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Prevalence of urinary tract infection in antenatal period at tertiary care hospital in rural Bangalore

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Abstract
Urinary tract infections frequently affect pregnant mothers. Three common clinical manifestations of UTIs in pregnancy are: asymptomatic bacteriuria, acute cystitis and acute pyelonephritis. Escherichia coli remain the most frequent organism in UTIs. All pregnant mothers should be screened for UTIs in pregnancy and antibiotics should be commenced without delay. Urine culture and sensitivity is the gold standard in diagnosing UTIs. Asymptomatic bacteriuria in pregnancy is associated with preterm delivery, intrauterine growth retardation, low birth weight, maternal hypertension, pre-eclampsia and anemia.
Aims: To know the prevalence of UTI in pregnancy
Results: A total of 100 pregnant women were included in the study. 15 patients showed significant bacterial growth making an overall prevalence of 15%. 50%uti is in the age group of 21-25 yrs, 5% of UTI is equally distributed 18 to 20 and 31 to 35 years.

Keywords: UTI, tertiary care hospital rural Bangalore

Introduction
Urinary tract infections frequently affect pregnant mothers. Three common clinical manifestations of UTIs in pregnancy are: asymptomatic bacteriuria, acute cystitis and acute pyelonephritis. Escherichia coli remain the most frequent organism in UTIs. All pregnant mothers should be screened for UTIs in pregnancy and antibiotics should be commenced without delay. Urine culture and sensitivity is the gold standard in diagnosing UTIs. asymptomatic bacteriuria in pregnancy is associated with preterm delivery, intrauterine growth retardation, low birth weight, maternal hypertension, pre-eclampsia and anemia. Acute pyelonephritis can lead to maternal sepsis. Recurrent UTIs in pregnancy require prophylactic antibiotic treatment. Urinary tract infections (UTI) remain a leading cause of morbidity and healthcare expenditure in all age groups [1, 2] UTI account for about 10% of primary care consultations by pregnant women and it was reported that up to 15% of women will have one episode of UTI at some time during their life [1]. The incidence of UTI reported among pregnant mothers is about 8% [1, 2]. Anatomically UTI can be classified into lower urinary tract infection involving the bladder and urethra and upper urinary tract infection involving the kidney and pelvis ureter. The majority of the UTI occur due to ascending infection [1, 2]. UTI is defined as the presence of at least 100,000 organisms per milliliter of urine in an asymptomatic patient, or as more than 100 organisms/mL of urine with accompanying pyuria (> 7 white blood cells [WBCs]/mL) in a symptomatic patient. There is a 4-10% more incidence of urinary tract infection in pregnancy as compared to non- pregnancy woman. 60% pregnant women with asymptomatic bacteriuria in pregnancy went on to develop symptomatic infection and 20-25% developed pyelonephritis [3] Urinary tract infections (UTI), which are caused by the presence and growth of microorganisms in the urinary tract, are perhaps the single commonest bacterial infections of mankind [10] and in pregnancy, it may involve the lower urinary tract or the bladder [11]. UTI has been reported among 20% of the pregnant women and it is the most common cause of admission in obstetrical wards [12]. Anatomically UTI can be classified into lower urinary tract infection involving the bladder and urethra and upper urinary tract infection involving the kidney, pelvis, and ureter. The majority of the UTI occur due to ascending infection [14, 15, 16].
The study attempts to know the prevalence of urinary tract infection in pregnancy at tertiary care hospital in rural Bangalore.

Material and methods
Materials: All pregnant women who come for antenatal clinic.

