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Research Article

PREVALENCE OF *TRICHOMONAS VAGINALIS* AMONG FEMALE PATIENTS ATTENDING OGUN STATE COLLEGE OF HEALTH TECHNOLOGY CLINIC, ILESE-IJEBU NIGERIA

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ABSTRACT
The aim of this study was to determine the prevalence of *Trichomonas vaginalis* among female patients attending Ogun State College of Health Technology Clinic, Ilese-Ijebu Nigeria. A total of four hundred and forty one patients were reqruited and examined for the presence of *Trichomonas vaginalis.* The entire age of reqruited patients was between 15-60 years of which 37.10% was positive for *Trichomonas vaginalis* in the patients age ranged 31-40. 65% was positive for the house wives while the artisans was 42%. Active sexual activity occurred between ages 31-40. The prevalence rate of *Trichomonas vaginalis* in this study was 25% that was accompanied with various clinical symptoms. Wet preparations with microscopy and culture techniques were employed to detect *Trichomonas vaginalis* and microscopy was found to be sensitive than the cultural method. Since the infection has social and economic relationship we therefore suggested that there should be mass campaign toward sex education coupled with improved personal care and hygiene to improve well being and health status of women in developing nations.

Keywords: *Trichomonas Vaginalis, Prevalence, Female Patinets, Microscopy and Cultural Techniques*

INTRODUCTION
Trichomoniasis is a human disease condition that is caused by *Trichomonas vaginalis (T.V),* a protozoan parasite that pass on a disease to the human urogenital tract leading to the most common sexually transmitted disease (STD) (Gerbase *et al.,* 1998). *T. Vaginalis* infections affectabout 180 million women worldwide on an annual basis (Bowden and Garnett, 2000). The disease is largely transferred through sexual contact and the incidence depends on the stumpy multiple sex partners, socio-economic status, poor personal hygiene, (Huppert, 2009). *T. Vaginalis* infection has beenshown to be associated with poor reproductive outcome such as premature, low birth rate, caesareans section and sepsis that occur following abortion (Cotch *et al.,* 1997).

A major compelling public health concern about *T vaginalis* infection worldwide is the consistent with which it occurs with other Sexually Transmitted Infections (STIs). It increases the risk of HIV transmission in both male and female (Forna, 2003). Trichomoniasis is also associated within fertility, postoperative infections, and cervical neoplasia (Wang *et al.*, 2001). It has not been isolated from oral sites, and rectal prevalence appears to be low in men who have sex with men (Francis *et al.*, 2008).

*Trichomonas vaginalis*is detectable in semen, vaginal, urine, prostatic and urethral secretions of infected individuals.

Using different laboratory techniques such as wet preparation, culture, staining methods, latex agglutination, Enzyme-Linked Immunosorbent Assay (ELISA) and more lately, Polymerase Chain Reaction (PCR) (Ivana *et al.*, 2006).

Trichomonas vaginalis is one of the commonest sexually transmitted pathogens in the world. The control of trichomoniasis infection has led to a significant success in developed countries because of the steady contact with health care, whereas the reverse is the case in developing countries. Without a large investment and commitment in medical facilities success in controlling trichomoniasis is most likely to be short-lived because Trichomoniasis is considered to be generally under-diagnosed owing to a number of factors such as deficiency in routine testing and self-diagnosis, treatment by practitioners without adequate laboratory testing contribute to its misdiagnosis. Periodic or routine screening and treatment is

the only alternative step towards controlling the incidence of trichomoniasis. It is against this background that the study on prevalence of *Trichomonas vaginalis* among female students in Ogun State College Health Technology was conducted.

MATERIALS AND METHODS

Sample Collection

About 10mls of midstream urine samples were collected in 20mls capacity wide mouthed leak proof universal containers from 441 subject who were previously instructed with the illustration aids to avoid any possible contamination during collection. The samples were investigated for the presence of *T. Vaginalis*.

Microscopic Examination

Urine sample is collected in a sterile universal bottle and allowed to settle; a drop of sedimented urine is then introduced on a clean grease free slide and examined under microscope using x10 and x 40 objective lens (Nagaty and Salem, 1962). Also, High vaginal swabs (HVS) were collected from 441 female patients attending Ogun State.

Sterile cotton wool swabs were aseptically used in collecting the HVS samples after obtaining informed consent from the patients. A wet smear (wet mount) was made of each HVS, immediately after collection, in adrop of physiological saline on a clean glass slide covered with a cover slip and examined microscopically for the quick jerky motion of the protozoan. Both microscopically trichomonads negative and positive HVS samples were cultured in oxoid Trichomonas broth medium enriched with sterile bovine serum (purchased from flow Laboratories, U.K). The cultures were incubated at 36^0C and wet mount preparations from it were examined at 24h interval for seven days before they were discarded as negative (Acholonu, 1987).

RESULTS AND DISCUSSION

Results

Table 1 shows the prevalence of *Trichomonas vaginalis* among female patients attending Ogun State College of Health Technology, Ilese-Ijebu in relation to age group. It was revealed that one hundred and forty three patients were examined between the ages 31-40, out of which fifty three were positive (37.10%) while between the age of 51-60, only three patients were positive (7.3%) out of forty one patients examined.

Table 1: Prevalence of Transmission of *Trichomonas Vaginalis* among Female Patients Attending Ogun State College of Health Technology, Ilese-Ijebu in Relation to their Age

Age Group	No of Patient	% Examined	%
15-20	25	5	20
21-30	125	31	24.8
31-40	143	53	37.10
41-50	97	22	22.7
51-60	41	3	7.3
Total	441	114	

Table 2 indicates the prevalence of *Trichomonas vaginalis* among the patient attending Ogun State College of Health Technology, Ilese-Ijebu in relation to their professions. One hundred and seventy three patients examined for *Trichomonas vaginalis* who were business women and ninety six were positive (55%).

