

**EXPLORING KNOWLEDGE LEVELS ON URINARY TRACT INFECTION
PREVENTION AMONG ANTENATAL MOTHERS: A DESCRIPTIVE STUDY**

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ABSTRACT

Background: Urinary tract infections (UTIs) pose a significant health concern, particularly among pregnant women, due to associated risks for both maternal and fetal health. Adequate knowledge regarding UTI prevention is crucial in minimizing the incidence and complications of these infections during pregnancy. **Aim:** The aim of this study was to assess the knowledge levels of pregnant mothers regarding the prevention of urinary tract infections. **Methods:** A descriptive research design was employed for this study. Utilizing non-probability purposive sampling, a total of 50 pregnant women were selected as participants. Data were collected through a structured questionnaire focusing on demographic characteristics and knowledge related to UTI prevention. Statistical analysis was conducted to explore any correlation between demographic factors and knowledge levels. **Conclusion:** The findings of this study revealed that despite the majority of pregnant mothers possessing only basic knowledge about UTI prevention, there exists a significant correlation between certain demographic characteristics and the level of knowledge. This underscores the importance of targeted educational interventions aimed at improving awareness and practices concerning UTI prevention among pregnant women, thereby contributing to better maternal and fetal health outcomes.

KEYWORDS: Urinary Tract Infection, Antenatal Mothers, Knowledge.**INTRODUCTION**

The president's health is deteriorating daily. Life is made possible by health. Any commute could be related to one's allegiance. One of the main causes of morbidity is urinary tract infection, which can often co-occur with other conditions. (Odoki et al., 2020).

The first case of urinary tract infection was discovered in Iraq, and it is still a prevalent, constant bacterial illness. Urinary tract infection prevalence has a J-shaped distribution; it is higher in young children and rises with age. (Zhang et al., 2018).

Urinary tract infections are mostly caused by pathogenic bacteria colonizing the bladder's entry, and women receiving antibiotic therapy are more vulnerable to this condition. The upper urinary tract infections that are systemic in nature are called cystitis and pyelonephritis. the urinary tract infection in conjunction with irritable voiding and dysuria. According to studies, having sex frequently is the main indicator of recurrent UTIs. (Hellerstein, 2000).

Both sexes are commonly infected; but, because of differences in their structure and reproductive function, the female is more susceptible. Among women aged 18 to 40, the overall prevalence rate of urinary tract infections is 27.3%; pregnant women are more likely to get these infections. The bladder, kidney, ureter, and urethra are all parts of the urinary tract. Teenagers exhibit high levels of enthusiasm, which can lead to a lack of knowledge and information. (Gatermann et al., 1989).

MATERIAL AND METHODS

The current investigation was carried out with official consent A quantitative technique using a descriptive research design was used for this investigation. A nonprobability purposive sampling strategy was used to gather the data from 50 expectant moms. The study's inclusion requirements include cooperativeness, availability during the study time, and proficiency in both Arabic and English.

The study's exclusion criteria include samples that are unwilling to participate in any way. The investigator provided each study participant with an explanation of the study's purpose and acquired their written informed

consent. Data on the samples' demographics and level of knowledge on UTI prevention was gathered via a semi-structured questionnaire. Using both descriptive and inferential statistics, the data were examined. Frequency and percentage were used to characterize the sample characteristics. The degree of knowledge was correlated with a subset of demographic characteristics using chi-square analysis.

RESULTS AND DISCUSSION

Section 1: An explanation of the prenatal moms' demographic characteristics

Of the 50 expectant moms, 12 (24%) were between the ages of 21 and 23; 16 (32%) were between the ages of 24 and 26; 20 (40%) were between the ages of 27 and 28; and the remaining 2 (4%) were beyond the age of 30. According to the study's data on educational attainment, roughly 27 (54%) people had completed formal education, 17 (34%) had completed elementary school, 4 (8%), had completed higher education, and the remaining 2 (4%), had a degree. The information gathered also suggests information regarding occupation: 18% (36%) of the respondents were housewives, 21% (42%) were employed by the government, and 22% were private workers. (Vasudevan, 2014).

