

## Original Research Article

### Algorithm of genital infections in women about a cohort of 626 women at Abass NDAO hospital from 2011 to 2012

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## ABSTRACT

The present study deals a retro-prospective in a population study of 626 patients over a period of eight (8) months to profile frequently isolated from vaginal swabs in the laboratory of the Abass NDAO hospital center germs. In the methodology, it should be noted that the study was done only on a female population of different ages from different locations over a period of eight months from 1 January to 30 August 2012 to biomedical analysis center (BAC) of Abass NDAO Hospital center (ANHC). Research germs was based on demand of the prescribing physician. Mycoplasma and Chlamydia implicated in infertility of the couple were investigated in patients whose major complaint was a desire for pregnancy. As for other bacteria, their research has been done in a systematic way in the application of a vaginal swab eg Enterobacteriaceae are suspected in repeated abortions. Records benches were developed for the collection of information relating to patients and their outcomes. We used three sampling techniques (swab, vulvovaginal without speculum, after insertion of a speculum) to research each seed . While information such as age, parity, the last date of the rules and other clinical data were obtained using a questionnaire. At the end of this study, This study was obtained the following results on prevalence: - Mycoplasma (*Mycoplasma hominis*): 2.98%, Chlamydia: 0%, candidiasis: 17.44% Trichomoniasis: 1, 91%. Vaginosis: 79.56% Plant and Type IV: 48.13%. In view of the alarming rates obtained in this study, it would be interesting to gauge the ways of preventing these infections in order to improve the quality of care and well being. In addition, the asymptomatic mycoplasma should make us more often integrate research specific pathogenic bacteria in routine laboratory analyzes.

## Keywords

Specific pathogenic bacteria; Abass NDAO Hospital; Infection.

## Introduction

The vaginal swabs are one of the most frequent reasons for gynecology, every woman who lives in her genital one or more episodes of infection. Indeed, more

than 300 million women worldwide suffer from bacterial vaginosis, yeast vaginitis and trichomonas infections. Bacterial vaginosis is the most common vaginal

infections. It occurs when the normal balance of the microbial flora of the vagina is disrupted and the vaginal pH increases. When vaginal pH above the normal level (between 3.8 and 4.5), the level of bacteria (lactobacilli producing acid) decreases, making the vaginal environment lose its level of protective acidity. Also insufficient acidity leads to a proliferation of "bad" bacteria (especially *Gardnerella vaginalis*), which can grow in acid conditions. This bacterial imbalance favors the occurrence of bacterial vaginosis. This condition is probably the least known of the women, it is often confused with yeast infection (candidiasis), but it is a bacterial infection and it causes most vaginal discharge and odor. (32). Vaginal discharge or vaginal discharge may be normal. However, they become an indication of a problem when there is also a bacterial imbalance, the presence of a parasite or fungus, vaginal inflammation or infection of the cervix. In the healthy woman with a healthy flora, most of these bacteria are beneficial, some are harmless and some are potentially pathogenic, that is to say capable of causing disease (16). The overall objective of this study is to take stock of vaginal swabs in women attending a health facility in Dakar.

## **Materials and Methods**

### **Equipment**

Equipment for sampling and analysis of vaginal secretions specula sterile single-use disposable surgical gloves, lamp, a gynecological examination table with a sheet of disposable chair collection if necessary; swabs sterile, sterile, Seeder, rack packs; hemolysis tubes and test tubes, gas lighters or lighter; blades and sterile plates, bunsen burner, saline, sterile

pipettes Pastors, optical microscope, sterile dry tubes, immersion oil, records of benches (name, date of sampling, results), plastic pipette Disposable Tips, pencil or felt, aluminum foil, oven, Backgrounds cultures (Sabouraud, Chapman, cooked blood agar (GSC) or agar Chocolate (MHSC) agar and eosin methylene blue (EMB) Müller Hinton (MH), mini-gallery: Urea Indole, Kligler Hajna (KH), Mannitol-Mobility nitrate, citrate Simmons (CS) .

According bacteria sought, the culture media are specific for *Neisseria gonorrhoeae*, *Mycoplasma* for. For *Chlamydia trachomatis*, culture is performed on cellular environments. The agents used for Gram dyes (gentian violet, iodine solution, alcohol at 95 ° C, fuchsin) reagents for additional tests to identify bacteria (hydrogen peroxide to catalase, oxidase discs disks D-Galactosidase or orthonitrophenyl ONPG, Erlich reagent Kovacs indole-...), the reagents for the identification of *Mycoplasma* and *Chlamydia trachomatis*.

