

Individual determinants of trichomoniasis among women aged 15-45 attending Entebbe Regional Referral Hospital, district. A cross-sectional study.

Heaven Sanyu Nakato*, Hasifa Nansereko, Ssegujja Frank, Francisco Ssemuwemba
Mildmay Institute of Health Sciences

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Abstract

Background

Trichomoniasis is an infectious disease caused by the parasite *Trichomonas Vaginalis*. It is a flagellated protozoan parasite possessing five flagella, which are located at the posterior portion. The study aims to determine the prevalence and individual determinants of Trichomoniasis among women aged 15-45 attending Entebbe Regional Referral Hospital.

Methodology

A cross-sectional study design was employed, involving 75 participants selected using a non-probability convenience sampling technique. Data were collected using self-administered questionnaires, and first voided urine samples were collected and analysed using wet preparation.

Results

Out of the 75 samples that were examined, 10 participants were positive for trichomoniasis, giving an overall prevalence of 13.3%, while 86.7% (65) tested negative. The highest prevalence of trichomoniasis was among participants who don't use condoms 70% [7]. The participants with 2-3 sexual partners had the highest prevalence of 60.0% (6) compared to 20% (2) for those with more than 3 sexual partners and 20% (2) for those with one sexual partner. Participants who share undergarments had a prevalence of 70.0% (7) compared to 30.0% (3) for those who don't share undergarments. The participants who are very sexually active had a higher prevalence of 60.0% (6) compared to 40.0% (4) for those who aren't very sexually active.

Conclusions

Trichomoniasis remains a reproductive health concern, highlighting the need for improved sexual health education, consistent condom use, screening, and timely treatment.

Recommendations

The Ministry of Health should implement and strengthen nationwide health education campaigns on trichomoniasis focusing on transmission, symptoms, prevention, and treatment.

Keywords: Prevalence of *Trichomonas vaginalis*, *Individual determinants*, *Women aged 15-45 attending Entebbe Regional Referral Hospital*, *Sexual health education*

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Corresponding author: Heaven Sanyu Nakato
Mildmay Institute of Health Sciences

Background

Trichomoniasis is an infectious disease caused by the parasite *Trichomonas Vaginalis*. It is a flagellated protozoan parasite possessing five flagella, which are located at the posterior portion. *Trichomonas Vaginalis* infects the human urogenital tract, leading to the most common non-viral sexually transmitted disease (STD), trichomoniasis. (Fred, 2024). Women acquire the infection from infected men during unprotected intercourse (WHO, 2014). The incidence of TV depends on the population examined. In Uganda, the infection remains under-recognised, despite its public health impact.

Preventing TV infection involves multiple strategies aimed at reducing sexual transmission. Consistent and correct use of male or female condoms significantly reduces the risk (Workowski *et al*, 2021). Public health education focusing on safe sex practices, limiting the number of sexual partners, and promoting regular STI screening are essential, especially in high-prevalence areas like sub-Saharan Africa. Effective partner notification and treatment are also vital to prevent infection, which is common due to the often-asymptomatic nature of the infection in men (Mabey *et al*, 2014). The 7-day regimen may be more effective in women with HIV co-infection. It is crucial that sexual partners are treated simultaneously and that patients abstain from sexual

intercourse for at least 7 days after treatment to avoid reinfection. Failure to treat partners is a common cause of recurrence (Workowski *et al*, 2021). *Trichomonas Vaginalis* is detectable in vaginal secretions, urethral secretions, semen, and urine of infected individuals. The burden of Trichomoniasis is not known among women in Wakiso District. Thus, this study will be conducted to determine the prevalence and determinants of Trichomoniasis among women aged 15 to 45 attending Entebbe Regional Referral Hospital, Wakiso District. The study aims to assess the prevalence and individual determinants of Trichomoniasis among women aged 15-45 attending Entebbe Regional Referral Hospital, Wakiso District.

METHODOLOGY

Study Design

A cross-sectional study was used to determine the prevalence of trichomoniasis in women aged 15 to 45, since this study design allowed the determination of the independent and dependent variables at the same point in time with no follow-up of the participants. 3.2 Study Setting This study was carried out at Entebbe Regional Referral Hospital (ERRH), Entebbe Municipality in Wakiso District in Central Uganda, situated on Nsamizi Road. The coordinates of ERRH are: 0.0529N, 32. 4635E. The road distance between Entebbe and Kampala District is approximately 40 kilometres (25 miles) via the Kampala-Entebbe Expressway. This study area was selected due to the high number of reported sexually transmitted infections among women, making it suitable for obtaining the required sample population and size. The hospital has both inpatient and outpatient departments. It renders antenatal services, immunisation of children, general outpatient services, dental services, eye clinic services, runs an HIV/AIDS ART clinic, and offers laboratory services, among others. This hospital was chosen because it receives huge numbers of women with suspected cases of trichomoniasis. The study was carried out from January to April 2026.

Study Population

The study involved Ugandan women aged fifteen to forty-five, who can read and write, attending Entebbe Regional Referral Hospital in Wakiso District.

