



ORIGINAL RESEARCH PAPER

Microbiology

FREQUENCY OF TRICHOMONIASIS AMONG WOMEN OF CHILD BEARING AGE IN KINONDONI DISTRICT, DAR ES SALAAM, TANZANIA.

KEY WORDS: Trichomonas vaginalis, Trichomonads, Dar es Salaam(DSM)

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ABSTRACT

Background Information: Trichomoniasis is an infectious disease caused by the parasite *Trichomonas vaginalis*. It is a sexually transmitted parasitic protozoan known to be responsible for an estimated 180 million new infections per year, making it the most worldwide parasitic infection. **Objective:** To determine the frequency of trichomoniasis among the women of child bearing age visiting a district hospital, in Kinondoni district, Dar es Salaam(DSM), Tanzania. **Methodology:** This was a cross sectional, hospital based study conducted at Mwananyamala Hospital in Kinondoni District, Different specimens were collected from clients attending the referral hospital and tested in the laboratory using standard techniques and results were recorded. The data was analyzed. **Results:** Out of 143 samples processed for *T. vaginalis*. 68 were high vaginal swabs, vaginal discharge constituted 59 & the rest (16) were urine samples. The samples belonged to 49 females from 26-35 years age group, followed by 16-25 (48), and 39 were in the age group of 36-45. Only 7 patients were in the age group of 46-55. Out of total samples processed, 30 (21%) were positive for trichomoniasis. The proportions of Trichomoniasis positive specimens belonging to the age groups of 15-25 years, 26-35 years, 36-45 years and 46-55 years were 13(43%); 9(30%); 36-45 5(17%); and 3(10%) respectively. The most affected were young females in 15-25 years age group in which out of 48 patients, 13 (43%) were positive for trichomoniasis. **Conclusion:** Trichomoniasis is one of the major health problems of young age group women in DSM. In order to reduce its magnitude, awareness of the disease including other STD's need to be increased in the society by providing reproductive health education and encouraging health seeking behavior for availing the necessary treatment.

INTRODUCTION

Trichomoniasis is an infectious disease caused by the parasite *Trichomonas vaginalis*. It is a sexually transmitted parasitic protozoan known to be responsible for an estimated 180 million new cases per year, making it the most effecting worldwide parasitic infection men and women.¹

The WHO estimates the world wide morbidity of trichomoniasis to affect 174 million and to account for 10 to 25% of vaginal infections.^{3,4} The World Health Organization (WHO) estimated global prevalence figures are based on wet mount microscopy. The sensitivity ranges from 60–80%. This species is a relatively common pathogen found in the female and male urogenital tract, gastrointestinal tracts in 25 to 50% of the population and in the vagina of 25 to 50% asymptomatic women. The clinical presentation in the vulva is usually erythematous and oedematous.⁵ Vaginal discharge may be thick and white, resembling cottage cheese. Occasionally, discharge is thin and watery satellite lesions may spread to the groin. Many women have no symptoms; sexual partners may develop cutaneous lesion on penis. It is an important complication in pregnancy as it has been related to prematurity and low birth weight.² *T. vaginalis* may be an important co-factor in promoting the spread of HIV in Africa-America communities.^{6,7}

In Africa, before the turn of the century the WHO reported that amongst the set of curable sexually transmitted infections (STI's), there was an estimated 340 million new cases annually amongst which, *T. vaginalis* was recognized as the most common, with an overwhelming incidence of approximately 174 million reported cases in 2010. It was estimated that 32 million individuals suffering from trichomoniasis were localized to Sub-Saharan Africa.

Developing countries face the challenge of increasing rates in the transmission of microorganisms causing asymptomatic STI's. Influential factors that have led to an increase in STIs amongst populations of developing countries have been identified as a combination of behavioral, socio-demographic and economic. Inadequate health facilities, lack of education, alcohol and drug abuse, as well as multiple

sexual partners have been recognized as significant contributing factors to the increasing rate of trichomoniasis and other STIs. This work is thus undertaken to estimate the proportion of patients suffering from trichomoniasis in our study population. This is to enable us to know the frequency rates and thereby enhance proper treatment given by health care providers to the patients. As *T. vaginalis* is associated with a number of significant reproductive health squal including pelvic inflammatory disease and adverse outcomes of pregnancy.³

MATERIALS AND METHODS

This was a cross sectional, hospital based study. The study was conducted at Mwananyamala Hospital in Kinondoni District, DSM, Tanzania. In this study involved the women of child bearing age (15 – 49 years) who were attending OBGY clinic and clinically suspected of suffering from Trichomoniasis and willing to participate in the study, conducted over a period of 7 months from October 2015 to May 2016. Samples were collected in clinical laboratory of Mwananyamala referral hospital from those patients. After collection the specimens were processed by using standard microscopic technique and observed for the presence of *T. vaginalis* using light microscope under 10X and 40X magnification. A direct wet mount method with normal saline (0.85% NaCl solution) was prepared for high vaginal swab, vaginal discharge & urine samples and observed for the presence of motile Trichomonads. The data was entered in the computer using SPSS, and analysed as per study objectives.

