

Trichomoniasis in Pregnant Sudanese Pregnant Women at Tertiary Obstetric Facility, Khartoum, Sudan

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Abstract

Background: Trichomoniasis is a common Sexually Transmitted Disease (STD) and the most common curable one. **Methodology:** This was cross sectional, prospective, total coverage hospital based study. It aimed to determine the incidence, risk factors of the Trichomoniasis among the laboring Sudanese women at Omdurman New Hospital Khartoum-Sudan, from September 2012 to April 2013. Data were obtained, entered and analyzed using soft word package program for social science (SPSS) version 17. **Results:** The prevalence of Trichomoniasis is 6.8%. It was found that the awareness about the infection is very low only 35%. Diabetes and history of sexual transmitted infections are the risks seen among the study cases. Preterm labor was seen significantly. **Conclusion:** Syndromic management of all women with abnormal vaginal discharge is important since it causes reproductive morbidity.

Keywords

Trichomoniasis, Low Birth Weight, Preterm Labor

1. Introduction

Trichomoniasis is a common Sexually Transmitted Disease (STD) and the most common curable one. It is caused by the protozoan *Trichomonas vaginalis*, and affects approximately 180 million persons per year world-

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wide. A high prevalence of *Trichomonas vaginalis* among adult in eastern and Southern Africa, ranges from 17% to 42% [1] [2].

2. Literature Review

Clinical Features

The most common presenting complaint among women diagnosed with *Trichomonas vaginalis* in acute cases is abundant, foamy, yellowish mucopurulent discharge, in more than 50% of cases. Although 25% - 40% of women are asymptomatic [3]. Trichomoniasis has been associated with bacterial vaginosis and cervical cancer, when there is co-infection with Human Papilloma Virus (HPV).

Most of the men if not all are asymptomatic, infected men may temporarily have urethral irritation, mild discharge, or slight burning after urination or ejaculation. Many men clear *Trichomonas vaginalis* from the genitourinary tract within 2 weeks. Anyhow less is known about *T. vaginalis* infection in men. Many studies found that Trichomoniasis during pregnancy shown to produce both vaginal and systemic immune response and is associated with adverse outcome (e.g. history of stillbirth and infant death) [4].

Diagnosis: Diagnosis of Trichomoniasis is suspected from the history and clinical presentation, positive 10% KOH (Whiff test) and vaginal pH > 4.5 and will be confirmed by microscopic examination, culture on liquid medium, and Polymerase Chain Reaction (PCR). The most common means of diagnosis is visualization of the motile trichomonads in a saline preparation of the vaginal fluid. Currently, the “gold standard” for the diagnosis of Trichomoniasis is culture.

Treatment: Metronidazole is the only efficacious antibiotic for the treatment of Trichomoniasis. The recommended dose is 2 g orally in a single dose, and the reported cure rate is 97%, or 500 mg twice per day for seven days [5]. Sexual partner should also be treated. Tinidazole may be a good option for patients with infection resistant to Metronidazole but not recommended in pregnancy, the outcome during pregnancy is uncertain [6].

Complications: Trichomoniasis also may affect the pregnancy outcome causing preterm rupture of membranes, preterm birth by 30%, increase risk of low birth weight and increases risk of HIV infection and transmission [5] [7]. Trichomoniasis associated with urethritis, vaginitis, cervicitis, pelvic inflammatory disease and tubal infertility [8]. It causes serious neonatal eye infection.

Methodology: This was cross sectional, prospective, total coverage hospital based study; it aimed to determine the incidence, risk factors of the Trichomoniasis among the laboring Sudanese women at Omdurman New Hospital Khartoum-Sudan, from September 2012 to April 2013. This is governmental specialized teaching hospital for Obstetrics and Gynecology services with annual registration of (12,350) deliveries.

All women attending the labor ward during the period of study were enrolled in this study lucky enough none is refuse to participate. Urine analysis was done for every woman in the labor wards on their arrival. The motility test is use as it is easy, simple and cheap test to see the *T. vaginalis*. The tests like culture and polymerase chain reaction are time consuming and costly.

Data were collected using specific data collecting sheet designed for this purpose.

The data were entered, analyzed using Statistical Package for Social Sciences (SPSS) data analysis tool, Version 17 facilities.

The study was approved and ethical clearance was obtained from the Ethical Committee at the University of Medical Sciences & Technology; as well agreement was signed from the medical director of the Hospital. In-form verbal consent was obtained from cases. The confidentiality was granted through and after the study.

3. Results

During the period of the study the Omdurman New Hospital served 11,521 cases, out of them 3145 were registered deliveries. We report 214 cases of *Trichomonas vaginalis*, which gives prevalence of 6.8%. The main affected age group was 20 - 24 years represented 39.3%, seen in **Figure 1**. Most of the cases concerning their residency were from urban area almost two third of the cases = 66.8%. The rest came for delivery from rural areas 33.2%.

With respect to the parity 41.1% cases are primiparous at time of the diagnosis, similar percentage for the multiparous women, but the grandmultipara cases are 17.8%.

