E-ISSN 2250-0944
ISSN 2250-1150
doi: 10.31838/ijprt/15.02.325

Research Article

Knowledge Regarding Urinary Tract Infection (UTI) and Its Prevention during Pregnancy among Antenatal Mothers

Ms. Megha Chaugale[1], Ms Chandrala S Patole[2*], Ms. Mrudula Lagare[3], Ms. Mayavati Gaikwad[4], Mr. Prasad Ghatge[5], Mr. Prashant Kumbhar[6], Mr. Prathmesh Shinde[7], Mr. Pushkaraj Dangi[8]

[1,3,4,5,6,7,8]Final Year B.Sc. Nursing Students, D. Y. Patil College of Nursing, Kolhapur.

[2]M.Sc (N), Assistant Professor, Dept. of Obstetrics and Gynecological Nursing,D. Y. Patil College Of Nursing, Kolhapur, D. Y. Patil Education Society, (Deemed To Be University), Kolhapur, Maharashtra, India.

Corresponding Author: Ms Chandrala S Patole

Email: chandrala.sp@gmail.com

Received: 16.08.25, Revised: 15.09.25, Accepted: 10.10.25

ABSTRACT

Background and Objective: UTI ranks as the second most frequent bacterial infection and is the most prevalent bacterial disease among pregnant women. It is estimated that around one out of every three women will likely face a UTI at some point. Approximately 8.3 million pregnant women worldwide experience UTIs annually. This increase in prevalence is attributed to the enlargement and additional weight of the uterus, which disrupts normal bladder function and results in symptoms such as incomplete voiding, urine dribbling, and frequent urination.

Urinary tract infections in pregnant women can give rise to various complications, including the delivery of infants with low birth weight, an increased risk of abortion, preterm birth, development of preeclampsia, preterm labor, stillbirth, chronic pyelonephritis, and, in rare cases, kidney failure. While the likelihood of developing acute episodes of UTI is relatively low in the early stages of pregnancy, there is a significant increase in risk during the final trimester, ranging from 30 %–60 %. Neglecting early treatment of a UTI can have adverse consequences on the well-being of the baby.

Objectives of the Study:

1. To assess the knowledge regarding Urinary tract infection (UTI) and its prevention during pregnancy among antenatal mothers.
2. To find out an association between knowledge regarding Urinary tract infection (UTI) and its prevention during pregnancy among antenatal mothers with their selected socio-demographic variables.

Methods: The research approach adopted for the study was quantitative evaluative Survey approach. Research design was Non experimental, Descriptive quantitative evaluative design. Ethical clearance was obtained from the institution. Formal administration permission was obtained from the medical officer of Shiroli PHC. Then 80 antenatal mothers were selected by using non probability purposive sampling technique. An informed consent was obtained from the participants.

In order to obtain a free and true response, the purpose and importance of the study was explained to selected samples. The main study was conducted at Shiroli PHC, Kolhapur from the 04/01/2025 to 10/01/2025. Data collection was done as per the timings provided by the Medical officer. Researchers introduced themselves to the samples. Explained the purposes and objectives of the study. Samples were taken into confidence and assured of confidentiality of their data identity and their responses. Average time were given for solve the questionnaire that is 30 min approximately.

Results: A majority 42 (53%) have good knowledge, indicating strong understanding of the subjects, while 21 (26%) possess an average level of knowledge, reflecting moderate understanding. The remaining 17 (21%) were categorized under poor knowledge. There was statistical significant association between knowledge scores of subjects with their selected socio-demographic variable i.e. Education [x^2_{cal}= 18.73, x^2_{tab}= 9.44]. The calculated chi square value was higher than tabulated value. The calculated Chi-square values for type Education was greater than tabulated value at $p < 0.05$ level of significance. Hence H_1 was accepted.

Interpretation And Conclusion: The present study revealed that a majority 42 (53%) have good knowledge, indicating strong understanding of the subjects, while 21 (26%) possess an average level of knowledge, reflecting moderate understanding. The remaining 17 (21%) were categorized under poor knowledge.

Keywords: Knowledge, Urinary tract infection (UTI) and its prevention, antenatal mothers.

INTRODUCTION

"Preventing urinary tract infections during pregnancy is vital for both maternal and fetal health."
Smith, J.

Urinary tract infections (UTIs) in pregnant women continue to pose a clinical problem and a great challenge for physicians. Although the incidence of bacteriuria in this population is only slightly higher than in non-pregnant women, its consequences for both the mother and the unborn child are more severe. There is a much higher risk (up to 40%) of progression to pyelonephritis, and possibly increased risk of pre-eclampsia, premature birth and low neonatal birth weight. That is related to profound structural and functional urinary tract changes, typical for pregnancy. In about 80% of pregnant women dilation of the urinary tract combined with slight hydronephrosis is observed, caused partly by a reduction in smooth muscle tone with slowing of ureteral peristalsis, and partly by urethral sphincter relaxation. This may be due to high levels of circulating progesterone.

