University of Oxford Study

Impact of Providing Sanitary Pads To Poor Girls in Africa

November 2009

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Project Concept

The education of girls is a primary focus of development efforts in poor nations because female school achievement is believed to have long-lasting and far-reaching economic effects. Complex, multiple factors work against girls' education in developing countries; consequently, existing programmes aimed at retaining girls in school tend to be labour-intensive community engagement efforts where the gains may be small, progress slow, and outcomes uncertain. Recently, support has surfaced in the media for the notion that providing sanitary pads to poor girls may offer a faster, more direct, and less expensive means of raising attendance and performance levels among girls, particularly in early adolescent years when dropout rates are high. While such an intervention would not address many entrenched beliefs and practices that work against female education, it might nevertheless have a significant impact in the short run on girls' achievements—and such gains could, in turn, have important positive effects on a range of issues from fertility rates to disease transmission to infant nutrition. Though recent reports in the media have alluded vaguely to studies supporting this idea, there is, in truth, no published empirical research on the topic to date. Thus, the studies summarized here aim to initiate disinterested documentation of the negative effects inadequate sanitary care may have on female educational achievement as well as the positive potential to improve attendance and retention by filling that gap.

Study Design and Method

Research was conducted across Ghana in two stages: qualitative and quantitative. The initial, qualitative study occurred in September/October 2008 and January/February 2009. Research teams from Oxford went into the field with local NGO workers to interview girls, parents, and teachers, to observe conditions in the schools, and to discuss the provision of sanitary care with education and health officials.[1] All interviews were conducted in the relevant local language, with NGO staff providing translations into English. Sites visited included schools in the inner city, in periurban towns, and in remote rural villages. Fieldwork encompassed both Christian and Muslim populations and took place in urban, periurban, and rural locations: in Accra, as well as the Western, Central, Upper East, and Ashante regions. Toilet facilities were inspected in all schools visited. Approximately 200 individuals drawn from each of the subject groups—girls, teachers, and parents—were interviewed through a combination of individual interviews, focus groups, and small community meetings.

The second study, conducted during the Winter/Spring school term 2009, was a pilot test in four Ghanaian sites: two treatment villages in which pads as well as puberty education were provided; one treatment village in which education was given; and one control village where no intervention occurred and data were collected only once. Only economically deprived sites were selected; one village where the girls were given pads was in an isolated rural area, while all others were comparable periurban villages. We did not choose an urban school because we were not yet equipped to control for the social class variation typical of those settings. We did continue to do qualitative research in Accra, especially among street children and among Muslim girls, but we did not produce a pilot intervention there.

All schoolgirls 12 years old and older, a total of 183, were included. In the two villages receiving sanitary pads and the one receiving only puberty education, a baseline assessment was conducted in February 2009, followed by two interim visits with interviews (March and May) and a final

[1] We were assisted in this study by CARE International, FURDEV of Ghana, Plan International, Afrikids, and CENSUDI of Ghana, as well as the Ghanaian national Ministries of Education and Health. In addition, local health and education authorities, especially the Girls' Education and School Health Education Coordinators, provided ground support. Clearance was obtained from the Research Ethics Committee in Ghana prior to the start of work.

assessment (June/July 2009). In all test villages, the girls themselves recorded their attendance in diaries provided for that purpose; in addition, teachers maintained and provided their attendance records. The research team interviewed the girls at the end of spring term in the control village where attendance data was provided only by the schools.

All questionnaires were translated into the relevant local languages (Fante and Twi) through collaboration with the same personnel who assisted with the qualitative research. For the baseline and final assessments, semi-structured interviews were conducted by public health nurses, NGO staff, and Ghanaian graduate students, with Oxford researchers present. Monthly interviews were conducted by the same local staff members at each visit in hopes that familiar faces would make the girls more comfortable. Pads, where distributed, were given at the end of each interview.

