

A study to assess the knowledge on urinary tract infection among women of child bearing age in a selected hospital

Shillong, Meghalaya

¹Purabi Devi Bharali, Tutor, College of Nursing, NEIGRIHMS, Shillong, Meghalaya 793018

²Jyotima Borgohain Handique, Tutor, College of Nursing, NEIGRIHMS, Shillong, Meghalaya 793018

³Akansha Chakrabarty, Bsc nursing students College of Nursing, NEIGRIHMS, Shillong, Meghalaya 793018

⁴Dila Loyola, Bsc nursing students College of Nursing, NEIGRIHMS, Shillong, Meghalaya 793018

⁵Evalyne Syngkli, Bsc nursing students College of Nursing, NEIGRIHMS, Shillong, Meghalaya 793018

⁶Millo Ampy, Bsc nursing students College of Nursing, NEIGRIHMS, Shillong, Meghalaya 793018

⁷Panam Mumpi Perme, Bsc nursing students College of Nursing, NEIGRIHMS, Shillong, Meghalaya 793018

⁸Remi Tayeng, Bsc nursing students College of Nursing, NEIGRIHMS, Shillong, Meghalaya 793018

⁹Ribalaai Shabong, Bsc nursing students College of Nursing, NEIGRIHMS, Shillong, Meghalaya 793018

¹⁰S.Laxmi Sharma, Bsc nursing students College of Nursing, NEIGRIHMS, Shillong, Meghalaya 793018

Corresponding Author: Purabi Devi Bharali, Tutor College of Nursing, NEIGRIHMS, Shillong, Meghalaya 793018, Jyotima Borgohain Handique, Tutor College of Nursing, NEIGRIHMS, Shillong, Meghalaya 793018

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Abstract

Urinary tract infection is one of the major causes of morbidity, globally it accounts for more than 1 million hospitalizations and an overall healthcare expenditure of over 1 billion dollars. Adult women are 30 times more likely to develop urinary tract infection than men. A study conducted by Pardeshi P (2018) found that the percentage of urinary tract infection was higher in middle aged females with 66.78% than males with a percentage of 33.22%. Approximately 40-50% of women in the reproductive age group (15-49 years) have a history of at least a single episode of urinary tract infection in their lifetime.

A cross sectional study design was adopted to conduct the study in a selected hospital Shillong, Meghalaya, among 237 women of child bearing age (18-49 years). A structured questionnaire was prepared to assess the knowledge regarding UTI by using consecutive sampling technique. The study concluded that most of the participants had average knowledge regarding UTI, and there was significant association between knowledge with age, residency and educational qualification of the participants.

Keywords: Knowledge, Urinary Tract Infection, Child Bearing Age.

Introduction

Urinary Tract Infections (UTIs) are the inflammatory disorders caused by pathogenic microorganisms in the Urinary Tract with or without clinical presentation ^[1]. It is more common in women with a prevalence of 40% to 50% and 5% in men ^[2]. Approximately 40-50% of women in the reproductive age group (15-49 years) have a history of at least a single episode of Urinary Tract Infection in their life time ^[3]. Hence, women of child bearing age are the most vulnerable population.

Material and methods

A. Research design

In this study a quantitative cross-sectional design was adopted to assess the knowledge on Urinary Tract Infection among women of child bearing age in a selected hospital Shillong, Meghalaya.

B. Variables

In this present study the independent variables are age, residency, marital status, education and the dependent variable is knowledge regarding Urinary Tract Infection.

C. Setting of the study

The present study was conducted in the Out-Patient Departments at NEIGRIHMS Hospital, Shillong, Meghalaya.

D. Ethical consideration

Prior permission was obtained from

- NEIGRIHMS Scientific Advisory Committee (NSAC)
- Institutional Ethics Committee (IEC)
- Principal, College of Nursing, NEIGRIHMS
- Medical superintendent of the selected hospital
- Head of Department of the selected hospital
- Informed consent from the participants.

E. Study population

In the present study, the population comprises of women of child bearing age attending Out-Patient Departments in a selected hospital Shillong, Meghalaya.

