



## PREVALENCE OF TRICHOMONAS VAGINALIS USING PARASITOLOGICAL METHODS IN KANCHIPURAM.

### Microbiology

**Dr. Nagajothi A**

Final Year Postgraduate, Department of microbiology, Meenakshi medical college and research institute, Meenakshi Academy of Higher Education and Research, Enathur, Kanchipuram-631552, Tamil Nadu, India.

**Dr. Muthulakshmi K\***

Professor and Head, Department of microbiology, Meenakshi medical college and research institute, Meenakshi Academy of Higher Education and Research, Enathur, Kanchipuram-631552, Tamil Nadu, India. \*Corresponding Author

### ABSTRACT

In human, Trichomonas vaginalis infection is one of the most common sexually transmitted diseases. It is a parasitic protozoan and it causes vaginitis, cervicitis, and urethritis in females. It is a major public health problem due to correlation with HIV transmission. The prevalence rate of infection has been reported between 2% to 8%, depending on various socioeconomic status. In this context, this study was conducted to determine the prevalence of Trichomonas vaginalis infection among the females of reproductive age group attending OPD of gynaecology department in a tertiary care hospital, Kanchipuram.

**MATERIALS AND METHODS:** During May 2017 to October 2017, 250 vaginal discharge samples were obtained from woman attending OPD of gynaecology department in a tertiary care hospital, Kanchipuram. The prevalence of Trichomonas vaginalis was determined by using wet mount examination & culture-based methods.

**RESULTS:** 10 out of 250 vaginal swab specimens (4%) were wet mount positive for Trichomonas vaginalis and 12 of these specimens (4.8%) were culture positive. In the above population, the prevalence rate of Trichomonas vaginalis was estimated as (4.8%) based on culture method.

**CONCLUSION:** This study showed a relatively low prevalence rate of Trichomonas vaginalis infection in the study population. Due to adverse outcome of disease and its correlation with HIV transmission, there is a great need for public education regarding the implementation of personal hygiene measures and prevention of inappropriate sexual contacts.

### KEYWORDS

Trichomonas vaginalis, vaginal discharge, prevalence, wet mount, culture, Kanchipuram

### INTRODUCTION:

In females, Trichomoniasis is caused by flagellated protozoan, Trichomonas vaginalis and the parasite is transmitted sexually(1). Trichomoniasis is often asymptomatic in men and in females it causes vaginitis, cervicitis, urethritis and genital irritation with an offensive yellowish green frothy discharge.

WHO has estimated more than 170 million people to be infected annually with Trichomonas vaginalis throughout the world(1). Trichomoniasis has got a lot of attention because it is a major public health problem in recent years due to correlation with HIV transmission(3). The prevalence rate of infection has been reported between 2% to 8% depending on the various socio-economic conditions(2).

In addition, this infection is significant during pregnancy. Infected pregnant women may develop complications like preterm birth, low birth weight infant and increased chances of cervical cancer(4). Currently, diagnosis of this infection is done by the presence of motile organisms in vaginal discharge samples using direct microscopic examination & culture methods(4). In this context, this study was conducted to determine the prevalence of Trichomonas vaginalis infection among the female reproductive age group patients attending tertiary care hospital in Kanchipuram.

### MATERIALS & METHODS:

This research was conducted as a cross-sectional study from May 2017 to October 2017, 250 vaginal discharge samples were obtained from women attending OPD of gynecology department in a tertiary care hospital, Kanchipuram. After obtaining informed consent from these individuals, various data such as age, occupation, education, sexual history, clinical signs and symptoms were collected. Two vaginal samples were collected with sterile swabs and immediately transported to the laboratory.

The first swab was put to a glass slide with a drop of Ringer serum for microscopic examination and the second was inoculated in diamond TYM medium and the culture medium were incubated at 37°C for 72 hours. The culture medium was tested daily for 7 days to identify Trichomonas vaginalis.

### RESULTS:

Among 250 samples 10 were positive for Trichomonas vaginalis (4%)

in wet mount preparation and 12 were positive for culture (4.8%). All of the infected individuals were married housewives and had single sexual partner. Overall, based on culture results the prevalence of vaginal trichomoniasis was estimated as 4.8%.

**Table1: Detection of T.vaginalis by parasitological examination (culture & wet mount)**

Method	Positive n(%)	Negative n(%)	Total
Culture	12(4.8%)	238 (95.2%)	250
Wet mount	10(4%)	240 (96%)	250

**Table2: common reported symptoms in positive patients**

Symptom positive patients	Vaginal discharge N(%)	Genital tract inflammation N(%)	Itchin & irritation N(%)	Dyspareunia N(%)	Dysuria N(%)
12	12(100%)	9(75%)	8(67%)	6(50%)	5(42%)

Of 250 patients, 40 women showed disease symptoms. Among which 9 of them were confirmed by culture and wet mount method. Remaining three patients were clinically asymptomatic.

185 (74%) of participants showed one or more signs and symptoms of trichomoniasis. The most common sign was vaginal discharge (73.2%) and other signs and symptoms are itching and irritation, genital tract inflammation, dyspareunia, dysuria.

### DISCUSSION:

Trichomonas vaginalis can cause urogenital tract infection and it is the most common non-viral sexually transmitted infection(6). The incidence of vaginal trichomoniasis has risen in developing countries and in populations with high-risk behaviors such as poor sexual hygiene and multiple sexual partners. Poverty, low socioeconomic status, low educational level, high-risk sexual behaviors, prisoners and HBV or HIV infected persons are risk factors for vaginal trichomoniasis(4). In the present study, the prevalence of trichomoniasis was found to be 4.8% on using the culture method as the gold standard(1).

Diagnosis of trichomoniasis based on only clinical symptoms should not be done since its symptoms are similar to other STD's(1). The most important of this study is 74% of the participants showed one or more signs and symptoms. Of 250 patients, 40 women showed disease symptoms, among which only 9 were confirmed by the culture and wet

mount methods. Also, 3 of the infected women were asymptomatic, who were not diagnosed by clinical examination. The most common method for the diagnosis of *T.vaginalis* is a wet mount, but its sensitivity has been reported to be between 38% to 82%. Molecular methods which were based on PCR are accurate methods with a sensitivity of 80% to 100%. But they are not used in all the laboratories(7). In conclusion, due to adverse outcomes of disease and its correlation with HIV transmission, there is a great need for public education regarding the implementation of personal hygiene measures and prevention of inappropriate sexual contacts.

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