Summary of Findings

Qualitative research suggested strongly that post-pubescent girls were missing school as many as five days each month due to inadequate menstrual care and cramping. In addition, the girls refrained from other activities, such as work, chores, and playing with other children. After six months of free sanitary pad provision, *quantitative* results showed the girls missed significantly less school than before the test. The girls who were provided with pads also reported an improved ability to concentrate in school, higher confidence levels, and increased participation in a range of everyday activities while menstruating. Negative experiences related to soiling and embarrassment declined, and measures of well being improved. The girls reported a strong preference for the pads over traditional methods, primarily due to their greater effectiveness in protecting against accidental soiling and reduced worry about embarrassing scent. Results were particularly pronounced in the remote village.

Elaboration of Findings

Qualitative Phase

Girls attending schools in several remote rural areas reported staying at home the entire length of their periods due to fear of soiling themselves in the presence of others. It was common in these sites to find that girls had *no* experience with sanitary pads. The usual practice was to use discarded cloth, which the girls felt did not offer sufficient protection on the long walks to school, which fears, in turn, prompted them to stay home. If the girls went to school on light days, they still had no place to change or wash, so most stayed home during those times. Poor urban and periurban girls reported they saved pocket money to buy pads—they even went hungry if necessary—and used them to be able to go to school. Girls in all sites reported missing about one day a month because of menstrual cramping—few had access to aspirin or other pain relievers—but this behavior seemed more frequent in the rural area.

Teachers and parents in all areas insisted that the girls used cloth or toilet roll because pads were unaffordable. Most believed traditional methods were adequate. Consistently, however, we were told that parents did not talk to their daughters about menstruation, nor did the teachers, most of whom were young men. Usually, teachers and parents had not before considered the attendance risk that menstruation might pose, even though, in every site, educators reported a precipitous drop in girls' enrollment between Primary 6 and Junior High School. A few educators had noticed the problem on their own—these teachers were emphatic about the need to attend to the girls' sanitary issues.

During this qualitative research phase, we became aware of the concerns of local health workers that the girls were not exercising proper hygiene in the care of cloth and were therefore subject to chronic negative health conditions that might also contribute to absenteeism and poor performance. Indeed, we found through interviews that girls were often using found cloth of dubious cleanliness and though they washed the cloth when they bathed in the evening, they were so embarrassed to hang it out that they attempted to dry it in hiding (for instance, under the bed). Because cloth is scarce, girls usually had only two or three pieces and so ended by wearing damp cloth much of the time. Importantly, insufficient access to clean water and soap also suggested that cloth was seldom very

clean. Some girls reported sharing cloths with mother or sisters, thus increasing the potential for negative health effects.

In the remote areas, pads are often unavailable in the shops, the walk to school is long (2 hours or more), and the toilet facilities, if they exist, offer neither privacy nor water. During the preparation for the study, we had been advised often by NGO and government experts that a sanitary care intervention would be pointless in such sites because the infrastructural problems would vastly overshadow any gain that might be had from providing pads. Our observations, however, led us to speculate that pads would actually have a larger impact in remote sites precisely because of walking distance and lack of toilet space.

Quantitative Phase

Attitudes toward Education

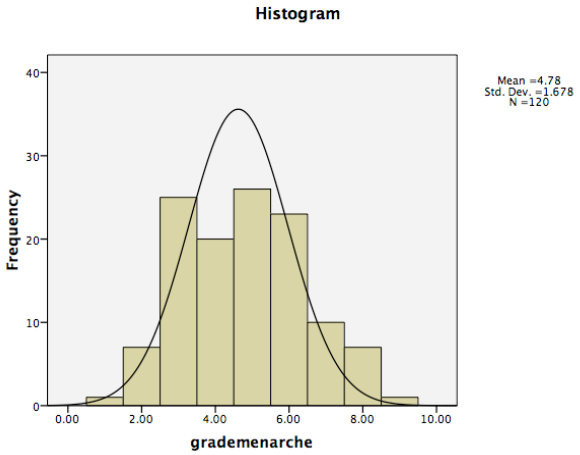
Respondents reported strong pro-education attitudes and asserted that their teachers and parents encouraged their studies.[2]

	percent Agree
You have more opportunities in life with an education.	97.3
My parents/carers encourage me to do well in school.	91.2
No matter where you live, it is important to have an education.	97.8
My teachers give me a lot of encouragement and support.	97.0

No significant differences were found across sites for these measures.

