Menstrual hygiene management health impact (RTIs) in Indian women of reproductive age and its implications for school girls.

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Menstrual hygiene management

Girls attending school around the world manage their menstruation in different ways.

**Hardware:**
- Water and Soap access
- Toilet and disposal material access
- Menstrual Absorbent Access
- Drying space

**Software:**
- Knowledge
- Privacy
- Dignity
- Convenience
- Security
Health impact

Background:

1) Systematic Review (Sumpter and Torondel 2013): Evidence for the impact of menstrual hygiene management (MHM) on health outcomes (13 articles):
- Plausible association: good MHM and reduction of RTI.
Unclear about:
- Specific infections
- Strength of effect
- Route of transmission
- Definition of “good menstrual hygiene management”

2) Relevance in India: Between 43 and 88% of girls wash and reuse cotton clothes.
1) Are menstrual hygiene management practices (including type of absorbent used, pad hygiene practices and women WASH practices) risk factors for bacterial vaginosis and urinary tract infections?
Study design: Case-Control hospital based study

Number of women: 486
Location: 2 hospitals (Bhubaneswar and Rourkela) Odisha
Inclusion criteria: Women attending to gynaecology clinic,
18-45 years old
Non-Pregnant
Non menstruating during clinic visit

Recruitment of Cases: Women with 1 of the following symptoms:
- Abnormal vaginal discharge
- Burning or itching in the genitalia
- Burning or itching when urinating.
- Present genital sores.

Recruitment of Controls: Women with none of the above symptoms
Study design: Risk factor assessment

**Questionnaire** (administered by a nurse: collected in private room) questions related to:

- **Absorbent use** and practices of cleaning, drying and storage of the pad.
- **Body hygiene questions**: practices related to physical hygiene during menstruation.
- **WASH home-related questions**: water, hygiene and sanitation access information at household level.
- **Socioeconomic data and demographic information**: age, education level, socioeconomic indicators
Study design: Outcome assessment

Laboratory diagnostic:
- Bacterial Vaginosis (BV): Amsel test
- Urinary Tract Infections (UTI): culture microbiology test.
Results

Associations of different hygienic practices and household enabling environment factors and risk of BV:

<table>
<thead>
<tr>
<th>Exposure factors</th>
<th>BV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reusable cloth vs. disposable pads</td>
<td>Increase</td>
</tr>
<tr>
<td>Changing absorbent outside latrine vs. in latrine</td>
<td>Increase</td>
</tr>
<tr>
<td>Having water outside house vs. inside house</td>
<td>Increase</td>
</tr>
<tr>
<td>No access to latrine vs. access to latrine</td>
<td>Increase</td>
</tr>
<tr>
<td>Lower monthly income vs. higher income</td>
<td>Increase</td>
</tr>
</tbody>
</table>

Adjusted for all factors

Only place where absorbent in change and monthly income are predictor of BV
# Results

Associations of different hygienic practices and household enabling environment factors and risk of UTIs:

<table>
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<tr>
<td>Less changes of absorbent vs. more changes</td>
<td>Increase</td>
</tr>
<tr>
<td>More washing/day when menstruation vs. less washing</td>
<td>Increase</td>
</tr>
<tr>
<td>Lower education vs. higher education</td>
<td>Increase</td>
</tr>
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</table>

Adjusted for all factors

Only education was predictor of BV
Results

Comparison of health risk associated with using **disposable pads** vs. different hygienic practices dealing with **reusable cloth**.

<table>
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<tr>
<th>Practice</th>
<th>BV</th>
<th>UTI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absorbent washed in the toilet</td>
<td>Disp=Reus</td>
<td>Disp=Reus</td>
</tr>
<tr>
<td>Absorbent washed with water and soap</td>
<td>Disp&gt;Reus</td>
<td>Disp&gt;Reus</td>
</tr>
<tr>
<td>Absorbent dried in open space</td>
<td>Disp&gt;Reus</td>
<td>Disp=Reus</td>
</tr>
<tr>
<td>Absorbent wrapped (for store) in a bag</td>
<td>Disp&gt;Reus</td>
<td>Disp&gt;Reus</td>
</tr>
<tr>
<td>Absorbent stored -In the Toilet -In changing room</td>
<td>-Disp=Reus</td>
<td>-Disp=Reus</td>
</tr>
<tr>
<td></td>
<td>-Disp&gt;Reus</td>
<td>-Disp&gt;Reus</td>
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</table>
Summary:

• ~60% of women diagnosed with BV and UTI use reusable pads.
  Women who reported using reusable pads were 1.5x and 2.0x more likely to experience vaginosis or a UTI, respectively, compared to women who use disposable pads.
  Analysis where we adjusted for other factors showed that increased wealth and space for personal hygiene in the household latrine were protective for BV.
  Analysis where we adjusted for other factors showed that education was the key predictor for UTI, while frequency of body washing during menstruation was not significant after adjustment.
  Some hygiene practices dealing with reusable cloths can improve users health (washing absorbent in private, with soap and water, drying them in an open space, storing them in the toilet).
Implication of the research

- Results found in this study can be extrapolated to women from different settings (e.g. School girls)
- Results can inform policy makers, NGOs about recommendations for menstrual hygiene management practices.
- The findings of this study will be disseminated using different channels to reach different type of audiences:
  - Research community
  - NGOs and programmatic audience
  - Government and policy makers
THANK YOU!!!

AIPH team

Padma Das Co-PI of the study

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