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A STUDY TO ASSESS THE KNOWLEDGE AND PRACTICE REGARDING URINARY TRACT INFECTION AND ITS PREVENTION AMONG ADOLESCENT GIRLS IN SECOND YEAR B.SC. NURSING STUDENTS AT PES COLLEGE OF NURSING, KUPPAM, CHITTOOR DISTRICT A.P

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ABSTRACT

Background: Urinary tract infections (UTIs) are a widespread health issue that affects people of all ages and genders globally. They often result from the invasion and multiplication of pathogenic bacteria in the urinary system [1]. UTIs can lead to significant morbidity and healthcare burden and, if left untreated, may progress to severe complications such as pyelonephritis and septicemia [2]. In the United States, approximately 25% to 40% of women in the age group 20-40 have had a UTI. Urinary tract infections (UTIs) lead to over six million patient visits to physicians annually in the United States [3]. In the Kingdom of Saudi Arabia (KSA), they pose a significant burden on the healthcare system, comprising 10% of all infections and being the second most common reason for emergency department admissions [4]. Symptoms of UTIs vary by age group. Infants and young children under two years often present with nonspecific symptoms such as unexplained fevers, poor feeding, vomiting, diarrhea, and foul-smelling urine [2]. In contrast, older children typically display more specific signs like fever, lower abdominal pain, and urinary symptoms such as pain or burning during urination, urgency, frequency, and sometimes bedwetting or incontinence [2,5,6]. The proposed study aims to evaluate the knowledge and practices related to urinary tract infections and their prevention among adolescent girls in their second year of B.Sc. Nursing studies at PES College of Nursing, Kuppam, Andhra Pradesh.

Methods: In December 2024, a quantitative descriptive study was carried out among 100 second-year B.Sc. Nursing students to assess their knowledge and practices regarding urinary tract infections. The study used convenient sampling to select participants. Informed consent were taken before the study, student knowledge were assessed by using structured self-administered questionnaire. **Results:** Age: about 98 (98%) of the adolescent girls in 2nd year B.Sc. Nursing were belongs to age group between 19-21 years old, in regards to Residential Status: Majority 83 (83%) of them were Hosteller, Majority 96 (96%) of them were unmarried, In regards Previous History of UTI: Majority 76 (76%) of the adolescent girls in 2nd year B.Sc. Nursing were not having any previous history of UTI, Majority 55 (55%) of the adolescent girls in 2nd year B.Sc. Nursing were belongs to Hindu, Level of knowledge scores of adolescent girls in 2nd year B.Sc. Nursing Shows that 46 (46%) of the adolescent girls in 2nd year B.Sc. Nursing were had Moderate knowledge, majority 63 (63%) of the adolescent girls in 2nd year B.Sc. Nursing were had adequate practice, correlation between Knowledge and Practice the mean score of the knowledge towards UTI and its prevention was 10.440 and with a standard deviation of 3.6717 and mean score of the practice towards UTI and its prevention was 7.840 and with a standard deviation of 2.7551. The calculated Pearson correlation r value $r=0.414$ were significant at the level of $p<0.01$. Therefore, there was a moderate positive correlation found between knowledge about UTIs and their prevention and the actual practices observed. Association of level knowledge on UTI and its prevention among adolescent girls in 2nd year B.Sc. Nursing with their selected demographic variables. Variables such as Age, Residential status, Marital Status, Previous History of UTI and

Religion were not significant. Association of level of practice on UTI and its prevention among adolescent girls in 2nd year B.Sc. Nursing with their selected demographic variables. Variables such as Age, Residential status, Marital Status, Previous History of UTI and Religion were not significant. Conclusion: This study has provided valuable insights into the knowledge levels and preventive practices related to urinary tract infections (UTIs) among second-year B.Sc. Nursing students at PES College of Nursing, Kuppam, Andhra Pradesh. The findings underscore both strengths and areas where improvement is needed in the students' knowledge about UTIs and their current practices in prevention. Overall, this study acts as a stepping stone towards fostering a more knowledgeable, proactive, and effective nursing workforce in the realm of UTI prevention.