The sedentary workers who stay at home as house wife had the highest percentage (65%) for *Trichomonas vaginalis* and closely followed by the business women and the students who had 55% each. The least occurrence were seen among the artisans workers (42%).

Table 2: Distribution of *T.Vaginalis* among Female Patient Based on Different Occupation

Age Group	Occupation	No Examined	No	%
15-20	Student	45	24	55%
21-30	Civil servant	72	33	45%
31-40	Business	173	96	55%
41-50	Sedentary worker	90	59	65%
51-60	Artisan	10	26	42
Total		441	238	

Table 3 indicates the prevalence of *Trichomonas Vaginalis* and the candida species among the patient attending Ogun State College of Health Technology, Ilese-Ijebu. Between the age of 31-40, sixty eigth patients (47%) were positive for both *Trichomonas vaginalis* and candida spp out of one hundred and forty three patients that were examined while patients within age range 51-60 had the least (12%).

Table 3: Distribution of *T. Vaginalis* and Candida Spp

Age Group	No Examined	No	%
15-20	25	6	24
21-30	125	34	27
31-40	143	68	47
41-50	97	26	26
51-60	41	5	12
Total	441		

Table 4 shows the classification of the clinical signs associated with the presence of *Trichomonas vaginalis* and candida species among the female patients attending Ogun State College of Health Technology, Ilese-Ijebu. Out of four hundred and forty one female patients examined, eighty two point nine (82.9%) percent had vaginal discharge while the female patients who had abdominal pains had the least value of 16.8%.

Table 4: Distribution of *T. Vaginalis* and Candida Spp in Relation of Clinical Signs

Clinical Signs	No the	No Examined	%
Menstrual pain	68	140	48.5
Abdominal pain	21	125	16.8
Vagina discharged	34	41	82.9
Pelvic Pain	40	97	41.2
Pruritus	10	25	40.0
Vaginal discharge and offensive odour	09	13	69.2

Discussion

Four hundred and forty one female patients attending Ogun State College of Health Technology, Ilese-Ijebu were examined for the presence of *Trichomonas Vaginalis* and was based on microscopic morphology, motility, flagella and cultural technique. The microscopy method had been described by Fernado *et al.*, (2011) as having the degree of sensitivity and specificity of about ninety six percent to hundred percent when compared with that of cultural technique.

The prevalence rate of twenty five percent of *Trichomonas vaginalis* in this study was obtained. This study agreed with the finding of Abdulsadah *et al.*, (2014) who reported twenty percent prevalence of *Trichomonas vaginalis* infection among female patients in Kut Iraq. The rate of incidence of*Trichomonas vaginalis* infection in this study was a pointer to the level of sanitation and hygiene behavior of those patients. The microorganism could be transmitted to another person through sexual contact.

The highest prevalence of *Trichomonas vaginalis* infecton was found to occur at ages with greatest sexual activity (AroubAbdul *et al.,* 2008). It has been reported that the disease or infection has a lot of medical, social and economic implications more so there is a significant prevalence of *Trichomonas vaginalis* among female patients attending Ogun State College of Health Technology, Ilese-Ijebu. Simple reason attributed to this might be due to their pelvic vascularity and the presence of oestrogen that causes maturation and peeling off of squamous cells and glycogen deposit in the vaginal that eventually favours the growth and multiplication of the parasite and other related microorganisms (Hardy *et al*., 1984). Other reasons that was established by Minkoft *et al*., (1984) was the alkaline vaginal environment as a result of changes that occurred after which puberty has set in, a sign of reproductive in female.

The prevalence observed among house wives suggested their promiscus nature due to the fact that they engage in sexual act when their husbands were away. This could be that their husband could not meet their financial obligations a sign of poverty and low economic status also many of these house wives might be sexual active than that husband. This was in line with the findings of Ali (2014) who established the epidemiology study of *Trichomonas vaginolis* in Babylon province and showed to be within active sexual activity.

The various clinical signs associated with the *Trichomonas vaginalis* infection were pruritis, pelvic pain, vaginal discharge, menstral pain abdominal pain and vaginal discharge with offensive odour. Alzanbagi *et al.,* (2005) and Arih (2010) demonstrated the presence of various categories of vaginal discharge and other clinical signs accompanied *Trichomonas Vaginalis* infections.

Candida specieswas an associate micr-organism along with *Trichomonas Vaginalis*in this work and agreed with the study of Al-Habib *et al.,* (2005) who carried out the prevalence of *Trichomonas vaginalis* in asscoaition with other related micro-organisms among women with vaginal discharge in Monsul.

However, this research was carried out putting the various occupation such as business, sedentary, artisans, students and the civil servants into consideration. Those who stay indoor (housewife) were seen to have high *Trichomonas vaginalis* infection compared to others. This study runs in contrary to the finding of Devain *et al.,* (2013) who reported that large number of working women (not sex workers) had *Trichomonas vaginalis*. This could be as a result of insufficient awareness about sex education and could be attributed to bad economy which may push them in unlawful sexual act after their husband might have left homes.The artisans had low incidence of Trichomonas infection and this could be as a result of close monitoring and un expose to social life (Mairiga *et al.,* 2011).

In conclusion, there should be mass campaign toward sex education coupled with improved personal care and hygiene to advance the course of well being and health status of women in developing nations.

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