### **Method**

The terms of the review: Abstinence at least 24 hours, no personal hygiene, no antibiotics or observe a therapeutic window than 5 days before the removal and off rules

### **Sampling**

#### **On the first day**

The vaginal swab is done with two sterile swabs: at the ectocervix and the endocervix by putting the patient in the lithotomy position while noting the organoleptic characteristics (odor, abundance, color)

## **Microscopic examination**

State fees: This review provides a hand to the quantitative cytology: that is to say, count each type of germ, and secondly to the qualitative cytology: that is to say the note presence of all the elements seen (epithelial cells, especially red blood cells and leukocytes as the absence of leukocytes from the first day does not allow us to continue the work in the case of a vaginal swab (PV) if the patient is not treated with antibiotics, the "Clue-Cells", yeasts, hyphae and possibly *Trichomonas*). Another preparation is done directly on the blade with endocervical swab is used for Gram staining.

## **Gram staining**

The preparation is dried, attached to the burner flame and then stained with Gram. After staining, the reading is done under a microscope at a magnification of x100. This examination after staining is used to classify the bacterial flora in type I, II, III and VI, the diagnosis of bacterial vaginosis *Gardnerella vaginalis* by highlighting the "clue cells".

## **Culture**

All vaginal swabs were seeded onto the following media: Sabouraud if there yeast fresh, Chapman if Gram + cocci, and eosin methylene blue to confirm the presence of enterobacteria.

**For Chlamydia** it is a test cassette, the presence of two red bands indicates a positive test while only one band (control) indicates a negative test. By against *Mycoplasma* research is done using a test well (ten wells for a single search) that can detect the presence of *Mycoplasma*

*hominis* and *Ureaplasma urealyticum* or both simultaneously. The advantage of this test is that it is associated with susceptibility. So we have the germ in question and sensitive antibiotics, resistant or intermediate. After inoculation, the culture media were incubated in an incubator at 37 ° C for 24 hours.

**On the second day:** The Wanted germs are isolated and identified. In culture dishes where absence of growth, all the boxes will be discarded except Sabouraud medium to be presented to the oven for another 24 hours. By pushing against where with few leukocytes detected in the fresh state, there is no infection and bacteriological search stops if the clinic supports. Otherwise, there is infection. Colonies found in the boxes will be Gram stained and then examined microscopically to determine the type of germ in question (cocci or bacilli) and then re-isolate on Mueller Hinton medium for pure strains. The reading will be the third day.

**On the third day:** After staining and observation of the germ in question if they are Gram-negative bacilli (B-), we put a small door in the mini-galleries with specific cultures (CS, KH, MM; Urea indole).

In the case of Gram-positive cocci (C +) we catalase, putting on a slide a drop of hydrogen peroxide and a colony then observed the presence or absence of air bubbles. If catalase is positive, it is *Staphylococcus*, and if it is negative it is confirmed to be Strep throat for the grouping.

The DST will be done after this step. Some germs such as *Candida*, anaerobic, *Staphylococcus aureus*, *Trichomonas vaginalis*, *Gardnerella vaginalis*, *E. coli*

are systematically sought in the application of vaginal swab. Others, such as *Chlamydia trachomatis* and *Mycoplasma* are sought only at the request of the prescriber.

## Results and Discussion

Distribution of the study population by age: Our study population consisted of 621 patients. Ages ranging from 5 to 85 years are divided into age groups of 10 years. The age of some patients has not yet been mentioned. Table I shows that the study population is made up mostly of women aged 20 to 49 who are of childbearing age. Women with 20-29 years and 30-39 years are the most numerous, with respective percentages 35.30% and 26.68%. Distribution of the population according to the pattern of consultation: Table II shows that among the 626 patients, the reasons for consultation were most often: the presence of vaginal discharge (19,33), pregnancy (8.31) of pelvic pain (5.27), and many more had been sent for a routine checkup (52.87) Study of the prevalence and incidence of vaginal infections

### Definition of prevalence and frequency Prevalence

The total number of positive cases reported in the study population. **Frequency:** the number of positive cases per month based on the total number of cases per month. It should be noted in this study that all test cases are negative for chlamydia.

### Correlation between age and vaginal infection

*Mycoplasma* infection caused only depending on the age. Among the 626 patients in our study population, we had

267 requests for research mycoplasma, these organisms implicated in infertility of the couple are not sought in all patients. Only eight women had a positive test. Women 40 to 49 are more mycoplasma infection with a rate of 50%. Women aged 20 to 29 and 30 to 39 represent the same percentage (20.29%). These three age full genital activity slices are infected. No cases have been recorded between 0 and 19 as well as in the extreme age groups. (Table III)

### Infections of other pathogens according to age

Table IV shows the distribution of infections by type of germ and age of the patient, the other seeds consist of staphylococci, streptococci, *Klebsiella*, *Escherichia coli*, *Mycoplasma hominis*, of *Mobiluncus* spp, of *Candida albicans*, *Candida* sp, *Trichomonas vaginalis* and *Gardnerella vaginalis*. These germs are found in the same population of 367 626 patients on the study population. It shows that the patients included in the age group 20 to 29 years are much more candida infection and germs banal. Infections these germs are also considerable. Women aged 20-29 are more *Trichomonas vaginalis* infection as this infection is common in women aged 30 to 39 years. *Gardnerella vaginalis* infection is common among sexually active women, this infection is less common in women at young ages in our study population