Sample Size Determination and its Justification

The sample size was determined using the Taro Yamane (1967) formula for a finite population and using a margin of error of 10%. The sample size was calculated as follows.

$$n = \frac{N}{1 + N(e)^2}$$

Where; n=required sample size
N=Population size (300)
e= marginal error (0.1)

$$n = \frac{300}{1 + 300(0.1)^2}$$

n=75 participants

Sampling Method

This study employed a non-probability convenience sampling technique. Participants were selected based on their availability and willingness to participate during the study period. The women aged 15-45 years attending Entebbe Regional Referral Hospital who met the inclusion criteria were recruited consecutively until the required sample size was obtained. This method was suitable due to time constraints and ease of access to participants.

Inclusion criteria

Women aged 15 to 45 attending ERRH during the study whose consent was obtained were included in the study.

Exclusion Criteria

Participants who chose to withdraw from the study at any stage were excluded from further participation, and their incomplete data were not included in the final analysis.

Study Variables

The dependent variable was the prevalence of trichomoniasis, and the independent variables were the individual determinants, which included age, marital status, number of sexual partners, education level, HIV status, occupation, and residence.

Research Instruments

The determinants of trichomoniasis were captured on the structured questionnaire; laboratory request forms were used to record participants' identifiers; and data entry forms and laboratory register books were used.

Data Collection Procedure

Data on the determinants of trichomoniasis were captured on the structured questionnaire. The study explained the purpose, benefits, and risks of the study to the participant so that informed consent was obtained before participation in the study.

The study reviewed the analysed sample results to determine the prevalence of trichomoniasis and recorded them on the data collection forms.

Data Management and Analysis

Raw data were fed into Microsoft Excel worksheets, analysed, and then presented in the form of tables and graphs.

Data Presentation

Data were presented in tables and graphs.

Quality Control

The study pre-tested the questionnaire, and a pilot study was also carried out. Training of research assistants who helped her wherever there was a need was done by the researcher. The study was carried out from January to May 2026 to ensure ample time for the study. The urine samples were collected in the appropriate containers, stored in a cool, dry place, and analysed in the laboratory immediately following the SOPs to ensure consistency in specimen examination and interpretation. Women aged 15 to 45 attending ERRH during the period of the study whose consent was obtained were included in the study. Participants who chose to withdraw from the study at any stage were excluded from further participation, and their incomplete data were not included in the final analysis.

Ethical Considerations

The study sought permission from the Mildmay Institute of Health Sciences-Research and Ethics Committee, which provided an introductory letter to seek further approval from the administration of ERRH. Informed consent was obtained from each woman before urine samples were collected from them. The participants were given patient identification numbers which were used on the questionnaire and on sample containers instead of their names to ensure confidentiality.

RESULTS

Socio-demographic characteristics of study participants

Table 1: A table showing socio-demographic characteristics of study respondents (N=75)

Sociodemographic Characteristic	Category	Frequency (n)	Percentage (%)
Age (years)	15-19	12	16.0
	20-29	30	40.0
	30-39	22	29.3
	40-45	11	14.7
Marital status	Single	26	34.7
	Married	36	48.0
	Divorced	8	10.7
	Widowed	5	6.6
Level of education	Primary	17	22.7
	Secondary	38	50.7
	Tertiary	20	26.6
Occupation	Farmer	13	17.3
	Business	23	30.7
	Employed	21	28.0
	Unemployed	18	24.0

From table 1, out of the 75 participants that were involved in the study, the majority of the participants were aged 20-29 years 40.0% (30), followed by those aged 30-39 years 29.3% (22), then those aged 15-19 years 16.0% (12), while respondents aged 40-45 years 14.7% (11), formed the smallest proportion. In addition, 48.0% (36) were married, 34.7% (26) were single, 10.7% (8) were divorced, and 6.6% (5) were widowed. Furthermore, most participants attained secondary education, 50.7% (38), followed by those who attained tertiary education, 26.6% (20), and then those who attained primary education, 22.7% (17). Lastly, most of the participants were business owners (30.7%; 23), 28.0% (21)

were employed, 24.0% (18) were unemployed, and 17.3% (13) were farmers.

Prevalence of Trichomoniasis among women aged 15 -45 attending Entebbe Regional Referral Hospital

Wet preparation examination was performed on all 75 samples collected

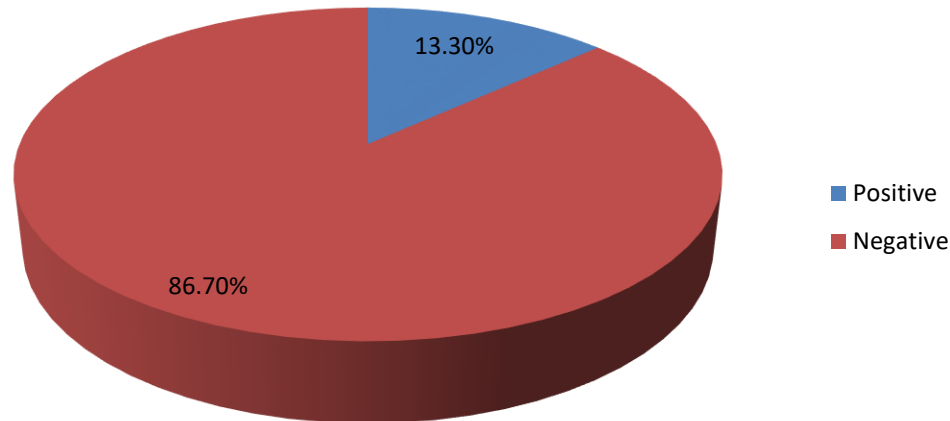
$$\text{Prevalence} = \frac{\text{number of positive cases}}{\text{total sample size}}$$

