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A parasitic study of cervicitis in women with diabetes in AL-Najaf AL-Ashraf Governorate

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***Abstract*---**The current study dealt with the detection of parasitic infection in the cervix of (114) vaginal swabs and urine samples taken from women who complain of vaginitis and visits to the Department of Obstetrics and Gynecology at Al-Zahra Teaching Hospital, Al-Manathera General Hospital and women's medical outpatient clinics in Najaf Governorate for the period from (1/5/2020) until (31/1/2021). It was detected that 23) were infected with the vaginalis parasite Trichomonasn at a rate of (20.17%), and women with diabetes recorded the highest rate of infection (69.6%) with the vaginalis parasite. Trichomonas The current study also indicated that women who use contraceptives recorded the lowest infection rate (26.08%) with the vaginalis parasite. Trichomonas, and the highest rate of infection with the vaginalis parasite (Trichomonasn.) was 47.8% in the age group (23-32) years, in addition to that, the highest infections were recorded in the city and the low economic level (60.9%) and (60.89%), respectively, and according to the months of the year The month of November recorded the highest infection rate (34.78%). The statistical analysis indicated that there were significant differences at the level of P<0.05.

***Keywords*---**parasitic study, cervicitis, women, diabetes.

Introduction

Vaginitis and cervix are common problems 2001 (Adegbaju &Morenikeje 2008) and its causes vary between a parasitic, bacterial, fungal or viral (Begum etal, 2010) that there is a natural balance for the presence of some microorganisms in this area, and any imbalance with an increase or decrease of these organisms at the expense of other organisms is a pathological condition predisposing to the occurrence of Inflammation of the vagina and cervix, which is a group of symptoms represented by unpleasant, fish-like secretions of greenish color accompanied by itching, burning, local pain, swelling of the labia, irritation and

pain during sexual intercourse (Bhunu &Mushayabasa ,2011; Arora etal ,2014 ;Beverly etal 1999) and in other times it may cause cervical cancer. (Alderete etal 1991 ;Araujo etal 2003 Trichomonasn vaginalis, which causes Trichomoniasis, is a unicellular anaerobic protozoan parasite (Gao, 2005) and it is a sexually transmitted disease (Frieden etal .,2015; EL-Tonsy2009) and grows under ideal conditions. At a temperature of (35-37) and acidity (4.5-6) PH (Fiori &Margarita, 2014)

This parasite infects both men and women, and its symptoms are more pronounced in women, and in later cases, red spots appear on the walls of the vagina and cervix, where it is similar to strawberries, so it is called Cervixstra wberry. It also affects Bartholine glands and Skenes glands (Blake &Duggan, 1999). And the fallopian tubes (Doni etal 2016). In men, most infections are asymptomatic, and if there are symptoms, they are a simple burning after urination and ejaculation (Borten &Friedman1987). the prostate may be endemic (Campbell etal ,2008) and cause orchitis In rare cases, the World Health Organization announced that the number of infected cases annually amounts to (180) million cases (Brivio &Mastore 2005). The parasite can survive for 24 hours in the urine

And semen or even in water, and it can stay for two hours on a wet surface (Dahab etal 2012) and by microscopic examination of vaginal secretions, the vibrating movement of the parasite can be seen (Domeika etal 2010) Also, (Begum etal, 2010) indicated that the transmission of the vaginalis parasite Trichomonasn is more common among people who use bathrooms that lack sanitary conditions, exchange used underwear and contaminated special tools, and lack of health awareness, in addition to lack of attention Personal hygiene are all factors that facilitate the transmission of the parasite Trichomonas vaginalis. Women with diabetes are more prone to recurring parasitic or fungal microbial skin infections as a result of the increased concentration of glucose (sugar) in the blood and the skin itself and in vaginal secretions and urine. Rapid infection is accompanied by a decrease in the body's resistance to it, which gives these microorganisms the characteristic of spreading, persistence and recurrence of infection, and a weak response to treatment (Domeika etal 2016).

Diabetes also has a significant impact on the health and safety of the skin, and a large percentage of vaginitis and cervix infections complain of sensitivity, pain and burning that appear in the form of red inflammation accompanied by skin laceration and itching in the affected area, which is often concentrated in the skin folds in the armpits, thighs and genitals. And the anus (Begum etal, 2010) in addition to inflammation of glands near the opening of the vagina, such as Bartholin's glands ().