### Calculation of prevalence and incidence of mycoplasma infections Calculation of prevalence of Mycoplasma

Among the 626 patients in the study population, only 268 women applied research *Mycoplasma* but one species of mycoplasma was found: *Mycoplasma*

hominis. The prevalence of Mycoplasma infections is 2.98% of the population (268), which is presented to search for mycoplasma. These patients most often as the reason for consulting an abortion but the frequency will not be counted as one species of mycoplasma was found in our study population. (Table V)  
Calculation of prevalence of infections caused by other bacteria  
We had 601 vaginal swabs from 626 patients who presented. Table VI shows a predominance of *Escherichia coli* (26,43), *Staphylococcus aureus* (21,53), *Klebsiella pneumoniae* (17,98), *Candida spp* (17,44) and *Klebsiella oxytoca* (11,99) (Table VI)

#### **Calculation of the frequency of infections other germs**

The frequency of other bacteria is calculated as a function of months. *E. coli* is the most common bacteria found in the genital tract of infected women. It is also very common in almost all types of losses, its prevalence is 26.43%.

Enterobacteriaceae such as *E. coli* and *Klebsiella* are very abundant in the whitish, milky chocolate and losses. *T. vaginalis* is common; it is mainly present in the greenish losses. *G.vaginalis* associated with clue-cells has a prevalence of 1.37%, it was mainly isolated in the mucous losses. Other organisms are less present in infections our study population (Figure XIII, Table XII Annex IV).

#### **Study of types of flora**

Depending gram performed on the samples, we found three types of flora among the four types that exist: it is the flora of type II, type III and type IV. (Annex IV)

#### **Prevalence of infections by type of flora**

Among the 626 patients only 590 floras were typed, 16 were not typed, the other 20 cases were divided into one application research of Mycoplasma and / or Chlamydia. The flora of type IV characterized by a lack of Doderlein completely unbalanced, with a percentage represents the most infected 48.13. More than half of the study population are susceptible to vaginal infection. The flora of type II where bacilli Doderlein are balanced with other germs that a rate of 32.04%. Unlike the majority of patients come see few women in the study population are protected by the Doderlein against a possible infection (Table VII)

#### **Correlation between proportion of seeds and types of flora**

We were 537 patients who sought the proportion of each type of seed for each type of plant. Table VIII shows that *Staphylococcus aureus* is present in all types of flora. Enterobacteriaceae (*Escherichia coli*, *Klebsiella oxytoca* and *Klebsiella pneumoniae*) are almost absent in the flora of type II.

The results showed that women aged 40 to 49 are more mycoplasma infection with a rate of 50%. Women aged 20 to 29 and 30 to 39 represent 20%. These three age full genital activity slices are infected. The prevalence of infection was 2.98%. This prevalence is much lower than that found by Traoré in 2011: 26.13% of the study population was infected with mycoplasma. (20). By cons in his study, the age group most infected is that between 30 and 39 with a percentage of 48.27%. As against the frequency was not calculated because it had only one type of mycoplasma.

**Table.I** Distribution of the study population according to age

Age groups	Number	Percentage (%)
0-9	2	0,32
10-19	39	6,23
20-29	221	35,30
30-39	167	26,68
40-49	79	12,62
50-59	30	4,79
60-69	15	2,40
70-79	3	0,48
80-89	3	0,48
unspecified	67	10,70
TOTAL	626	100

**Table.II** Population d'étude selon le motif de consultation

Reasons for consultation	Number	Percentage(%)
Leucorrhea	121	19,33
Primary or secondary infertility	43	6,87
pregnancy	52	8,31
pelvic pain	33	5,27
pruritus	10	1,60
diabetes	14	2,24
Vulvovaginitis	10	1,60
abortion	9	1,44
rape	2	0,32
acute cystitis	1	0,16
Other (Review Routine)	331	52,87
TOTAL	626	100

**Table.III** Distribution of mycoplasma infections in function of age

Infections Age groups	Mycoplasma infections	Percentage
0 à 9	0	0
10 à 19	0	0
20 à 29	2	25
30 à 39	2	25
40 à 49	4	50
More than 50	0	0
TOTAL	8	100

**Table.IV** Representation of other infections (bacteria, yeasts, Trichomonas and clue-cells) according to age.

Infections Age in years	Bacterial infection (%)	Candida infection ( <i>C. albicans</i> and <i>C. sp</i> ). (%)	Trichomonas vaginalis infection (%)	Gardnerella vaginalis infection (%)
0 à 9	0,39	0	0	0
10 à 19	9,02	8,62	0	0
20 à 29	38,82	58,62	66,66	50
30 à 39	27,06	24,14	33,33	50
40 à 49	12,94	8,62	0	0
Plus de	11,77	0	0	0