F. Sample and sampling technique

In this study the sampling technique used was Consecutive Sampling Technique ^[4] and the sample size was 237 samples.

G. Criteria for sample selection

Inclusion criteria: Women of child bearing age (18 – 49 years) attending Out-Patient Departments and who are available at the time of data collection.

Exclusion criteria: Participants who are not willing to give consent and who cannot read and write.

H. Description of structured knowledge questionnaire

The structured questionnaire consists of two sections

Section 1: It consists of the demographic data of the participants

Section 2: It consists of structured knowledge questionnaire for assessing the knowledge on Urinary Tract Infection among women of child bearing age in a selected hospital Shillong, Meghalaya.

I. Content validity

- The validity of the content was done by various experts from different departments like Urology Department, General Medicine Department, Midwifery and Obstetrical Nursing Department, NEIGRIHMS.
- Changes were made according to the experts' opinion.
- Re-organization of the tool was done.

J. Data collection procedure

- The final data collection was carried out from 11th August, 2021 to 16th August, 2021. The study was conducted in 237 women of child bearing age selected by consecutive sampling technique and attending Out-Patient Departments in NEIGRIHMS hospital Shillong,

Meghalaya. Prior to which informed consent was provided following which consent was taken.

K. Plan for Data Analysis

- Analysis was done by using descriptive statistics (mean, standard deviation).
- Knowledge score of the participants was determined and interpreted into frequency and percentage.

The association between the knowledge and demographic variables was showed by using inferential statistics (Chi square).

Result and discussion

A. Organisation of findings

The data was analysed, interpreted and presented under the following headings:

- section I: Demographic profile of the study participants.
- Section II: Level of knowledge of the participants regarding Urinary Tract Infection.
- Section III: Association between Urinary Tract Infection and selected demographic variables of the participants.
- Section I

Table 1: frequency and percentage distribution of participants according to their socio demographic characteristics. n=237

Variables	Frequency (f)	Percentage (%)
Age (in years)		
18-28	108	45.57%
29-38	79	33.33%
39-49	44	18.57%
Residency		
Urban	100	42.19%
Rural	137	57.81%
Marital status		
Married	131	55.27%
Unmarried	106	44.73%
Educational		

qualification		
Primary	69	29.11%
Secondary	52	21.94%
Diploma/ graduate	116	48.95%

Finding in table 1 shows that total number of participants was 237, out of which 108 (45.57%) were within the age group of 18-28 years, 79 (33.33%) were within the age group of 29-38 years and 44 (18.57%) were within the age group of 39-49 years. With regard to the residency 100 (42.19%) were from the urban area and 137 (57.81%) were from the rural area.

The marital status of the participants shows that 131 (55.27%) were married and 106 (44.73%) were unmarried. The educational qualification shows that 69 (29.11%) has primary education, 52 (21.94%) has secondary education and 116 (48.95%) has an education of diploma/graduate.

Section II

Figure 1: bar diagram showing the percentage distribution of participants' knowledge regarding urinary tract infection.

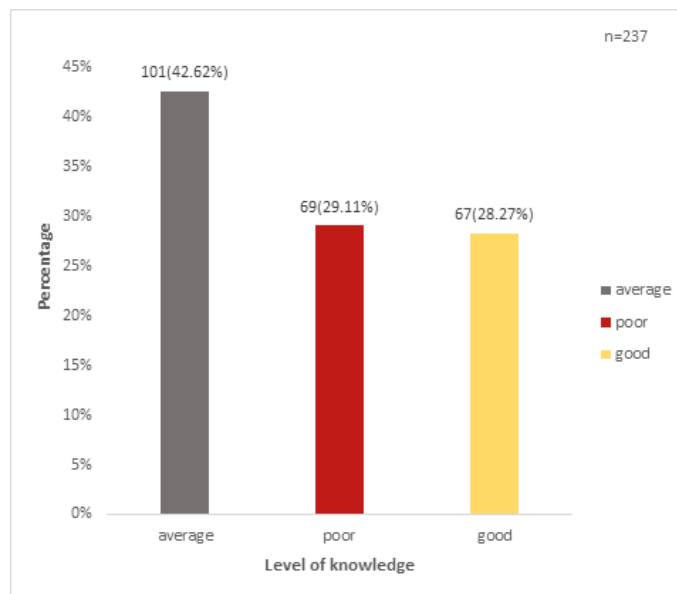


Fig. 1 reveals that out of 237 participants 101 (42.62%) had average knowledge while 69 (29.11%) and 67 (28.27%) had poor and good knowledge respectively.