The family's income distribution shows that, at most, 14 (28%) of the family's members made less than \$350 per month, 16 (32%) made less than \$400-600 per month, 12 (24%), made between \$650 and \$800, and the remaining 8 (16%) made more than \$1000 per month. According to the gathered data, a maximum of 23 people (46%) belonged to a nuclear family, while 27 people (52%) belonged to a mixed family. According to the study population's dietary habits, 37 (74%) of them were not vegetarians and 12 (24%) were vegetarians. According to data on place of residence states, the majority of them—42 (84%)—were located in metropolitan areas, with the remaining eight (16%) being in rural areas. (Almukhtar, 2018) of them, roughly 32 (64%) had a prior UIT infection history, and 18 (36%), had no noteworthy history. According to family history of UTI, around 49% of cases had maternal side, 16% had paternal side, 54% had sibling side, and the remaining 8 (650) cases had no history. The majority of the people obtained their information from periodicals (32, or 64%), television (12, or 24%), and other media (6, or 12%). (Grigary, 2018).

Table 1: Demographic Characteristics of Study Population (Vasudevan, 2014).

Characteristic	Count	Percentage
Age		
21-23 years	12	24%
24-26 years	16	32%
27-28 years	20	40%
Over 30 years	2	4%
Educational Attainment		
Completed formal ed.	27	54%
Completed elementary	17	34%
Completed higher ed.	4	8%
Have a degree	2	4%
Occupation		
Housewives	18	36%
Government employees	21	42%
Private workers	11	22%
Family Income		
< \$350/month	14	28%
\$400-600/month	16	32%
\$650-\$800/month	12	24%
> \$1000/month	8	16%
Family Structure		
Nuclear family	23	46%
Mixed family	27	54%
Dietary Habits		
Non-vegetarian	37	74%
Vegetarian	12	24%
Place of Residence		
Metropolitan areas	42	84%
Rural areas	8	16%

Table 2: UTI Related Data (Grigary, 2018).

Characteristic	Count	Percentage
Prior UIT infection		
Yes	32	64%
No	18	36%
Family History of UTI		
Maternal side		
Paternal side	8	16%
Sibling side	27	54%
No history	8	16%
Information Source		
Periodicals	32	64%
Television	12	24%
Other media	6	12%

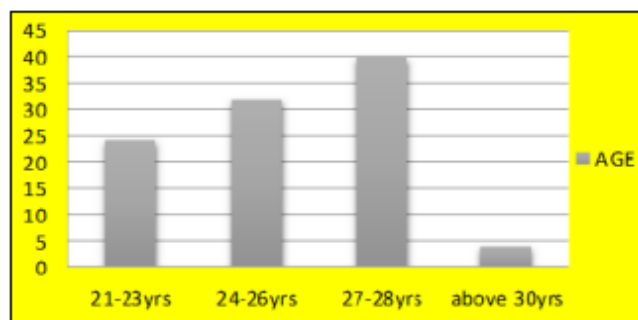


Fig 1: Age.

Frequency and percentage distribution of age

The Leena Angelin 2012 study on UTI prevention provides support for the current investigation. This descriptive study's findings are consistent with the findings of the current investigation. Based on the analysis of 100 samples, it was found that 59% of the samples belonged to the 23 to 26 year old age group, 25% to the up to 22 year old age group, and 16% to the 27 and above age group. Regarding age at marriage, forty-three percent fell within the range of 22 to 23 years, thirty-two percent fell within the range of 25 years and above, and twenty-five percent fell within the range of up to 21 years. As for education, forty-eight percent had completed undergrads, sixteen percent had done their P.G & U.G respectively. (Angelin, 2012).

In terms of family structure, sixty-nine percent fall into the joint family category (30%) and the nuclear family category (31%). Regarding gestational age, 53% fell between 29 and 42 weeks, 37% between 13 and 28 weeks, and 10% between up to 12 weeks throughout this time. (Kodner & Gupton, 2010).

Table 3: Frequency and Percentage Distribution of Age, Age at Marriage, Education, Family Structure, and Gestational Age.