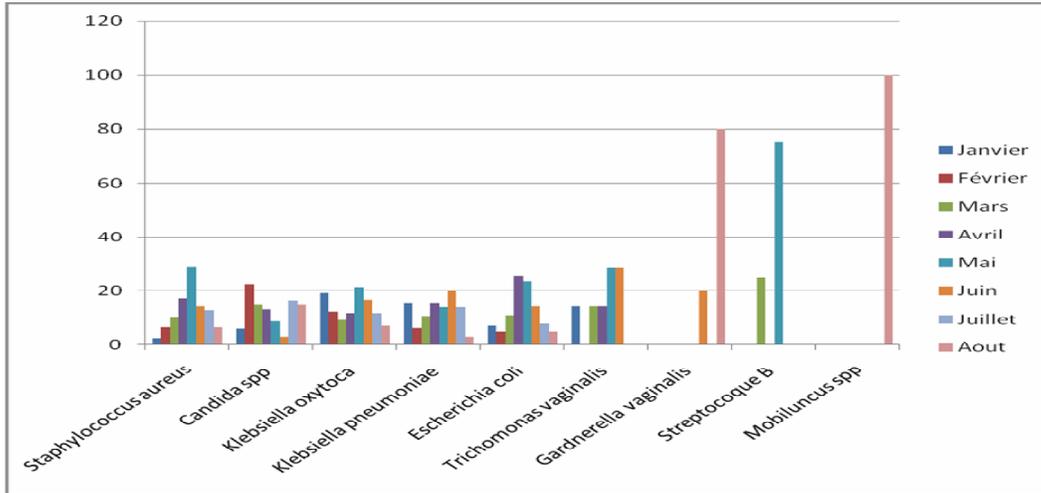
**Table.V** Prevalence of Mycoplasma infections

Workforce	Results Mycoplasma			
	Positive for mycoplasma		Négative for mycoplasma	
268	Number	Percentage	Number	Percentage
		8	2,98	260

**Table.VI** Prevalence of other pathogens (*S. aureus*, Enterobacteriaceae, *T. vaginalis*, group B streptococci, clue-cells, *Candida albicans*, *Candida sp*)

Germes	Number	Total	Prevalence
<i>Staphylococcus aureus</i>	79	367	21,53
<i>Candida spp</i>	64		17,44
<i>Klebsiella oxytoca</i>	44		11,99
<i>Klebsiella pneumoniae</i>	66		17,98
<i>Escherichia coli</i>	97		26,43
<i>Trichomonas vaginalis</i>	7		1,91
<i>Gardnerella vaginalis</i>	5		1,36
<i>Streptocoque B</i>	4		1,09
<i>Mobiluncus spp</i>	1	0,27	

**Figure.1** Frequency *S. aureus*, Enterobacteriaceae, *T. vaginalis*, Streptococcus B, the clue-cells, the *Candida* ...



**Table.VII** Prevalence of infections by type of flora

Type of flora	Flora type II	Flora type III	Flora type IV
Prevalence	32,04	19,83	48,13

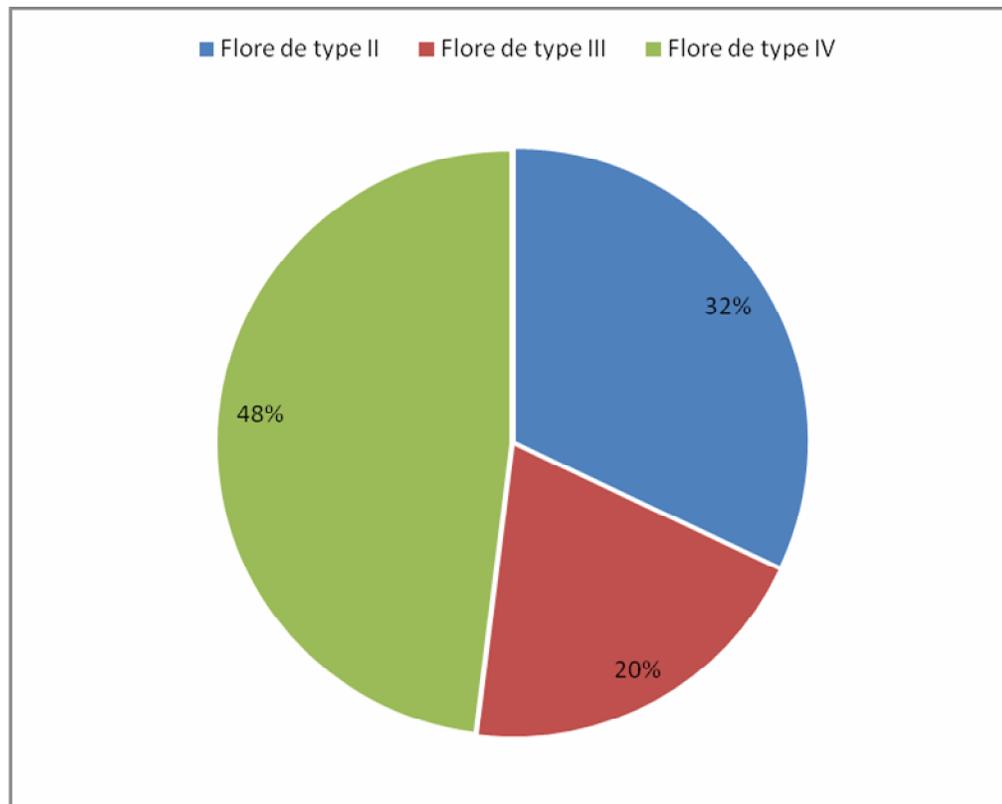
**Table.VIII** Correlation between proportion of seeds and types of flora

