

# Menstruation and the cycle of poverty: a cluster quasi-randomised control trial of sanitary pad and puberty education provision in Uganda

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## Background & Objectives

Menstruation has been posited as a barrier to girls' educational attainment in low income contexts. Interventions providing sanitary products and information about menstruation have been proposed. Despite increasing implementation of such interventions, there have been few rigorous trials of their effectiveness.<sup>a</sup>

The *Menstruation and the Cycle of Poverty* trial sought to assess the impact of providing reusable sanitary pads and/or puberty education on girls' school attendance and psychosocial wellbeing in rural Uganda.

## Methods

### Participants

Eight rural primary schools (1,124 schoolgirls) in Kamuli district, Uganda were included in the trial.

Schools were grouped into pairs maximizing distance between the clusters and quasi-randomized (alphabetical order) to one of four conditions:

Reusable pads & education	Reusable pads alone
Education alone	No-intervention control

### Measures

**Attendance.** Recorded at baseline and 18-month follow-up.

**Psychosocial outcomes.** Research assistants from the partner NGO verbally administered surveys in the local language, inputting answers into the English survey loaded on iPads. Outcomes included: shame and insecurity during menstruation, and the total difficulties score on the Strengths & Difficulties Questionnaire<sup>b</sup>.

### Interventions

**AFRIPads.** Girls were provided with a pack (2x plastic-lined 'base' pads, 3x winged liners, 2x straight liners) of AFRIPads ([www.afripads.com](http://www.afripads.com)) along with a small (45g) quantity of Omo soap. Girls were taught about correct use and cleaning on delivery.



Deluxe Menstrual Kit  
• 2 holders  
• 3 winged pads  
• 2 straight pads  
• 1 carrying bag

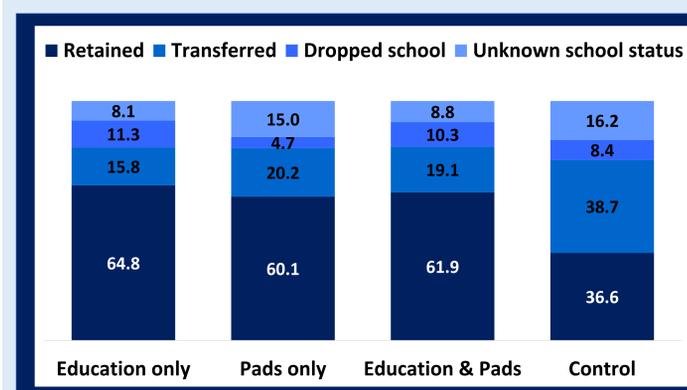
**Education.** Community health nurses from the partner NGO administered a 1.25hr education session adapted from the *Straight Talk* ([www.straighttalkfoundation.org](http://www.straighttalkfoundation.org)) training guide. Education included: puberty changes, menstruation, early pregnancy, life skills, prevention of HIV, healthy relationships, friendship formation, and goal setting. As part of the education on menstruation, girls were given instructions on how to sew pads from local cloth.

## Results

### Participant characteristics & retention

- 25% sub-sample completed the baseline survey
- Girls were 7-18 years of age ( $Mean=11.4, SD=1.7$ ), and 20.6% had reached menarche at baseline

Participant drop out over the study was substantial. The population was highly mobile with many girls moving to different villages or schools during the trial. Girls in the control condition were significantly more likely to transfer to a different school than those in the intervention conditions.

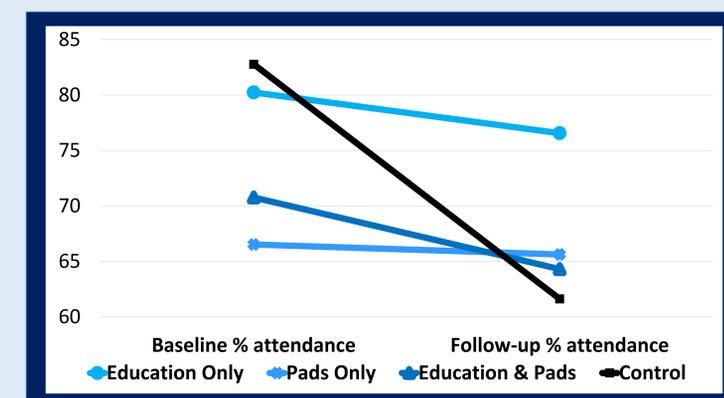


### Outcomes: psychosocial wellbeing

356 girls completed the final survey. There were no significant differences between the conditions on any of the psychosocial wellbeing outcomes; shame, insecurity, or total difficulties score.

### Outcomes: attendance

Per-protocol analysis (girls still in school at follow-up, n=580) found attendance worsened across all conditions. In the intervention conditions, this effect was mitigated by 17.1% (95%CI 8.7-25.5). There were no significant differences between the interventions.



### Attendance: sensitivity analyses

Due to substantial drop-out, sensitivity analyses were undertaken to assess the robustness of the findings. Best case and worst case imputations were conducted.

- Best case: baseline attendance imputed for all missing cases
- Worst case: 0% attendance imputed for all missing cases

In both scenarios effects were maintained. Interventions protected against the greater drop in attendance evident in the control group ( $p<.05$ ). Effect size estimates ranged from 5.2% difference in the best case to 24.5% in the worst case imputation.

## Conclusions

- This cluster quasi-randomised controlled trial provides evidence for the effectiveness of providing reusable pads or puberty education to improve school attendance in rural Uganda.
- There were no significant effects of the interventions on psychosocial wellbeing. Improvements to the education provided may be needed to better attend to girls' anxieties. Further, validated survey items capturing the psychosocial impacts of menstruation are needed.
- Results of the study provide quantitative support to the assertion that the management of menstruation presents a barrier to education.
- Given the limitations of the trial, and need to assess potential harms of menstrual health interventions, more research and replication is needed.
- Future evaluations will need sufficient funding and strategies to address participant retention issues, and should conduct baseline survey on all participants to aid imputations.

## Additional Information

Contact: Julie Hennegan ([julie.hennegan@spi.ox.ac.uk](mailto:julie.hennegan@spi.ox.ac.uk)). For more information on the trial please see: <http://www.spi.ox.ac.uk/research/details/menstruation-and-the-cycle-of-poverty.html>  
<sup>a</sup>Hennegan, J., & Montgomery, P. (2016). Do Menstrual Hygiene Management Interventions Improve Education and Psychosocial Outcomes for Women and Girls in Low and Middle Income Countries? A Systematic Review. *PLOS ONE*, 11(2), e0146985.  
<sup>b</sup>Goodman, R., Meltzer, H., & Bailey, V. (1998). The Strengths and Difficulties Questionnaire: A pilot study on the validity of the self-report version. *European Child & Adolescent Psychiatry*, 7(3), 125-130.