

Original Research

Urinary tract infections in young and adolescent girls - A clinical study

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ABSTRACT:

Aim: The aim of this topic is investigate the prevalence, risk factors, and clinical management of urinary tract infections (UTI's) in young and adolescent girls. **Methods:** A cross section observation study among 60 girls in who visited outpatient department were used to investigate the symptoms and etiology of UTI. The girls were between 9 to 19 years of age. A detailed history taking and examination was done followed by microscopic examination and culture test were performed. Ultrasound were reserved for cases with recurrent UTI. **Result:** Analysis of questionnaire revealed significant association between urinary infection and improper perennial washing technique, poor nutrition, recurrent vaginitis, low menstrual hygiene. The most common etiological factor was found to be low water intake among the girls were found to be 33%. **Conclusion:** Urinary tract infection is common problem among the young and adolescence girls causing much discomfort and loss of school. Girls and their mothers should be educated about the menstrual hygiene proper perennial washing, importance of balanced diet by the government and also by health care workers including ASHA.

Keywords: UTI, young and adolescent girls

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INTRODUCTION

The UTI is a common infection that can upset any part of the urinary system [1]. This causes distress in the hospital or community settings that result in high healthcare and financial cost [2,3]. UTI has been the major cause of morbidity and mortality among Indian population [4]. Urinary Tract Infection (UTI) most common bacterial infections of young and adolescent age group [5-6]. Atleast one episode of UTI occurs in nearly 5-6% of girls during their entry from high schools to graduation. Compared to boys, the recurrence rate is 50% greater in girls [4]. The vagina and anus are positioned close to the urinary opening which makes females more prone for the development of UTI [6]. Due to UTI, every year nearly 6-7 million young women visit physicians and therefore it is a major concern for the parents and healthcare providers [1,4]. Any delay in the treatment leads to permanent

kidney damage, bacterial endocarditis and infertility [4,7]. Among adolescent girls, poor hygiene and dysfunctional voiding pattern increases the risk for UTI. Silent UTI may occur among adolescent girls due to inadequate intake of water and infrequent passage of urine. The possible link between the prevalence of UTI among students residing in the hostel includes the use of western toilets, unhygienic mass toilets; improper menstrual hygiene and toileting habits [7]. A study also reveal that nursing students confessed an indiscriminate consumption of antibiotics whenever they fell sick or difficulty while micturition is noticed [8]. Early identification of the disease by proper diagnostic measures and management will help to prevent the complications of UTI. Proper preventive measures like maintenance of good hygienic measures during menstruation, intake

of more amount of water etc., also will help to reduce the incidence of UTI's [5]

METHODOLOGY

A cross-sectional observational study is used to investigate the prevalence and etiology of lower urinary symptoms in girls. A total of 60 girls with lower urinary symptoms were selected from () between the ages of 9 to 19 years. All girls underwent a detailed history and physical examination by an experienced clinician, including a focused examination of the lower urinary tract. The history included a review of medical records, any past medical history, and drug intake. A midstream urine sample was collected from each girl for urine microscopy and culture and sensitivity testing. Urine microscopy was performed using standard methods to identify the presence of bacteria, white blood cells, and red blood cells. The data obtained were collated and analyzed statistically by simple proportions.

INCULSION CRITERIA

The sample was selected using purposive sampling, and the inclusion criteria were girls presenting with any lower urinary symptoms such as dysuria, frequency, urgency, and suprapubic pain.

EXCULSION CRITERIA

Adolescents with urogenital malformation, those who were presently suffering from medical or surgical renal illness (such as renal stones or nephrotic syndrome), and those who were not willing to participate.

RESULTS

A total of 60 girls attended the () for various problems. The most common complaints among these girls were muddy urine, blood in the urine, frequent urination, abdominal pain, bad smell of urine, fever and burning sensation. Many girls presented with more than one complaints. The most common urinary symptom was burning during micturition with 18 (33% girls) complaining it. This was followed by frequency, pain and blood in urine. Many girls had more than one symptom. Low water intake (< 4glasses) was present in 18 (33%) girls. Infrequent bladder emptying was found in 18 (72%) girls. Poor menstrual hygiene was present in 8 (13%) girls. Improper perineal washing and poor nutrition was also found in the girls. Four adolescents complained of recurrent UTI. Vaginal discharge was present in 7 girls (Table 2) The culture reports were positive in only 15 (25%) patients. Most common organism was E. coli followed by Staphylococcal group

Table 1: Symptoms of UTI

S.No	Symptom	Number	Percentage
1	Muddy Urine	4	6%
2	Blood in the urine	8	13%
3	Frequent urination	11	18%
4	Abdominal pain	10	16%
5	Bad smell of urine	5	8%
6	Fever	4	6%
7	Bruning sensation	18	33%

Table 2: Etiological Factors

S.No	Etiology	Number	Percentage
1	Poor menstrual hygiene	8	13%
2	Inadequate water intake	18	33%
3	Infrequent bladder emptying	15	25%
4	Improper perineal washing	7	12%
5	Vaginal discharge	9	15%
6	Poor nutrition	3	5%

DISCUSSION

Urinary tract infection is among the leading cause of adolescent girls visiting a doctor. We in this small study have tried to analyze the etiological factors and practices which predispose the young girls to UTI. The incidence of UTI in our study was 9.1%. Ahmed and Avasarala in their study found 12.7% of girls suffering from UTI.[9] . Vyasetalina study on nursing students found 20% of study population having UTI.(10) In their study, they also found a higher prevalence of UTI in 17-20 years of age. There is a

strong association between the quantity of water intake and occurrence of UTI. In our study 40% of adolescent girls drank less than four glasses of water a day. Low amount of intake of water not only concentrates urine but also leads to urinary stasis which favors bacterial growth. Vyasetalina in their study found a strong association of low levels of water intake and UTI. [10]. Study by Nygaard et al show similar results.[11] The habit of poor water intake leads to prolonged intervals between urination which in turn leads to higher bacterial growth. When enquired

further the reason for this behavior in the girls was non availability of clean toilets in schools. Due to this they tended to have lesser amounts of water which led to holding of urine for long and in turn UTI. The old age concept of not having a bath during menses and use of non disposable pads is still persisting. Poor menstrual hygiene has been found to be an etiological factor in many studies. Not just these young girls but their mothers also need to be made aware of the importance of menstrual and sexual hygiene[12]

CONCLUSION

Urinary tract infection (UTI) is a common problem among adolescents and can cause significant discomfort and school absenteeism. Several factors such as inadequate hydration, poor menstrual and sexual hygiene, and lack of clean toilets predispose young girls to UTI. It is essential to educate young girls about good hydration and hygiene practices. It is equally crucial for schools and public places to provide basic and clean sanitation facilities to prevent the spread of infection. It is important to note that recurrent and chronic UTI may cause kidney damage and, in some cases, even lead to renal failure if left untreated. Therefore, prompt and diligent treatment of UTI is crucial in preventing complications and maintaining kidney health.

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