Type of flora	Flora type II	Flora type III	Flora type IV	Total
<i>Staphylococcus aureus</i>	1,93	5,80	14,09	21,81
<i>Candida spp</i>	8,56	3,31	5,52	17,39
<i>Klebsiella oxytoca</i>	0	2,76	9,39	12,15
<i>Klebsiella pneumoniae</i>	0,55	6,63	11,05	18,23
<i>Escherichia coli</i>	0,28	6,08	19,89	26,25
<i>Trichomonas vaginalis</i>	0,28	0,28	0,83	1,39
<i>Gardnerella vaginalis</i>	0	0,28	1,11	1,39
<i>Streptocoque B</i>	0	0,83	0,28	1,11
<i>Mobiluncus spp</i>	0	0,28	0	0,28
<b>TOTAL</b>	11,6	26,25	62,16	100

**Annex.I** Table classifications germs female genital tract

Always considered pathogenic germs	Potential pathogenic germs	Carrying germs
<i>Neisseria gonorrhoeae</i> <i>Chlamydia trachomatis</i> <i>Trichomonas vaginalis</i>	Anaerobic: several species <i>Streptocoques du groupe B</i> <i>Entérocoques</i> <i>Staphylocoques à coagulase -</i> <i>Gardnerella vaginalis</i> <i>Mobiluncus spp</i> <i>Mycoplasma hominis. genitalium</i> <i>Ureaplasma urealyticum</i> <i>Entérobactéries</i> <i>Candida</i> <i>Streptocoques</i> <i>Haemophilus</i>	<i>BHVRI</i> <i>Streptococcus agalactiae++++</i> <i>Escherichia coli</i> <i>Staphylococcus aureus</i> <i>Streptococcus pneumoniae</i> <i>Streptococcus pyogenes</i> <i>Haemophilus spp</i>

**Annex. II** Distribution of infections by type of flora



These reproductive tract infections (RTIs) refer to three different types of infections that affect the genital tract;

Endogenous infections are probably the most common worldwide ITG. They are the result of an overgrowth of organisms that are normally present in the vagina growth. Bacterial vaginosis and candidiasis among endogenous infections. These infections can be treated well and are easily cured.

Iatrogenic infections occur when the cause of the infection (bacteria or other microorganism) is introduced into the genital tract following a medical procedure such as menstrual regulation, induced abortion, insertion an intrauterine device (IUD) or during childbirth. This is

sometimes due to which have not been properly sterilized to infection or already present in the lower genital tract surgical instrument which is introduced into the top portions pass through the Sexually transmitted infections (STIs) are caused by viruses, bacteria or parasitic microorganisms that are transmitted during sexual intercourse with a (e) infected partner (s). There are about 30 different sexually transmitted infections were identified. Some of them can be treated easily, but this is not the case for many of these infections. HIV, the virus that causes AIDS, is probably the most serious sexually transmitted disease because it inevitably leads to death. STDs affect both men and women and can be transmitted from mothers to their babies during pregnancy or childbirth.

**Annex.IV** Study of losses: Appearance, color and type of germs

Among the 626 patients, 27 vaginal samples were not mentioned in the book of PV. The study have only 544 patients who have losses and 55 do not have

**Table.IX** Fréquences des pertes dans les prélèvements vaginaux

losses	Workforce	frequency
absent losses	55	8,88
Presence of losses	544	87,89
not mentioned	27	3,23
Total	626	100

**Study of color loss**

Among the 544 patients who presented losses, only 382 cases have clarified the color loss. The study had five types of losses by color: whitish discharge, yellowish discharge, chocolate losses, bloody losses and greenish losses.

**Table.X** Percentage of types of losses by color

Color Loss	Workforce	Percentage
whitish losses	328	60,29
yellowish discharge	113	20,77
chocolate losses	24	4,42
heavy losses	2	0,37
greenish losses	5	0,92
unspecified	72	13,23
<b>TOTAL</b>	544	100

The white discharge are much more likely in patients with a proportion of 60.29%, yellowish losses are also considerable, they represent 20.77% of the losses. As for chocolate losses represent 4.42%, there are fewer as the bloody and greenish losses are less important with respectively as a proportion 0, 37% and 0.92%.