The rate of infection with the vaginalis Trichomonasn parasite among women who use contraceptives is lower compared to women who do not use contraceptives () and some scientific studies have confirmed that most contraceptives may cause inflammatory activity in the lining and cavity of the uterus and may have acidic activity for sperms (Also, some parts of contraceptives may help in the transmission of pathogenic microorganisms () and increase the isolation of glycogen from the vaginal mucous secretion and turn into lactic acid by

Lactobacillus bacteria, leading to an increase in the acidity of the vagina, which helps to be a suitable environment for the growth of the parasite Trichomonasn vaginalis ().

Therefore, our current study came to women suspected of having vaginitis and cervicitis.

Which aims to:

1. Investigation of infection with the vaginalis parasite Trichomonasn.
2. Screening for diabetes by using a blood glucose test device.
3. To investigate whether or not to use contraceptives
4. Using the method of urine and vaginal fluid examination with examination (PH) of the vagina.
5. Detecting the overlap of some other influencing factors such as age, housing, economic level, and months of the year in increasing the rate of infection with the Trichomonasn vaginalis parasite

Materials and Methods

The current study included (114) cases of infection for women who complain of inflammation of the vagina and cervix and visits to the Department of Obstetrics and Gynecology at Al-Zahra Teaching Hospital, Al-Manathra General Hospital and women's medical outpatient clinics in Najaf Governorate, where a urine sample and a vaginal swab were taken for each of them, and a questionnaire was filled out. Information for each patient, depending on whether or not she has diabetes, her use or non-use of contraceptives, in addition to other factors such as age, housing, economic level and months of the year.

The urine samples were directly examined after they were kept in sterile and tight laboratory plastic containers by placing a quantity of urine for each sample in a glass tube and then precipitated by a centrifuge at a speed of 5/1000 minutes. on the magnification power (40×) (Blak et al, 1999). As for vaginal swabs, samples of vaginal fluid were taken from the back folds and walls. The side of the vagina and by using the dilatational vaginal speculum (Sowmya & Mohan, 2007) to investigate the infection of the vaginalis Trichomonasn parasite, by placing the vaginal swab in a laboratory glass tube containing saline and shaking it well. x) Blak et al, 1999. To see the parasite with vibrating movement (Garcia et al, 1995; Sowmya & Mohan, 2007), the pH of the vagina was measured using special PH paper, which was placed in contact with the tip of the dilated vaginal endoscope, and then compared the resulting color with the basic standard colors found in the pH measuring box after taking it out Directly from the vagina (**). A blood glucose test was also conducted using a blood glucose monitoring follow-up device, which transmits information via infrared type (Accum-Chek Active) for each case of vaginitis and cervix. Finally, the statistical analysis was carried out using chi-square x2 to detect the significant differences, with a probability level of $P<0.05$ for all diseased cases.

Discussion

In Table (1), the percentage of women infected with the Trichomonasn vaginalis parasite was (69.6%). This is due to the fact that women with diabetes are more likely to suffer from microbial skin infections or to repeat parasitic or fungal infections, and this is due to the increase in the concentration of glucose (sugar) in the blood and the skin itself, which encourages the growth of These microbes weaken and reduce tissue vitality and ability to heal quickly. Sensitivity may arise in the skin due to diabetes, which is localized in the genital and anal areas, and this is consistent with (Yamada et al., 2002). The percentage of women infected with the vaginalis parasite. T and non-diabetics (30.4)% as a result of taking antibiotics, in addition to being stronger than pregnant women, and this agrees with (Yamada et al., 2002 and differs with the researcher, 2000) Tiffer et al

As for Table (2), it indicated that the parasite infection rate when women did not use contraceptives reached (73.9%), in contrast to women using contraceptives, which amounted to (26.)1%. It reduces their incidence of diseases and this is in agreement with Somaya & Mohan, 2007 (l). The infection of pregnant women with the parasite is due to the hormonal changes during this period and the enlargement of the epithelial cells of the vagina with the high level of glycogen and estrogen, which creates a suitable medium for the growth and reproduction of the parasite (Studd, 2008).

