

## PREVALENCE OF URINARY TRACT INFECTIONS (UTI) IN SEXUALLY ACTIVE WOMEN OF ABAKALIKI, EBONYI STATE, NIGERIA

ANI, Ogonna Christiana and MGBECHI, Edna Kelechukwu

Department of Applied Biology, Ebonyi State University, Abakaliki, Ebonyi State, Nigeria

**Corresponding Author:** Ani, O. C. Applied Biology Department, Ebonyi State University, Abakaliki, Ebonyi State, Nigeria. Phone +234 8076688913

### ABSTRACT

*A research to investigate the prevalence of urinary tract infections in sexually active women (18 – 41 years) from selected health care centres in Abakaliki was carried out. Attempt was made to find out the number of treated cases, aetiological agents and age range with highest incidence of urinary tract infections over the study period (2004 – 2005). Medical records of urinary tract infected women from the selected health care centres were reviewed. The prevalence of urinary tract infections was high (1232) among the study group and Escherichia coli was implicated as the principal causative agent of these infections. The high prevalence recorded in this study makes it necessary for women to be adequately educated on matters affecting their reproductive health. There is also the need for government of the state to provide improved, adequate and affordable health care services in the communities.*

**Keyword:** Prevalence, Urinary, Tract infection, Sexually active women

### INTRODUCTION

Urinary tract infection (UTI) is the infection of any part of the urinary tract. The urinary tract consists of the kidneys, ureters, bladder and urethra. Any part of these structures can become infected but bladder and urethra infections are the most common (Anon, 2006). The bladder infection is known as cystitis while that of the urethra is known as pyelonephritis and is more serious.

The two types of UTI are lower UTI which is an infection of the lower part of the urinary tract (the bladder and urethra) and upper UTI which is an infection of the upper part of the urinary tract (kidneys and ureters). The upper UTI is potentially more serious than the lower one because there is a possibility of kidney damage.

Most UTIs are caused by bacteria that can live in the digestive tract, the vagina or around the urethra. Infection occurs when bacteria enter the normally sterile urinary system and multiply there. They produce enzymes which help them feed on tissues of the host and thus damage them (Adult Helath Advisor, 2005).

Bacteria can enter the urinary system through the urethra or more rarely through the blood stream (Macnair, 2006). Poor toilet habits, pregnancy in women and prostate enlargement in men can predispose one to infection. The aetiological and clinical presentation of UTI is similar in both industrialized and developing nations but the range of infections varies from place to place (Latif, 2004). Women are more prone to UTIs than males.

According to Macnair (2006), about 11 % of girls and 4% of boys have UTI before they reach the age of 16. About 40 – 50 % of women and 12 % of men have UTI at some time of their lives. It is believed that sexual activity may be responsible for high infection rate in sexually active women as the

problem begins once the women become sexually active. Mercola (2001) also reported that as many as 60 % of women contact UTI at some point in their life and that at least a third of the women with UTI will experience a recurrent infection during the following year. UTIs are most common in sexually active women and increase in people living with diabetes. A common cause of UTI is an increase in sexual activity such as vigorous sexual intercourse with a new partner. This leads to what is known as honeymoon cystitis. Women are more prone to UTI than males because their urethra is much shorter and closer to the anus than in males. Hence bacteria from the anus can pass easily into the urinary tract. Females also have three openings in a very small area (the rectum, the vagina and the meatus of the urethra). Women also lack the bacteriostatic properties of prostatic secretions that are present in males. They are also susceptible to recurrent UTIs because they do not secrete a certain blood group antigens (Thompson, 2006).

Some common symptoms of UTI are frequent urinations, frequent urge to urinate, pain/burning sensation in urethra when urinating, discomfort at lower abdomen, soreness in the lower abdomen and back. When the infection is well developed and had spread up to the kidney and uterus, back pains, chills, fever, nausea and vomiting may be experienced (Janice, 2006). The infection can be diagnosed by testing clean urine sample for white blood cells and other components. Urine may also be cultured to allow the growth of any bacteria and subsequent identification. Traditional treatment is with the use of antibiotics.

This research was carried out in order to find out the real situation of urinary tract infections among sexually active women in Abakaliki with the aim of determining the number of recorded cases in notable hospitals and private diagnostic laboratories

in the town, the aetiologic agents among sexually active women and the age class or age with the highest incidence.

**MATERIALS AND METHODS**

**Study Area:** Abakaliki is the capital of Ebonyi State in the South – eastern part of Nigeria. It is densely populated and relatively developed with such basic amenities as pipe borne water, electricity, transport and communication services. The populace is made up of farmers, civil servants, businessmen and women, students and politicians. Notable hospitals that serve most populace within and around the town are Ebonyi State University Teaching Hospital (EBSUTH), Federal Medical Centre (FMC), General and private hospitals. Private diagnostic laboratories such as St. Luke’s and Anchor – C render good health services to the populace.