Ethical Consideration

Ethical and research clearance for this study was obtained from the college Research and Publication Committee (RPC) of the International Medical and Technological University (IMTU). Permission to conduct the study was sought from the Medical Officer In charge of Mwananyamala Hospital. An informed verbal consent was obtained from all patients for the diagnostic tests conducted at Mwananyamala hospital.

RESULTS

The study was conducted on suspected patients who attended Mwananyamala Hospital in DSM, from October 2015 to May

2016. During this study period, Draft the sentences as done in the abstract results. Describe table No. 1 and then table No. 2 and so on.

Tables 1: Distribution Of Study Subjects By Age (n=143)

Age	No. of Patients	Positive Cases No.	Cases (%)
15-25	48	13	(43)
26-35	49	9	(30)
36-45	39	5	(17)
46-55	07	3	(10)
Total	143	30	(100)

Table 2: Distribution Of Trichomoniasis Positive Clinical Specimens (n=143)

Specimen	No	Trichomoniasis Positive no.	Percentage (%)
High Vaginal Swab	68	10	33
Urine	16	1	3
Vaginal Discharge	59	19	64
Total	143	30	100%

DISCUSSIONS

Trichomoniasis infection has affected many women of child bearing age and it has been a major cause of prematurity and low birth weight. It is also a major co-factor in HIV transmission. In this study, a total of 143 patients (women) were studied at Mwananyamala hospital, (21%) of them were positive for *Trichomonas vaginalis*. The predominantly affected were in the age group of 15-25years and 26-35years showing 33% and 34% respectively. This could be due to the fact that this age group is more exposed to unsafe sexual activities. However, the most affected group was 15-25 years of age 13 (43%). This may be due to low level of education about sexual transmitted diseases and the ways to prevent transmission of such diseases.

T. vaginalis is the most prevalent sexually transmitted infection worldwide, with an estimated 180 million infection acquired annually worldwide.¹ Humans are the only known host with the trophozoites transmitted principally via vaginal sexual intercourse and rarely via fomites. Most of the people are likely to continue contracting the infection under this scenario, unless they are made aware of it.

In developing tropical Africa the prevalence rate among female patients ranges between 5 – 37%.³ In fact, WHO has estimated that this infection accounts for almost a half of all curable sexually transmitted diseases.³ Trichomonal infection has been found to increase the risk of transmission of HIV and predispose pregnant women to premature rupture of membrane and early labor. Most of the people in our community still don't have knowledge on trichomoniasis infection. This may increase the prevalence of the disease. As the disease has implication on HIV and other STIs transmission, so if trichomoniasis is not controlled, it may have a worse impact on HIV transmission.

The association between sexual practices, namely multiple male sex partners, and risk of *T. vaginalis* infection has been shown. Given the high prevalence of *T. vaginalis* infection in this community, there is an increased probability of encountering an infectious individual, where neither partner is aware of their infection status. Women with *T. vaginalis* infection are also more likely than other women to concurrently positive for *N. gonorrhoea* or *C. trachomatis*, although the incidence of these infections was not found in other studies.⁸ In addition, there is mounting evidence to suggest that African bear the brunt of *T. vaginalis* infection and associated reproductive morbidities, as well as an increased risk of acquiring HIV infection. Increasing awareness of Trichomoniasis disease among women and school children including preventive measures through reproductive health education by health care workers within communities may

lower this as well as others sexually transmitted disease. The government's role is to make sure that treatments are availed to the front line health facilities. Different media including radio, TV, Newspapers, Posters and leaflets need to portray educative messages regarding the disease and ways of combating trichomoniasis as well as other sexually transmitted infections including the risk factors and complications of trichomoniasis and how to prevent the transmission in secondary schools and colleges.

Trichomoniasis is an extremely common infection in DSM, Tanzania as a whole, Africa as well as worldwide and is associated with an important public health problems, including amplification of HIV transmission. Emphasis must be placed on the youths, those with low educational background and the business women. The policy makers need to enlighten the community on girl child education, safe sex and good hygiene, and to institute policies that will make health care services accessible, affordable and of good standard.⁹

Despite of the efforts of health care system on management of Trichomoniasis, there has been an increased infection of Trichomoniasis to the women especially of child bearing age. There is still a need to find out the factors that attribute to increased infection of Trichomoniasis.

The information from the study could help the responsible authorities to plan appropriate interventions on trichomoniasis.

CONCLUSION

Trichomoniasis is a major health problem especially in women of child bearing age in DSM, Tanzania and most likely in other parts of the country. *T. vaginalis* is among the most prevalent, but curable STI. Furthermore, there is an effective, single-dose treatment with currently negligible drug resistance.

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