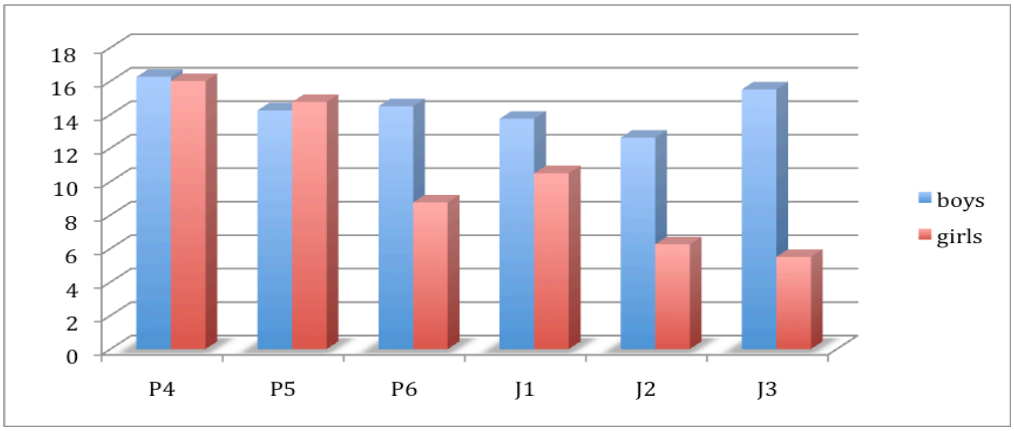
Nevertheless, enrollment records in all the sites showed a steep drop among girls in a pattern that corresponded to the onset of menstruation.

Average School Grade at Menarche, All Sites



[2] A significant difference at a level where p <.05 is signified by an asterisk. Significant differences where p <.01 is signified by two asterisks. If no asterisk appears, there were no significant differences across sites or times.

Average School Enrolment by Grade, Girls versus Boys, All Sites
September 2008-July 2009



Furthermore, at the outset, about 30 percent of the girls in each site agreed with the statement, "Education is more important for boys than for girls." (By the end of the study, this number had dropped below 7 percent in the pads treatment sites and to 13 percent in the education-only site.)

Menstruation: Attitudes and Activities

Girls in all sites said menstruation hindered a variety of activities. The impact of menstruation was more pronounced in the rural village.

Does menstruation ever cause you to	Rural Village percent"Yes"	Periurban Villages percent "Yes"
Miss school?**	95.2	20.2
Be unable to play with other children?**	85.7	33.3
Miss work?**	66.7	29.3
Avoid physical activities?	61.9	38.4
Remain indoors?**	57.1	22.2
Avoid being around boys or men?	57.1	35.4
Be unable to carry out daily activities?	52.4	29.3

In the isolated rural village, 81 percent of girls reported that they had soiled their outer garments during the previous period; between 39 percent and 60 percent of respondents in the other sites had the same experience. We also found that feelings of shame and isolation during menstruation were salient in all places, but, again, much more prominent in the remote location (details below). Experience of cramping was, unsurprisingly, not reduced by the intervention.

Attendance and Activity Results

As a result of the intervention, both treatment groups experienced significant drops in absenteeism. The control group showed no significant difference.

	Percent of School Days Missed	
	Pre-test 2008	Post-test 2009
Pads: Remote Rural*	23.81	10.10
Pads: PeriurbanI*	18.05	9.08
Eduation: Periurban*	21.21	8.53
Control (Periurban)	11.10	16.79

Girls receiving pads overwhelmingly reported they were better able to concentrate in school when using pads (98.4 percent). Further, 96.5 percent said they were better able to participate in "other

activities, such as sports and play" when using pads, and 100 percent said they were better able to help out at home.

Well-being Measures

At the outset, most girls reported being hopeful about the future (94 percent agreed that "Things in the future will work out OK for me"). However, those who were prone to feelings of sadness or self-doubt experienced improved self-confidence during the study. Complementary statements about happiness and competency showed a commensurate increase in agreement during the test.

