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Self-medication for urinary tract infection in a female secondary school in Enugu state Nigeria

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Abstract

To assess the types of self medication for urinary tract infection in a female secondary school in Enugu, South East Nigeria.

Method: A total of 340 female students were studied in August 2018. The students responded to questions focused mainly on the type of medication they used for the treatment of urinary tract infection.

Results: Out of a total of 340 students who were used for the study 50 or 14.7% admitted that they had UTI. 76% of those who had UTI went to the hospital for proper investigation and treatment while the rest did not. Only 50% of those who attended a hospital completed the drugs as prescribed. Those who did not go to hospital used different strategies ranging from self medication, chemist shops to spiritual houses etc. Various reasons were given by those who did not go to the hospital 2.9% said it is because they were ashamed to talk about it. 99.4% because of financial constraints and because

they believed it could be a sexually transmitted infection, followed by those who felt it was against their faith and those who didn't have time (99.1%). Those who embarked on self medication used drugs like septrin, ampicillin, ampiclox, amoxicillin, canesten cream etc.

Conclusion: The prevalence of UTI in the secondary school is about 15% which is high but most disheartening is the fact that about 25% of those affected do not go to hospital for proper medication and only 50% of those who attended the hospital completed their drugs as prescribed. This issue coupled with the fact that the students embark on consumption of different brands of antibiotics which they prescribe for themselves would give rise to high prevalence of resistant strains of the infective organisms. There is need to embark on intensive health education in the school and other female schools in the state.

Keywords: Pattern of medication, Urinary tract infection, Female secondary school, Enugu State

Introduction

The development of new diagnostic tests and the introduction of new antimicrobial agents have allowed physicians to appropriately tailor specific treatment for each patient¹. Identifying whether patients have cystitis or pyelonephritis and complicated or uncomplicated UTI is important for treatment. Except in acute uncomplicated cystitis in women, a quantitative urine culture, a gram stain, or an alternative rapid diagnostic test should be performed to confirm infection before treatment is began. When culture results become available, antimicrobial sensitivity testing should be used to direct therapy^{2,3} Considering Specific patient factors, such as severity of symptoms, allergic history, results of recent microbiological tests (if available), risk factors for resistance and accessibility of medical care, treatment of UTI with the appropriate antibiotic are chosen since it can minimize mortality, morbidity and any renal damage from acute UTI⁴ Therapeutic drug concentrations with extended-release ciprofloxacin are established immediately after dose administration and maintained throughout the 24-hour dosage interval, permitting convenient, once daily treatment. Clinical trial results confirm that extended-release ciprofloxacin is as safely used and effective as the conventional, immediate-release formulation of ciprofloxacin in patients with uncomplicated UTIs complicated UTIs or acute uncomplicated pyelonephritis. These findings support the use of extended-release ciprofloxacin as a well-tolerated, effective and convenient therapy for UTIs, which may improve patients' adherence to therapy and thereby reduce the risk of infection recurrence and emergence of antimicrobial resistance⁵. Azubuike, Nwamadu and Uzoije conducted a study on the prevalence of UTI among asymptomatic school children aged between 4 and 16years in awka, Anambra State, south East Nigeria and found a prevalence of 48% among the girls while the boys had 12% However in a similar study which they conducted among (symptomatic) school children who came to the hospital in Awka complaining of loin pain, they got 29.4% for the boys and 71.2% for the girls⁶. Treatment of asymptomatic bacteriuria offers no benefit for most healthy, adult, non pregnant women since it can be frequently resolved without treatment and has no long-term medical consequences⁷. In addition, there are special

considerations in the management of UTI among selected populations, including postmenopausal and pregnant women, and women with frequent recurrent UTIs [8]. In pregnancy, acute cystitis can be managed within 7 days of treatment with amoxicillin, nitrofurantoin, or a cephalosporin. In another study conducted by Olumide Ajibola, Olusola Akintoye Omisakin *et al* on Self-Medication with Antibiotics, Attitude and Knowledge of Antibiotic Resistance among Community Residents and Undergraduate Students in Northwest Nigeria, of the 1230 respondents from undergraduate students and community members, prescription of antibiotics by a physician was 33% and 57%, respectively, amongst undergraduate students and community members. They tested the respondents' knowledge of antibiotic resistance (ABR) and found that undergraduate students had less knowledge that self-medication could lead to ABR (32.6%) than community members 42.2%. They concluded that self-medication with antibiotics is highly prevalent in Northwest Nigeria, with most medicines being purchased from unlicensed stores without prescription from a physician [9]. In general, factors to be considered in the selection of appropriate antimicrobial therapy include pharmacokinetics, spectrum of activity of the antimicrobial agent, resistance prevalence of the community, potential for adverse effects,

and duration of therapy. Ideal antimicrobial agents for UTI management have primary excretion routes through the urinary tract to achieve high urinary drug levels [8]. The worldwide increasing problem of resistant uropathogens calls for additional non-antimicrobial strategies, both for the treatment and for the prevention of UTIs. There are some preliminary data on non-antimicrobial agents for preventing UTIs. An anti *E. coli* vaccine which provides inhibition of adherence of uropathogens to uroepithelial cells has been tried in women with recurrent UTIs. Also Vaginal probiotics containing *lactobacillus* have been tested to restore normal vaginal flora to reduce recurrent UTIs [10]. The ingestion of fermented milk products containing probiotics has also been said to reduce the risk of UTI [11]

Results

Table 1: Prevalence of uti among students

Variables	Frequency N=340	Percentage
Student that Had UTI		
Yes	50	14.7
No	290	85.3
Total	340	100.0

