

Knowledge, Attitude and Practice Toward Urinary Tract Infection among Female in Saudi Arabia

Mona Alshahrani MD, FRCP* Ali Ibrahim Ali Alsakiti, MBBS** Ahmed Saeed Almalki, MBBS** Ahmed Mohammed Alshehri, MBBS** Yahya Hadi Asiri, MBBS** Mohammed Abdullah Al-Saleh, MBBS** Amjad Abdu Alasmari, MBBS** Abdullah Salem Alwadai, MBBS** Talal Mobasher Abdullah Alasmari, MBBS** Saud Abdullah Bin-Fudhayl, MBBS** Abdullah Zafer Alshihri, MBBS** Abdulhadi Muflih Alqahtani, MBBS** Abdullah Mahdi Ali Alamry, MBBS** Abdulrahman Jaber Alfaifi, MBBS** Ibrahim Saeed G Alghamdi, MD***

ABSTRACT

Study Design: Cross-sectional.

Background: Urinary tract contamination (UTI) is thought to be related with expanded maternal and fetal morbidity and mortality; consequently, a legitimate evaluation of information and practices is pivotal to figure out preventive techniques to guarantee the wellbeing of both the mother and the child.

Methods: The study decided the information, disposition, rehearses (KAP), and the convictions of pregnant females about UTI in view of the Health Belief Model. A study survey was utilized to accumulate information from pregnant females with and without UTI. The relationship of the pregnant females' sociodemographic qualities with their KAP and wellbeing convictions was resolved utilizing Pearson's chi-square test.

Results: Consequences of the review showed that most of pregnant females have unsuitable information with an uplifting outlook and great clean practices against UTI. Instructive capability and financial status showed a huge relationship with the KAP of pregnant females. Uplifting perspective and acceptable sterile practices were clear among the respondents notwithstanding their unacceptable information.

Conclusion: Nonetheless, the class just regularly incorporates subjects, for example, the significance of going to pre-birth and post pregnancy check-ups, birthing, breastfeeding, infant screening, and advancing the division's projects. UTI and its anticipation among pregnant females are not considerably shrouded in the mother's class.

Keywords: Urinary Tract Infection, Female, Attitude, Practice

INTRODUCTION

Urinary tract diseases UTIs started by the presence of microscopic organisms in the genitourinary tract, however parasites and infections might play a part. The urinary tract incorporates the bladder, Kidneys, Ureters, and Urethra. UTIs are a typical issue influencing a great many individuals yearly. Also, they are the second most normal kind of contamination in people^{1,2}. UTIs are accounted for at all age gatherings, yet females essentially pregnant gathering Showed higher gamble than men, because of short urethra, pregnancy related Genitourinary tract changes, simple pollution of urinary tract with waste greenery and different elements³⁻⁵. The greater part of female's experience repetitive disease inside short duration, the most detailed a causative bacterium is E. coli which answerable for 75-90% of straightforward UTIs and Staphylococcus saprophyticus. Causes UTI among 5-15% of more youthful females. Different microorganisms, for example, enterococcus and other gram-negative bars were additionally recognized now and again⁶. UTIs generally analyzed by clinical show and research facility discoveries of pee. Clinically, sign of UTIs varies and clinical Side effects incorporates lower stomach torment, fever of obscure beginning and noxious urine. UTI should be sufficiently treated to

keep away from a large number Complexities like hypertension, renal disappointment, and intrauterine fetal demise, preterm work, low birth weight, toxemia among Pregnant females⁷. Another idea to females' wellbeing contains wellbeing advancement and wellbeing insurance all through their life. As of late, females' consideration. Incorporates complete appraisal, arranging, treatment, schooling, advising and support for legitimate wellbeing. Clinical consideration underwrites and guarantees sufficient wellbeing rehearses, gives patient educating and gives the Females with information to perceive the signs and side effects of urinary tract disease to work with early identification and treatment of Future infection^{8,9}. The current study plans to survey the information, Mentality and practice of urinary tract disease among female in Aseer District and furthermore to recognize determinants of female's information and Mentality levels.