**Study the appearance of losses**

The study has also been identified by the appearance of four types of losses: loss of milky, creamy discharge, mucous losses and losses curd-.

Creamy losses are more common in our population, they account for 39.15%, the milky losses are significant with a percentage of 28.13%. Non-pathological mucous losses are less frequent, they represent 6.80%.

**Study of the amount of seeds depending on the color loss.**

Some germs can be suspicious of color loss. Table XII is a correlation between infectious agent and color loss.

**Table.XI** Percentage of types of losses by appearance.

Appearance losses	Workforce	Percentage
milky losses	153	28,13
creamy losses	213	39,15
mucous losses	37	6,80
curd-loss	45	8,27
unspecified	96	17,65
Total	544	100

**Table.XII** Correlation between infectious agent and color loss.

Appearance losses Types of germ	whitish losses	yellowish discharge	chocolate losses	heavy losses	greenish losses	unspecified	Total
<i>Staphylococcus aureus</i>	37	18	5	0	2	12	74
<i>Candida spp</i>	33	20	1	1	2	3	60
<i>Klebsiella oxytoca</i>	22	11	3	0	0	7	43
<i>Klebsiella pneumoniae</i>	33	17	1	0	1	7	59
<i>Escherichia coli</i>	57	20	4	0	0	5	86
<i>Trichomonas vaginalis</i>	2	3	0	0	0	0	5
<i>Gardnerella vaginalis</i>	3	1	0	0	0	0	4
Streptocoque B	3	0	1	0	0	0	4
<i>Mobiluncus spp</i>	1	0	0	0	0	0	1
TOTAL	191	90	5	15	1	34	336

Candida spp agent is found in all types of losses, it is also more common in whitish losses, Gardnerella vaginalis and Mobiluncus sp are almost absent. There against by the absence of other pathogens in the bloody losses. The whitish discharge is heavy in E. coli and Staphylococcus aureus.

These losses include all types of germs. The bloody losses are poor germs, this study found that Candida spp. However the number of cases for this type of loss is not important. Yellowish discharge are present in almost all organisms except for Strep B and Mobiluncus spp. Greenish The losses are rare. The chocolate losses have superimposed frequencies for S. aureus and Enterobacteriaceae and rare in T. vaginalis and G. vaginalis

**Study of the percentage of nuclei according to the aspect of losses.**

Not just the color, but the seeds can also be responsible for the appearance of losses.

Table XIII is a correlation between infectious agent and the appearance of losses.

E. coli is present in all the losses, it is the most common germ. In the milky losses the present study find an abundance of Enterobacteriaceae and candida. In creamy losses to find the abundance of S. aureus and Enterobacteriaceae, but the frequency of K. pneumoniae has increased.

**Table.XIII** Correlation between infectious agent and the appearance of losses

Appearance losses \ Frequency of germs	milky losses	creamy losses	mucous losses	curd-loss	unspecified
<i>Staphylococcus aureus</i>	22,64	23,94	20	5,26	28,07
<i>Candida spp</i>	12,26	16,24	20	39,48	15,79
<i>Klebsiella oxytoca</i>	14,16	12,82	15	10,53	10,53
<i>Klebsiella pneumoniae</i>	20,76	11,11	20	21,05	21,05
<i>Escherichia coli</i>	24,53	32,48	20	18,42	22,81
<i>Trichomonas vaginalis</i>	1,89	0,85	5	2,63	0
<i>Gardnerella vaginalis</i>	0,94	1,71	0	2,63	1,75
Streptocoque B	1,89	0,85	0	0	0
<i>Mobiluncus spp</i>	0,94	0	0	0	0
<b>TOTAL</b>	100	100	100	100	100

