AIMS AND OBJECTIVES
To evaluate the cause of leucorrhoea in reproductive age group women between 15-45 years.

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.

INCLUSION CRITERIA
Included all the women of reproductive age group between 15 - 45 years, with complaint of vaginal discharge.

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 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 swabs.

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

Back ground
Majority of women who present with vaginal discharge and pruritis to the hospital, needs proper and convenient bedside diagnostic procedures which are essential to initiate the therapy and in preventing the complications.

Materials and Methods
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.

Results
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 i.e 57% than in the urban population.

Conclusion
In majority of cases who are present between age group 21-40 years presented with vaginal discharge followed by pain abdomen. 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.

KEYWORDS
Bacterial Vaginosis, Trichomonal Vaginalis, Urinary tract infections, KOH, Coagulase positive Staphalococci, Coagulase negative Staphalococci, Leukorrhoea.

ABSTRACT
Background
Majority of women who present with vaginal discharge and pruritis to the hospital, needs proper and convenient bedside diagnostic procedures which are essential to initiate the therapy and in preventing the complications.

Materials and Methods
It is a prospective study of 100 cases presenting with vaginal discharge attending the Gynaecological OPD of Katuri Medical College & Hospital, from October 2015 to October 2016.

Results
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 i.e 57% than in the urban population.

Conclusion
In majority of cases who are present between age group 21-40 years presented with vaginal discharge followed by pain abdomen. 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.

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 theims speculum is taken with a small dropper on to the glass slide for further investigations.

Estimation of pH
Immersing 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.

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
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
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, Katari 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.12,13,14

TABLE 1: AGE WISE DISTRIBUTION OF CASES

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Number of Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-20 years</td>
<td>5</td>
</tr>
<tr>
<td>21 - 25 years</td>
<td>17</td>
</tr>
<tr>
<td>26 - 30 years</td>
<td>25</td>
</tr>
<tr>
<td>31-35 years</td>
<td>27</td>
</tr>
<tr>
<td>36-40 years</td>
<td>19</td>
</tr>
<tr>
<td>41-45 years</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
</tr>
</tbody>
</table>

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.14,15

TABLE 2: RURAL URBAN

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

Discharge is predominant symptom in all age groups.9,11 In 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

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Discharge</th>
<th>Pruritis</th>
<th>Pain Abdomen</th>
<th>Urinary Symptoms</th>
<th>Back Ache</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 - 20 years</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>21-25 years</td>
<td>17</td>
<td>7</td>
<td>10</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>26 - 30 years</td>
<td>25</td>
<td>13</td>
<td>16</td>
<td>13</td>
<td>10</td>
</tr>
<tr>
<td>31-35 years</td>
<td>28</td>
<td>15</td>
<td>14</td>
<td>13</td>
<td>4</td>
</tr>
<tr>
<td>36-40 years</td>
<td>18</td>
<td>19</td>
<td>12</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>41-45 years</td>
<td>7</td>
<td>7</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

TABLE 4: FINDINGS OF LAB INVESTIGATIONS

<table>
<thead>
<tr>
<th>AGE</th>
<th>pH ALKALINE</th>
<th>WHIFF TEST</th>
<th>SALINE WET MOUNT</th>
<th>10% KOH</th>
<th>GRAM'S STAIN</th>
<th>CLUE CELLS</th>
<th>URINE C/S</th>
<th>VAGINAL SWAB C/S</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-20 years N:5</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21-25 years N: 17</td>
<td>6</td>
<td>6</td>
<td>1</td>
<td>12</td>
<td>5</td>
<td>E.COLI-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26-30 years N: 25</td>
<td>8</td>
<td>8</td>
<td>4</td>
<td>14</td>
<td>6</td>
<td>KLEBSIELLA-2</td>
<td>E.COLI-1</td>
<td></td>
</tr>
<tr>
<td>31-35 years N: 28</td>
<td>17</td>
<td>17</td>
<td>4</td>
<td>9</td>
<td>14</td>
<td>KLEBSIELLA-2</td>
<td>E.COLI-1</td>
<td></td>
</tr>
<tr>
<td>36-40 years N: 18</td>
<td>12</td>
<td>12</td>
<td>-</td>
<td>6</td>
<td>12</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>41-45 years N: 7</td>
<td>7</td>
<td>7</td>
<td>-</td>
<td>7</td>
<td>-</td>
<td>E.COLI-2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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 vaginals 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 sen - Klebsiella 4

sitivity - Ecoli 8

TABLE 5: AGE WISE PATHOLOGY
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

<table>
<thead>
<tr>
<th>AGE</th>
<th>BV</th>
<th>TV</th>
<th>CANDIDIAS</th>
<th>MIXED INFECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-20 years</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>21-25 years</td>
<td>5</td>
<td>-</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td>26-30 years</td>
<td>6</td>
<td>2</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td>31-35 years</td>
<td>14</td>
<td>1</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>36-40 years</td>
<td>12</td>
<td>-</td>
<td>6</td>
<td>-</td>
</tr>
<tr>
<td>41-45 years</td>
<td>7</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**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%).

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

**TABLE 6: INFECTION PROFILE IN THE PRESENT STUDY**

<table>
<thead>
<tr>
<th>DISEASE</th>
<th>INCIDENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacterial Vaginosis</td>
<td>46 (46%)</td>
</tr>
<tr>
<td>Candidiasis</td>
<td>44 (44%)</td>
</tr>
<tr>
<td>Trichomonas</td>
<td>4 (4%)</td>
</tr>
<tr>
<td>Mixed infections</td>
<td>6 (6%)</td>
</tr>
</tbody>
</table>

**CONCLUSION**

1. Majority of cases were in the age group of 31-35 years 27 (27%) followed by 26-30 years of age group 25 (25%).
2. High incidence of R.T.I.s were noted in rural populations 57 (57%), than in the urban populations 43 (43%).
3. In majority of the cases 21 to 40 years age group presented with vaginal discharge followed by pain abdomen.
4. In the age group of 15-20 years Urinary Symptoms were followed by discharge.
5. 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.
6. 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 12% of bacterial vaginosis.
7. T.V. is seen in 4 cases of saline mount preparations.
8. In gram stain clue cells were seen in 46 (46%) cases, budding yeast cells were seen in 44 (44%) and mixed infections were seen in 6 cases.
9. Urinary culture and susceptibility swabs revealed 4 cases of - Klebsiella and 8 cases of E.coli.5,8,9

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 pruritis17,18,19. 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.

REFERENCES