From Data to Action: Informing Menstrual Health Management Programs

Wednesday, February 16th 2022

8:30am-9:30am New York
4:30pm-5:30pm Nairobi

Karen Austrian  Director, GIRL Center, Population Council
Nicole Haberland  Senior Associate, Population Council
Beth Kangwana  Executive Director, Population Council Kenya
Megan White Mukuria  Founder, ZanaAfrica
Does Provision of Menstrual Health Supplies Improve Education Outcomes for Girls?

Nicole Haberland, Cara Kraus-Perrotta, Stephanie Psaki, Erica Chuang, Lauren Woyczynski, Barbara Mensch

Population Council
16 February 2022
Background
The Girls' Education Landscape

The Good News

• Dramatic increase in girls' enrollment globally
• Gender parity achieved globally in primary and secondary enrollment

The Remaining Challenges

• Extended learning disruptions due to epidemics (COVID-19), environmental disasters, conflict, etc.
• Gender gaps in enrollment remain
• Progress in attainment has stagnated
• Very low levels of learning
• Conflicts between schooling and adult roles (marriage, parenthood)
Gender disparities in education persist, especially when we take an intersectional lens.

The poorest girls have the lowest attainment, worst learning outcomes, and biggest gender gaps.
<table>
<thead>
<tr>
<th>Community</th>
<th>School</th>
<th>Household</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of Safe Spaces &amp; Social Connections</td>
<td>Inadequate Life Skills</td>
<td>Lack of Access to School</td>
</tr>
<tr>
<td>Lack of Support for Girls’ Education</td>
<td>Insufficient Academic Support</td>
<td>Inability to Afford Materials</td>
</tr>
<tr>
<td>Child Marriage &amp; Adolescent Pregnancy</td>
<td>Gender-Insensitive School Environment</td>
<td>Inability to Afford Tuition/Fees</td>
</tr>
<tr>
<td>Poor Policy/Legal Environment</td>
<td>Lack of Water &amp; Sanitation</td>
<td>Lack of Information on Returns to Girls’ Schooling</td>
</tr>
<tr>
<td>Inadequate Sports Programs for Girls</td>
<td>Lack of Teaching Materials &amp; Supplies</td>
<td>Lack of Adequate Food</td>
</tr>
<tr>
<td>Inadequate Health &amp; Childcare Services</td>
<td>School-Related Gender-Based Violence</td>
<td>Inadequate Menstrual Hygiene Management</td>
</tr>
</tbody>
</table>
Policies and interventions to remove gender-related barriers to girls' school participation and learning in low- and middle-income countries: A systematic review of the evidence

Stephanie Psaki1 | Nicole Haberland2 | Barbara Mensch2 | Lauren Woyczynski2 | Erica Chiang2

Population Council, Washington, D.C., USA
Population Council, New York, NY, USA

Correspondence
Nicole Haberland, Population Council, One Park Avenue, New York, NY 10016 USA
Email: nhaberland@popcouncil.org

Abstract
Background. Gender disparities in education continue to undermine girls' opportunities, despite enormous strides in recent years to improve primary enrollment and attainment for girls in low- and middle-income countries (LMICs). At the regional, country, and subnational levels, gender gaps remain, with girls in many settings less likely to complete primary school, less likely to complete secondary, and often less likely to be literate than boys. The academic and policy literatures on the topic of gender-related barriers to girls' education are extensive. However, there remain gaps in knowledge regarding which interventions are most likely to work in contexts with different combinations of barriers.

Objectives. This systematic review identified and assessed the strength of the evidence of interventions that have been found effective in promoting school attendance and educational outcomes for girls in LMICs.
Search Strategy


• Relevant organizations’ websites

• Review of bibliographies

• Inquiries to authors of included studies, relevant researchers and relevant organizations.
Inclusion Criteria

• Randomized controlled trials

• Quasi-experimental studies that used quantitative models that attempt to control for endogeneity

• Data from LMICs

• Published, peer-reviewed articles or grey literature such as working papers, reports and dissertations

• Published in or after 2000

• Analyzed the effects of the intervention/exposure on primary outcomes of interest (attainment/learning)

• Intervention or exposure that attempted to address a gender-related barrier to schooling
Data collection/analysis

• Pairs of reviewers independently screened for relevance, extracted data, assessed risk of bias

