



## THE PROSPECTIVE STUDY OF LEUCORRHOEA IN REPRODUCTIVE AGE GROUP WOMEN BETWEEN 15-45 YEARS

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<b>ABSTRACT</b>	<b>Back ground</b> Majority of women who present with vaginal discharge <sup>5,10,22</sup> and pruritis to the hospital, needs proper and convenient bedside diagnostic procedures <sup>19,20</sup> which are essential to initiate the therapy and in preventing the complications.
	<b>Materials and Methods</b> It is a prospective study of 100 cases presenting with vaginal discharge attending the Gynaecological OPD of Katuri medical college and hospital from October 2015 to October 2016.
	<b>Results</b> It was observed that majority of cases were in the age group of 31 to 35 years i.e 27% followed by 26-30 years of age group i.e 25%. High incidence of reproductive tract infections were noted in rural population <sup>2,5</sup> i.e 57% than in the urban population.
	<b>Conclusion</b> In majority of cases who are present between age group 21-40 years presented with vaginal discharge followed by pain abdomen <sup>2,5,9</sup> . There is increased incidence of Bacterial vaginosis and mixed infection with Trichomonas vaginalis and also with Candida albicans. Urinary culture and susceptibility swabs revealed cases of Klebsiella and E.coli.

<b>KEYWORDS</b>	Bacterial Vaginosis, Trichomonal Vaginalis, Urinary tract infections, KOH, Coagulase positive Staphalococci, Coagulase negative Staphalococci, Leukorrhoea.
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### AIMS AND OBJECTIVES

To evaluate the cause of leucorrhoea in reproductive age group women between 15-45 years.<sup>3,10</sup>

It is a prospective study of 100 cases presenting with vaginal discharge<sup>5,10,22</sup> attending the Gynaecological OPD of Katuri Medical College & Hospital, from October 2015 to October 2016.

### INCLUSION CRITERIA

Included all the women of reproductive age group between 15 - 45 years, with complaint of vaginal discharge<sup>22</sup>.

### EXCLUSION CRITERIA

1. Cases of carcinoma cervix.
2. Cases of pregnancy.

### TECHNIQUE

A detailed history was elicited and recorded. Pelvic examination was done in all patients. The clinical findings including the odour, quantity, color and nature of the vaginal discharge<sup>5,10</sup> was noted. Discharge was collected as per the standard guidelines for the following investigations.

1. Estimation of pH.
2. Whiff Test.
3. Saline wet mount for Trichomonas vaginalis.
4. 10% KOH wet mount for Yeast cells.
5. Gram Stain for yeast cells and clue cells.
6. Midstream urine sample and Vaginal swab were sent for culture and susceptibility to the Department of Microbiology, Katuri Medical College, Guntur.

### Collection of sample

After the general examination and recording of vitals, a detailed genital examination was done with patient in the lithotomy position.

External genitalia is inspected.

Sims speculum is introduced into the vulva and the amount, color, texture, odour, and location of discharge noted.

Discharge collected over the sims speculum is taken with a small dropper on to the glass slide for further investigations.

### Estimation of pH

Immersion the pH indicator paper in the vaginal discharge present on the vaginal speculum. Color change on the paper yielded the pH. It was recorded.

### Saline wet mount

Vaginal discharge was placed in a drop of saline on a slide a cover slip was placed and observed under the low and high power objective microscope for Trichomonas and clue cells.<sup>9,2,10</sup>

### Whiff test

A drop of 10% KOH was added to vaginal discharge taken on a clean slide. Intense fishy odor indicated Bacterial vaginitis.

### 10% KOH wet mount for yeast cells<sup>10,2</sup>

A drop of vaginal discharge was placed on a slide containing a drop of KOH on a slide. A cover slip was placed and examined after 10 minutes under low and high power objective microscope. Presence of hyphae and budding yeast cells was recorded.

### Gram staining<sup>15,19</sup>

A smear of vaginal discharge was put on a glass slide and fixed by heat. Solution of crystal violet is poured and allowed to act for 1 minute. Gram's iodine is poured and allowed to act for 30 seconds. Decolorized by absolute alcohol. Saffarine solution is poured and allowed to act for 1 minute and washed. Under oil immersion objective, yeast cells, clue cells and presence of cocci and gram negative bacilli were recorded.

