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Original Article

Prevalence of urinary tract infection among pregnant women attending antenatal care clinics in Benadir hospital Mogadishu Somalia

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Abstract

Background

Urinary tract infection (UTI) is a common infection in women, and it is more likely to occur during pregnancy due to mechanical and hormonal changes in pregnant women. Urinary tract infections can cause many complications for both mother and fetus. Objective. The objective of the study was to assess the prevalence of Urinary tract infection among pregnant women attending ANC clinics. Methods. A descriptive cross-sectional study was conducted among pregnant women who attended ANC Benadir hospital, Mogadishu, Somalia, from April to May 2021. A total of 154 pregnant women participated in this study. A purposive nonprobability sampling technique was employed to select samples from the population. Structured questionnaires were distributed among participants. A urine test was done using a rapid dipstick and the data were analyzed using the SPSS version (20.0). Result. Most of the participants 110 (71.4%) were 21-35. The prevalence of UTI among pregnant women was 121(78.6%.). the prevalence was high in the 21-35 years age group 91 (75.2%). Also, there was a high prevalence among illiterate 74(61.2%). 101(83.4%) had a history of UTI. According to the parity 91(81%) of participants were multipara. Lastly, the prevalence of UTIs was also high in the 3rd trimester of pregnancy 56(46.2%). Conclusion. The prevalence of UTIs among pregnant women was high. Based on the findings, the prevalence of infection was high among women who were illiterate and had a previous history of UTI, multipara, and 3rd trimester. Therefore, the study recommends raising awareness among pregnant women with regular antenatal care in reducing the prevalence of the infection.

Keywords: UTI, pregnant, ANC

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Background

Pregnancy causes anatomical, physiological, and functional changes in the urinary system, which frequently result in bacteria climbing into the urinary bladder and causing urinary tract infections (UTIs)(1). The infection of any area of the urinary tract is known as a urinary tract infection (UTI). The kidneys, ureters, bladder, and urethra make up the urinary tract. Infections can occur in any portion of these structures, but bladder and urethra infections are the most prevalent(2). Pregnant women have a higher rate of UTIs than other healthy women in the general community(3). UTIs are common in pregnant women and have been associated to negative outcomes for the mother, fetus, and newborn.(4). Due to the narrow structured urethra and the ease with which the urinary tract can be contaminated with fecal microbes, pregnant women are more vulnerable than men(5). Study was conducted at SVR Maternity Hospital, Bhimavaram Andhra Pradesh, INDIA, with to determine the Prevalence of UTI among pregnant women and complications in their newborns. A total of 120 pregnant women were enrolled. The result revealed that prevalence of UTI was 35.0%, It is mostly observed high in age group of < 25 years, Primigravida, winter season and during Third trimester of pregnancy(6). Another study was conducted in two private tertiary clinics in Dhaka with 250 pregnant women participated in this study. The result showed that prevalence of UTI among pregnant women was 26.0%, the incidence was high 21–25 years age group (44.61%). Among pregnancy, multiparty is linked to a higher risk of urinary tract infection. Bacteriuria was found in 94% of women who had previously experienced a urinary tract infection(5). study was carried out at Kanayo specialist hospital and General hospital both in Onitsha, Anambra state, Nigeria with 200 urine samples of pregnant women. The aim of this study was to determine the prevalence of urinary tract infection among pregnant women in Onitsha. The finding of this study highlighted that Escherichia coli had the highest percentage of occurrence 52(26%), Staphylococcus 20(10%), Klebsiella aerogenes 16(8%), Pseudomonas aerogenes 10(5%) and Proteus mirabilis 14(7%). While, the highest prevalence of UTI is seen in the age group of 26-30 years and the lowest prevalence is seen in the age group of 20-25 years. Another hand, the highest prevalence of UTI is seen in primi gravidity while the lowest prevalence rate is seen in multi gravidity.(7). With this background information, this study was conducted aimed at determining prevalence of urinary tract infection UTI among pregnant women attended at Antenatal Clinic Benadir Hospital, Mogadishu,
Somalia

Materials and method

Study design, area, duration and population

A descriptive cross-sectional study was conducted at ANC Benadir hospital prevalence of urinary tract infection among pregnant women, Mogadishu,
Somalia, from April to May 2021. The target population was All pregnant women attended at the antenatal care (ANC) at Benadir hospital, Mogadishu, Somalia, during period of data collection. Sample size and Sampling technique

The sample size was calculated using single population proportion formula of previous study at 10.4% (8) margin of error (d) of 0.05, (Zα/2) of 95% confidence interval (CI) level, and 10% nonresponse rate. The total

sample size was 154. During the study period, A purposive nonprobability sampling technique was employed to recruit pregnant women who were attending antenatal care (ANC) at Benadir hospital.