Criteria for selection of sample

- **Inclusion criteria**
  - ❖ Mothers who are pregnant
  - ❖ Mothers who can understand either kannada, hindi or English
  - ❖ Mothers who are willing to participate
  - ❖ Age group of 18 to 45 years

- **Exclusion criteria**
  - ❖ Mothers who are not willing to participate
  - ❖ Mothers who are not available at the time of data collection
  - ❖ Mothers who were on treatment with antibiotics

Sample size: 100

Duration of study: 6 months (01-01-2018 to 31-05-2018)

Place of study: Antenatal clinic mvj medical college hoskote Bangalore

Type of study: Descriptive observational study

Methodology

Consecutive booked antenatal women who presented to antenatal clinics were randomly recruited into the study (upon verbal informed consent,) either had any of the symptoms suggestive of urinary tract infections or without any symptoms were only included. A consecutive 100 pregnant women with or without symptoms of UTI were included in this study. Socio-demographic data such as age, occupation and duration of gestation were collected from the pregnant women using standard questionnaires and kept confidential during the research. Clean-catch midstream urine was collected from each pregnant woman into a wide- mouthed sterile screw- capped container. With a Calibrated micro-loop 0.001 ml. of urine charged into appropriate culture media. After overnight incubation at 37 ˚C for 24 hours, colony counts yielding bacterial growth of $\geq 10^5$ / ml was taken as being significant in both symptomatic and asymptomatic pregnant women. The Results Are Tabulated in Microsoft Excel and Analyzed.

Results

Table 1: patients examined

	Number of patients	Percentage
Total no. of patients enrolled	100	100
Number of Pregnant women with UTI	15	15
Number of Pregnant women without UTI	85	85

A total of 100 pregnant women were included in the study. In this study out of 100 pregnant cases 15 patients showed significant bacterial growth making an overall prevalence of 15%.

Table 2: Prevalence of Urinary Tract Infection in relation to age.

Age (Years)	Number of patients examined	Number of positive UTI's	Percentage of Positive UTI's
18-20 years	5	0	0
21-25 years	50	10	20
26-30 years	40	4	10
31-35 years	5	1	20

Table 3: Prevalence of urinary tract infection in relation to trimester.

Pregnancy Trimester	Number of patients examined	Number of positive	% Positive
1st Trimester	35	3	8.5%
2nd Trimester	55	10	18%
3rd Trimester	10	2	20%
Total	100	15	15%

Table 4: Prevalence of urinary tract infection in relation to obstetric score.

Obstetric score	Number examined	Number positive	% Positive
1st Gravida	55	6	10.9%
2nd Gravida	35	7	20%
3rd Gravida	10	2	20%

Table 5: Prevalence of urinary tract infection in pregnant women in relation to Occupation.

Occupation	Number of patients examined	Number of positive UTI's	Percentage of Positive UTI's
Non-Working women	85	10	11.7%
Working women	15	5	33.3%

Discussion

Urinary tract infections are one of the common infections occurring during pregnancy. The intent of present study is to determine the prevalence of urinary tract infection in pregnancy. A total of 100 pregnant women were included in the study. 15 patients showed significant bacterial growth making an overall prevalence of 15%. Which is nearly similar to Akinloye *et al*. [7] who reported a prevalence of 21.7%. This study does not agree with that of Onuh and colleagues [5] who reported 32.7%, a bit higher to the present study. Furthermore, the prevalence of this study does not agree with that of Onyemelukwe *et al*. [8] who reported a prevalence of 12.7% and also with Leigh [6], Brook *et*

al. [9] who reported a prevalence of 1-10%. This difference may be due to the inclusion of both symptomatic and asymptomatic pregnant woman in this study or as a result of difference socioeconomic status of the pregnant women. 50% uti is in the age group of 21-25 yrs, 5% of uti is equally distributed 18 to 20 and 31 to 35 years. Most commonly uti is noted in second trimester and least uti cases are noted in third trimester. In this study, the frequency of urinary tract infection was higher in the second trimester compared to the first and third trimester. This is in contrast with Leigh [6], who reported an increased frequency of urinary tract infection in the third trimester compared to the first and second trimester of pregnancy. Incidence was slightly higher in multies than primes. multies 20% than prime 10.99%. Multiparity has an increased risk factor of developing bacteriuria among pregnant women. Leigh [6] and Sharma J.B. *et al*. [16] had similar observation regarding the risk of urinary incontinence and other urinary problem which according to them increases by 37.04% with pariety of >3 as compared to 18.75% in nulliparous but disagreement was evident with the findings of Onuh *et al*, 20 who reported that there was no relationship to parity. These differences may be as a result of the different locations in which these studies were being carried out. uti was more common in non working women than working women this may be due to coital activity and poor hyginicity Urinary tract infections are common complications of pregnancy. Therefore, proper screening and treatment of urinary tract infections during pregnancy is necessary to prevent complications. All pregnant women should therefore be screened for the presence of bacteriuria, which if detected should be treated with an antimicrobial agent believed to be safe for use in pregnancy. Urinary tract infection during pregnancy contributes significantly to maternal and perinatal morbidity [4]. Abortion, small birth size, maternal anemia, hypertension, preterm labour, phlebitis, thrombosis and chronic pyelonephritis are related to urinary tract infection during pregnancy [5].

