

Research Paper

Prevalence of *Schistosoma Haematobium* and *Trichomonas Vaginalis* in Relation to Age Distribution and Marital Status among Patients Attending Four Selected Hospitals in Gboko, Benue State of Nigeria

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Abstract: *Prevalence of urinary parasitic infections with emphasis on *T. vaginalis* and *S. haematobium* among patients attending four selected hospitals in Gboko viz: Mkar hospital, Myom hospital, General hospital and Division hospital all in Gboko Local Government area of Benue State Nigeria, was investigated. A total number of 400 urine samples (100 from each hospital) were aseptically collected into sterile specimen bottles. Samples were immediately transferred to Lens Gabriel School of Medical Laboratory Sciences Mkar, Benue State for microscopic analyses and examination. Data were analysed and presented using both descriptive and inferential statistics. Based on age and marital status, results showed that prevalence rate of trichomoniasis and schistosomiasis were highest among (C) that is age group 21years and above. In all the hospitals, prevalence rate of *T. vaginalis* was highest with 12% followed by *S. haematobium* with an infection rate of 11% among the married patients as compared to the single patients. In the case of co infection, prevalence rate was also highest in the married patients (2.5%) as opposed to the single patients (1.5%). There was no significant level of associations between urinary tract infections, age and marital status of patients with 95% confidence limit. This work has therefore provided baseline information on the prevalence of these two infections in the four hospitals in Gboko Local Government Area. Thus, there is need for urgent effective control measures.*

Keywords: Marital status, age, *S. haematobium*, *T. vaginalis*, trichomoniasis, schistosomiasis.

Introduction

Urinary tract parasitic infections (UTPIs) are urino-genital infections or disorders caused mainly by parasites, which affect men and women leading to chronic illness. (Adeyeba and Ojeaga, 2002). Two main parasites have been reported to cause urinary tract infections; *Schistosoma haematobium* commonly called blood flukes or flat worm and *Trichomonas vaginalis* which is an anaerobic flagellated protozoa, is the most common urinary tract pathogenic parasite that causes infection of humans in industrialised countries (Soper, 2004). These infections have been reportedly encountered in every continent and climate with no seasonal variability. The development of irrigation schemes and dams for hydro electrical power and flood control have greatly increased, the prevalence of infections caused by *Schistosoma haematobium* in several countries and the migration of refugees has also contributed to increase in the distribution of the parasites (Uneke, 2006b). Schistosomiasis also called bilharziasis is most prevalent in rural communities where the standard of hygiene is poor due to poverty or due to lack of infrastructure to support adequate health care services. The disease is originally contacted by working, bathing, or swimming in water polluted by snails that carry the worms. (Uneke, 2006b). *Trichomonas vaginalis* which is the causative agent of trichomoniasis, is a sexually transmitted infection of the urinogenital tract, and it is a common cause of *vaginitis* in women. Frothy, greenish vaginal discharge with a musty malodorous smell is characteristic of this infection. Men with this infection usually display symptoms of urethritis (Nanda, 2006).

Materials and Methods

Sample Collection

A total number of 400 urine samples were collected from patients attending the four hospitals (General hospital, Mkar hospital, Myom hospital and Division hospital) Gboko for analyses. 100 samples were collected from each of the hospitals which comprised 50 samples from male and 50 samples from female patients. The sample size was estimated using sample size calculator by Raosoft (2004).

Collection of Urine Sample and Demographic Information

Sterile laboratory bottles were given to patients with the instructions to produce mid-stream urine samples (Uneke, 2006b). Demographic bio data such as age and marital status were obtained from the patients before sample collection and analyses. Urine samples were recorded and numbered for proper identification.

Sample Analysis

All samples were analyzed at Lens Gabriel School of Medical Laboratory Sciences Mkar, Benue State. Each urine sample was examined macroscopically for turbidity, presence of blood or cloudiness. For microscopic investigation, 2ml of each sample was poured in a centrifuge tube. The tubes (12 at a time) were balanced in the centrifuge machine to avoid splashing during spinning and were spun at 1500 revolution per minute for 5 minutes.

From each tube, the supernatant was discarded. A drop of the deposit was transferred to a clean slide using Pasteur pipette and covered with a cover slip and viewed under the Light Binocular microscope at x10 and x40 objective lenses for the presence of ova of *Schistosoma haematobium* and trophozoites of *Trichomonas vaginalis*.

Data Analysis

Data were pictorially represented through appropriate graphical analysis constructed from Microsoft Excel Sheet of 2010 version. Inferential Non-parametric Statistics was conducted on the combined data through the use of Chi-square test of hypothesis (χ^2). This was done to determine if there were associations between infections and each demographic data (age and marital status). Chi-Square was manually computed through factorial analysis and the resulting calculated and tabulated values were used in decision rule (NMC, 2013).