Figure 2: bar graph showing the knowledge score of the participants to factors not affecting urinary tract infection.

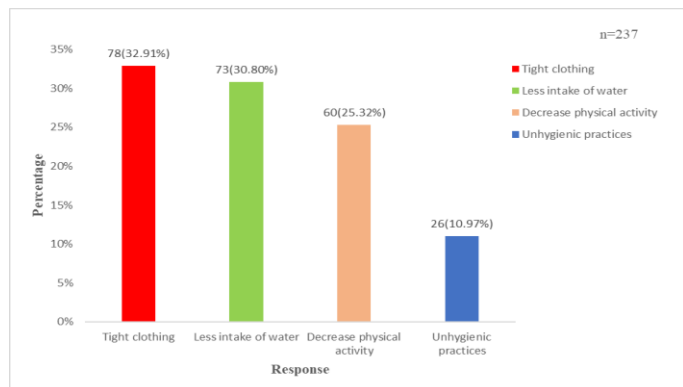
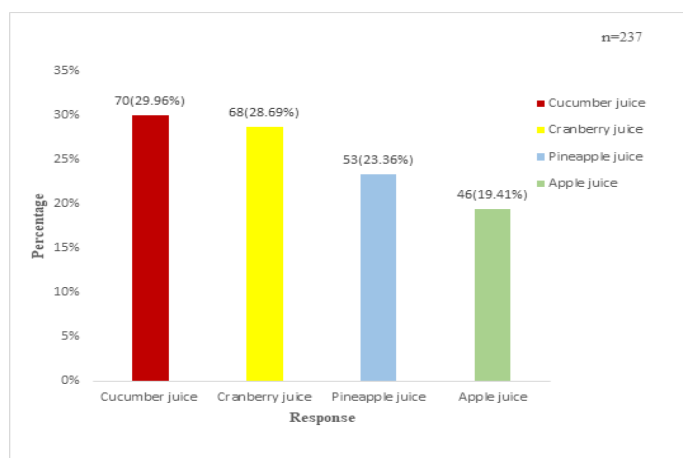


Fig. 2 shows that majority of the participants response is tight clothing i.e., 78 (32.91%) followed by less intake of water 73 (30.80%), decrease physical activity 60 (25.32%) and unhygienic practices 26 (10.97%). However, the correct response is decrease physical activity.

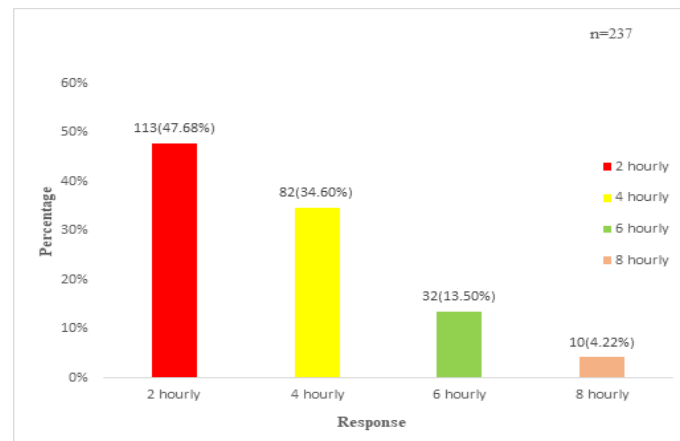
Figure 3: bar graph depicting the knowledge score of the participants regarding the juice that prevents urinary tract infection.