	Pads: Rural		Pads: Periurban		Education: Periurban	
	Before	After	Before	After	Before	After
I am sad nearly all the time	45.7	26.5	31.8	10.9	30.2	9.4
I do everything wrong	14.3	0.0*	0.0	2.2	3.8	1.9

Feelings of shame and isolation were reduced, particularly in the rural village. Note, however, that these emotions were also reduced in the education only village.

	Pads: Rural		Pads: Periurban		Education:Periurban		
	Before	After	Before	After	Before	After	Control
I feel ashamed during my period	90.5	47.6**	59.0	36.1*	54.5	**9.1****	48.6
I feel isolated from others during my period	57.1	42.9	46.2	36.1	36.4	18.2	37.1

In the rural village, those who reported depression during their period at the baseline survey often did not have these emotions by the end of the test. In the pads treatment periurban location, there was a decline in feelings of insecurity.

Experienced During Last Period	Depression Or Sadness		Experienced During Last Period	Insecurity	
Percent Agreeing	Pre	Post	percent Agreeing	Pre	Post
Pads: Rural Village	81.0	31.8**	Pads: Rural Village	47.6	18.2
Pads: Periurban Village	15.4	13.9	Pads: Periurban Village	17.9	5.6*
Education: Periurban	20.0	9.5	Education: Periurban	16.0	14.3
Control	28.6	NA	Control	48.6	NA

Across both pads and education sites, girls agreed that "I am less ashamed about menstruation now than I was before being in this study" (64.6 percent) and that "We girls are closer to each other now because we were in this study" (62.5 percent). These comments suggest that the stigma of menstruation may have been lifted somewhat by the education and sharing of experiences that were part of the study. The girls reported that they felt they "learned things from being in this study that I would not have otherwise known" (82 percent) and that both teachers (86.7 percent) and families (85.8 percent) had encouraged them to participate. Though there was some reported teasing (36.7 percent) about the study, the girls generally felt it was not embarrassing (92.1 percent) or burdensome (89.1 percent) to have participated.

Pad Usage, Personal Hygiene, and Performance

Fully 96.8 percent of the girls given pads reported that "I felt generally more confident during my period when using the pads." This statement was supported by another statement, in which 95.2 percent of the girls spontaneously listed improved confidence as a benefit of wearing the pads.

Reports of soiling experiences dropped across all treatment sites, but the difference was most dramatic in the rural village.

Experienced During Last Period:	Soiling Outer Garment	
Percent Agreeing	Pre-test	Post-test
Pads: Rural Village	81.0	0.0**
Pads: Periurban Village	38.5	11.0**
Education: Periurban	48.0	0.0**
Control	60.0	NA

At the end of the test, 98.4 percent of the girls in the pads treatment said they were less fearful of soiling when using the pads, and 95.1 percent were less concerned about giving off a scent. There were, however, significant reductions in experiences of odor and embarrassment in the education group as well. We believe this outcome may be related to the puberty education module, in which hygienic practices were emphasized, even in the care of cloth.

Experienced During Last Period	Unpleasant Odor		Experienced During Last Period	Embarrassment	
Percent Agreeing	Pre	Post	percent Agreeing	Pre	Post
Pads: Rural Village	71.4	9.1**	Pads: Rural Village	95.2	4.5**
Pads: Periurban Village	61.5	36.1*	Pads: Periurban Village	43.6	11.1**
Education: Periurban	88.0	28.6**	Education: Periurban	60.0	9.5**
Control	48.6	NA	Control	57.1	NA

This finding was corroborated by agreement with an attitude statement, "I worry that I smell when I have my period," which declined most prominently in the rural site.

	Pads: Remote Rural		Pads: Periurban		Education: Periurban		
	Before	After	Before	After	Before	After	Control
I worry that I smell when I have my period	95.2	42.9**	43.6	30.6	63.6	36.4*	54.3

When asked whether the pads worked better than cloth or toilet roll, after six months of use, 75.8 percent agreed that pads worked better. Further, 82 percent said pads were more comfortable, and 60 percent said the pads kept their period more private. However, in spite of the difficulty keeping cloth clean reported in the qualitative phase, when asked about the pads' advantages, only 60 percent of the girls listed the fact that the pads did not have to be washed, and only 45 percent found the pads "less disgusting" to use than cloth. The reported negative points about the pads were very low: one girl said the pads itched, one said the pads were hot, one was anxious that the plastic on the pads made a rattling sound, and only one had the experience of bleeding through them.