Conclusion

The Physiological Changes Of Pregnancy Predispose Women To UT So Does Other Factors Such As Age, Sexual Activity, Multiparity, Previous History Of UTI And Socio-Economic Conditions. All Pregnant Women Should Be Screened For UTI With A Urine Culture, Treated With Antibiotics If The Culture Is Positive And Then Retested For Cure. The Goal Of Early Diagnosis And Treatment Of UTI During Pregnancy Is To Prevent Complications With All The Added Benefits To The Mother And The Fetus.

References

1. Delzell JE, Lefevre ML. Urinary tract infections during pregnancy. Am Fam Physician. 2000; 61(3):713-21.
2. Orenstein R, Wong ES. Urinary tract infections in adults. Am Fam Physician. 1999; 59(5):1225-37.
3. Schnarr J, Smaill F. Asymptomatic bacteriuria and symptomatic urinary tract infections in pregnancy. Eur J Clin Invest. 2008; 38(2):50-57.
4. Akerele J, Abhlimen P, Okonofua F. Prevalence of asymptomatic Bacteriuria among pregnant womenin Benin City, Nigeria. British Journal of Obstetrics and Gynaecology. 2002; 221(2):141-144.
5. Onuh SO, Umeora OUJ, Igberase Go, Azikem ME, Okpere EE. Microbiological Isolates andsensitivity pattern of urinary tract infection in pregnancy in Benin City, Nigeria, Ebonyi Medical Journal. 2006; 5(2):48-52.
6. Leigh D. Urinary Tract Infections. In: Parker, M T and Darden, B I (Ends) Topple and Wilson's Principles of Bacteriology, Virology and Immunity. The Edition. B C Decker, Philadelphia. 1989; 3:197-211.
7. Akinloye O, Ogbolu D/O, Akinloye OM, Alli OAT. Asymptomatic Bacteriuria of pregnancy in Ibadan, Nigeria; A Re-Assessment, 2006.
8. Onyemelukwe NF, Obi SN, Ozumba BC. Significant Bacteriuria in pregnancy in Enuhun, Nigeria. Journal of College of Medicine. 2003; 8(2):20-22.
9. Brook GF, Butel JS, Moses SA. Jawetz Melmick and Adelberg's Medical Microbiology. 22nd edition. McGrawHill, New York, 2001, 637-638.
10. Theodor M. Prevalence and antibiogram of urinary tract infections among prison inmates in Nigeria. The Internet Journal of Microbiology. 2007; 3(2):12-23.
11. Brook GF, Butel JS, Moses SA, Jawetz Melmick. Adelberg's Medical Microbiology. 22nd edition. McGrawHill, New York, 2001, 637-638.
12. Bacak SJ, Callaghan WM, Dietz PM, Crouse C. Pregnancyassociated hospitalizations in the United States, 1999-2000. American Journal of Obstetrics and Gynecology. 2005; 192(2):592-7. doi: 10.1016/j.ajog.2004.10.638.
13. Delzell JE, Lefevre ML. Urinary tract infections during pregnancy. American Family Physician. 2000; 61(3):713-21.
14. Orenstein R, Wong ES. Urinary tract infections in adults. American Family Physician. 1999; 59(5):1225-37.
15. Loh KY, Silvalingam N. Urinary tract infections in pregnancy. Malaysian family physician. 2007; 2(2):54-57.
16. Sharma JB, Shena Aggarwal, Saurabh Singhal, Kumar S, Roy KK. Prevalencde of urinary incontinence and other urological problems during pregnancy: A questionnaire based study.16 March 2009-4:00 PDT