



Republic of Iraq
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University of Dhi Qar
Gynecology and obstetrics department



**Urinary tract infection among pregnant
women in Bint Al Huda Hospital**

A project Submitted to the
College of Medicine / Dhi Qar University
In partial fulfillment of the requirement for the degree of Bachelor
In Medicine

By Students:

Majed Ahmed Mohamed

Mariam Azhar eajil

Sama Hassan Raysan

Al-Hawra Raad Abdul Razzaq

Supervised by:

Dr. Izdihar Nsaif Ali

Dedication

*“Everything we are
Or ever will be, we owe it to our mothers “.*

.

*Our success is because of them.
To our mothers, this is just the beginning*

.

*To our biggest supporters,
Who keeps saying “we are proud of you*

To our fathers

.

*To our great teachers , will be always appreciated to you for your
efforts and all hard worked you did to us*

.

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ABSTRACT

Objectives: To determine the prevalence of urinary tract infection among pregnant women in Nasiriyah city and to classify the infected women according to their trimesters of pregnancy.

Patients and methods: Sample of 70 pregnant women attending Bint Al-Huda Hospital in Nasiriyah city from (January - March 2022) was taken. Information on age, gestational age, gravidity, parity, level of education and residence were collected for each woman. Clean midstream urine samples were examined microscopically.

Results: Prevalence rate among the studied subjects was 60.3%. The highest proportion (72.9%) is seen among women aged 20-35 years. According to the trimesters of pregnancy, that, (24.3%) of the infected women were in their first trimester, (18.6%) in their second trimester and (57.1%) in their third trimester and most of them multigravida (60.0%). Parity, when number of children was (1-4) the percentage is (61.4) , also the percentage of pregnant woman with history of recurrent urinary tract infection was (65.8%).

Conclusion In this study, the prevalence of UTI was higher among pregnant women especially in third trimester ,multigravida .The presence of associated risk factors such as diabetic mellitus and thalassemia, past history of UTI.

Keywords: Prevalence, urinary tract infections, pregnant women.

الخلاصة

الأهداف: تحديد مدى انتشار عدوى المسالك البولية بين النساء الحوامل في مدينة الناصرية وتصنيف النساء المصابات حسب الثلث من الحمل.

طريقة العمل: عينة من 70 سيدة حامل يترددن على مستشفى بنت الهدى في مدينة الناصرية من (يناير - مارس 2022) تم أخذها. تم جمع معلومات عن العمر وعمر الحمل والجاذبية والتكاثر ومستوى التعليم والإقامة لكل امرأة. تم فحص عينات البول النظيفة لمجرى المسالك البولية مجهريًا.

النتائج: بلغ معدل انتشار عدوى المسالك البولية بين الأفراد المدروسة 60.3%.

تظهر أعلى نسبة (72.9%) من التهاب المسالك البولية بين النساء اللائي تتراوح أعمارهن بين 20 و 35 عامًا. وبحسب الأشهر الثلاثة الأخيرة من الحمل ، (24.3%) من النساء المصابات كن في الثلث الأول من الحمل ، (18.6%) في الثلث الثاني من الحمل و (57.1%) في الثلث الثالث.

الاستنتاجات: في هذه الدراسة, نسبة انتشار التهاب المجاري البولية اعلى لدى النساء الحوامل. خاصة في الاشهر الثلاثة الاخيرة, ولدى النساء اللواتي حملن اكثر من مرة مع وجود عوامل خطورة اخرى, مثل مرض السكري, الثلاسيميا, وحالة اصابة سابقة بالتهاب المجاري البولية.

Introduction

Urinary tract infections (UTIs) are frequently encountered in pregnant women. Pyelonephritis is the most common serious medical condition seen in pregnancy and may present similarly and may even result from inadequate treatment of urinary tract infections. Thus, it is crucial for providers to be able to distinguish normal versus abnormal findings of both the urinary tract and kidneys, evaluate abnormalities, and treat disease. Fortunately, urinary tract infections in pregnancy are usually easy to treat and respond well to treatment. the evaluation and management of urinary tract infection in pregnancy and highlights the role of interprofessional team members in

collaborating to provide well-coordinated care and enhance outcomes for affected patients.⁽¹⁾

Rarely, pregnancies complicated by pyelonephritis will lead to significant maternal and fetal morbidity.⁽²⁾

During pregnancy, urinary tract changes predispose women to infection. Ureteral dilation is seen due to compression of the ureters from the gravid uterus. Hormonal effects of progesterone also may cause smooth muscle relaxation leading to dilation and urinary stasis, and vesicoureteral reflux increases. The organisms which cause UTI in pregnancy are the same uropathogens seen in non-pregnant individuals. As in non-pregnant patients, these uropathogens have proteins found on the cell-surface which enhance bacterial adhesion leading to increased virulence. Urinary catheterization, frequently performed during labor, may introduce bacteria leading to UTI. In the postpartum period, changes in bladder sensitivity and bladder overdistention may predispose to UTI.⁽³⁾

Studies have indicated that 25% - 40% of untreated pregnant women with asymptomatic bacteriuria will eventually develop to acute pyelonephritis as the most common cause of predelivery hospitalization. Furthermore, even if pyelonephritis is treated immediately, the condition significantly increases mortality and the number of infants with low-birth weights. In addition, anemia, preeclampsia and premature rupture of fetal membranes, respiratory failure and risk of septicemia and shock are other risk factors in UTI pregnancy.⁽⁴⁾ Moreover, children born with mothers with pyelonephritis are much more prone to impairment of mental and motor development. There is a significant statistical correlation between UTI and congenital retardation.

