



## Original Research Article

# Prevalence of *Trichomonas vaginalis* in Urine of Pregnant Women Attending Plateau State Specialist Hospital Jos Plateau State

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## Abstract

*Trichomonas vaginalis* is one of the most common and easy to treat parasites in history. It can affect women of reproductive ages while the men remain the carriers. This study was done on the prevalence of *Trichomonas vaginalis* among pregnant women attending plateau state specialist hospital Jos. The study was carried out using urine samples of pregnant women visiting the hospital. The study shows that the prevalence of *Trichomonas vaginalis* in urine of pregnant women in Plateau State Specialist Hospital Jos was 7%. The participants of the ages 21-25 and 31-35 years had respective higher prevalence of 2% with those in their first trimester having up to 3% in prevalence. The prevalence of *trichomonas vaginalis* in urine samples up to 7% shows that the presence of the parasite in Jos is still noticeable. The Public health system should encourage improvement of healthy-living and treating of *trichomonas vaginalis* in Jos.

**Keywords:** *Trichomonas vaginalis*, pregnant women, Antenatal care, Jos

## INTRODUCTION

Trichomoniasis is a sexually transmitted disease that affect over 140 million women worldwide especially among the age of 15-45 years with about 17.5 million in Africa as at 2012 <sup>[1,2]</sup>. The prevalence among the women is up to 5.3% across the globe <sup>[3,4]</sup> and in pregnant women in Africa is from 17% to 20% <sup>[3]</sup>.

The disease may be symptomatic or asymptomatic. It affects the lower genitourinary tract of both sexes and is mostly found in sexually active individuals between gender, no wonder the pregnant women is under study. Complication in women such as pregnant women to premature rupture of membranes and induced early child labour. Trichomoniasis is very common sexually transmitted diseases STDs it is caused by infection with a protozoan parasite called *Trichomonas vaginalis*. A symptom of the disease is that most people infected with the parasite cannot tell they are infected sexually transmitted infections. However, the disease is the common treatable STD <sup>[5,6]</sup>.

*Trichomonas vaginalis* is likely the most common non-viral sexually transmitted infection STI in the world wild not reportable diseases the world health organization estimated that there were 27 6.4 million cases in 2008 a nearly 90% of these infections occurred among people living in resource-limited settings. The threat may be underestimated as they are dry from studies that use microscopical rather than the more sensitive nucleic acid amplification test (NAAT). And DNA formal surveillance system exists with no surveillance program influence the epidemiology of *trichomonas vaginalis* is not completely known. It is known however to vary greatly by population and geographical distribution in the United States population-based studies that use PCR testing found rate of 2.3% among adolescent <sup>[7]</sup>. *Trichomoniasis* is also staying in 30 to 40% of male fitness of infected woman in Nigeria that is about 21.9% inflation rate also among pregnant women from the study done in our medical universities are rehab frivolous rate recorded was about 57% of women that were between 15 to 34 years of age <sup>[8]</sup>.

Contribution-based factors like promiscuity sexual activity, hygiene and economic status and accuracy of values or record does not only depend on the method of analysis but also on the heart experience of the author researchers <sup>[9]</sup>.

About 50% *Trichomonas vaginalis* infection is asymptomatic, though female sufferers sometimes become symptomatic; the males never become symptomatic but constant carrier of the infection. The consequences of infection may be exposure to other sexually transmitted infection due to sore and like premature labour premature rupture of membrane and low birth weight during pregnancy <sup>[10]</sup>.

This study had objectives to determine the prevalence of *Trichomonas vaginalis* in women with a vaginal discharge and in relation to their ages and clinical history in plateau state specialist hospital.

## MATERIALS AND METHOD

### Material

The following materials were used for collection of the samples: Urine container, Slide, Pasteur pipette and Cotton wool.

### Ethical Approval

Ethical approval was granted by Plateau State Specialist Hospital Ethical Committee.

### Time Frame

The study was carried out in the period of 2 months from June to July 2021.

### Collection of Urine Sample

Three mL of a midstream urine sample was collected from the pregnant women attending antenatal clinics at Plateau Specialist Hospital.