The above figure depicts that majority of participants' response regarding the juice that prevents Urinary Tract Infection was cucumber juice 70 (29.54%) followed by

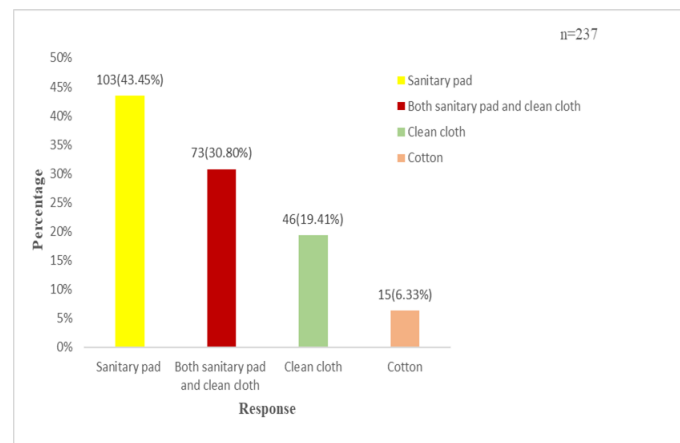
cranberry 68 (28.69%), pineapple 53 (23.36%) and apple juice 46 (19.41%). However, the correct response is cranberry juice.

Figure 4: bar graph depicting the knowledge score of the participants on duration of changing sanitary napkin to prevent urinary tract infection.



The participants' response regarding the duration of changing a sanitary napkin is depicted in the figure above. Majority of the participants i.e., 113 (47.68%) chose 2 hourly as their duration, followed by 4 hourly 82 (34.60%), 6 hourly 32 (13.50%) and 8 hourly 10 (4.22%). The correct response is 4 hourly.

Figure 5: bar graph showing the knowledge score of the participants on the type of napkin that can be used during menstruation.



In the figure above, majority of the participants' response sanitary pad 103 (43.88%). This is followed by both

sanitary pad and clean cloth 73 (30.80%), then clean cloth 46 (19.41%) and lastly cotton 15 (6.33%). The correct response is both sanitary pad and clean cloth.

Section III

Table 2: association between knowledge of participants regarding urinary tract infection with demographic variables n =237.

Demographic variables	Poor knowledge	Average knowledge	Good knowledge	df	χ^2	Tabulated value
Age (in years)						
18-28	34	48	32	4	*127	9.49
29-38	22	34	23			
39-49	13	19	12			
Residency						
Urban	29	35	36	2	*6.01	5.99
Rural	40	66	31			
Marital status						
Married	43	57	31	2	4.35	5.99
Unmarried	24	46	36			
Education						
Primary	37	30	2	4	*66.8	9.49
Secondary	20	24	8			
Graduate/diploma	12	47	57			

p<0.05 significant.

The above table depicts

a) There is association between the age of the respondents (in years) and the knowledge regarding Urinary Tract Infection, where the calculated value was found to be 127 which is significantly greater than the tabulated value 9.49 at the degree of freedom of 4 with p<0.05 level of significance. Hence the association is highly significant.

b) In the association between the residency and knowledge regarding Urinary Tract Infection, the calculated value was found to be 6.01 which is more than the tabulated value 5.99 at a degree of freedom of 2 with p<0.05 level of significance. Hence there is association between residency and knowledge regarding Urinary Tract Infection.

c) There is no association between the marital status and the knowledge regarding Urinary Tract Infection. The calculated value was found to be 4.35 which is less than the tabulated value 5.99 at a degree of freedom of 2 with p<0.05 level of significance.

d) In the association between the educational qualification and the knowledge regarding Urinary Tract Infection, the calculated value was found to be 66.8 which is significantly greater than the tabulated value 9.49 at a degree of freedom of 4 with p<0.05 level of significance. Thus, the association is highly significant.

Discussion

The present study “A study to assess the knowledge on Urinary Tract Infection among women of child bearing age in a selected hospital Shillong, Meghalaya”, is one of the studies focussing on the women of child bearing age to assess their knowledge so as to plan for future intervention regarding Urinary Tract Infection.