• Risk of bias assessed through:
  – RoB 2 tool (experimental studies)
  – ROBINS-I tool (quasi-experimental studies)

• Converted effect sizes to partial correlation coefficients given variety of model types

• Used the GRADE (Grading of Recommendation, Assessment, Development and Evaluation) approach to synthesize research as opposed to meta-analysis, due to heterogeneity of study characteristics and reported outcome measures between studies.
PRISMA Flow Diagram

Citations initially identified in search (n=25935)
- Dissertation Abstracts (n=2815)
- EconLit (n=1635)
- ERIC (n=3438)
- POPLINE (n=3630)
- PSYCHINFO (n=7470)
- PubMed (n=2527)
- Sociological Abstracts (n=1003)
- Other (n=3417)

Citations removed due to:
- Out of scope (n=6654)
- Duplicates (n=254)

Citations added from reviews, advisory committee, or author directly (n=80)

Potentially relevant studies imported into Covidence for screening (n=19095)

Further duplicates removed (n=315)

Studies excluded, lack of relevance (n=17923)

Potentially relevant studies screened for full text retrieval (n=18780)

Studies excluded (n=769)
- Did not include any exposure and outcome in protocol (n=64)
- Did not address a stated barrier to girls’ education (n=297)
- Did not disaggregate the effects of programs or policies by sex (if both sexes are included in data analysis) (n=33)
- Did not adequately control for endogeneity (n=217)
- Cash transfer study (n=10)
- Purely qualitative studies (n=80)
- Only reports data on high-income countries (n=15)
- Published prior to 2000 (n=1)
- Duplicate (n=32)
- Unable to locate (n=16)
- Ongoing study (n=3)

Full text articles retrieved for detailed evaluation (n=857)

Articles included in review (n=88)

Articles addressing menstrual health interventions (n=6)
MHM Results
MHM Results

• Four studies
  o Provision of menstrual cups (Oster and Thornton, 2009)
  o Provision of sanitary pads (Benshaul-Tolonen et al., 2019; Phillips-Howard et al., 2016)
  o Training on how to make reusable sanitary pads (Wilson et al., 2012)
  o Multi-component program including sanitary pad distribution, payment of school fees, uniforms, school supplies, and adult mentor (Hallfors et al., 2011; Iritani et al., 2016)

• All used an experimental design
# GRADE Summary - MHM Interventions

<table>
<thead>
<tr>
<th>Outcome Description</th>
<th>Effect Direction and Size Summary</th>
<th>Number of Papers and Participants</th>
<th>Certainty in Evidence (Grade Low-High)</th>
<th>GRADE Ranking Based on:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrollment in primary school</td>
<td>Two studies showed different results - one finding significant improvement and one finding null/unexpected negative effects on enrollment.</td>
<td>335 participants across 1 experimental paper</td>
<td>Very low ⬤OOO</td>
<td>Very low (due to few studies and serious risk of bias due to imprecision and inconsistent findings)</td>
</tr>
<tr>
<td>Absenteeism</td>
<td>Effect sizes ranged from small (negative) to null, with all CIs either crossing 0 or coming close to 0.</td>
<td>1144 participants across 3 experimental papers</td>
<td>Low ⬤OO</td>
<td>Low (due to few studies, imprecision from one study, and a combination of small and null effect sizes)</td>
</tr>
<tr>
<td>Academic Skills (literacy and numeracy)</td>
<td>Most effect sizes are null with large confidence intervals; one effect size is small and positive but comes from a study that did not focus directly on this research question.</td>
<td>533 participants across 2 experimental papers</td>
<td>Low ⬤OO</td>
<td>Low (due to only two studies, and imprecision from one study)</td>
</tr>
</tbody>
</table>
Forest Plot showing partial correlation coefficients and 90% confidence intervals
Conclusions

• There was not sufficient, quantitative evidence linking menstrual health supplies to education outcomes.

• We concluded that more research is needed to assess the effects of interventions that address menstrual health supplies on education outcomes.

• There are other reasons, apart from education outcomes, why provision of menstrual health supplies may be desirable.