Table (3) showed that the age group (22-32) was the most affected group, at a rate of (47.8)%, and this is due to the fact that most married women within this age are in a state of sexual activity, and the least affected age group was (43-52) at a rate of (8.7) In it, hormones decline and sexual activity decreases (Robinson et al. 1998), while Table (4) showed a high incidence of women in the city, amounting to 60.9%, compared to women in the countryside, which amounted to (39.1)%. This is due to the lack of attention to personal hygiene and the use of personal hygiene. Requirements and deterioration of health conditions (Ekanem etal 2012). Table (5) showed that the infection rate is high in the low economic level (60.9%) and the lowest in the good economic level (13.0)%. This is due to the inability to buy and use sterilizers, but this does not negate the infection of women with a good economic level, and this agrees with the researchers(FRIEDEN etah 2015), (EL-sayed etal 2010).

While the results of the current study showed that the month of November was the highest season of the year with a percentage of infection, which amounted to (34.8)%, and the lowest in April (4.34), and this is consistent with what was mentioned by(Gao ,2005),

Table No. (1) Infection with the vaginalis parasite Trichomonasn and its coincidence with diabetes mellitus

عدم الاصابة بداء السكري		المصابات بداء السكري		النسبة المئوية %	عدد الاصابات الكلي	الفئات العمرية
%	العدد	%	العدد			
8.69	2	8.69	2	4.17	4	13-22
13.04	3	34.78	8	47.8	11	22-32

8.69	2	17.39	4	1.26	6	33-42
0	0	8.69	2	8.69	2	43-52
30.4	7	6.69	16	20.17	23	المجموع الكلي

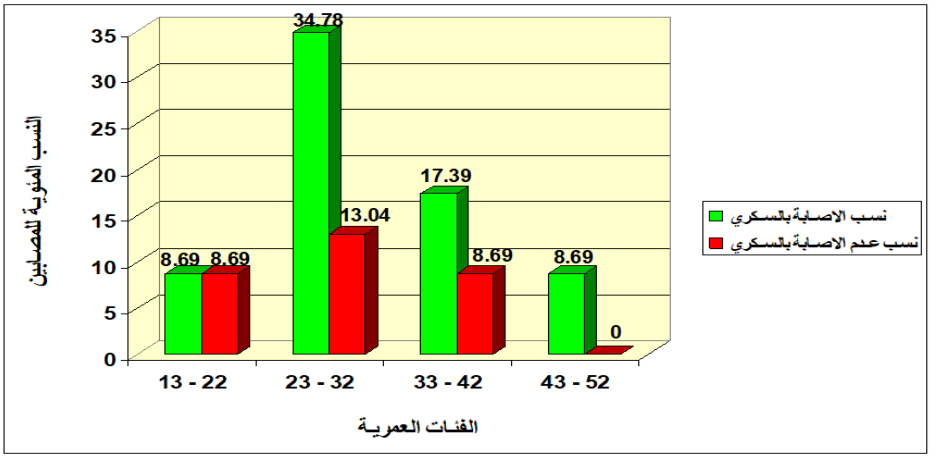

Figure No. (1) Infection with the vaginalis parasite Trichomonasn and its coincidence with diabetes

0.05 d.f = 3 p < X^2 = 3.9 Sign

Table No. (2) Infection with the vaginalis parasite Trichomonasn according to the use of contraceptives

الاصابة في استخدام موانع الحمل		الاصابة في عدم استخدام موانع الحمل		النسبة المئوية %	عدد الاصابات الكلي	الفئات العمرية
%	العدد	%	العدد			
4.34	1	13.04	3	4.17	4	13-22
4.34	1	43.47	10	47.8	11	22-32
8.69	2	17.39	4	1.26	6	33-42
8.69	2	0	0	8.69	2	43-52
08.26	6	73.91	17	20.17	23	المجموع الكلي