Only 3.7% of the study group had history of diabetes as chronic medical disease risk for such vaginal

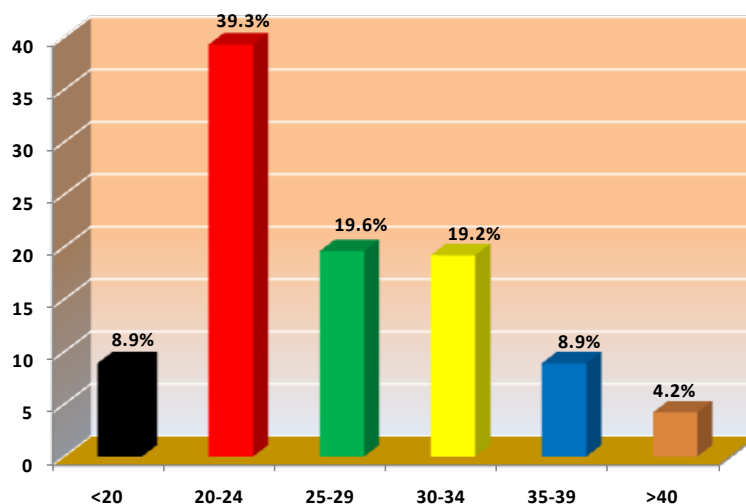


Figure 1. Shows the age distribution among the study group. (N = 214).

infection, while 31 cases = 14.5% of the study cases gave history of sexual transmitted infections and received treatment. Being a wife of husband with another wife risks her for Trichomoniasis as this seen in 28% of the cases.

Unfortunately the majority of women are not aware of the disease 65% only 35% had some knowledge about STI (know about vaginal discharge, abnormal smell and vulval itching).

Although all the 214 cases were proved to have the infection only 18.7% were symptomatic the rest 81.3% showed no symptom.

The frequency of the preterm labor was seen among 31 cases (14.5%) of the study cases is high with significant statistical weight (**Table 1**).

In **Table 2**; the low birth neonates are 16 neonates, three of their mothers gave history of Trichomoniasis.

4. Discussion

Sudan has high burden of reproductive health issues; sexually transmitted infections is one of the major challenges that increase the affect on reproductive morbidity.

Consistent with other research the affected age group is the younger population who are at risk for sexually transmitted infections. In a study from Brazil the mean affected age is 25 years [9].

Diabetes mellitus is diagnosed among 3.7%. One of the limitations of this study is that multiple pregnancies and diabetic women were not excluded.

The prevalence of Trichomoniasis is 6.8% more or less almost like that seen in study done in Upper Egypt the prevalence was 8.7% [10] and far less than what proved in study done in Lagos, Nigeria found that the prevalence is high 74.5%. Trichomoniasis is reported to be low among the Muslim population in comparison to non-Muslim groups in India, due to conservative life style [11] and it is not a case here in our study.

In our study the history of sexual transmitted infections and received treatment was 14.5% compared to 25% in a study in Zimbabwe [12].

In our study sixty five (65%) of the Trichomoniasis cases are not aware about sexual transmitted infections (STIs). This is coupled with lack of education surrounding STIs and stigma and un-enabling cultural life styles (e.g. low condom use, feeling ashamed, low care seeking behavior).

Treatment of Trichomoniasis is important, as it reduces the risk of preterm delivery. Syndromic patient treatment cover gonorrhea, Chlamydia, Bacterial vaginosis and Candida albicans, but Syndromic treatment will lead to over treatment [13].

Trichomoniasis is associated with high risk of HIV transmission, in a study done in Mombasa, Kenya they found that Trichomoniasis was associated with a 1.52-fold (95% confidence interval, 1.04 - 2.24-fold) increase risk of HIV-1 acquisition, treatment and prevention of *T. vaginalis* infection could reduce HIV-1 risk women. [14].

Table 1. The ratio preterm and term delivery and *Trichomonas vaginalis* infection (P value = 0.027).

		Delivery		Total
		Preterm	Term	
T.V	Positive	31	183	214
	Negative	287	2644	2931
	Total	318	2827	3145

Table 2. The *Trichomonas vaginalis* infection and low birth weight (P value = 0.192).

		Birth weight		Total
		Low	Normal	
T.V	Positive	16	198	214
	Negative	176	2755	2931
	Total	192	2953	3145

14.5% of the women with Trichomoniasis in our study had preterm labor with statistically significant association P value (0.027). The others causes of preterm labor (e.g. other infection, high blood pressure, early induction of labor, caesarean section, multiple pregnancy and spontaneous occurrence) were already excluded and not found here.

7.5% of study pregnant women' neonates with low birth weight, P value is (0.192), without significant association.

5. Conclusions

Apart from women cultural behaviors affecting their sexual-reproductive health the time constrains at the facilities make it difficult to perform confirmatory tests for *Trichomonas vaginalis* like culture and polymerase chain reaction. Therefore treating STIs and other vaginal infections is difficult while they are of great public health importance.

The study has several mentioned limitations influencing the validity to detect of the statistically significant correlations between Trichomoniasis & preterm delivery.

6. Recommendation

Syndromic case management for STIs and other vaginal infections during pregnancy is recommended especially for those who at risk. Increase the awareness towards the STIs protection, treatment and follow up at community level is important in STIs management. Neonatal care after delivery among the infected women as preterm and low birth weight both are serious neonatal risks. More researches and studies should be carried with control group to come out with the detailed statistical data for further planning and guidance between etiologic, clinical and Syndromic case management.

Discloser

Nothing to be disclose and no conflict of interest.

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