Urinary tract infections (UTIs) are the most common bacterial infection in pregnancy and have been estimated to affect 2% to 15% of the pregnant population, although recent data suggest that this may be higher. Using data from the National Birth Defects study population (41 869 women), found that 11% to 26% of women reported being diagnosed and/or treated for UTI during pregnancy.

METHODS

In the view of the nature of the problem, and to establish the objectives of the study, Quantitative evaluative approach and Descriptive research design was used to assess the knowledge regarding urinary tract infection (UTI) and its prevention during pregnancy among antenatal mothers. The research variable is knowledge of antenatal mothers regarding urinary tract infection (UTI) and its prevention during pregnancy. In this study the selected socio demographic variables are Age in years, Religion, Area of residence, Education, Occupation, No. of gravida. The study was conducted at Shiroli PHC, Kolhapur. The settings were chosen on the basis of feasibility in terms of availability of subjects who are attending antenatal clinics. The tool was developed into two section - A: Selected socio demographic variables. Section B: Structured knowledge questionnaire to assess the knowledge regarding urinary tract infection and its prevention during pregnancy.

DATA COLLECTION PROCEDURE

Ethical clearance was obtained from the institution. Formal administration permission was obtained from the medical officer of Shiroli PHC. Then 80 antenatal mothers were selected by using non probability purposive sampling technique. A informed consent was obtained from the participants.

In order to obtain a free and true response, the purpose and importance of the study was explained to selected samples. The main study was conducted at Shiroli PHC, Kolhapur from the 04/01/2025 to 10/01/2025. Data collection was done as per the timings provided by the Medical officer. Researchers introduced themselves to the samples and explained the purposes and objectives of the study. Samples were taken into confidence and assured of confidentiality of their data identity and their responses. Average time were given for solve the questionnaire that is 30 minutes approximately.

RESULT

Section I: Frequency and percentage distribution of samples according to selected socio demographic variables.

In this section researchers analyzed and categorized the samples of the study to various groups based on the selected socio demographic variables.

n = 80

Table 1: Frequency and Percentage Distribution of Samples According To Selected Socio Demographic Variables.

n=80

Sr. No.	Selected socio demographic variables	Frequency (f)	Percentage (%)
1.	**Age in years**		
	a. 19 – 23	28	35
	b. 24 – 28	37	46
	c. 29 – 33	15	19

2.	**Religion**		
	a. Hindu	50	63
	b. Muslim	30	37
3.	**Area of residence**		
	a. Rural	51	64
	b. Urban	29	36
4.	**Education**		
	a. Primary	09	11
	b. Secondary	42	53
	c. Higher	29	36
5.	**Occupation**		
	a. Job/Service	32	40
	b. Housewife	48	60
6.	**No. of Gravida**		
	a. 1	37	47
	b. 2	36	45
	c. 3	05	06
	d. 4	01	01
	e. 5	01	01

The data from Table 1, the samples population shows a broad range of characteristics across different variables. Age in years distribution indicates that the majority of samples are in the age group of 24-28 years indicates 46%. The second largest group is 19-23 years of age, which represents 35%. The smallest group falls in the 29-33 years of age which shows 19% of the samples. In terms of religion, a majority of samples 50 are identified as Hindu with 63% where remaining are Muslims that are 30 which shows 37%. Majority of subjects that 51(64%) are residing at Rural area where minimum 29 (30%) are residing at Urban area. Maximum of subject 42 (53%) had secondary education and 9 (11%) had primary education. Majority of samples 48 (60%) were housewives where minimum32 (40%) were doing Job/Services. Maximum 37 (47%) samples were primigravida, 36 (45%) sample's no. of gravida was 2 and 1 was having 4and 1 was having 5 no. of gravida.

Section II: Frequency and percentage distribution of knowledge scores of samples regarding Urinary tract infection (UTI) and its prevention during pregnancy.

In this section the researchers analyzed and categorized knowledge scores of subjects regarding Urinary tract infection (UTI) and its prevention during pregnancy.

Table 2: Findings related to frequency and percentage distribution of knowledge scores of subjects regarding Urinary tract infection (UTI) and its prevention during pregnancy.

n = 80

Knowledge Scores	Range of score	Frequency (f)	Percentage (%)
Good	19 – 27	42	53%
Average	10 -18	21	26%
Poor	00 – 09	17	21%

A majority 42 (53%) have good knowledge, indicating strong understanding of the subjects, while 21 (26%) possess an average level of knowledge, reflecting moderate understanding. The remaining 17 (21%) were categorized under poor knowledge.

Section III: Findings related to mean, median, mode, standard deviation and range of knowledge scores of samples regarding Urinary tract infection (UTI) and its prevention during pregnancy.

n = 80

Table 3: Findings Related To Mean, Median, Mode, Standard Deviation And Range Of Knowledge Scores Of Subjects Regarding Urinary Tract Infection (UTI) And Its Prevention During Pregnancy.

n=80

Area of analysis	Mean	Median	Mode	Standard Deviation	Range
Knowledge	16.25	19	05	6.47	25

Mean was 16.25, Median was 19, Mode was 05 where Standard deviation was 6.47 and Range was 25.

Section IV: Testing of hypothesis at 0.05 level of significance.

