

# Investigation of the presence of the *Trichomonas vaginalis* parasite in women in AL-Hilla city

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## Abstract

The *T. vaginalis* parasite is a sexually transmitted parasite. Infection with this parasite is difficult to diagnose due to the lack of symptoms, although the symptoms are more pronounced in women than men. *Trichomonas* infection plays a role in delayed pregnancy and inability to have children and in early childbirth and miscarriage. In this study, parasite isolation at high rates was 38% among non-pregnant women and 50% among pregnant women. These high rates are due to lack of health awareness for women of childbearing age. Most effective treatment against *T.vaginalis* is metronidazole as found in this study.

**Keywords:** *Trichomonas vaginalis* parasite in women, AL-Hilla city

## INTRODUCTION

Trichomoniasis It means the presence of the parasite, *Trichomonas vaginalis* , and this parasite is one of the causes of Non-viral sexually transmitted diseases, mainly in women.[1] ,*Trichomonas vaginalis* It is a parasite that affects the genital tract for both men and women, but symptoms are more noticeable in women [2-3], the infection occur as a result of sexual contact [11] . However, some reports indicate that the parasite can remain active for three hours in humid environments, which may facilitate its transmission through the use of baths. [12]. Trichomoniasis in men is often a symptom, but it may be associated with prostatitis or moderate urethritis.[9]. Recent research indicates that parasite infection is linked to a group of diseases, including cervical and prostate cancer, and that infection with it may increase the chances of HIV infection. [10]. When the parasite enters the genital tract, it adheres to the surface of the epithelial cells lining it, causing these cells to degrade, which leads to an immune response that includes the release of some chemokines like neutrophils and IL-8[13]. The most effective traditional treatment for trichomonas are metronidazole and tinidazole [14]. The error in calculating doses affects the effectiveness of treatments and may lead to digestive disorders and may cause drug allergy. To avoid the problem of digestive disorders, taking vaginal treatment is considered a more effective way to treat the *Trichomonas*

parasite [18].

## MATERIAL AND METHODS

### Sample

100 vaginal cotton swabs were collected from women (50 samples from non-pregnant women and 50 samples from pregnant women) suspected of being infected with the trichomonas parasite, the samples were transferred to normal saline then taken to the laboratory.

### Laboratory test

To examine the samples in search of the parasite, the glass slides were prepared and stained with an instance of methylene blue, to search for the trophic phase of the parasite, which is indicative of the parasite's activity.

## RESULT AND DISCUSSION

This study was conducted on 100 women of childbearing age, these women were attending medical clinics, and the results showed that pregnant women were more infected with the parasite of vaginal tremors than non-pregnant women, The study also showed that the age group most exposed to infection with this parasite in the city of Hilla was between 30-34 years, as the infection rate was 55%. As shown in Table 1 and 2, which shows the percentage of infection according to age groups, as well as the status of women (pregnant or not).

**Table 1.** The frequency of positive cultures of *T. vaginalis* in 100 women according to age group (years)

Age group (years)	Number of cases	Positive diagnosis	
		Number	Percent (%)
20-24	38	20	52
25-29	30	10	33.33
30-34	20	11	55
35-39	10	2	20
40-44	2	1	50
	100	44	

**Table 2.** The frequency of positive cultures of *T. vaginalis* in 100 women according to women status

Woman status	Number of cases	Positive to parasite	Percent (%)
Pregnant woman	50	25	50
Non-pregnant woman	50	19	38

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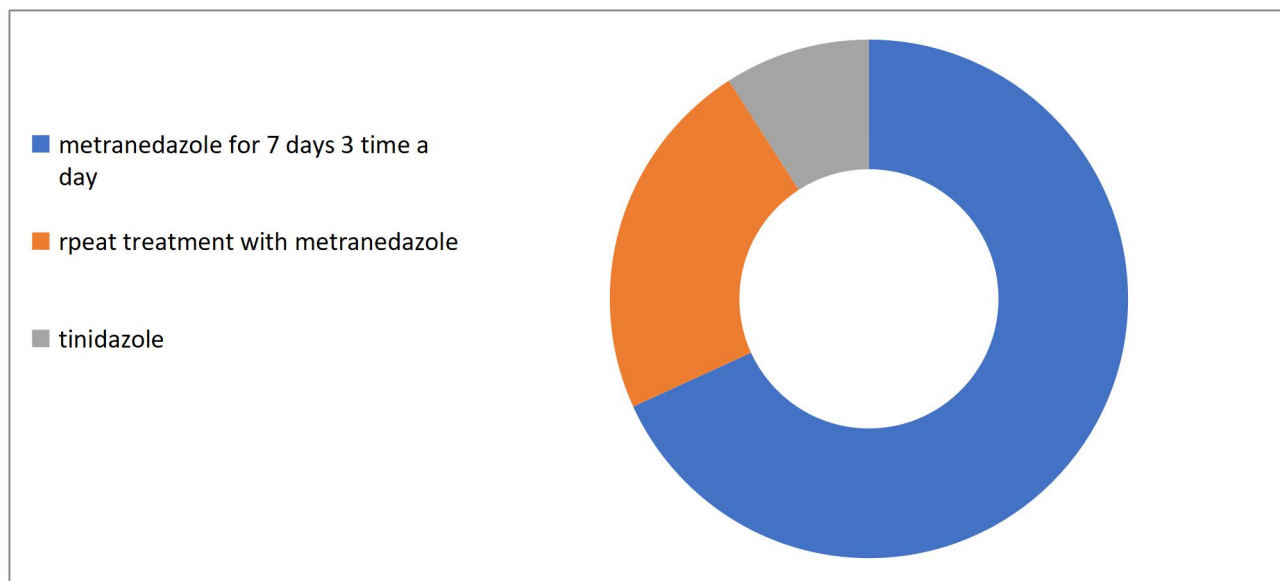
This result confirms the wide spread of *T. vaginalis* parasite among members of society. This widespread spread may be due to the neglect of treatment due to insufficient symptoms caused by the parasite, as this parasite was isolated from under the nails of the nursery children in a separate study.

These results showed consistency with a number of previous studies that dealt with this topic, including what came in the research published by Housou his group in 2011, he indicated that pregnant women are more susceptible to infection with the parasite by 28.9, while the percentage of parasite presence among non-pregnant women is 10.9 [6]. Radi also indicated the presence of the trichomonas parasite among women who weigh Al-Zahraa Hospital in Najaf at a rate of 27.9. [7]

The social, economic, and educational levels have a fundamental and important role in reducing the occurrence of *Trichomonas* because of increased health awareness, and this is what Taher and his colleagues have explained in their studies.[8].

The medications that are recommended for use in treating bacterial vaginitis are Metranedazole and Tinidazole [15].

Of 44 women who took metranidazole for 7 days three times a day, 30 women recovered from the parasite without the need to repeat treatment or take other treatments, as for the remaining 14 women, 10 of them cure from the parasite after repeated treatment and the remaining four had taken tinidazole.as show in diagram (1)



**Diagram 1.** most effective treatment for *T. vaginalis*

The 5-nitroimidazole family which include metranedazole and tinidazole. These antibiotics exert their antimicrobial activity by destroy the redox system of the parasite, with metabolic products of the drug binding to proteins in the thioredoxin-mediated redox network and inhibiting thioredoxin reductase [16]. The use of metranidazole helps in the recovery of about 84-98% of cases Trichomoniasis [17].

### CONCLUSION

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*Investigation of the presence of the Trichomonas vaginalis parasite in women in AL-Hilla city*

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