Midstream urine sample, vaginal swabs sent for culture and

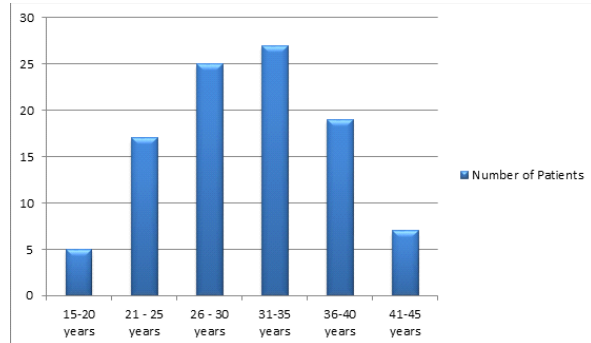
susceptibility to the department of Microbiology, Katuri Medical College & Hospital, Guntur.

**RESULTS**

It was observed that majority of the cases were present in 31-35 years age group 27% followed by 26-30 years age group 25% showing the strong association of vaginal symptoms in reproductive age group.<sup>12,13,14</sup>

**TABLE 1: AGE WISE DISTRIBUTION OF CASES**

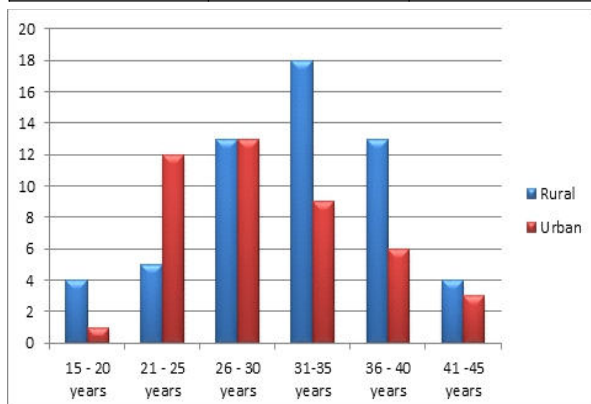
Age Group	Number of Patients
15-20 years	5
21 - 25 years	17
26 - 30 years	25
31-35 years	27
36-40 years	19
41-45 years	7
Total	100



The study reveals a significant high incidence of RTI in rural population. Since the prevalence of RTI was significantly associated with age, personal hygiene, type of sanitary napkins used during menstruation. Present study included 57 cases from the rural area and 43 cases from urban area.<sup>14,15</sup>

**TABLE 2: RURAL URBAN**

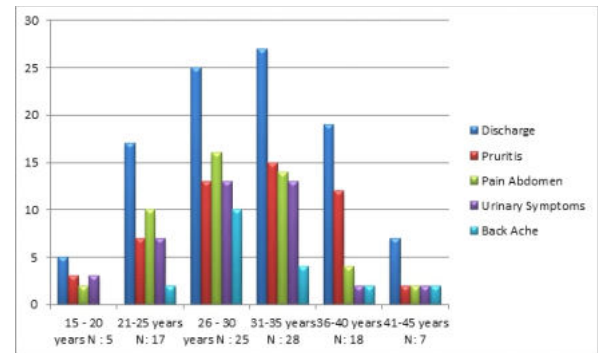
Age Group	Rural	Urban
15 - 20 years	4	1
21 - 25 years	5	12
26 - 30 years	13	13
31-35 years	18	9
36 - 40 years	13	6
41 -45 years	4	3
<b>Total</b>	<b>57(57%)</b>	<b>43(43%)</b>



Discharge is predominant symptom in all age groups.9,11In the age groups 21-25 years 26-30 years and 31-35 years discharge was followed by pain abdomen as presenting symptom. In 15-20 years urinary symptoms followed discharge. In 36-40 years age group predominant symptom was discharge.

