Comparative evaluation of Colposcopy versus Conventional Cytology and HPV DNA testing as a diagnostic triage for Single visit Screen and Treat strategy in VIA based cervical cancer screening programs in low resource settings in India.

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Disclosure of Interest: None Declared
STANDARD PROTOCOL IN PUBLIC HEALTH SERVICES SETTINGS IN INDIA

VISIT - I
Primary Care Facility

VISIT - II
Secondary care Taluk / District

VISIT - III
Secondary care Taluk / District

VISIT - IV
Sharmila Pimple Taluk / District

Screening Test
- Pap Test
- VIA
- VILI

Test Positive

Diagnostic Test
- Pap Test
- Colposcopy
- Biopsy

2 - 3 weeks

Results Of Diagnostic Test
- Accessing Biopsy report
- Decide Treatment options
- Appointment scheduled for outpatient treatment

2 weeks

Treatment of CIN
• Poor compliance for cervical cancer screening, diagnosis and treatment due to multiple visits involved is perceived as the single most major barrier for their successful implementation.

• In resource constrained settings reliable health infrastructure for cytology and HPV testing programs do not exist due to technical, logistical or financial constraints.

• Single visit approaches with Screening, Diagnosis & Precancer management could be suitable alternative for effective and sustainable population based cervical cancer screening programs.
**AIM:** To evaluate the efficacy of diagnostic triage by colposcopy compared to conventional cytology and HPV DNA testing in cervical cancer screening programs.

**METHODOLOGY:** Women in the age group of 30-65 years attending the cervical cancer screening clinic in Mumbai between January to December 2013, were administered primary screening by Visual Inspection with 5% Acetic Acid (VIA).

257 VIA positive women were offered diagnostic triage with Colposcopy, Conventional cytology and HPV DNA testing.

Test characteristics and their 95% confidence intervals for Colposcopy were compared with that of conventional cytology and HPV DNA test against the reference standard of histopathology.
Women aged 30-65 years

Health Education

Invitation for screening

Informed Consent

Visual Inspection with 5% Acetic Acid (VIA) by Trained Health Care Provider

VIA Screening positive

HPV DNA test by Hybrid Capture-II & Conventional Cytology

Colposcopy by Trained Doctors

Cervical Biopsy

Treatment if indicated
RESULTS:

Mean Age of women ~ 41.13 (SD 10.65)

Mean age at marriage ~ 13.85 (SD 1.49)

<table>
<thead>
<tr>
<th></th>
<th>CYTOLOGY</th>
<th>HPV</th>
<th>COLPOSCOPY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Positive</td>
<td>Negative</td>
<td>Positive</td>
</tr>
<tr>
<td>HISTOPATHOLOGY</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CIN 2 and Above</td>
<td>7</td>
<td>9</td>
<td>11</td>
</tr>
<tr>
<td>Normal Findings</td>
<td>7</td>
<td>234</td>
<td>40</td>
</tr>
<tr>
<td>Total</td>
<td>14</td>
<td>243</td>
<td>51</td>
</tr>
</tbody>
</table>

N=257
Comparative evaluation of Cytology, HPV and Colposcopy testing for cervical cancers in Tertiary care center in Mumbai, India.

<table>
<thead>
<tr>
<th>Tests</th>
<th>Sensitivity (95% CI)</th>
<th>Specificity (95% CI)</th>
<th>PPV (95% CI)</th>
<th>NPV (95% CI)</th>
<th>FPR (95% CI)</th>
<th>FNR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cytology</td>
<td>0.44 (95% CI: 0.20 - 0.70)</td>
<td>0.97 (95% CI: 0.94 - 0.99)</td>
<td>0.50 (95% CI: 0.23 - 0.77)</td>
<td>0.96 (95% CI: 0.93 - 0.98)</td>
<td>0.03 (95% CI: 0.01 - 0.06)</td>
<td>0.56 (95% CI: 0.30 - 0.80)</td>
</tr>
<tr>
<td>HPV</td>
<td>0.69 (95% CI: 0.41 - 0.89)</td>
<td>0.83 (95% CI: 0.78 - 0.88)</td>
<td>0.22 (95% CI: 0.11 - 0.35)</td>
<td>0.98 (95% CI: 0.94 - 0.99)</td>
<td>0.17 (95% CI: 0.12 - 0.22)</td>
<td>0.31 (95% CI: 0.11 - 0.59)</td>
</tr>
<tr>
<td>Colposcopy</td>
<td>0.69 (95% CI: 0.41 - 0.89)</td>
<td>0.76 (95% CI: 0.70 - 0.81)</td>
<td>0.16 (95% CI: 0.08 - 0.26)</td>
<td>0.97 (95% CI: 0.94 - 0.99)</td>
<td>0.24 (95% CI: 0.19 - 0.30)</td>
<td>0.31 (95% CI: 0.11 - 0.59)</td>
</tr>
</tbody>
</table>
CONCLUSION:

Diagnostic triage for VIA positive women by colposcopy was comparable to HPV DNA testing and was more sensitive than conventional cytology.

In settings with limitations in establishing diagnostic cytology and molecular facilities and also difficulty in accessing health-care facilities, **Triage by Colposcopy will facilitate pre cancer Treatment in Single visit** thereby increasing compliance for diagnosis and treatment for **Effective and Sustainable** cervical cancer screening programs in India.

Sharmila Pimple