METHODS

In this cross-sectional study, data were collected by the purposely constructed questionnaire. A questionnaire composed of the demographic items and items related to the awareness and knowledge,

* Assistant Professor Transplant Nephrologist
King Khalid University, Saudi Arabia.
E-mail: mmsaad@kku.edu.sa

** Medical Intern

*** General Practitioner

practice and attitudes towards UTI. A questionnaire was constructed after the series of discussions between the panel of experts this panel was composed of a subject specialist, researcher, language expert. Cronbach alpha of the questionnaire was calculated. The study was conducted in various regions of Saudi Arabia.

After collection of data, data were coded and entered in the SPSS ver.20 software for analyses descriptive statistics (mean standard deviation, frequencies, and %s were computed), to measure the significance differences chi-square test was used at 5% level of significance. Data was collected from the general public after the consent, data was collected from females only through an electronic version of the questionnaire. Ethical approval was obtained from King Khalid University, Saudi Arabia. The study duration was from January-2022 to April-2022.

RESULTS

We have received total 2400 total responses from respondents. The Cronbach alpha of the questionnaire was 0.79.

Table 1: Demographics

| | | Frequency | Percentage |
|-------------------|------------------------|-----------|------------|
| Living in | City | 1700 | 70.83% |
| | Village | 700 | 29.17% |
| Age | <18 | 650 | 27.08% |
| | 18-30 | 900 | 37.50% |
| | 31-40 | 500 | 20.83% |
| | 41 or above | 350 | 14.58% |
| Marital status | Single | 1400 | 58.33% |
| | Married | 900 | 37.50% |
| | Divorced | 45 | 1.88% |
| Educational level | Widow | 55 | 2.29% |
| | Primary school | 650 | 27.08% |
| | Intermediate school | 750 | 31.25% |
| | High school | 450 | 18.75% |
| | College | 455 | 18.96% |
| Career | Post graduate | 95 | 3.96% |
| | Health care worker | 700 | 29.17% |
| | Non-health care worker | 1700 | 70.83% |
| Monthly income | ≤ 5000 SR | 625 | 26.04% |
| | 5000-15000 SR | 1500 | 62.50% |
| | >15000 SR | 275 | 11.46% |

As per table 1, we have observed that 70.83% of the respondents were living in cities, mean (SD) of the age was 36.89 (12.5) 58.83% were single, 31.25% have intermediate level of education 29.17% were healthcare professionals, 62.5% have income between 5000 -15000 SAR.

Table 2: Knowledge items

| You know what urinary tract infection (UTI) is? | Frequency | % |
|---|-----------|--------|
| Yes | 700 | 29.17% |
| No | 1700 | 70.83% |
| The urinary tract infection (UTI) is : | | |
| Inflammation of urethra | 450 | 18.75% |
| Inflammation of bladder | 350 | 14.58% |

| | | |
|---|------|--------|
| Inflammation of kidney | 500 | 20.83% |
| Can be in all of the above | 711 | 29.63% |
| Not from the above | 389 | 16.21% |
| What is the most common cause of urinary tract infection (UTI): | | |
| Bacteria | 1576 | 65.67% |
| Protozoa | 424 | 17.67% |
| Fungi | 225 | 9.38% |
| Hygiene | 175 | 7.29% |
| Which symptom occurs with urinary tract infection (UTI) | | |
| Pain in urination | 465 | 19.38% |
| Red urine | 368 | 15.33% |
| Abdominal pain | 259 | 10.79% |
| Fever | 356 | 14.83% |
| Back pain | 145 | 6.04% |
| Frequent ruination | 236 | 9.83% |
| Sudden desire to go bathroom to urinate | 245 | 10.21% |
| Constipation | 181 | 7.54% |
| Leg pain | 145 | 6.04% |
| Which factor that increase chances to have urinary tract infection (UTI): | | |
| Don't care to clean the perineum from front and back | 689 | 28.71% |
| Urination after eating | 785 | 32.71% |
| Drink large amount of water | 501 | 20.88% |
| Drink little amount of water | 125 | 5.21% |
| Delay to urinate | 145 | 6.04% |
| Others | 155 | 6.46% |
| Which factor that prevent urinary tract infection (UTI): | | |
| Maximum care to clean the perineum from front and back | 785 | 32.71% |
| drink plenty amount of water per day | 400 | 16.67% |
| Don't hold the urine | 369 | 15.38% |
| All of the above | 801 | 33.38% |
| Others | 45 | 1.88% |