**TABLE 3: AGE WISE SYMPTOMATOLOGY**

Age	Discharge	Pruritis	Pain Abdomen	Urinary Symptoms	Back Ache
15 - 20 years N : 5	5	3	2	3	-
21-25 years N: 17	17	7	10	7	2
26 - 30 years N : 25	25	13	16	13	10
31-35 years N : 28	27	15	14	13	4
36-40 years N: 18	19	12	4	2	2
41-45 years N: 7	7	2	2	2	2



**TABLE 4: FINDINGS OF LAB INVESTIGATIONS**

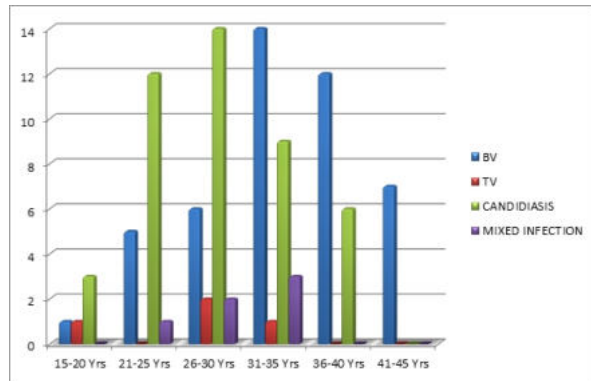
AGE	PH ALKALINE	WHIFF TEST	SALINE WET MOUNT	10% KOH	GRAM'S STAIN CLUE CELLS	URINE C/S	VAGINAL SWAB C/S
T5-20 years N:5	1	1	1	3	1	-	Cps-4
21-25 years N: 17	6	6	1	12	5	E.COLI-2	CPS-1 E.COLI-2
26-30 years N : 25	8	8	4	14	6	KLEIBSI ELLA-2 E.COLI-1	CPS-2 CNS-1 E.COLI-2
31-35 years N : 28	17	17	4	9	14	KLEIBSI ELLA-2 E.COLI-3	CPS-4 CNS-1 E.COLI-3
36-40 years N: 18	12	12	-	6	12	-	CPS-4 CNS-3 E.COLI-1
41-45 years N : 7	7	7	-	-	7	E.COLI-2	E.COLI-3

CPS – Coagulase positive staphylococci, CNS- Coagulase Negative Staphylococci

pH	- Alkaline pH was observed in	54
	Neutral pH was observed in	2
	Acidic pH was observed in	44
Whiff Test	- Positive whiff test	52
	Negative whiff test	48
Saline wet mount	- 4 cases showed trichomonas vaginalis in 31-35 year 4 cases in 26-30 years and one each in 15-20 years and 21- 25 years.	
10% KOH	- Candida albicans	44
Gram stain	- Clue cells seen	46
	Yeast cells seen	44
Urine culture and sensitivity	- Klebsiella Ecoli	4 8

**TABLE 5: AGE WISE PATHOLOGY**

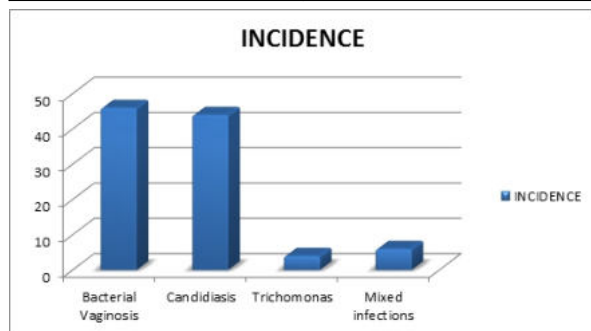
AGE	BV	TV	CANDIDIASIS	MIXED INFECTION
15-20 years	1	1	3	-
21-25 years	5	-	12	1
26-30 years	6	2	14	2
31-35 years	14	1	9	3
36-40 years	12	-	6	-
41-45 years	7	-	-	-



Bacterial vaginosis is present in 46 cases with 46%, Candidiasis is present in 44 cases with 44%, Trichomoniasis is present in 4 cases with 4%, Mixed infections was seen in 6 cases with 6%.

TABLE 6: INFECTION PROFILE IN THE PRESENT STUDY

DISEASE	INCIDENCE
Bacterial Vaginosis	46 (46%)
Candidiasis	44 (44%)
Trichomonas	4 (4%)
Mixed infections	6 (6%)



**DISCUSSION**

The present study was prospective study of 100 cases of vaginal discharge attending the Gynaecological OPD at the department of Obstetrics & Gynaecology, at Katuri Medical College and Hospital, Guntur over a period of one year i.e. October 2015 to October 2016. After eliciting the detailed history, pelvic examination was done in all patients. The clinical findings including odour, quantity, colour and nature of the vaginal discharge noted. A provisional diagnosis was reached.