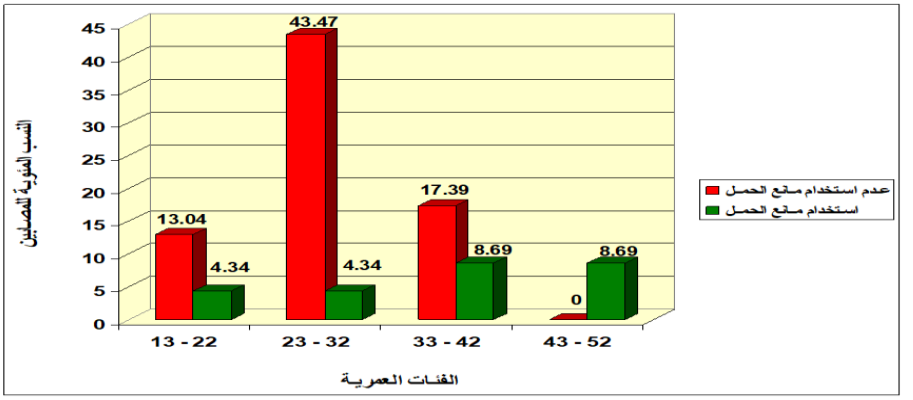

Figure No. (2) Infection with the vaginalis parasite Trichomonasn according to the use of contraceptives

0.05 d.f = 3 p < $X^2 = 6.9$ Sign

Table No. (3) Infection with the vaginalis parasite Trichomonasn, distributed according to age

النسبة المئوية %	عدد الاصابات	الكلية عدد الفحوصات	الفئات العمرية سنة
17.4	4	32	13-22
47.8	11	37	22-32
26.1	6	26	33-42
8.7	2	19	43-52
100	23	114	المجموع الكلي

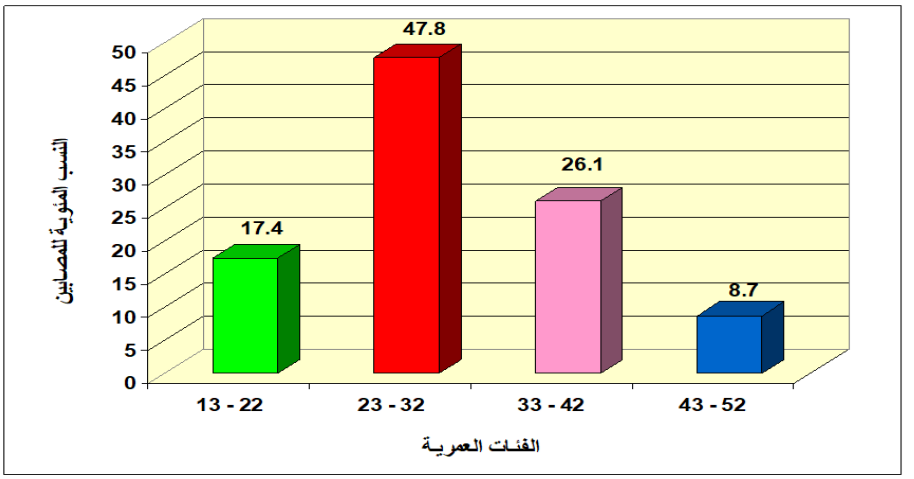

Figure (3) Infection with the vaginalis parasite Trichomonasn, distributed according to age

Table No. (4) Infection with the vaginalis parasite Trichomonasn, distributed according to the Residence

المدينة		الريف		النسبة المئوية %	عدد الاصابات	الفئات العمرية سنة
%	العدد	%	العدد			
8.69	2	8.69	2	17.4	4	13-22
30.43	7	17.39	4	47.8	11	22-32
17.39	4	8.69	2	26.1	6	33-42
4.34	1	4.34	1	8.7	2	43-52
60.9	14	39.1	9		23	المجموع الكلي

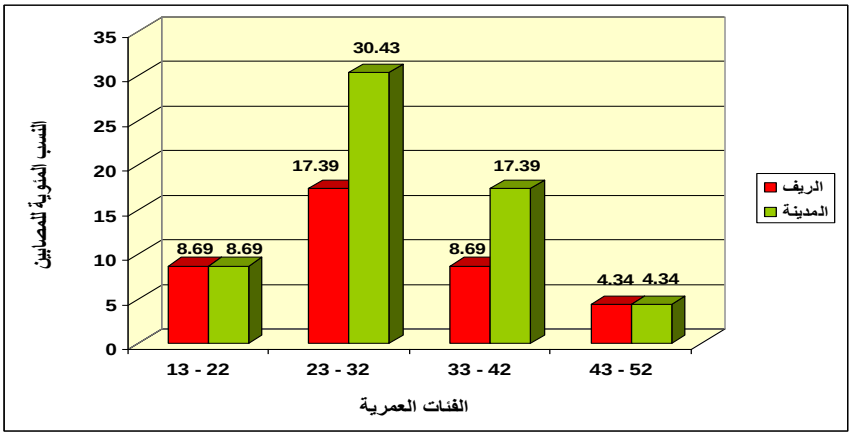

Figure No. (4) Infection with the vaginalis parasite Trichomonasn, distributed according to residence