As per table 2, 29.17% were aware about the UTI, 20.83% considered UTI as an Inflammation of kidney, 65.67% considered bacteria was the most common cause for UTI, pain in urination (almost 20. %) was the major symptom, Don't care to clean the perineum from front and back (28.71%) will increase the chance of UTI, for preventive measures 32.71 considered Maximum care to clean the perineum from front and back.

Table 3: Attitude items

| What do you think about how to deal with urinary tract infection (UTI)? | | |
|---|------|--------|
| Go to the hospital | 789 | 32.88% |
| Take rest at home | 256 | 10.67% |
| Take antibiotics directly | 29 | 1.21% |
| Take analgesic | 78 | 3.25% |
| Drink more water | 698 | 29.08% |
| Take more shower | 189 | 7.88% |
| No idea | 361 | 15.04% |
| Do you feel urinary tract infection (UTI) is common | | |
| Yes | 1498 | 62.42% |
| No | 911 | 37.96% |
| Do you feel the urinary tract infection (UTI) | | |
| Affect female more than male | 765 | 31.88% |
| Affect male more than female | 456 | 19.00% |
| Affect them both equally | 390 | 16.25% |

| | | |
|--|------|--------|
| I don't know | 789 | 32.88% |
| Do you feel urinary tract infection (UTI) is serious | | 0.00% |
| Yes | 1690 | 70.42% |
| No | 710 | 29.58% |
| What are the complications you expected from urinary tract infection (UTI) | | |
| Lead to recurrent urinary tract infection (UTI) | 456 | 19.00% |
| It will affected the pregnancy if it come with it | 298 | 12.42% |
| Affect the quality of life | 889 | 37.04% |
| Will lead to death | 245 | 10.21% |
| Decrease the weight | 332 | 13.83% |
| Generalized edema | 180 | 7.50% |

As per table 3, in case of UTI, 32.88% will like to go to hospital, 62.42% considered UTI is a common disease, 16.25% considered it that UTI will effect equally to both genders, 37.04% considered that it will affect the quality of life.

Table 4: Comparisons between UTI patients and age groups

| Age in years | UTI patients | | |
|--------------|--------------|------|-------|
| | Yes | No | Total |
| <18 | | | |
| 18-30 | 425 | 225 | 650 |
| 31-40 | 360 | 540 | 900 |
| 41 or above | 200 | 300 | 500 |
| Total | 985 | 1415 | 2400 |

p=<0.05

As per table 4, we have found the significant difference between age and prevalence of UTI.

Table 5: Practice items

| | Frequency | % |
|--|-----------|-------|
| Have you ever experienced urinary tract infection (UTI)? | | |
| Yes | 985 | 41.0% |
| No | 1415 | 59.0% |
| What symptoms did you notice (you can choose more than one) | | |
| Pain in urination | 425 | 17.7% |
| Red urine | 489 | 20.4% |
| Abdominal pain | 655 | 27.3% |
| Fever | 325 | 13.5% |
| Back pain | 145 | 6.0% |
| Frequent ruination | 161 | 6.7% |
| Sudden desire to go bathroom to urinate | 200 | 8.3% |
| how many time you drink a water per day (half riyal water bottle or 330 ml bottle) | | |
| 1-2 bottle | 145 | 6.0% |
| 3-4 bottle | 985 | 41.0% |
| 5-6 bottle | 458 | 19.1% |
| More than 6 bottle | 812 | 33.8% |
| Drink of fluids that irritate the bladder (coffee & tea) | | 0.0% |
| Yes | 1889 | 78.7% |
| No | 511 | 21.3% |
| If you feel symptoms of urinary tract infection (UTI) | | |
| Go to the hospital | 452 | 18.8% |
| Take rest at home | 645 | 26.9% |
| Take antibiotics directly | 145 | 6.0% |
| Take analgesic | 95 | 4.0% |
| Drink more water | 625 | 26.0% |
| Take more shower | 245 | 10.2% |
| No idea | 193 | 8.0% |

As per table 5, 41.00% have experienced UTI, abdominal pain was one of the major symptoms followed by red urine and pain in urination, 41.0% used 3-4 330 ml bottles per day, 78.7% agreed that drink of tea and coffee will disturb bladder, 26.9% will prefer to take rest at home in case of UTI.

