Menstrual solutions for adolescent schoolgirls in western Kenya:

An acceptability, feasibility and safety study

Liverpool School of Tropical Medicine, UK
KEMRI/CDC Public Health and Research Collaboration; Safe Water and AIDS Project; and Ministry of Health, Kenya

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MRC/DFID/WT (Global Health Trials) Funding Award
Context of Research

Girls inequality
- ~25% less girls finish high school
- Drop out: pregnant, marry, ill, fees, ?
- Improved WASH reduces loss?
- Staying in school is protective

Menstrual misery
- Menstruation stress and shame
- Traditional items leak and chafe
- Less concentration/engagement
- Absent during menstruation?
- Sex for pads increases HIV risk?
**Research Methods 1**

**Design:** 3-arm open cluster randomized controlled study

**Units of measurement**
Schools = unit of randomization  
Girls = unit of assessment

**Mixed methods (Quant/Qual)**
- Cohort follow-up surveys  
- Focus group discussions  
- Clinical - HIV RTI S.aureus  
- WASH school/home  
- School registry

**Acceptability**

**Use**

**Safety**

**Proof of concept 'feasibility' study**
Research Tools and Instruments

SURVEY FORMS
- Baseline enrollment
- Girls personal
- Girls routine screen
- Nurse routine screen
- PEDSQL (wellbeing)
- Menstrual cup viability
- WASH school
- WASH home

CLINICAL /LAB
- RTI screening
- Staph aureus
- HIV Test Counselling
- TS/cup tests

FOCUS GROUPS
- Transcripts/tapes

SCHOOL ATTENDENCE
- School registry/Headcounts

CALENDARS
- Monthly (school)
- Daily (menses)

STUDY LOGS: Monthly progress, lab data, costs, loss to F-U
MHM Interventions Undertaken

**Basic Package (All)**

- Puberty education
- School nurse screening
- Soap for hand-washing:

**Intervention Arms**

- Pads
- Moon cups

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[Logos: LSTM, SWAP, KEMRI/CDC, CDC]
Monitoring Tools: Netbooks

Research nurses

Participant girls

WASH team
Paper instruments: M-calendars (monthly)
Paper instruments: M-calendars (daily)

<table>
<thead>
<tr>
<th>Study ID</th>
<th>DAY OF PERIOD</th>
<th>Month</th>
<th>Month</th>
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</thead>
</table>

1. Remo manewuok kuomi ne pek maromo nadi? (How heavy was your period today?)
   - ○ Mapek (Heavy)
   - ○ Man gie diere (Medium)
   - ○ Mayot (Light)

2. Ang'o mane itiyogo echoko remo? (What did you use to collect the blood today?)
   - ○ Okombe mar dhi edwe (cup)
   - ○ Pamba maler (pad)
   - ○ Gik mitiyogo mapile (Usual)

3. Ere kaka iwinjo kawuono/Iwinjo nade kawuono? (How did you feel today?)
   - ○ Maber (good)
   - ○ kare (just ok)
   - ○ Marach (Bad)
Focus Group Discussion Guides: Girls

**MODERATOR:** Please document below information for each FGD       Date: ____/____/____

Initials: Moderator: _____ Note Taker______ Recorder# ___ File Name _____________

Interview location (Venue): ________________ FGD Group: ____________ FGD Number: ___

Time FGD Started: ____ Stopped: ____ # FGD Participants - at start: ____ by the end: ____

Demographic information for each FGD participant *complete one-to-one after assent*

<table>
<thead>
<tr>
<th>Participant number or Fake name</th>
<th>Age in years</th>
<th>Ethnic group</th>
<th>Other........</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.....</td>
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**COMMENTS – reasons for withdrawal, refusal, FG ambience, interest, disagreements, etc**

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<thead>
<tr>
<th>Introduction</th>
<th>Thank you for taking part. I am <strong>[Name]</strong> from KEMRI/CDC. MHM research...... Explain role of note-takers, tape-recorder; FGD procedures; questions session on FGD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Themes</td>
<td><strong>Social ...</strong> What happens when girls here start menstruation? <strong>Prompts</strong> What do girls do? .... <strong>Hygiene...</strong> How do you keep clean during menstruation? <strong>Prompts</strong> If yes, What are they? <strong>OTHER ...</strong> MHM practices, etc, etc..... <strong>Prompts</strong> How?....</td>
</tr>
</tbody>
</table>
Evidence to influence practice / policy

• Guidance on use, safety, cost-effectiveness of cups
• Comparison of cups vs. pads and traditional items
• Guidance on provision of disposable pads in schools
• Lessons learnt on girls MHM needs at school and home
• School girls unmet sexual & reproductive health needs
• Electronic tools can be used in rural environments
• Instruments feasible for MHM/WASH follow-up studies
Successes

• Goodwill: Schools, parents, girls, MOH/E

• Study participation: Few refused/withdrew

• Instruments: Girls can use computers/netbooks

• Tools: Good data quality/consistent responses, generated new data

• Menstrual cups: Evidence of use, low refusal, ‘safe?’

Challenges

• Travel logistics: 500km$^2$, bad roads, dispersed

• School-based: Elections, strikes, holidays, exams

• Age menarche: Younger age at primary school

• Data: Many unknowns, long screening time, netbook breakdowns

• Follow-up: ID links, home visits time consuming
Recommendations: Tools for future use

TOOLS / INSTRUMENTS

- Girls and schools able to join in complex studies
- Girls’ face-to-face data questionable early on
- Reported MS use requires physical evidence
- Netbooks valuable but logistical issues with use
- Issues with paper calendars
- Girls helped reformat IEC materials at end of study

WIDER IMPLICATIONS

- Menstrual cups deserve programmatic consideration
- Issues around pads, costs, environmental issues
- Improving hardware (pads, cups) can improve girls’ MHM experience
- Young adolescent girls need sexual and reproductive health support
Acknowledgements

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Questions

GIRLS’ URINAL
Always wash your hands with soap after visiting the latrine...