Characteristic	Frequency	Percentage
Age		
23-26 years	59	59%
Up to 22 years	25	25%
27 and above	16	16%
Age at Marriage		
22-23 years	43	43%
25 years and above	32	32%
Up to 21 years	25	25%
Education		
Completed undergrad	48	48%
P.G & U.G	16	16%
Family Structure		
Joint family	69	69%
Nuclear family	31	31%
Gestational Age		
29-42 weeks	53	53%
13-28 weeks	37	37%
Up to 12 weeks	10	10%

Section 2: Evaluation of expectant mothers' degree of awareness on UTI prevention.

Table 5: Descriptive Statistics of Mothers' Knowledge and Attitude Regarding Urinary Tract Infections (Hazwell & Sichilima, 2020).

Characteristic	Value
Sample Size	120
Knowledge Level	
Average Knowledge (n, %)	74 (62.2%)
Poor Knowledge (n, %)	24 (20.2%)
Strong Knowledge (n, %)	21 (17.6%)
Mean Knowledge Score (SD)	3.16 (2.74)
Primary Source of Information	

Table 4: Assessment of level of knowledge on prevention of urinary tract infection among antenatal mothers.

Level of Knowledge	No.	%
Inadequate (<50%)	9	18%
Moderate (51-75%)	38	76%
Adequate (>75%)	3	9%

According to the table, 38 (76%) of the prenatal moms had moderate knowledge about UIT prevention, 3 (9%), had adequate knowledge, and 9 (18%), had inadequate information.

Gondwe Hazwell & Alfred Matafwali Sichilima (2020) carried out a study to evaluate mothers attending antenatal sessions' level of knowledge and attitude regarding urinary tract infections and their prevention. This study provides support for the current investigation. Through the use of purposive sampling, 120 moms who were attending prenatal appointments at the clinic were included in the study. (Hazwell & Sichilima, 2020)

The data collection method employed was the structured questionnaire. According to the study, 74 (62.2%) and 24 (20.2%) prenatal women had average and bad knowledge, respectively, while 21 (17.6%) had strong knowledge (Mean score = 3.16 points, SD = 2.74). Thirty-four percent of the expectant moms stated that their primary source of information about UTIs was the health center or clinic. In terms of attitude, the mean score was 5.67 points with a standard deviation of 2.49. Of those, 13 (10.9%) had a positive attitude, 59 (49.6%) had a neutral attitude, and 47 (39.5%) had a negative attitude. The majority of respondents (70.6%) agreed with the statement, "I think that UTIs are serious and life-threatening infection during pregnancy," indicating that most respondents were aware of the hazard posed by UTIs. Educational attainment, socioeconomic status, and awareness about UTIs and how to prevent them were statistically significantly correlated ($P=0.001$ & $P=0.011$), as was the correlation between knowledge and attitude ($P=0.006$). The study came to the conclusion that mothers attending prenatal sessions at health centers, clinics, or hospitals may alter their level of knowledge and attitude if they participate in a knowledge enhancement program on UTIs. (Aune et al., 1998).

Health Center/Clinic (n, %)	41 (34%)
Attitude Level	
Positive Attitude (n, %)	13 (10.9%)
Neutral Attitude (n, %)	59 (49.6%)
Negative Attitude (n, %)	47 (39.5%)
Mean Attitude Score (SD)	5.67 (2.49)
Awareness of UTIs during Pregnancy (%)	70.6%
Correlation between variables	
Education & Socioeconomic Status (P-value)	0.001
Awareness & Educational Attainment (P-value)	0.011
Knowledge & Attitude (P-value)	0.006

Section 3: Relationship between the level of awareness on the prevention of urinary tract infections and specific prenatal mother demographic characteristics.

The table indicates that there is a significant correlation between the amount of awareness about UTI prevention at the $p < 0.05$ level and demographic characteristics such as the income of pregnant mothers and family history of UTI. Terje et al.'s (2004) study on the prevalence of UTI in adolescent females provides support for this one. There are 211 teenage girls in the study, ranging in age from 13 to 21. A UTI was found in 120 samples, or 57% of the sample.