Figure.2 Percentage of milky losses

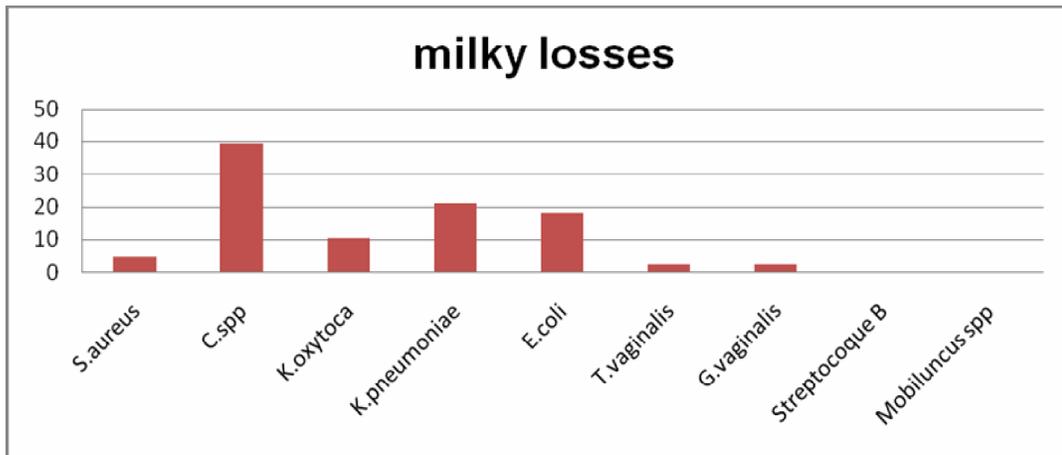


Figure.3 Percentage of creamy losses

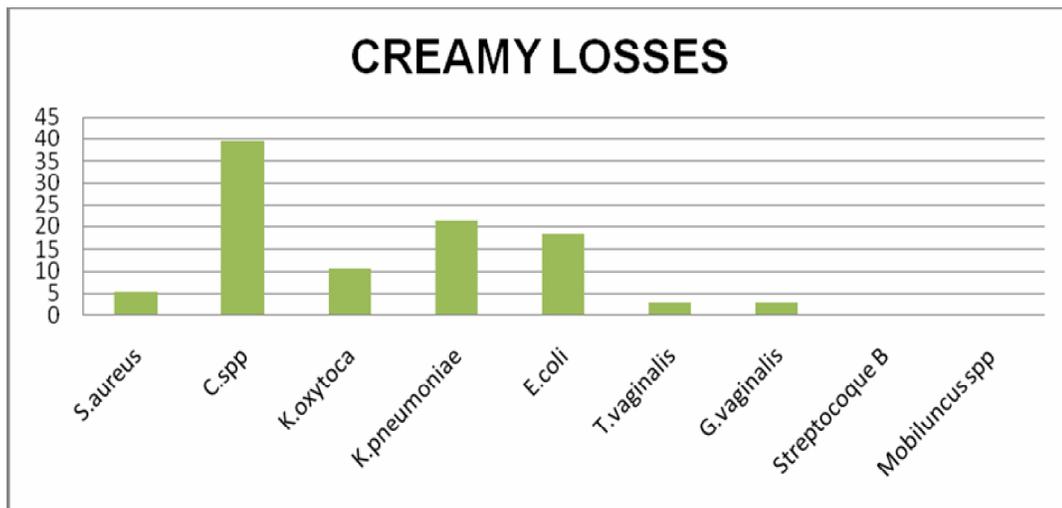
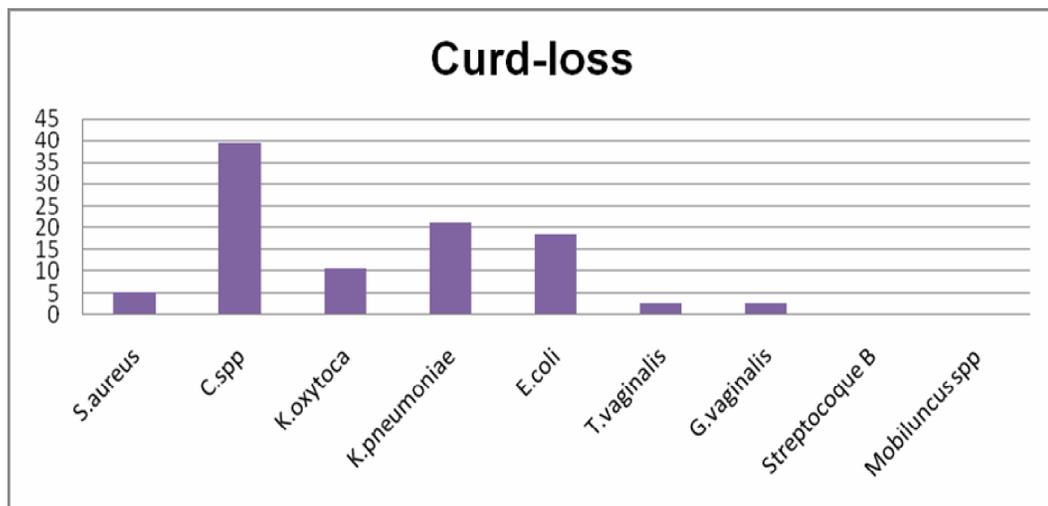


Figure.4 Percentage of curd-loss



However in creamy losses, the frequency of *E. coli* increased the benefit of others who become less active. This study also note the abundance of *S aureus*, *Candida* spp, *K. pneumoniae* and *E. coli* in mucous losses. Finally, in the curd-loss, high presence of *Candida* spp is also noted.

In the present study no cases of infection with *C. trachomatis* was recorded, compared to that of Kandji who found a prevalence of 13.02% on a study population of 473 cases, which is different from our results. (13) By cons in studies Traoré no case has been registered. For candidiasis: *Candida* infection (*Candida albicans* and *Candida* spp) found the prevalence of 17.44% compared to the work of Traore: 13.86% and 22.1% of our Kandji candida infection compared to the population study population is similar to those of Kandji with no significant difference. (13,20). The study note that women aged 20-39 years are more candidiasis, these results are congruent with those of Traore, who in his studies had found 42.86% and also studies on infections with *Candida albicans* and *Trichomonas vaginalis* in pregnant in the suburbs of Yaoundé women show candidiasis as trichomoniasis is the proportion to dominate in the age group 20 to 29, the age of high sexual activity. The among sexually active women. (20). Some of these germs are also found in the age group 10-19 years, which reveals the précosité sex teen.