$$\text{Prevalence} = \frac{10}{75} \times 100$$

$$\text{Prevalence} = 13.3\%$$

Figure 1: Prevalence of trichomoniasis among women aged 15 to 45 attending Entebbe Regional Referral Hospital, Wakiso District.

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The individual determinants of trichomoniasis among women aged 15 to 45 attending ERRH, Wakiso District.

Table 2: Individual determinants of trichomoniasis among women aged 15 to 45 attending ERRH, Wakiso (n=75)

Individual determinants	category	Frequency(n)			Prevalence (%)	
		Total	Positives	Negatives	positives	Negatives
Condom use	Yes	39	3	36	30.0	55.4
	No	36	7	29	70.0	44.6
Number of sexual partners	1	37	2	35	20.0	53.8
	2-3	30	6	24	60.0	36.9
	More than 3	8	2	6	20.0	9.3
Sharing of undergarments	Yes	28	7	21	70.0	32.3
	No	47	3	44	30.0	67.7
Very sexually active	Yes	28	6	22	60.0	33.8
	No	47	4	43	40.0	66.2

Table 2: The highest prevalence of trichomoniasis was among participants who don't use condoms 70% [7] and 30% (3) among those who use condoms. The participants with 2-3 sexual partners had the highest prevalence of 60.0% (6), compared to 20% (2) for those with more than 3 sexual partners and 20% (2) for those with one sexual partner. Participants who share undergarments had a prevalence of 70.0% (7) compared to 30.0% (3) for those who don't share undergarments. The participants who are very sexually active had a higher prevalence of 60.0% (6) compared to 40.0% (4) for those who aren't very sexually active.

Discussion

According to the study, out of the 75 participants who were studied, it was found that 10 participants tested positive while 65 participants tested negative for trichomoniasis, and a prevalence of 13.3% was achieved. This indicates that trichomoniasis remains a notable public health concern among women. The prevalence may be attributed to risky sexual practices and delayed health-seeking behaviour. The presence of infection among women of reproductive age suggests a continued need for screening and prevention measures. The results are in line with the study that was done

in 2021, where women reported prevalence rates of 15.3% and 20.2% (Mabaso N et al, 2021).

Those with high prevalence included multiple sexual partners (60.0%); participants reporting 2-3 sexual partners had more positive cases compared to those having only one because an increased number of sexual partners increases exposure to infected partners and raises the transmission risk. The study also identified a higher prevalence among participants who didn't use condoms (70.0%); condom use is known to reduce transmission of sexually transmitted infections; therefore, inconsistent or absent use may increase the risk of acquiring trichomoniasis. Participants who described themselves as very sexually active (60.0%) had a high prevalence because increased frequency of sexual activity may increase chances of exposure when protective measures are inconsistent. The participants who shared undergarments had a higher prevalence (70.0%) compared to those who didn't; although trichomoniasis is sexually transmitted, poor hygiene-related practices can coexist with other behaviours associated with increased infection risk. These results correspond with the study done by Tian et al, 2025, that showed a high prevalence in similar factors. The results are also in line with a study done by Mirzadeh et al, 2021, in Iran.

Conclusions

Trichomoniasis remains a reproductive health concern, highlighting the need for improved sexual health education, consistent condom use, screening, and timely treatment.

Study Limitations

Some participants provided socially desirable responses regarding sexual behaviour or symptoms, which could affect the accuracy of the data. Noncompliance of eligible participants was also a challenge.

Recommendations

The Ministry of Health should implement and strengthen nationwide health education campaigns on trichomoniasis focusing on transmission, symptoms, prevention, and treatment. Information about trichomoniasis should be incorporated into existing reproductive health, maternal health, and sexually transmitted infection prevention programs.

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Abbreviations/acronyms

ERRH: Entebbe Regional Referral Hospital
HIV: Human Immunodeficiency Virus
STD: Sexually Transmitted Disease
STI: Sexually Transmitted Infection
TV: Trichomonas Vaginalis
WHO: World Health Organisation

Source of funding

The study was not funded.

Conflict of interest

The author did not declare any conflict of interest.

Data availability

Data are available upon request.

Author contribution

Heaven Sanyu Nakato; Funding acquisition, Methodology, Investigation, Writing – original draft
Hasifa Nansereko; Formal analysis, Resources, Software, Validation, Supervision
Ssegujja Frank; Project administration
Francisco Ssemuwemba; Writing – review & editing

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