In the present study, patients presenting with vaginal discharge were analyzed for several criteria. Maximum number 27 cases (27%) were in the age group of 31-35 years followed by age group 26-30 years 25 cases (25%). Least number of cases were in the age group of 15-20 years with 5 cases (5%).<sup>9,10,12</sup>

The common symptom in the present study is vaginal discharge followed by pruritus and pain abdomen.

Study Group	Discharge Symptoms %
V.Gupta et al, 2006	>50%
Monika Rathore et al, 2007	26%
Present Study	98%

V.Gupta et al, 2006, study group presented with discharge symptoms of >50% incidence. Study group by monika rathore et al, 2007 presented with discharge symptoms of 26% incidence, and present study showed vaginal discharge symptom by 98%. Candidiasis was noted in 44 cases in the present study group.<sup>13,14,15</sup>

Study Group	Candidiasis (%)
V.Gupta et al, 2006	10%
Monika Rathore et al, 2007	14%
Ferris DG et al	20%
Puri JK et al, 2009	31%
Present Study	44%

Association of UTI with Vaginal discharge is also studied. It is as follows

Study Group	UTI (%)
V.Gupta et al, 2006	2(1.8%)
Present Study	12(12%)

In the Present study the Amsels criteria for diagnosing Bacterial vaginosis were met in 46 cases.<sup>5,8</sup>

Study Group	Bacterial Vaginosis
V.Gupta et al, 2006	48(40.4%)
Monika Rathore et al, 2007	69(26%)
Puri JK et al, 2009	45 (45%)
Present Study	46 (46%)

The present study of bacterial vaginosis 46% is comparable with the findings of puri JK et al, 2009 E.Coli was found in 12 cases accounting for 12% of bacterial vaginosis.

Trichomoniasis is noted in 4 cases in the present study.<sup>12,14</sup>

Study Group	Trichomoniasis (%)
V.Gupta et al, 2006	10(9%)
Monika Rathore et al, 2007	22(8%)
Puri JK et al, 2009	4%
Ferris DG et al	7.4%
Present Study	4%

The present study of Trichomoniasis 4% is comparable with the findings of Puri JK et al, 2009.

**CONCLUSION**

- Majority of cases were in the age group of 31-35 years 27 (27%) followed by 26-30 years of age group 25(25%).<sup>13,20</sup>
- High incidence of R.T.I.s were noted in rural populations 57 (57%), than in the urban populations 43 (43%).<sup>2,14,15</sup>
- In majority of the cases 21 to 40 years age group presented with vaginal discharge followed by pain abdomen.
- In the age group of 15-20 years Urinary Symptoms were followed by discharge.
- 54 cases presented with alkaline pH i.e., >7, 2 cases presented with neutral pH i.e., 7 and 44 cases presented with acidic pH i.e., <7.
- Positive whiff test was seen in 52 cases, reflecting increased incidence of Bacterial Vaginosis and mixed infection with T.V. 10% KOH was positive in 44 cases accounting for Candida albicans.<sup>10,12,17</sup>
- T.V. is seen in 4 cases of saline mount preparations.
- In gram stain clue cells were seen in 46 (46%) cases, budding yeast cells were seen in 44 (44%) and mixed infections were in seen 6 cases.

9. Urinary culture and susceptibility swabs revealed 4 cases of - Klebsiella and 8 cases of E.coli. 5,8,9

treatment with metronidazole: a double blind randomized study. Am J Obstet Gynecol 1992;166:100-103.

10. Vaginal swabs was +ve for culture of

CPS	-	11
CNS	-	5
E.coli	-	12

Majority of cases in our study presented with vaginal discharge and pruritis<sup>17,18,19</sup>. Proper and convenient bedside diagnostic procedures are essential to initiate the therapy and in preventing the complications. Our study met with above requirements by doing simple office procedures like.

1. Estimations of pH.
2. Whiff Test.
3. Saline wet mount for Trichomonas vaginalis.
4. 10% KOH mount for yeast cells.
5. Gram Stain for yeast cells and clue cells.

The leading types of Reproductive tract infections in our study is Bacterial vaginosis and Candidiasis.

Trichomonas vaginalis is noted in 4 cases.

Mixed infection is seen in 6 cases.

Most of Bacterial vaginosis cases in our study are from rural populations.

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