DISCUSSION

A predominance pace of 41.00 showed positive UTIs, which is equivalent with a neighborhood study done in Barangay Cubacub Health Center in Mandaue, Cebu City, Philippines, among first-time pregnant females in their most memorable trimester with an event pace of 35%. The high commonness rate is reliable with the worldwide pattern, with middle rates somewhere in the range of 3% and 35%. The commonness pace of UTI among pregnant females in the ongoing review was high, taking into account that it was in the higher reach breaking point of 35% in view of the review done in gulf¹⁰⁻¹².

The greater part of the females remembered for the review were housewives matured somewhere in the range of 18 and 24 years and were those with the most elevated pervasiveness of UTI among the age gatherings. It is essential to specify that the most youthful pregnant lady canvassed in the review was 12 years old, and the level of respondents matured 18 years of age and underneath was 16.26%¹³.

There was a shallow recurrence of the respondents with 12 weeks of development shrouded in the review, showing that pregnant females wouldn't submit themselves to pre-birth check-ups as soon as the primary trimester of pregnancy. The greater part of the respondents (53%) were with live-in cities which is in line with many studies, a variable that most related examinations didn't cover. The sociodemographic profile of the respondents in the ongoing review is steady with the 2013 National Demographic and Health Survey report in regards to early pregnancy and parenthood with low rudimentary schooling and in the most minimal abundance status among females¹⁴.

The report likewise showed that the commencement of a sexual demonstration before the age of 18 years among young females was more normal in those with less schooling and those from less fortunate families.

None of the sociodemographic factors showed a huge relationship with the event of UTI among pregnant females; notwithstanding, instructive fulfillment showed a practically critical relationship with a p-worth of 0.057. The ongoing review showed that sociodemographic profile didn't have anything to do with UTI as most investigations would report¹¹⁻¹⁴.

UTIs are generally seen among pregnant females with the equivalent sociodemographic factors likewise with age, schooling, and financial level in the investigations of one of the study and Emir et al however dissonant with different factors like gravidity (first pregnancy) and equality (no youngster) in the investigation as reported in gulf based study Sociodemographic factors like age, instruction, business status, and gravidity didn't show critical relationship with the commonness of UTI like the consequences of the ongoing review; nonetheless, wellbeing ways of behaving like apparel habits, eating designs, peeing propensities, furthermore, cleaning and sexual ways of behaving were found to have a huge relationship with urinary infection⁶⁻¹⁰. In the ongoing review, the relationship of sterile practices and pervasiveness of UTI was not covered. Most of the respondents had unacceptable information on UTI with an uplifting outlook and satisfies. Manufacturing plant sterile works on in regard to the avoidance of UTI during pregnancy^{15,16}.

A neighborhood concentrates on the mindfulness level and event pace of UTI among pregnant females showed a critical affiliation. The mindfulness level on UTI's definition was high, causes moderate, risk factors moderate, side effects high, and counteraction high. A concentrate on the counteraction of genitourinary parcel disease (GUTI) of female juvenile understudies uncovered similar outcomes with the flow study, with unsuitable know edge on the important data on GUTI, including its causes, side effects, and confusions. Another review, led among 110 pregnant females in Bhabhan City in Iran, uncovered that the information, disposition, and wellbeing conduct in the avoidance of UTI were moderate in the description¹³. The unacceptable information on the respondents is possible on account of their low degree of schooling. The inquiries in regard to information are profoundly realities based and specialized, which were not known to most of them^{16,17}.

