Immediate Treatment of Curable Sexually Transmitted and Genital Infections Among Antenatal Women in Papua New Guinea.

Results of a 2014 point of care pilot study conducted at Goilanai Clinic, Alotau, MBP, Papua New Guinea

Presented by Steve Badman on behalf of the Study Investigators

Background: STIs among pregnant women in PNG

<table>
<thead>
<tr>
<th>Author</th>
<th>Study population</th>
<th>Neisseria vaginalis</th>
<th>C. trachomatis</th>
<th>T. pallidum</th>
<th>T. vaginalis</th>
<th>HSV</th>
<th>HIV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kabu et al., 1995</td>
<td>155 pregnant women attending first antenatal clinic visit at Port Moresby General Hospital</td>
<td>33.3 (17.7, 50.7)</td>
<td>-</td>
<td>-</td>
<td>-</td>
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</tr>
<tr>
<td>Mgone et al., 1997</td>
<td>155 women presenting in labour to Goroka Base Hospital</td>
<td>-</td>
<td>17.7 (12.2, 24.0)</td>
<td>38.0 (20.2, 44.9)</td>
<td>-</td>
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</tr>
<tr>
<td>Suarkia et al., 1999</td>
<td>581 women presenting in labour to Goroka Base Hospital</td>
<td>-</td>
<td>36.8 (29.2, 44.9)</td>
<td>34.1 (30.2, 38.1)</td>
<td>-</td>
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</tbody>
</table>

More recent STI prevalence's at ANC’s.

Alternative?

Point-of-care STI testing & treatment pilot study

Benefits:
- Quick and accurate results
- Same day treatment
- Same day contact tracing
- Reduced travel/time cost for patients
- Reduction in patient recall events
- Improved clinical effectiveness and impact on burden of disease
Aim of antenatal POC Pilot Study

- Evaluate the overall operational feasibility of point-of-care antenatal STI testing and treatment for the first time in PNG.
  
  In particular:
  - Broadly assess attendee receptiveness to this new point of care testing approach.
  - Identify clinical spaces and workflow needed to operate point of care testing successfully.
  - With instruction, determine if self collected samples proved acceptable and reliable.
  - Identify if same day results and treatment were possible for attendee’s.

Methods

- This antenatal site chosen based on attendance rates.
- Women aged 18-35 selected based on known STI prevalence
- Attendees still had routine antenatal examinations
- Tests implemented were GeneXpert CT, NG, TV & BV Blue rapid test
- Syphilis and HIV rapid testing still done as routine
- Patients then managed based on POC test results.
- Consecutive sampling framework used from Aug to Nov 2014 until study numbers reached

Results: Prevalence of STIs among 125 antenatal women attending Goilanai Clinic

![Graph showing prevalence of STIs among 125 antenatal women]

Other results

<table>
<thead>
<tr>
<th>N=125</th>
<th>N (%)</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Socio-demographic characteristics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age, median of antenatal attendees</td>
<td>25.9</td>
<td></td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>108 (86)</td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>16 (13)</td>
<td></td>
</tr>
<tr>
<td>Divorced</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Widowed</td>
<td>1 (0.7)</td>
<td></td>
</tr>
<tr>
<td>Clinical and laboratory findings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≥3 curable genital STIs (CT, NG, TV, BV)</td>
<td>39 (31.2)</td>
<td></td>
</tr>
<tr>
<td>2 curable genital STIs (CT, NG, TV, BV)</td>
<td>17 (13.6)</td>
<td></td>
</tr>
<tr>
<td>1 curable genital STIs (CT, NG, TV, BV)</td>
<td>8 (6.4)</td>
<td></td>
</tr>
<tr>
<td>≥3 curable genital STIs (CT, NG, TV, BV)</td>
<td>3 (2.4)</td>
<td></td>
</tr>
<tr>
<td>Any STI</td>
<td>67/125 (53.6)</td>
<td>44.4 - 62.5</td>
</tr>
<tr>
<td>% of STIs 15-24 (all STIs)</td>
<td>42/67 (62.5)</td>
<td>50.0 - 74.2</td>
</tr>
<tr>
<td>% of 25+ with STI/≤4 STIs</td>
<td>25/67 (37.0)</td>
<td>25.7 - 49.9</td>
</tr>
<tr>
<td>% patients treated on same day as POC test</td>
<td>56/67 (83.6)</td>
<td>79.0 - 93.6</td>
</tr>
<tr>
<td>% of women due to delivery for the first time</td>
<td>55 (44.0)</td>
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</tbody>
</table>

Age-specific STI prevalence among antenatal women at first clinic visit, Goilanai Clinic, Alotau (n=125)

<table>
<thead>
<tr>
<th>STI</th>
<th>&lt;25y (n=91)</th>
<th>&gt;35y (n=34)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT</td>
<td>6.6%</td>
<td>6.8%</td>
</tr>
<tr>
<td>NG</td>
<td>1.5%</td>
<td>0.0%</td>
</tr>
<tr>
<td>TV</td>
<td>6.6%</td>
<td>1.8%</td>
</tr>
<tr>
<td>BV</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Syphilis</td>
<td>4.3%</td>
<td>3.2%</td>
</tr>
<tr>
<td>HIV</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

Symptoms and treatment

- Symptoms - one or more STI (n=20; 57%)
  - treated a total of 11 symptomatic women of whom only 7/11 (63.6%) actually had an STI.
  - left 4 of the 5 symptomatic pregnant women (75%) who had no symptoms and a confirmed STI untreated.

- Symptoms - No STI (n=45; 43%)
  - No symptoms (n=40; 72%)
  - One or more STI (n=47; 28%)
    - No STI (n=43; 48%)

Syndromic management would have:
- treated a total of 11 symptomatic women of whom only 7/11 (63.6%) actually had an STI.
- left 4 of the 5 symptomatic pregnant women (75%) who had no symptoms and a confirmed STI untreated.
Conclusions:

- Prevalence of STI's at this clinic remain high for antenatal women (like other parts of PNG).
- Many women (44%) had not delivered before.
- 70% of women with an STI were asymptomatic.
- POC approach can provide an important alternative to syndromic management and reduce unnecessary Rx.
- Attendee's and staff were enthusiastic about POC testing and same day treatment.
- Immediate treatment was possible for the vast majority (86.5%) of women with adequate resourcing.

Next Steps:

Implement large field trial to evaluate the impact of point-of-care STI diagnosis and treatment to reduce adverse pregnancy outcomes.

Design:

- Randomised cluster controlled trial
- Involving 4200 women attending antenatal clinics
- At 12 sites across Papua New Guinea
- Start 2016 (over 4 years)

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