From the point of view of age, this study found, in our study, that among the most affected patients, age groups were between 20-29 years and 30-39 years, the most exposed were 20 and 29 years so infections are more common among women in full sexual activity, rare before puberty and menopause decreases because

relative percentage in this class is 73.4%. As against those extreme ages are fewer infections. (3). The use of underwear (briefs) that leaves the air after the machine can also promote the development of candidiasis in the genital tract in these young women against by the older women used cloths instead of these underwear too tight and therefore young women are more candida infection. The prevalence of trichomoniasis (1.91%) is different from that found by Diene and Kandji 0.23% and lower than Traoré 3.64%, it can showed that our study population, outnumbered could play on prevalence may account for this disparity.

Bacterial vaginosis (nonspecific vaginitis characterized by an imbalance of the commensal flora in favor of anaerobic and depends lactobacilli) *S. aureus*, the Enterobacteriaceae, *Gardnerella vaginalis* is the most common in our population with 79.56% of the total population. The commonplace germs are present in almost all of the population *S. aureus* was present in 21.53% of infected women, it is considered a commensal organism that is potentially pathogenic. Bacterial vaginosis is more common in women aged 20 to 29 years with 38.82% which is similar to that found by Traoré 39.63%, which allows us to affirm that vaginosis is remarkable the higher age group or equal to 50 was the least exposed group.

However, for clinical namely vaginal elements, pelvic pain, itching, irritation of the vagina and infertility this study has noticed that the vaginal are frequencies (17.45) which is higher than that Traoré (13.2%) and lower than that of Kandji (19.45%).

Regarding the flora, the more unbalanced is the type IV with 48.13% of the

population, the flora consists exclusively of bacteria other than flora Doderlein promotes overgrowth of other bacteria, which explains the high rate of seeds compared to other types of flora. The flora of type III wherein majority of bacteria other than flora Doderlein less infected (19.93%) than the flora of type IV. The predominance of Doderlein from other germs that kind flora II (32.04%) actually proves that Doderlein help prevent infection and maintain the vagina clean. Thus it showed that patients aged less than 20 years are less representative in the infected population, this shows that young women, mostly under the age of 20 years were most flora type II. This study also found that women in full sexual activity are more vaginosis and have especially an unbalanced flora. For losses, they are much more numerous whitish in patients with a percentage of 60.29% which is lower than that found by Traoré (76.28%) compared to other losses as well as the creaminess.

These research germs called several techniques ranging from culture to rapid tests. It showed a prevalence of 2.98% for mycoplasma with an age between 40 and 49 years complained representing 50% slice. In terms of bacterial vaginosis, the most infected women between 20 and 39 years, 38.82% for the age group 20 to 29 years. They are undergoing genital activity and / or sexual. This vaginosis is associated with an imbalance in the ecosystem of the vagina, usually there is a decrease in the number of lactobacilli accompanied by an increase of bacteria normally present in small numbers ( *G. vaginalis*, anaerobes, enterobacteria). However, nothing can usually tell whether this imbalance of the flora is the cause or just an effect of the disease as enabling all types of genital tract infections.

Candidiasis in turn, is more common in women aged 20-29 years (17.86%). Infection with *T. or trichomonas vaginalis* has a prevalence of 1.91%, more interesting the age 20 to 29. The flora of type IV is the most unbalanced, with a prevalence of infection of 48.13%, flora type III has a prevalence of 32.04% in the prevalence of this flora lactobacilli flora while type II has a lower prevalence. This disturbance is due to an imbalance between these bacilli Döderlein saprophytes and other bacteria that colonize the vagina. This is why many clinical situations motivate consultation and intervention biologist in the diagnosis of female genital infections. View these results, more awareness on the female population must be in colleges, high schools and colleges to prevent adolescents and young adults, population by far the most affected because these disturbances are a real public health problem and increase the risk of contracting human immunodeficiency virus (HIV) and other infections during unprotected sex.

Thus, all health professionals should be mobilized as pharmacists to play a preventive role as health educator. It will Focus on the recent use of antibiotics;

Insist on poorly-balanced diabetes.

Although yeast infections are not STIs, unprotected sex can increase the risk of catching due to the effect of semen on the vaginal environment where the mandatory use of condoms.

Avoid douching and the use of other feminine hygiene products

Clean reusable contraceptives (such as diaphragms, cervical caps and spermicide applicators) after each use.

Avoid repeated douches and scented soaps.

Wipe from front to back so as not to contaminate the vagina rectal bacteria.

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