Of them, 107 (69%) had a UTI that was confirmed by culture, while the remaining 13 were underdiagnosed. Thirteen individuals co-infected with STIs and UTIs. In order to ensure prompt diagnosis and treatment, the researcher came to the conclusion that teenage girls presenting with urinary symptoms should be screened for STIs and UTIs.

Faheya T. and Webb E. (2003) conducted a prospective survey on the incidence of urinary tract infection and the causal organism, which provides support for the current investigation. 11,308 urine samples were taken from the patients in total, and each one was checked for UTI. Out of 11,308 urine samples, the results showed that 1,020 had a UTI incidence. From the urine sample that was taken, the causal organisms that were found to be present were *E. Coli* (620 cases), *Klebsiella pneumoniae* (115 cases), *Staphylococcus aureus* (175 cases), and *Cocci Enterococcus* (110 cases). There were 793 female patients and 227 male patients out of 1,020 total. The study came to the conclusion that women are more likely than men to get a UTI. Therefore, the female population can be the focus of preventive measures. (Fahey et al., 2003).

CONCLUSION

Pregnancy-related UTIs are linked to substantial morbidity for both the mother and the fetus. Every expectant mother ought to have a UTI screening. Early intervention along with proper personal hygiene and water has greatly decreased the aforementioned issues.

REFERENCES

1. Odoki, M., Aliero, A. A., Tibyangye, J., Onkoba, S. K., Alkali, B., Maniga, J. N., et al. Phylogenetic

analysis of multidrug-resistant *E. coli* isolates from the urinary tract in Bushenyi district, Uganda using the new Clermont phylotyping method. *African Journal of Microbiology Research*, 2020; 14(2): 51-64.

- Zhang, J. M., Liu, J., Wang, K., Zhang, X., Zhao, T., & Luo, H. M. Observations of bacterial biofilm on ureteral stent and studies on the distribution of pathogenic bacteria and drug resistance. *Urologia internationalis*, 2018; 101(3): 320-326.
- Hellerstein, S. Long-term consequences of urinary tract infections. *Current opinion in pediatrics*, 2000; 12(2): 125-128.
- Gatermann, S., John, J., & Marre, R. *Staphylococcus saprophyticus* urease: characterization and contribution to uropathogenicity in unobstructed urinary tract infection of rats. *Infection and immunity*, 1989; 57(1): 110-116.
- Kodner, C., & Gupton, E. K. T. Recurrent urinary tract infections in women: diagnosis and management. *American family physician*, 2010; 82(6): 638-643.
- Vasudevan, R. Urinary tract infection: an overview of the infection and the associated risk factors. *J Microbiol Exp*, 2014; 1(2): 00008.
- Almukhtar, S. H. Urinary tract infection among women aged (18-40) years old in Kirkuk city, Iraq. *The Open Nursing Journal*, 2018; 12(1).
- Grigary, P. C. Knowledge, attitude, and practice towards Dengue Fever among the population in rural community (Doctoral dissertation, JKK Nattraja College of Pharmacy, Komarapalayam), 2018.
- Angelin, L. Effectiveness of Self Instructional Module on Knowledge, Attitude and Practice regarding Prevention of Urinary Tract Infection among Primigravida Mothers at Kovai Medical Center and Hospital, Coimbatore (Doctoral dissertation, KMCH College of Nursing, Coimbatore), 2012.
- Hazwell, G., & Sichilima, A. M. Knowledge and attitude regarding urinary tract infections and its prevention among mothers attending antenatal sessions at Chipokota Mayamba Clinic in Ndola Zambia. *Age*, 2020; 20(20): 16-8.
- Aune, A., Alraek, T., Lihua, H., & Baerheim, A. Acupuncture in the prophylaxis of recurrent lower urinary tract infection in adult women. *Scandinavian journal of primary health care*, 1998; 16(1): 37-39.

12. Fahey, T., Webb, E., Montgomery, A. A., & Heyderman, R. S. Clinical management of urinary tract infection in women: a prospective cohort study. *Family practice*, 2003; 20(1): 1-6.