In addition, according to some studies, UTIs are associated with premature delivery, low-birth-weight infants, cesarean delivery, morphological abnormalities and infant mortality.⁽⁵⁾ It should be noted that according to the studies, UTI in pregnant women begins in the 6th week of pregnancy and reaches its peak in weeks 22 - 24 and about 90% of these women develop urethral dilation. In pregnant women, due to an increase in the volume of urine and dilation of urethra, the disease causes increased stasis of urine in the bladder, reflux of the urine to the urethra and causes a physiological increase in plasma volume, which will eventually reduce the urinary concentration. Another common reason is glycosuria, which is present in 70% of pregnant women, increases the urinary level of estrogen and progesterone, and decreases the patient's ability to fight invasive bacteria. All these factors may contribute to the development of UTI in pregnancy. In the recent studies, different reasons were mentioned for this disorder in pregnancy. The commonest microbial agent for this disease has been E. coli resistant species, which needs special attention.⁽⁶⁾

PATIENTS AND METHODS

Cross-sectional study design was adopted and Bint Al-Huda Hospital was the focal setting of this study. This hospital serves a population of different strata in Nasiriyah, Dhi Qar. For a period of three months (January - March 2022), a random sample of 70 pregnant women attending the antenatal care (ANC) unit and emergency unit at the study setting was taken. Information on Maternal age, gestational age, type of delivery, educational level, residence, antenatal care, symptoms, past history of UTI, medical history.

Urine samples was collected with the study subjects. Clean catch midstream urine was collected from the studied sample in sterile bottles. General urine examination was carried out for each woman.

RESULTS

The highest proportion (72.9%) of UTI is seen among women aged 20-35 years. highest proportion of educational level were urban at 6-12 (60.0%) schooling. Also Antenatal care visit was regular (82.9%), According to the trimesters of pregnancy, that, (24.3%) of the infected women were in their first trimester, (18.6%) in their second trimester and (57.1)% in their third trimester and most of them multigravida (60.0%).

Parity of pregnant women is nullipara (30.0%) and (61.4%) 1-4, also the history of UTI recurrent in (65.8%).

Table 1. Distribution of sociodemographic and obstetric characteristics among the study sample.

Characteristic	No.	%
Age (years)		
<20	10	14.3
20-35	51	72.9
>35	9	12.8
Educational level		
no formal	6	8.6
6-12	42	60.0
>12	22	31.4
Residence		
rural	25	35.8
urban	45	64.2

Type of delivery		
NVD	37	52.9
CS	33	47.1
Antenatal care visit		
regular	58	82.9
irregular	12	17.1
not present	0	0.0
Gestational age		
T1	17	24.3
T2	13	18.6
T3	40	57.1
Gravidity		
primigravida	28	40.0
multigravida	42	60.0
Parity		
Nullipara	21	30.0
1-4	43	61.4
≥ 5	6	8.6
History of UTI		
no attack	2	2.8
single	22	31.4
recurrent	46	65.8
Medical history		
HT	10	14.3
DM	40	57.1
SCA	10	14.3
Thalassemia	10	14.3

Table 2. Distribution of the items of urinalysis among the infected subjects.

Item	No.	%
Bacteria	15	21.5
Pus	69	98.5
Crystals	58	82.8
Red Blood Cells	65	92.9

DISCUSSION

UTIs are the widely spread infections seen in hospital settings, and the second commonest infections seen in the general population. ⁽⁷⁾ In this study the prevalence of UTI among the studied pregnant women was 60.3%. These results nearly corresponded with those of research workers in other countries, with minor differences, which could be due to variation in the environment, social habits of the community, and the standard of personal hygiene and education. ⁽⁸⁾ studies in our region, the prevalence was 27.3% in Iraq, ⁽⁹⁾ 33.3% in Northern India, ⁽¹⁰⁾ and 18.9% in North West Ethiopia. ⁽¹¹⁾ The present study showed that, the highest proportion of UTIs was detected among women aged 20-35 years with high parity.

The known factors to affect the frequency of bacteriuria during pregnancy include multiparity, gestational age, previous medical history of UTI, diabetes mellitus and anatomic urinary tract abnormalities. ⁽¹²⁾ In addition anaemia, socio-economic status, educational status, sexual activity and catheterization are also associated with increased risk of UTI. ⁽¹³⁾

Conclusions

In this study, the prevalence of UTI was higher among pregnant women especially in third trimester ,multigravida .The presence of associated risk factors such as diabetic mellitus and thalassemia, past history of UTI.

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