1. H_1: There is a significant association between knowledge regarding Urinary tract infection (UTI) and its prevention during pregnancy among antenatal mothers with their selected socio-demographic variables.

In this section the researcher analyzed and categorized the association between knowledge scores of subjects regarding Urinary tract infection (UTI) and its prevention during pregnancy among antenatal mothers with their selected socio-demographic variables

Table 4: Findings Related To An Association Between Knowledge Scores Of Subjects With Their Selected Socio Demographic Variables.

n = 80

Sr. No.	Demographic Variable	Knowledge Score			df	Calculated Value	Table Value	P-Value	Inference
		Good	Average	Poor					
1	**Age in years**								
	19 – 23	17	7	4	4	4.441	9.448	0.35	NS
	24 – 28	19	11	7					
	29 – 33	6	3	6					
2	**Religion**								
	Hindu	26	15	9	2	1.383	5.991	0.501	NS
	Muslim	16	6	8					
3	**Area of residence**								
	Rural	25	16	10	2	1.91	5.991	0.385	NS
	Urban	17	5	7					
4	**Education**								
	Primary	3	6	0	4	18.737	9.448	<.001	S
	Secondary	18	9	15					
	Higher	21	6	2					
5	**Occupation**								
	Employee	22	6	4	2	5.747	5.991	0.057	NS
	Housewife	20	15	13					
6	**Number of Gravida**								
	1	20	7	10	8	9.958	15.507	0.268	NS
	2	19	11	6					
	3	3	2	0					
	4	0	1	0					
	5	0	0	1					

CONCLUSION

A majority 42 (53%) have good knowledge, indicating strong understanding of the subjects, while 21 (26%) possess an average level of knowledge, reflecting moderate understanding. The remaining 17 (21%) were categorized under poor knowledge. There was statistical significant association between knowledge scores of subjects with their selected socio-demographic variable i.e. Education [χ^2_{cal}= 18.73, χ^2_{tab}= 9.44]. The calculated chi square value was higher than tabulated value. The calculated Chi-square values for type Education was greater than tabulated value at $p < 0.05$ level of significance. Hence H_1 was accepted.

REFERENCES

1. Aleinein I., Sokhn E. Knowledge and prevalence of urinary tract infection among pregnant women in Lebanon. Heliyon.2024; 10(17): https://pmc.ncbi.nlm.nih.gov/articles/PMC11408011/
2. Rowińska JM., Małyszko J., WieliczkoM. Urinary tract infections in pregnancy: old and new unresolved diagnostic and therapeutic problems. PMC. 2015; 11(1): https://pmc.ncbi.nlm.nih.gov/articles/PMC4379362/
3. Ansaldi Y., Tejada W. Urinary tract infections in pregnancy. Clinical Microbiology and Infection.2023;29(10): https://www.sciencedirect.com/science/article/pii/S1198743X22004311
4. Salari N., Khoshbakht Y., Hemmati M., Khodayari Y., Khaleghi A. Global prevalence of urinary tract infection in pregnant mothers: a systematic review and meta-analysis. Public Health. 2023;24: https://www.sciencedirect.com/science/article/abs/pii/S0033350623003098
5. Sundas A., Azhar S., Ahmed J.Knowledge, attitudes and practices of pregnant women regarding urinary tract infections living in peripheral areas of Pakistan: A questionnaire-based cross-sectional study. Clinical Epidemiology and Global Health.2024;28: https://www.sciencedirect.com/science/article/pii/S2213398424000873
6. Sipora KS., Nagavalli N., Nirmala G., Nishitha O., Flinsi DM. A Study to Assess the Effectiveness of Information on Knowledge regarding Urinary Tract Infection and its Prevention in Pregnancy among Antenatal mothers at DRDO Apollo Hospitals, Hyderabad, Telangana. International Journal of Nursing Education and Research. 2024; 12(2): https://ijneronline.com/HTMLPaper.aspx
7. Chand R. The effectiveness of health awareness programme on knowledge and practice regarding prevention of urinary tract infection among antenatal women in govt. Doon medical college hospital. International journal of advanced research 2024; 12(1):https://www.journalijar.com/uploads/65bb3b6f25f3c_IJAR-45515.pdf
8. Kerure RD., Biradar A., Lakshetty S., Biradar S. A study of urinary tract infection in pregnancy and its effect on maternal and perinatal outcome. International Journal of Reproduction, Contraception, Obstetrics and Gynecology. 2024; 13(2): https://www.ijrcog.org/index.php/ijrcog/article/view/13843
9. Yakout SM, Alanaz S I. Effect of Health Teaching sessions on Pregnant Women's Knowledge and Health Behaviour Regarding Urinary Tract Infection. Assiut Scientific Nursing Journal. 2022; 10 (30): https://asnj.journals.ekb.eg/article_241120_893babda38321b5f4164f1d48e20dcc7.pdf
10. Esan, DT., Sokan A., Bello CB., Odugbume B., Ajayi PO. Knowledge, attitude and practice of antenatal mothers toward urinary tract infection in selected health facilities in Ekiti state, Nigeria. Journal of Public Health Research. 2023; https://journals.sagepub.com/doi/full/10.1177/22799036231197180