Results and Discussion

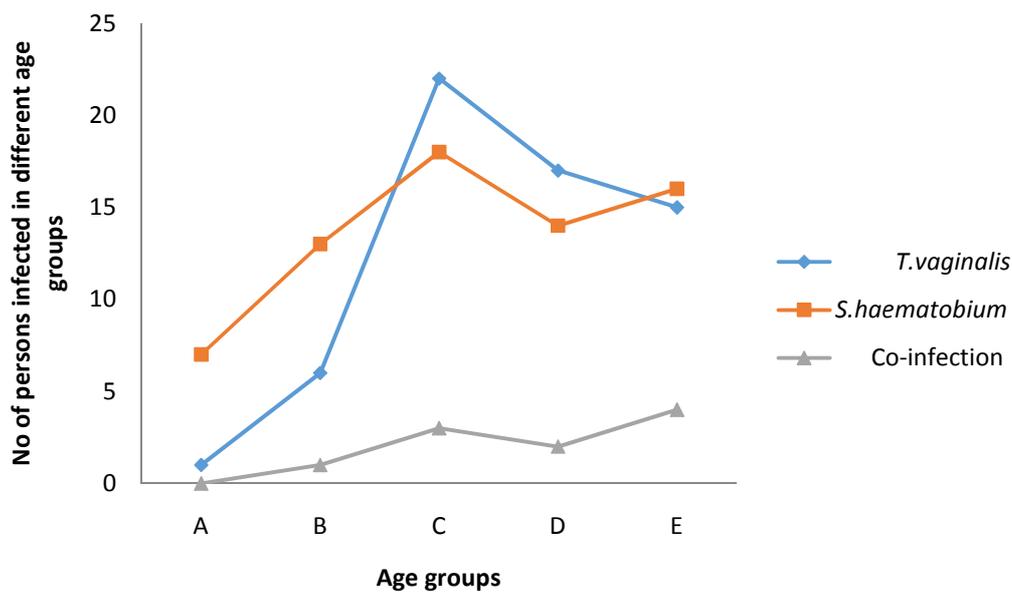


Figure 1: Age groups of infected patients attending four selected hospitals in Gboko Local Government Area (N=400)

Legend (ages): A= \leq 10yrs; B= 11-20yrs; C=21-30yrs; D=31-40yrs; E= $>$ 40yrs

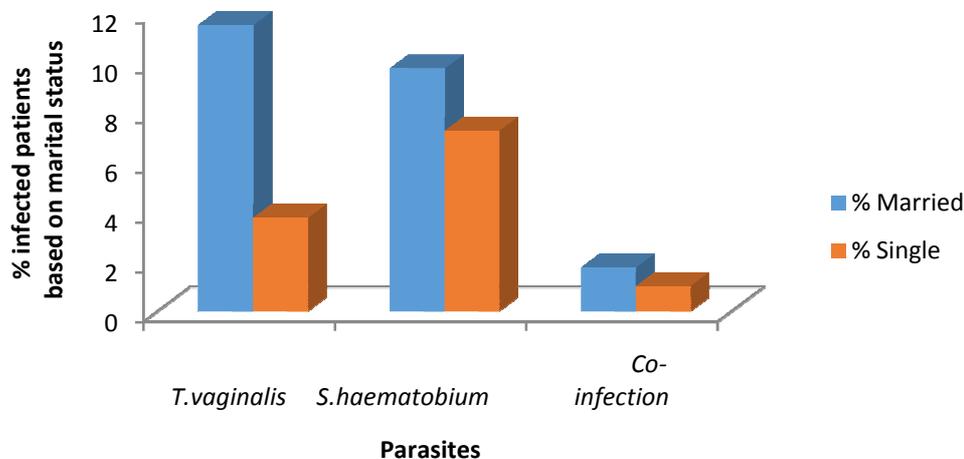


Figure 2: Marital status of infected patients attending four selected hospitals in Gboko Local Government Area (N=400)

Discussion

Urinary tract infections are major parasitic infections affecting many people in Nigeria. Despite the health risks associated with these infections, they are often not given proper attention or handled with levity among males and females of different age groups across different communities. Age group of 21-30 years recorded the highest prevalence rate of trichomoniasis followed by schistosomiasis out of the total population (Figure 1). This group C (21-30 years) is a sexually active age group that normally engaged in sexual activities and other activities like farming which predisposes them to these diseases. This present report has also interestingly shown that the two infections are more prevalent among the married than the single patients (Figure 2). This could possibly be as a result of lack of routine health checkup and farming activities in order to provide food for the family which predisposes them to schistosomiasis infection. Similar outcome was reported by Haytham *et al.* (2005) in Mosul where *T. vaginalis* parasite was more predominant among married women than single women. These records have surpassed reported cases of both infections at a single sampling unit in other parts of the country and Africa at large.

Zero intimacy was applicable with infection, age group and marital status as the χ^2 Calculated (8.7679) was less than χ^2 Tabulated (15.507). Also, no statistically significant level of relationship existed between infection, age and marital status as χ^2 Calculated (5.278) was less than χ^2 Tabulated (5.991)

Conclusion

It was concluded from the work of this study that trichomoniasis and schistosomiasis are most common among patients of 21 years and above than those below this age from the four hospitals. Prevalence rate of infections from these two organisms was highest among the married patients than the single patients. No statistically significant level of association was found between urinary tract infections, age and marital status of patients attending these four hospitals in Gboko Local Government Area of Benue state.

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