**Study Population:** The study population includes women between 18 and 41 years within the study area. The study period of two years was undertaken to provide sufficient data for meaningful analysis and minimize confounding variables that may arise due to changing practices over time.

**Data Collection:** The study involved the review of medical records of the study population using their admission and discharge registers, clinic and laboratory records with the consent of laboratory scientists and nurses on duty. Such records contained the rate of infection, the ages of women infected and causal organisms implicated.

**Data Analysis:** The results of the research were analyzed using Measures of Central Tendencies to find the age/age class that had highest infection (modal age).

**RESULTS**

A total number of 1232 cases were treated over the years and the year 2005 had a higher prevalence of 696 (56%) (Table 1). Among the hospitals and laboratories, Federal Medical Centre recorded the highest prevalence of 552 (44.8 %) while Ebonyi State University Teaching Hospital recorded the least prevalence of 143(12.4 %) (Table 1). The modal class was 18 – 23 which recorded 38 % of the UTI cases and the modal age was 22 years. This was followed by age class 24 – 29 which had 20.2 %. 30 – 35 that had 18.8 % and the age class 36 – 41 years had the least (12.1 %) (Table 2). Cumulatively, January – March period had the highest number of cases (396) followed by April – June (335), October – December (269) while July – September quarter had the least (132) (Figure 1). The order of prevalence rate of causal organisms of UTI was *E. coli* (67.2 %) > *Pseudomonas* spp (12.1 %) > *Staphylococcus aureus* (1.2 %) *Klebsiella* spp (3.7 %) > *Schistosoma*

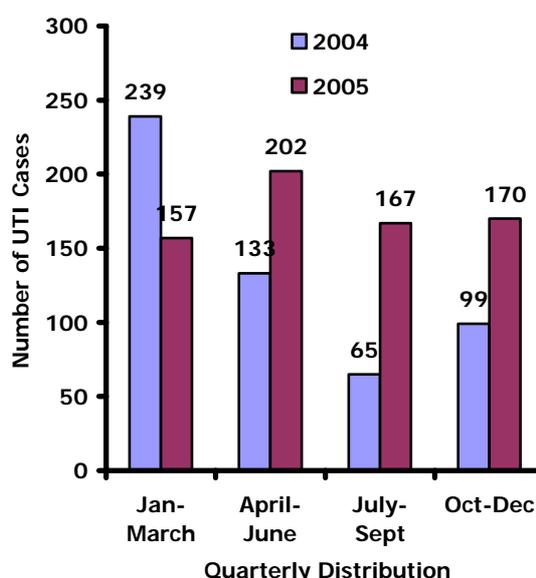
*haematobium* (2.9 %) > *Amoeba* spp (2.1 %) > *Streptococcus faecalis* (0.5 %) > *Blastomyces* spp (0.3 %) (Figure 2).

**Table 1: Prevalence of UTI among different hospitals/establishments from Jan 2004 – December 2005 in Abakaliki, Ebonyi State**

Hospitals/ establishment	cases in 2004	cases in 2005	Total cases	% cases
Federal Medical Centre (FMC) Ebonyi State University Teach Hospital	207	345	552	44.8
St. Luke’s Private diagnostic laboratory Anchor – C.	67	76	143	12.0
Private diagnostic Laboratory	91	144	235	19.1
Total	171 (43%)	131 (56%)	302	24.4
	533	696	1232	

**Table 2: Prevalence of UTI by age among sexually active Women in Abakaliki, Ebonyi State**

Age class	Year 2004	Year 2005	Total case of infection	Prevalence
18 – 23	226	253	479	38.9
24 – 29	166	206	372	30.2
30 – 35	76	155	231	18.8
36 – 41	68	82	150	12.1
Total	596	696	1232	100



**Figure 1: Quarterly Prevalence of UTI Among Sexually Active Women in Abakaliki, Ebonyi State**

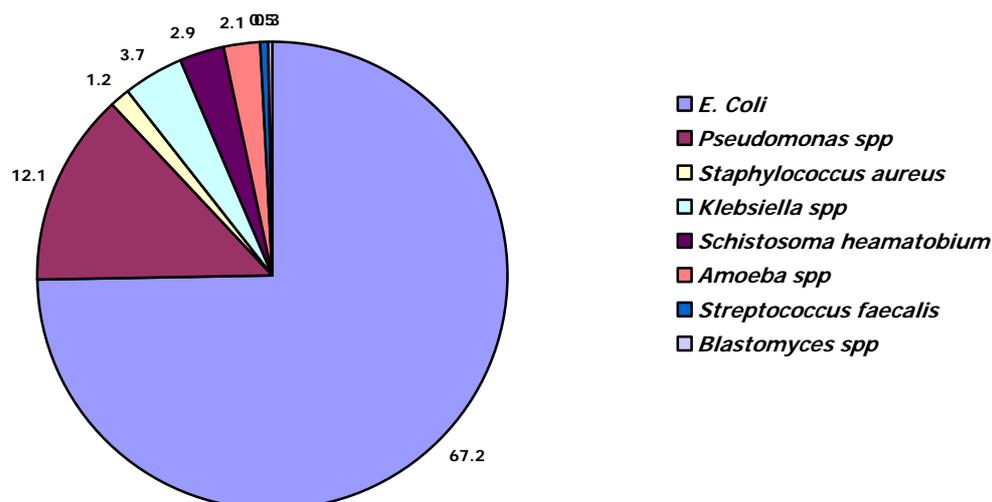


Figure 2: Casual organisms implicated by laboratory findings

## DISCUSSION

One thousand two hundred and thirty – two urinary tract infection cases were treated in the study area in two years under review.