Pads Sharing, Changing, Conservation, Disposal

In the pads treatment villages, we gave each menstruating girl 12 pads each month. We were somewhat concerned that this number would not be enough. We were also fearful that older girls and women would try to take the pads away from the respondents. However, throughout the study, most girls seemed to be fine with the 12 pads, and we had only one report of a girl giving a pad to a visiting friend. At the end of the study, only 30.6 percent reported that the 12 pads were not enough to meet their own needs, a figure that corresponds to the percentage reporting that their flow was heavier than average, and 69.4 percent said they had enough pads for their own use. Across the two pad-treatment sites, only four girls reported pressure from others to share the pads. Although about half the girls reported trying to conserve the pads, only 11 girls said they used cloth at night, and only 8 said they used cloth at home in order to make the supply last. So, we conclude that, for those girls experiencing average to light flow, 12 pads a month are enough, but for the approximately 30 percent of girls whose flow is heavy, more are needed.

The girls in the rural village were four times as likely as the periurban girls to change their pads at school. The periurban girls explained that they didn't change at school either because home was close enough to go home to change or because they didn't need to change on a given day. Girls in

the rural village also spontaneously reported that an advantage of the pads was that they were easier to change (73.9 percent volunteered this point) in much higher numbers than the periurban pad recipients (46.2 percent). Open-ended responses offered that the girls were able, with the pads, to go into the forest and change quickly, bury the used pad, and return to school. They were unable to do this with cloth.

Burial of the pads was an unexpected outcome of the study. Girls appear to have been embarrassed by the potential for someone to find or see the used pad, particularly in the rural site, where the main toilet facility was an open pit shared by the entire village. The girls also often wrapped the pads back in the pink plastic provided in the packaging before disposal, even though we had instructed them not to do this. Disposal issues will, of course, have to be addressed at the policy level with this intervention. However, we would caution that the behavior of uneducated girls poses an environmental hazard for a number of reasons (remember that lower education rates lead to higher fertility rates and, in turn, higher population rates, which, in general, place greater strain on the environment), just as does sanitary pad disposal; these two issues must be evaluated as a trade-off.

Discussion

While our inquiry showed that sanitary provisions may have a heretofore unrecognized significance for female education in the developing world, we do wish to caution that we also found a complex of other factors clearly at work. Though even these would require further study to confirm, we inferred, from all our conversations and observations, that the onset of menstruation, as an event in itself, puts the girls at educational risk. As a proxy indicator for adulthood and a traditional announcement of a girl's sexual availability, menarche brings on an array of negative practices, including sexual harassment (even from teachers), withdrawal of economic support from the home, and sudden pressure to marry, to take a boyfriend (for economic reasons), or to leave the community to find work (and thus hazard the risk of falling into slavery or prostitution). So community engagement efforts should continue to support the girls' education after menstruation—and protecting menstruating girls from sexual harassment should become a policy focus. In particular, we concluded that distributing either sanitary pads or puberty education through the schools was, at least in Ghana, entirely inappropriate because it contributes to the already high risk of in-school sexual abuse when teachers are mostly males.

The magnitude of the decline in abseentism must also be considered, as well as the potential impact on performance. On average, the rate of absenteeism was cut by slightly more than half, from about 21 percent to about 9 percent of school days. This change recovers about six days per term, out of a total potential of roughly 60 school days—or about one week. Missing a week of school each term would likely eventually affect academic marks, but a longer trial would be needed to confirm a performance effect. Note also that one week per term was still missed, which points not only to the persistence of cramping during menstruation, but also of the other factors that conspire against school attendance, such as the need to help with housework.

Limitations of Test

This test was limited by the size of sample, small number of sites, and short length of time. In particular, we are concerned that the intervention, particularly the provision of pads, held a substantial novelty effect, particularly in the remote rural community. We do not know whether the gains achieved would be sustained once the girls became accustomed to the pads. Therefore, it is essential that further study over a longer period of time be done before policy decisions committing substantial funding, especially from poor governments, occurs.