### Inclusion Criteria

All pregnant women with any form of discharge or itching were included.

### Exclusion Criteria

All healthy pregnant women with no symptom of *Trichomonas vaginalis* were excluded.

### Sampling

The midstream of urine specimen of the pregnant women were collected, sampled and analyzed.

### Direct Microscopy

A clean grease free slide was placed on a table that was free from vibration a drop of urine specimen was placed on the centre of the slide it was covered with a coverslip and air bubbles were avoided. It was mounted on a stage of microscope as described in District Laboratory Practice.

It was examined under X40 objective lens and X10 objective lens of the microscope for motile, pear shaped, single-celled flagellated organism and result was recorded.

## RESULT

The result is presented in tables 1, 2 and 3 for the prevalence of *Trichomonas vaginalis* in Urine among Pregnant Women Visiting Plateau State Specialist Hospital Jos based on ages and trimesters.

**Table-1:** Prevalence of *Trichomonas vaginalis* in Urine among Pregnant Women Visiting Plateau State Specialist Hospital Jos.

Study Area	No of Samples Examined	No of Positive samples	Prevalence (%)
PSSH	100	7	7.00

**Table-2:** The Prevalence of *Trichomonas vaginalis* in Relation to Age Group

Age group	No of Sample Examined	No Positive	Prevalence (%)
16-20	16	1	1.00
21-25	10	2	2.00
26-30	20	1	1.00
31-35	35	2	2.00
36-40	19	1	1.00
TOTAL	100	7	7.00

**Table-3:** Prevalence of *Trichomonas vaginalis* in Relationship to Trimester

Trimester	No of Samples Examined	No of Positive Samples	Prevalence (%)
First trimester	47	3	3.00
Second Trimester	32	2	2.00
Third trimester	21	2	2.00
Total	100	7	7.00

## DISCUSSION

Human Trichomoniasis is an asymptomatic but persistent infection, which is cosmopolitan's and present in this part of Nigeria. Due to self-medication and various form of effective chemo-therapeutic agent, the organism has shown some level of resistance. This study seeks to stimulate more education among pregnant women in Jos especially in Plateau State Specialist Hospital.

The study presents 7% prevalence of *Trichomonas vaginalis* in urine of pregnant women. The recorded prevalence may be as a result of the test conducted on urine unlike other studies that examined the high vaginal swabs for the *Trichomonas vaginalis* prevalence <sup>[11-14]</sup>.

The prevalence is highest among age group 21-26 and 31-35 years (2% each) followed by 16-20, 26-30 and 36-40 years (1% each). This may be due to the fact that these age groups are sexually active; hence transmission of diseases is more common. Marital unfaithfulness and careless sexual lifestyle are also predisposing factors, also experimentation of different types of sexual activities in a likely increase masturbation and lesbianism among this age group and media for increased prevalence instability in socioeconomic status and a desire to be highly place but financially and societally can bring about several activities in this age range, which can give this prevalence this suggestion are further authenticated by a review on studies done by Van Gerwen & Muzny . The 1% prevalence among ages 16-20, 26-30 and 36-40 years may indicate improvement in hygienic condition within the age groups as well as decent sexual habits, good moral and parental upbringing.

Many studies have given different age brackets in their studies <sup>[12,14,16,17]</sup>. These differences in age ranges depends on the authors, study areas and age brackets involved in the studies.

The study revealed highest prevalence (3%) among the first trimester group. This contradicts Ojuronbe et al <sup>[17]</sup> who had highest prevalence among the second trimester group, and Alo et al. <sup>[2]</sup> Who had highest prevalence among the third trimester group in Abakaliki South East, Nigeria.

## CONCLUSION

*Trichomonas vaginalis* is still with us in Jos and the pregnant women are not in exception. In this study carried out using urine sample among the pregnant women, the prevalence remains 7% with pregnant women in their first trimester having higher prevalence. The public health systems should encourage healthy leaving and intermittent treatment of the parasite *trichomonas vaginalis*.

There should be more awareness and campaigns on the causes, transmission and control of the parasite especially among the women of child bearing ages in Jos.

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