The prevalence of this infection in this study was quite high and this agrees with the report of Chevins (2001) that this infection was a common medical complaint among women in their sexually active years. The age class 18 – 23 had the highest prevent rate of 38.9 %. At this age range, women/girls tend to live active sexual life and promiscuity is sometimes on the increase. This also agreed with APUA (2003) that women at the peak of their sexual active years had high prevalence of urinary tract infection. Women at this age range also feel ashamed of going for medical check – ups and therefore indulge in one form of self medication or the other or even prefer to die in silence (Ehinmidu, 2003).

The year 2005 had a higher rate of infection (56.5 %) than 2004. This could be attributed to the fact that literacy level and health awareness of the populace/masses keep improving year after year. As this happens, more women get aware of their health needs, become bolder to face their problems and hence pay more visits to the hospitals and private laboratories for accurate diagnosis and treatment more than the preceding years.

The overall prevalence of UTIs in the years under review was highest in the January – March quarter (396). The major occupation of the people of the study area is farming and October – December quarter is a time of harvest. The farmers therefore tend to concentrate on harvesting and selling of their products neglecting their health needs. By the first quarter of the year when such activities may have lessened, they then think of taking care of their health needs. This was in consonance with Latif (2004) that people in developing countries often present themselves for care with more severe illness and often after complications have developed.

The order of prevalence of causal organisms in this study (*E. coli* > *Pseudomonas spp* > *Staphylococcus aureus* etc) contrasted the report of Ehinmidu (2003) of (*Pseudomonas aeruginosa* > *Staphylococcus aureus* > *E. coli*) although the same organisms were identified. The result, however agreed with Chevins (2001), Jawetz and Adelberg (2001) and Nyberg *et al* (2004) that *E. coli* was the primary causal agent of most urinary tract infections.

From the findings of this research, it was evident that urinary tract infection was prevalent in sexually active women. On the basis of this therefore, there is need for improved, adequate and affordable health care services in the communities especially in matters of reproductive health. Promiscuity and girl – child marriage should be discouraged while masses should be educated on the importance of personal hygiene in order to help them elevate their health status and manage themselves properly.

## REFERENCES

- ANON, (2006). Urinary tract infection in women. <http://familydoctor.org/online/famdocen/home/women/gen-health/190/html>.
- ADULT HEALTH ADVISOR (2005). Bacterial in Urine, do symptoms. (<http://www.med.umich.edu/llibr/aha/ahaasybacris.htm>)
- APUA (2003). UTI treatment at a turning point, improving antimicrobial prescribing for uncomplicated UTIs in an era of increasing antibiotic resistance. *An Alliance for the Prudent Use of Antibiotics (APUA) Roundtable Publication*, MA.
- CHEVINS, C. (2001). *UTIs in Women*. 1<sup>st</sup> Edition, Nidus Information services Inc. New York.
- EHINMIDU, J. O. (2003). Antibiotic susceptibility patterns of urine bacterial isolates in Zaria, Nigeria. *Tropical Journal of Pharmaceutical Research*, 2(2): 223 – 238.
- JANICE, K. (2006). Urinary tract infection – causes and prevention: the natural way. <http://www.janicehealth.com/uti.htm>.

- JAWETZ, M. and ADELBERG, S. (2001). *Medical Microbiology*. 22<sup>nd</sup> Edition McGraw Hill Companies, Inc. USA.
- LATIF, A. S. (2004). Urogenital infections in the tropics. Pages 60 – 65. *In: LATIF, A. S and SPINGS, A. (Eds). STI/HIV project*. The Australasian College of Tropical Medicine Publishing Press, Harare.
- MACNAIR, I. (2006). Urinary Tract infection <http://www.bbc.co.uk/health/conditions/urinarytract2.shtml>.
- MERCOLA, J. (2001). Cranberry juice for urinary tract infections. *British Medical Journal*, 322: 1571 – 1573.
- NYBERG, L., BRIGGS, J. and KRANZFELDER, K. (2004). *The UTIs. A review*. National Women's Health information Centre, Department of health and human services of United States of America.
- THOMPSON, T. (2006). *Urinary Tract Infection Medication: Antibiotics for UTI*. <http://www.nativeemedies.com/articles/urinary-tract-infection-medication-antibioticsuti.html>.