

Study of predictors of urinary tract infections in nursing students

Eshan Sharma¹, Rakesh Thakuriya^{2*}, Harsh Kumar Garg³

^{1,2}Assistant Professor, ³Jr. Resident, Department of Medicine, N.I.M.S Medical College and Hospital, Jaipur, Rajasthan, INDIA.

Email: jaindrkamalkumar@gmail.com

Abstract

Background: Urinary tract infections are often complained by the women among the general population and also in the hospital setting. **Objective:** Present study was done to describe the predictors of urinary tract infections in nursing students at our hospital. **Methods:** This is a study of 100 unmarried nursing students aged 18–25 years. Data was collected regarding the symptoms of the Urinary tract infections during the previous 3 months in the study population. Demographic details, frequency of water intake, voiding during a typical work day (shift), and clinical symptoms of UTI (voiding frequency, burning sensation during voiding) over the last 3 months were recorded and analyzed. **Results and Conclusion:** The prevalence of Urinary tract infections was 18%. Inadequate water consumption and unhealthy toilet habits were the factors which were found to be more common among the students who reported symptoms of Urinary tract infections during the previous 3 months.

Keywords: Urinary tract infections, nursing students, water intake.

*Address for Correspondence:

Dr. Rakesh Thakuriya, Assistant Professor, Department of Medicine, N.I.M.S Medical College and Hospital, Jaipur, Rajasthan, INDIA.

Email: jaindrkamalkumar@gmail.com

Received Date: 22/06/2015 Accepted Date: 30/06/2015

Access this article online

Quick Response Code:



Website:

www.statperson.com

DOI: 01 July 2015

INTRODUCTION

Urinary tract infections (UTIs) are conditions frequently complained by women both in the general population and in the hospital setting. It has been estimated that one woman out of three will experience at least an episode of UTI during lifetime¹. It has also been reported that 90% of patients with UTI complain of urinary tract symptoms². Nursing students are often the primary caregivers, form part of the health team and are more close to the community and the general population. Also, nurses even after being a part of the health team are not really been spared from this inevitable morbidity³. Present study was done to describe the predictors of urinary tract infections in nursing students at our hospital.

METHODS

This was a cross-sectional and descriptive study done at our hospital over a study period of 3 months. The study included all unmarried female nursing students within the age group of 18–25 years at our hospital who were willing to participate in the study. All male students, married girl students and those who did not give consent to take part in the study or did not provide the necessary information were excluded from the study. The information was collected using a questionnaire which contained questions related to the risk factors for UTI and an episode of symptomatic UTI in the previous 3 months. The questionnaire contained questions on demographic data, frequency of water intake, voiding during a typical work day (shift), and clinical symptoms of UTI (voiding frequency, burning sensation during voiding) over the last 3 months. Subjects were required to complete all sections of the questionnaires and were requested to scrutinize the questionnaire for completeness before return and all doubts clarified subsequently. For the purpose of this study, the operational definition of UTI was defined as: Any girl complaining of: Burning micturition with/without complaints like Fever, Increased frequency and Flank pain³.

RESULTS

It was observed that 22 out of the 100 (22%) nursing girl students who participated in the study had a symptomatic episode within the last 3 months. Out of these 22 students, 8 students (36.4%) were found to be symptomatic at the time of study. Among the study population, 14 students (63.6%) reported a single episode of urinary tract infection over last 3 months. Frequency of micturition along with dysuria was the most common mode of presentation which was reported by 15 students (68.2%). UTI was found to be more common in students who were drinking less than 1 litre water in a day. 17 out of 22 students (77.3%) with UTI were drinking less than 1 litre water per day whereas most of the girls without UTI were drinking 1 to 2 litres water in day. 14 out of 22 students (63.6%) used toilet for 1 to 3 times/day. Most of the students without UTI used toilet 4 to 7 times in a day. 15 out of 22 students (68.2%) reported the habit of holding urine. 14 out of 22 students (63.6%) reported using public toilets.

DISCUSSION

In our study prevalence of UTI among nursing students was 22%. Study by Vyas *et al*³ has also reported similar results with a prevalence of around 20%. However, study by Ahmed *et al*⁴ has reported a urinary tract infections prevalence of 12.4% among adolescent girls in rural Karimnagar district. UTI was found to be more common in students who were drinking less than 1 litre water in a day. 17 out of 22 students (77.3%) with UTI were drinking less than 1 litre water per day. Study by Vyas *et al*³ has also found that UTI was more prevalent in girls with water intake of less than 1 litre water per day. They have mentioned that the association of water intake and UTI was statistically highly significant. Study by Nygaard *et al*⁵ done in teachers found that those with less water intake had a 2.21-fold higher risk of suffering from UTI. The reason for less water intake was likely to be for avoiding the need of micturition during work hours. In our study, most of the students without UTI used toilet 4 to 7 times in a day and 15 out of 22 students (68.2%)

reported the habit of holding urine. It was found that UTI was more common in students with habit of holding urine as compared to other group. It has been earlier reported that flushing out of the contaminated urine by hydrodynamic factors like high water intake and micturition at appropriate intervals has been associated with a reduction in UTI incidence⁶. However, Krieger⁷ does not support the view that increased water intake can lead to decreased incidence of UTI. In our study 14 out of 22 students (63.6%) reported using public toilets and UTI was more common in their group. Vyas *et al*³ has also reported that there was an association between UTI and public toilet use with subjects using public toilet at 2.87 odds of having UTI. Limitations of our study include small sample size and the study design does not give details regarding cause and effect relationship. Further studies need to be done to better understand the factors associated with UTI which can help in better prevention and management of the problem.

REFERENCES

1. Salvatore S, Salvatore S, Cattoni E, Siesto G, Serati M, Sorice P, et al. Urinary tract infections in women. *Eur J Obstet Gynecol Reprod Biol.* 2011; 156:131–6.
2. Österberg E, Hallander HO, Kallner A, Lundin A, Svensson SB, Åberg H. Female urinary tract infection in primary health care: bacteriological and clinical characteristics. *Scand J Infect Dis* 1990; 22: 477–484.
3. Vyas S, Varshney D, Sharma P, Juyal R, Nautiyal V, Shrotriya VP. An overview of the predictors of symptomatic urinary tract infection among nursing students. *Ann Med Health Sci Res* 2015; 5:54-8.
4. Ahmed SM, Avasarala AK. Urinary tract infections among adolescent girls in rural Karimnagar district, KAP study. *Indian J Prev Soc Med.* 2009; 40:6–9.
5. Nygaard I, Linder M. Thirst at work--an occupational hazard? *Int Urogynecol J Pelvic Floor Dysfunct.* 1997; 8(6):340-3.
6. Wolin LH. Stress incontinence in young, healthy nulliparous female subjects. *J Urol.* 1969 Apr; 101(4):545-9.
7. Krieger JN. Urinary tract infections: what's new? *J Urol* 2002; 168:2351–8.

Source of Support: None Declared
Conflict of Interest: None Declared