Keywords: *Urinary Tract Infection And Its Prevention, Adolescent Girls In Second Year B.Sc. Nursing Students*

I. INTRODUCTION

Adolescence, derived from the Latin word 'adolescere' meaning "to grow up," is a period of physical and psychological development that usually spans from puberty to legal adulthood (the age of majority). This unique phase is often characterized as a period of "stress and storms." A WHO expert committee defines adolescence as the age range between 10 to 20 years, although its physical, psychological, or cultural manifestations may commence earlier and extend later. [8] In India, adolescent girls constitute 20% of the total population and 17.9% of the female population, totalling around 2.5 billion individuals, or one-fifth of the world's population and 1.76% of India's population (National Youth Policy, 2018). Consequently, adolescents represent a substantial segment of the population. [9] Urinary Tract Infection (UTI) is a prevalent condition affecting any part of the urinary system, causing significant distress in both hospital and community settings and resulting in substantial healthcare and financial burdens. [3] In India, UTIs have become a significant cause of illness and death, especially affecting adolescents. Adolescents, especially girls, are more susceptible to lower UTIs, with a recurrence rate 50% higher in girls compared to boys. [10] The proximity of the vagina and anus to the urinary opening makes females more prone to UTI development. Approximately 5-6% of girls experience at least one episode of UTI during their transition from high school to graduation. The annual physician visits for UTI in young women number around 6-7 million, posing a significant concern for parents and healthcare providers. Prompt treatment is essential to avoid complications like permanent kidney damage, bacterial endocarditis, and infertility. [11] Adolescent girls face an increased risk of UTI due to factors such as poor hygiene and dysfunctional voiding patterns. Insufficient water intake and infrequent urination can contribute to asymptomatic UTIs. Among students living in hostels, the prevalence of UTIs might be associated with factors such as the use of Western-style toilets, unclean communal restroom conditions, poor menstrual hygiene practices, and inadequate toileting habits. [12] Conducting a study among nursing students is particularly relevant, as they are potential primary caregivers and health educators. Their understanding of issues faced by adolescent girls, coupled with proper knowledge and skills, can empower them to identify and address UTI symptoms, contributing to prevention. Education provided by experienced trainers and nurses is vital to ensuring proper hygiene practices, especially among adolescents. The motivation behind this study lies in addressing the unique challenges faced by nursing students and fostering their role as health advocates in a country like India, where such matters are often considered private. The primary objective of the study is to assess the knowledge and habitual practices of adolescent girls in preventing UTIs. [14, 15]

The chosen topic aligns with the educational and professional context of nursing, addresses a prevalent health issue, and has the potential to contribute valuable insights for both academic and public health purposes. The research aims to bridge knowledge gaps, inform interventions, and enhance the preparedness of nursing students in addressing urinary tract infections.

II. METHODS AND MATERIALS

In December 2024, a descriptive quantitative study was conducted among 100 second-year B.Sc. Nursing students at PES College of Nursing, located in Kuppam, Chittoor district, Andhra Pradesh. The study used convenient sampling to select participants. Informed consent were taken before the study, student knowledge were assessed by using structured self-administered questionnaire, which includes demographic variables and Questionnaire on knowledge and practice regarding urinary tract infection and its prevention.

objectives of,

1. To assess the level of knowledge and Practice regarding urinary tract infection.
2. To correlate the knowledge and practice regarding urinary tract infection.
3. To associate the level of knowledge and practice with their selected demographic variables.

Collected data was entered into MS Excel 2013 and analyzed using Epi Info 7.0. Appropriate statistical methods used to find out the results based on the objectives.

III. RESULTS

The results of the study were presented as Tables and graphs as per the objectives of the study.

Table 1: Frequency and percentage distribution of demographic variables

N=100

S. No	Demographic Variables		Frequency	Percentage
1	Age	a) 19 - 21 Years	98	98%
		d) 22 - 24 Years	02	2%
2	Residential Status	a) Hosteller	83	83%
		b) Day Scholar	17	17%
3	Marital Status	a) Married	04	4%
		b) Unmarried	96	96%
4	Previous History of UTI	a) Yes	24	24%
		b) No	76	76%
5	Religion	a) Hindu	55	55%
		b) Christian	42	42%
		c) Muslim	03	3%