Data collection and analysis

A structured questionnaire was used to collect data, which was then distributed to participants. Urine test was also done using a rapid dip. Finally, SPSS version (20.0) was used to enter and analyze data.

Results

Sociodemographic characteristics

A total of 259 pregnant women were included in this study. The majority of the participants were 21–34 (71.4%), illiterate (61.7%), and married (92.2%). According to the parity, around 79.20% of participants were multiparous. In terms of gestational period, most of the participants were nearly 48.7% in the third trimester.

Table 1 demographic characteristics of the participants

Demographic characteristics	Frequency #	Percentage
Age		
15-20	34	22.1
21-35	110	71.4
36-45	10	6.5
Educational level		
Illiterate	95	61.7
Primary	38	24.7
High school	16	10.4
University	5	3.2
Marital status		
Married	142	92.2
Divorced	10	6.5
Widowed	2	1.3
Monthly income		
<50	30	19.5
50-100$	66	42.9
100-150$	46	29.9
150->200$	12	7.8
Parity		
Multipara	122	79.2
Nullipara	1	0.6
Primipara	31	20.1
Gestational Period		
First trimester	39	25.3
Second trimester	40	26
Third trimester	75	48.7
Total	154	100

Prevalence of urinary tract infection in pregnant women

The prevalence of UTI among pregnant women was 121(78.6%.). the prevalence was high in 21-35 years age group 91 (75.2%). Also, there was high prevalence among illiterate 74(61.2%). 101(83.4%) had history of UTI. According to the parity 91(81%) of participants were multipara. Lastly, prevalence of UTI was also high among 3rd trimester of pregnancy 56(46.2%).

Table 2: Prevalence of urinary tract infection in pregnant women

Variables	Positive	Negative	Total
15-20	24	10	34
21-35	91	19	110
36-45	6	4	10
Illiterate	74	21	95
Primary	28	10	38
High school	15	1	16
University	4	1	5
History of UTI			
Yes	101	27	128

No	20	6	26
History of catherization			
Yes	25	6	31
No	96	27	123
Parity			
Multipara	98	24	122
Nullipara	1	0	1
Primipara	22	9	31
Gestational period			
1st trimester	30	9	39
2nd trimester	35	5	40
3rd trimester	56	19	75

Discussion

This study investigated the prevalence of UTI among pregnant women attending at ANC Benadir hospital, Mogadishu, Somalia. The results of our study showed that the prevalence of UTI among pregnant women was 121(78.6%.). Another study was conducted in Dhaka Bangladesh (5)(9) and Ethiopia (10) which was less than to this study. In addition, the finding of the current study is higher than the prevalence of UTI reported from Nigeria(11) and Ethiopia(12). This variety may be explained by changes in the environment, community social practices, personal cleanliness standards, and education levels. Regarding the age of pregnant women , The prevalence was high in 21-35 years age group 91 (75.2%), this finding agrees with (5).

In the current study, the prevalence of urinary tract infection in pregnant women with previous history of urinary tract infection was high, this result agrees with research work in Ethiopia (Alemu, Moges, Shiferaw, Tafess, Kassu, & Anagaw, 2012) and Egypt (Mohamed et al., 2017). This might be due to presence of resistance strains from those who had previous history of UTI. As the result of the study revealed that Multiparous women had the highest prevalence of UTI, similar to findings in another study(13). Finally, in this study, the prevalence of urinary tract infection was higher in the third trimester compared to the first and second trimester

.

Conclusion

The prevalence of UTI among pregnant women was high. Based on the findings, the prevalence of infection was high among women who were illiterate, had a previous history of UTI, multipara, and 3rd trimester. Therefore, the study recommends raising awareness among pregnant women with regular antenatal care in reducing the prevalence of the infection.

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Conflict of interests: No conflict of interests is declared.

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