CONCLUSION

Considering the pregnant females' inspirational perspective and palatable sterile practices about UTI counteraction regardless of the unsuitable degree of information, it is prescribed to consistently direct a mother's class that remembers a conversation for UTI and its causes, signs, side effects, and inconveniences. As of now, an ordinary mother's class is being finished in RHUs and locale emergency clinics as a feature of the Department of Health's maternal and youngster care program. Nonetheless, the class just regularly incorporates subjects, for example, the significance of going to pre-birth and post pregnancy check-ups, birthing, breastfeeding, infant screening, and advancing the division's projects. UTI and its anticipation among pregnant females are not considerably shrouded in the mother's class.

Authorship Contribution: All authors share equal effort contribution towards (1) substantial contributions to conception and design, acquisition, analysis and interpretation of data; (2) drafting the article and revising it critically for important intellectual content; and (3) final approval of the manuscript version to be published. Yes.

Potential Conflict of Interest: None

Competing Interest: None

Acceptance Date: 23 August 2022

REFERENCES

1. Understanding UTIs Across the Lifespan - Urology Care Foundation. Accessed November 2, 2021.
2. Snapshot. Accessed January 14, 2021.
3. An introduction to the epidemiology and burden of urinary tract infections - Martha Medina, Edgardo Castillo-Pino 2019. Accessed November 2, 2021.
4. Urinary Tract Infections - General - Infectious Disease and Antimicrobial Agents. Accessed November 2, 2021.
5. François M, Hanslik T, Dervaux B, et al. The economic burden of urinary tract infections in women visiting general practices in France: a cross-sectional survey. *BMC Health Serv Res* 2016;16(1):365.
6. CDC. Suffering from a urinary tract infection? Centers for Disease Control and Prevention. Accessed November 2, 2021.
7. Voided Midstream Urine Culture and Acute Cystitis in Premenopausal Women [NEJM]. Accessed January 14, 2021.
8. Schnipper JL, Kirwin JL, Cotugno MC, et al. Role of Pharmacist Counseling in Preventing Adverse Drug Events After Hospitalization. *Arch Intern Med* 2006;166(5):565.
9. Darwich N, Samaha A, Nuqaidan HA, et al. Surveillance of Multidrug-Resistant Uropathogenic Escherichia Coli in Hospitalized Patients And Community Settings In The South Of Lebanon. *BAU J - Health Wellbeing* 2020;3(1).
10. Abdulrahman KAB, Alenazi NS, Albishri SB, et al. Association of Migraine and Irritable Bowel Syndrome in Saudi Arabia: A Nationwide Survey. *Biomed Res Int* 2022;2022:8690562.
11. AlButaysh OF, AlQuraini AA, Almukhaitah AA, et al. Epidemiology of irritable bowel syndrome and its associated factors in Saudi undergraduate students. *Saudi J Gastroenterol* 2020;26(2):89-93.
12. Lovell RM, Ford AC. The global prevalence of and risk factors for irritable bowel syndrome: a meta-analysis. *Clin Gastroenterol Hepatol: the official Clin Practice. J Am Gastroenterol Assoc* 2012;10(7):712-21.
13. Alshammari OM, Almuslam AS, Alrashidi AA, et al. Prevalence of irritable bowel syndrome among medical students in hail University, Saudi Arabia. *Egypt J Hosp Med* 2018;71(2):2581-4.
14. AlAmeel T, Roth LS, Al Sulais E. The Prevalence of Irritable Bowel Syndrome Among Board-Certified Medical Doctors in Saudi Arabia: A Cross-sectional Study. *J Can Assoc Gastroenterol* 2020;3(6):e32-6.
15. Arishi AM, Elmakki EE, Hakami OM, et al. Irritable Bowel Syndrome: Prevalence and Risk Factors in Jazan Region, Saudi Arabia. *Cureus* 2021;13(6):e15979.
16. Okami Y, Kato T, Nin G, et al. Lifestyle and psychological factors related to irritable bowel syndrome in nursing and medical school students. *J Gastroenterol* 2011;46(12):1403-10.
17. Okeke EN, Agaba EI, Gwamzhi L, et al. Prevalence of irritable bowel syndrome in a Nigerian student population. *Afr J Med Med Sci* 2005;34(1):33-6.