• Those responsible for making decisions about limited education budgets need accurate information about the costs and benefits of the different interventions under consideration.
Driving smarter investments in evidence-based programming

www.egeresource.org
IMPACTS OF SANITARY PAD DISTRIBUTION AND REPRODUCTIVE HEALTH EDUCATION ON EDUCATION AND SEXUAL HEALTH OUTCOMES: A CLUSTER RANDOMIZED CONTROLLED TRIAL

Karen Austrian, PhD, MPH
Beth Kangwana, PhD
Eunice Muthengi, PhD, MPH
Erica Soler-Hampejsek, PhD

February 2022
Background

- The onset of puberty and menarche is a vulnerable time for girls
- According to qualitative studies in Africa, these pressures are exacerbated by:
  - girls’ lack of knowledge of their bodies and their rights
  - inability to manage puberty and adolescence comfortably due to lack of access to menstrual products
- No rigorous quantitative studies examining combination of hardware and software or both education & SRH outcomes

*Crofts & Fisher, 2012; Mason et al., 2013; Mukuru, 2008; Sommer, 2009, 2010; Tegegne & Sisay, 2014; Wilson, Reeve, & Pitt, 2014
Study Design

- Cluster-randomized controlled trial
- 140 schools in three sub-counties in Kilifi County

<table>
<thead>
<tr>
<th>Arm 1</th>
<th>Arm 2</th>
<th>Arm 3</th>
<th>Arm 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>35 schools</td>
<td>35 schools</td>
<td>35 schools</td>
<td>35 schools</td>
</tr>
<tr>
<td>Control (No intervention)</td>
<td>Sanitary Pads</td>
<td>Reproductive Health Ed</td>
<td>Sanitary Pads</td>
</tr>
<tr>
<td></td>
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</tbody>
</table>
Intervention

- One pack of Nia Teen pads distributed monthly

- Underwear distributed once per term

- Reproductive Health Education
  - Girls-only sessions conducted in school, led by trained facilitator, 4-6 per term
  - Nia Teen magazine distributed once per term
Research Component

• **Baseline survey (2017):** conducted with 3,489 girls in Class 7 (10-21 years, mean 14.4)

• **School quality survey:** including WASH facilities, information on school characteristics

• **School Attendance data:** collected for 20 consecutive days in Term 3 2017, Term 1 2018 and Term 2 2018 (data collected on all girls and boys who were in Class 7 during Term 2 2017)

• **Endline survey (November 2018):** 94% of baseline sample interviewed (3,276)
Endline Results
Management of Menstruation

![Bar chart showing the percentage of participants who have enough pads at endline. The chart compares four groups: Control, Pads + RH, Pads Only, and RH Only. The chart indicates a significant difference (p < 0.05) between the groups.](chart.png)
Norms and Attitudes

![Bar chart showing the mean difference between baseline and endline for Menstruation Attitudes (0-12) and Gender Norms: Adolescent Behavior (0-12) across different conditions: Control, Pads + RH, Pads Only, and RH Only. Stars indicate p < 0.05.](image)
Norms & Attitudes – cont’d

Gender Norms: Sexual Double Standard (0-5)

- Pads + RH
- Pads Only
- RH Only

Control

Mean difference between baseline and endline

Self-Efficacy (0-10)

- Pads + RH
- Pads Only
- RH Only

★ p < 0.05; † p < 0.1
SRH Knowledge

**Pregnancy Knowledge**

- Control
- Pads + RH
- Pads Only
- RH Only

**STI Knowledge**

- Control
- Pads + RH
- Pads Only
- RH Only

Mean difference between baseline and endline (0-4)

\[ p < 0.05 \]
Education Outcomes

# School Days Attended (0-60) KCPE Score (0-500)

- Control
- Pads + RH
- Pads Only
- RH Only

p < 0.05

% Enrolled in Secondary School

- Control
- Pads + RH
- Pads Only
- RH Only

★ p < 0.05
Summary

• Pads led to improved menstrual hygiene management
• RH education led to improved SRH knowledge, self efficacy, gender norms and attitudes on menstruation
  – Combined intervention had stronger impacts on reducing shame/stigma around menstruation
• Neither intervention had an impact on education outcomes
Acknowledgements
Thank you for joining!

Explore the evidence:

- Global systematic review: Policies and interventions to remove gender-related barriers to girls’ education
- Effects of sanitary pad distribution and reproductive health education in Kenya: a cluster randomized controlled trial

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