed that presence of bacteriuria among pregnant women based on gravida, majority (80.8%) of the subjects were primi gravida and 19.2% of the subjects were multigravida.

- 2. Proportion of asymptomatic bacteriuria among pregnant women
- a. Presence of asymptomatic bacteriuria among pregnant women.



b. Proportion of asymptomatic bacteriuria among pregnant women

In this study only 12.4% of the subjects had asymptomatic bacteriuria during antenatal period. Among them, 30.8% of the subjects had asymptomatic bacteriuria less than or equal to 33 weeks of gestation and remaining 69.2% of the subjects diagnosed at 34 th week of gestation.

c. Frequency and percentage distribution of subjects based on type of bacteria present in urine. (n=26)

Type of bacteria Present in urine	Frequency (f)	Percentage (%)
Escherichia coli	15	57.7
Klebsiella Pneumonia	5	19.2
Citrobacter Koseri	1	3.9
Mixed growth	2	7.6
Others	3	11.6
Total	26	100

d. Association between proportion of asymptomatic bacteriuria among pregnant women with selected socio personal and clinical variable.

There was a significant association between proportion of asymptomatic bacteriuria and selected clinical variables such as habit of using and method of drying undergarment at (p<0.01) and also type of materials used for undergarment is significant at (p<0.05).

DISCUSSION

The present study reported that 12.4% of subjects had asymptomatic bacteriuria and pathogen isolated was E.coli in 57.7% of cases. The findings of the present study were consistent with the result of previous study which was done by R Sreekumari et al, (2016) to assess the prevalence and outcome of asymptomatic bacteriuria in early pregnancy over a period of 12 months at tertiary care center in Government sector at Trivandrum, Kerala. The study result showed that prevalence of asymptomatic bacteriuria was 8.25%. Commonest pathogen isolated was E.coli in 57.14% cases. The findings of the present study were supported by another study conducted by T. Jeyaseelan Senthinath1 et al (2013) on the Prevalence of asymptomatic bacteriuria (ABU) among pregnant women attending the antenatal clinic at rural tertiary care hospital Chennai Medical College Hospital and Research Centre over a period of three months. The findings showed that prevalence of ABU was 13%. In this study the commonest isolates were Escherichia coli (69%) followed by Staphylococcus saprophyticus (15%) and Enterobacter species (2%).

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