Table 1 presents the distribution of demographic variables among second-year B.Sc. Nursing students. Nursing students regard with **Age**: about 98 (98%) of the adolescent girls in 2nd year B.Sc. Nursing students were belongs to age group between 19-21 years old, 02 (2%) of the adolescent girls in 2nd year B.Sc. Nursing were belongs to age group between 22-24 years old, **Residential Status**: Majority 83 (83%) of them were Hosteller and 17 (17%) of them were Day Scholar. **Marital Status**: Majority 96 (96%) of them were unmarried, 04 (4%) of them were married. **Previous History of UTI**: Majority 76 (76%) of the adolescent girls in 2nd year B.Sc. Nursing were not having any previous history of UTI, 24 (24%) of them were having previous history of UTI **Religion**: Majority 55 (55%) of the adolescent girls in 2nd year B.Sc. In the nursing program, 55% were Hindu, 20.12% were Christian, and 3% were Muslim.

Table: 2- Frequency and percentage distribution of the level of knowledge among adolescent girls in 2nd year B.Sc. Nursing students

N=100

Level of Knowledge	Frequency	Percentage
Adequate Knowledge	5	5%
Moderate Knowledge	46	46%
In-adequate Knowledge	41	41%
Poor Knowledge	8	8%

Table 2 Shows that 46 (46%) of the adolescent girls in 2nd year B.Sc. Nursing students were had Moderate knowledge, 41 (41%) were had in adequate Knowledge, 8 (8%) were had poor Knowledge and 5 (5%) were had adequate Knowledge.

Table: 3 - Frequency and percentage distribution of level of Practice among adolescent girls in 2nd year B.Sc. Nursing students

N = 100

Level of Knowledge	Frequency	Percentage
Adequate Practice	63	63%
Moderate Practice	10	10%
In-adequate Practice	19	19%
Poor Practice	8	8%

Table 3 Shows that 63 (63%) of the adolescent girls in 2nd year B.Sc. Nursing students were had adequate practice, 19 (19%) were had in-adequate practice, 10 (10%) were had moderate practice and 8 (8%) were had poor Practice.

Table: 4 - Correlation between the level of knowledge and practice among adolescent girls in 2nd year B.Sc. Nursing students.

Variables	Number	Mean	SD	r- value	p-value
Knowledge	100	10.440	3.6717	0.414	<0.001
Practice	100	7.840	2.7551		

Above table-5 shows that correlation between Knowledge and Practice the mean score of the knowledge towards UTI and its prevention was 10.440 and with a standard deviation of 3.6717 and mean score of the practice towards UTI and its prevention was 7.840 and with a standard deviation of 2.7551. The calculated Pearson correlation r value $r=0.414$ were significant at the level of $p<0.01$. Hence there were moderate positive correlation between knowledge and practice regarding UTI and its prevention.

IV. DISCUSSION

The present study was conducted to explore the knowledge and practice on urinary tract infection and its prevention among adolescent girls in 2nd year B.Sc. Nursing Students at PES College of Nursing, Kuppam, Chittoor district, A.P

Among second-year B.Sc. Nursing students, 98% were aged between 19-21 years old. The majority, 83%, were hostel residents, and 96% were unmarried. Regarding UTI history, 76% reported no previous instances. Additionally, 55% identified as Hindu.

In terms of knowledge levels about UTI and its prevention among these students, 46% had moderate knowledge, 41% had inadequate knowledge, 8% had poor knowledge, and 5% had adequate knowledge. Regarding practice, 63% demonstrated adequate practice, 19% inadequate practice, 10% moderate practice, and 8% poor practice.

The correlation analysis between knowledge and practice revealed a moderate positive correlation ($r = 0.414$, $p < 0.01$), indicating that higher knowledge was associated with better practice in preventing UTIs.

When examining associations between knowledge/practice levels and demographic variables (such as age, residential status, marital status, previous UTI history, and religion), no significant associations were found.

V. CONCLUSION

In conclusion, this study has provided valuable insights into the knowledge levels and preventive practices related to urinary tract infections (UTIs) among second-year B.Sc. Nursing students at PES College of Nursing, Kuppam, Andhra Pradesh. The results emphasize both positive aspects and areas where students could enhance their understanding of UTIs and their preventive measures.

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