0.05 d.f = 3 p < 3.6 sign X^2 =

Table No. (5) Infection with the vaginalis parasite Trichomonasn, distributed according to the economic level

منخفض		متوسط		جيد		النسبة المئوية %	عدد الاصابات	الفئات العمرية
%	العدد	%	العدد	%	العدد			
13.04	3	4.34	1	0	0	17.4	4	13-22
30.43	7	8.69	2	8.69	2	47.8	11	22-32
13.04	3	8.69	2	4.34	1	26.1	6	33-42
4.34	1	4.34	1	0	0	8.7	2	43-52
60.86	14	08.26	6	0413.	3	100	23	المجموع الكلي

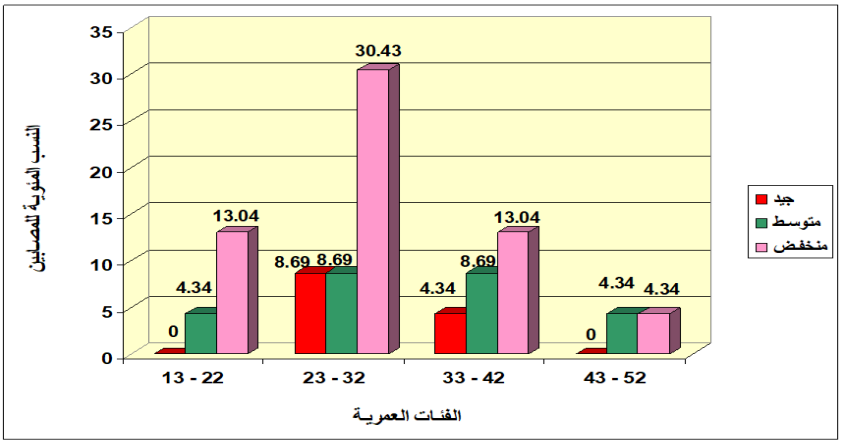

Figure (5) Infection with the vaginalis parasite Trichomonasn, distributed according to the economic level

0.05 d.f = 6 p < $X^2 = 2.3$ Sign

Table No. (6) Infection with the vaginalis parasite Trichomonasn, distributed according to the months of the year

النسبة المئوية %	عدد الاصابات	الكلية عدد الفحوصات	أشهر السنة
17.39	4	28	أيلول
13.04	3	15	تشرين اول
34.78	8	32	تشرين ثاني
4.34	1	9	كانون أول
13.04	3	13	كانون ثاني
8.69	2	7	شبا ط
4.34	1	4	أذار
4.34	1	6	نيسان
0	0	0	أيار
100	23	114	المجموع الكلي

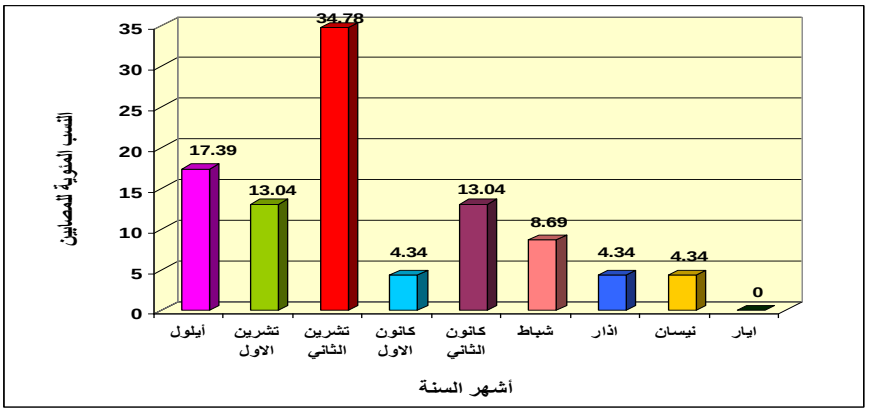

Figure (6) Infection with the vaginalis parasite Trichomonasn, distributed according to the months of the year

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