In the present study it was found that out of 237 participants 69 (29.11%) had poor knowledge while 101 (42.62%) and 67 (28.27%) had average and good knowledge respectively. A similar study conducted by Bhat AV et.al. (2017) among 119 women to assess the knowledge and attitude regarding Urinary Tract Infection and its prevention during pregnancy, revealed that 77.3% women had average knowledge and 22.7% women had poor knowledge.

A similar study conducted by Sirjana A et.al. (2015) among 246 primigravida women, in western regional hospital, Pokhara Nepal, revealed that 24.39% of women had poor knowledge on Urinary Tract Infection, 65.05% and 10.56% had average knowledge and good knowledge respectively.

In the present study, it was found that the participants knowledge score on the type of juice that prevents Urinary Tract Infection was more on cucumber juice 70 (29.96%). However, a study conducted by Hisano M et.al. (2012) found that cranberries can be used as a preventive measure for lower Urinary Tract Infection as well as recurrent Urinary Tract Infection including in vitro studies and clinical trials.

In the present study it was found that majority of the participants knowledge score on duration of changing sanitary napkin to prevent Urinary Tract Infection was 2 hourly 113 (47.68%). However, sanitary napkin should be changed every 4 hourly. The finding could be supported by Raut BK et.al. (2019) on awareness regarding menstrual hygiene among 184 adolescent girls in a school in Chitwan, where the result indicated that 98.9% had no knowledge on changing of pads every 4 hours.

In the present study, it was found that majority of the participants knowledge score on the type of napkin used during menstruation was sanitary pads 103 (43.45%). However, clean cloth can also be used as an alternative in low-income countries as evidenced by the study conducted by Kaur R et.al. (2018) and the description given by UNICEF where it showed that a reusable and washable cloth can also be used with crucial washing and drying in the sunlight especially in rural areas.

In the present study there was significant association between knowledge with the age of the respondents (in

years). A similar study was conducted by Raj A et.al. (2020) to investigate the knowledge on self-reported practices regarding prevention of Urinary Tract Infections among 100 adolescent girls in selected college of Mangaluru. The study showed that there is a significant association between knowledge score and the age of the participants. Similarly, a study conducted by Vidya CS et.al. (2019) on the knowledge and practice on prevention of Urinary Tract Infection among 500 antenatal mothers in Thiruvananthapuram. Using purposive sampling technique, there was a significant association between knowledge on prevention of Urinary Tract Infection with age of the participants at $p < 0.001$.

In the present study there was association between knowledge with the residence of the participants. The finding was supported by the study conducted by Akshara et.al. (2017) to assess the knowledge regarding Urinary Tract Infection among adolescent girls, Thiruvananthapuram. The study showed that there was significant statistical relationship between level of knowledge and demographic variables such as age, area of residence, socio economic status, voiding during school hours and cleanliness of toilets in school.

In the present study there was strong significant association between the educational qualification with the knowledge regarding Urinary Tract Infection. A similar study was conducted by Hazwell G et.al. (2020) on the knowledge and attitude regarding Urinary Tract Infections and its prevention among mothers attending antenatal sessions at Chipko Kota Mayamba clinic in Ndola Zambia. It was found that there was significant association ($p = 0.001$) between the knowledge regarding Urinary Tract Infection with the educational value. Similarly, a study conducted by Pierre JB et.al. (2018) on knowledge regarding Urinary Tract Infection among 120

pregnant women attending Gitwe hospital, Rwanda showed that there was association between the educational background of the participants with their knowledge on Urinary Tract Infection.

Conclusion

The study concluded that most of the participants had average knowledge regarding Urinary Tract Infection, and there was significant association between knowledge with age, residency and educational qualification of the participants. Based on the study, future interventions can be carried out to impart knowledge regarding Urinary Tract Infection, its risk factor, prevention and management through awareness programmes, health education in homes, schools and community setting to improve the reproductive health of women. Urinary Tract Infection being the second most common bacterial infection affecting people of all age can lead to kidney infection, pyelonephritis and if untreated or neglected can lead to kidney failure. Efficient knowledge and appropriate management of Urinary Tract Infection lead us to healthy and economically productive life.

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