Table 2: Mode of management of Urinary tract infection

If you suffered from UTI, did you go the hospital for proper laboratory Investigations and treatment?		
Variables	Frequency	Percentage
Yes	38	76.0
No	12	24.0
Total	50	100.0
If yes for number above, did you complete the prescribed dosage?		
Yes	19	50
No	19	50
Total	36	100
If no, who treated you?		
I treated myself	1	5.2
I sought help from a spiritual house	2	10.5
Received treatment from a patent medicine vendor (chemist)	6	31.6
I ignored the symptoms and allowed it go on its own	10	52.6
Total	19	100.0

The results above show the analysis of the students' management of Urinary tract infection. Out of the 50 that had ever suffered from Urinary tract infections, 38(76.0%) went to the hospital for proper laboratory investigations and treatment while 24.0% didn't go to a hospital. Out of those that went to the hospital, 50% of them completed the

prescribed dosage and from those who didn't go to the hospital, 55.6% of them just ignored the symptoms and allowed it to go on its own, 31.6% received treatment from a patent medicine vendor while 5.2% and 10.5% administered self-medication and sought help from a spiritual house respectively.

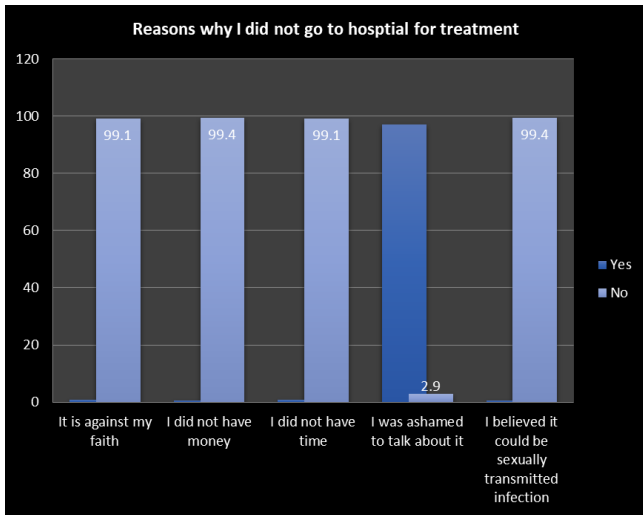


Fig 1: A Bar graph showing the different reasons why the students who had ever been diagnosed of UTI didn't go to the hospital for treatment

From the above bar chart, it can be seen that only 2.9% of the students didn't go to the hospital because they were ashamed to talk about it. Majority of them didn't go to the hospital because of financial constraints (99.4%) and because they believed it could be a sexually transmitted infection, followed by those who felt it was against their faith and those who didn't have time (99.1%)

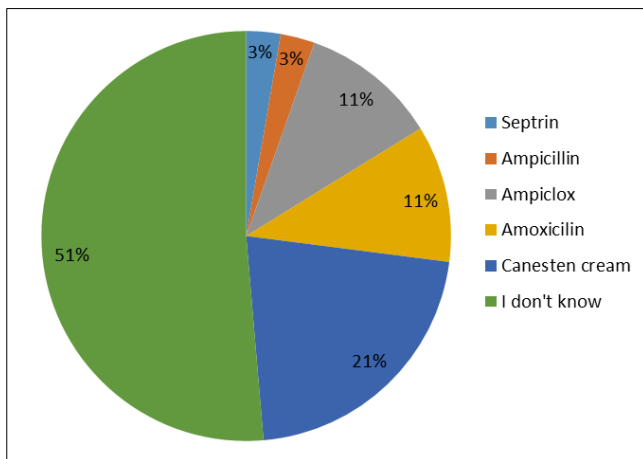


Fig 2: Nature of self-medication taken by students

From the above pie chart, it can be seen that majority of the students who had Urinary tract infections and were properly treated didn't know the nature of treatment they received. 21% of them used canesten cream while 11% used either amoxicillin or ampiclox antibiotics for treatment. Septrin and Ampicillin were the least common drugs used with 3%.

Discussion

This study found the prevalence of UTI among the female students to be 14.7% which is much lower than the prevalence of 48% found by Azubike, Nwamadu and Uzoije in their study conducted in Awka Anambra State. Although Anambra and Enugu states share the same geographical boundaries and thus are expected to have same social setting, the observed difference could be necessarily due to the fact that the girls school we used was a mission-owned full-boarding one which is managed by Reverend Sisters and the moral standard is much higher than the one used in Anambra

State⁶. Our study also found that 76% of those who had UTI went to the hospital for proper investigation and management while 24% embarked on self medication this is in sharp contrast with the study done by Olumide Ajibola, Olusola Akintoye Omisakin *et al* in which they found that 33% of undergraduates went to hospital for treatment while 67% got self medication^[9] This difference is due to the fact that while we conducted our study in southern Nigeria where there is an abundance of doctors and high awareness of orthodox Medicare, they conducted theirs in Northern Nigeria where there is scarcity of doctors and low awareness level. The various reasons given by the students for not going to the hospital include lack of money, lack of time, against her faith, ashamed of discussing it and suspecting it could be sexually transmitted infection. These reasons could not have been strong enough as to warrant them resorting to self medication. Furthermore the types of drugs used for self medication given in Fig 2 are very common drugs which have already been subjected to abuse and drug resistance within this environment.

Conclusion

Although the prevalence of UTI among these students is moderately high, there is still need for a health education intervention to be conducted in the school so as to further decrease the prevalence. The health education intervention will also take care of the issue of self medication with different antibiotics.

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