



Anal Cleansing Practices And Fecal Contamination: A Preliminary Investigation Of Behaviors And Conditions In Schools In Rural Nyanza Province, Kenya

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Abstract

Objective: To learn how children in rural schools in Nyando District, Kenya clean themselves after defecation. **Methods:** Six focus group discussions were held with boys and girls ages 12–15 in three rural schools in mid-2009. Parents were interviewed in one setting. In early 2010, a survey of head teachers was conducted in 114 schools in Nyanza Province, Kenya, to assess the provision of anal cleansing materials and handwashing water and soap in schools.

Results: Anal cleansing behaviour is linked with access to materials, age, social pressure, perceived personal risk of illness and emotional factors. Materials used for anal cleansing include schoolbook paper, leaves, grasses, stones, corncobs and one's own hands. Students have knowledge gaps in terms of personal hygiene. They were forthcoming with information on their anal cleansing practices. Almost no schools budgeted for or provided anal cleansing materials regularly.

Conclusion: Anal cleansing is a necessary human activity. However, because of social taboos, there are few articles on the topic. School health plans overlook it as well. Researchers need to determine if and how current practices could harm child health to inform policy.

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Summary

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conclusion Anal cleansing is a necessary human activity. However, because of social taboos, there are few articles on the topic. School health plans overlook it as well. Researchers need to determine if and how current practices could harm child health to inform policy.

keywords schools, anal cleansing, Kenya

Introduction

There is growing awareness of the inadequacy of sanitation and hygiene facilities globally. According to the Progress on Sanitation and Drinking Water: 2010 Update, only 61% of the global population and 31% of the population in sub-Saharan Africa use improved sanitation (WHO/UNICEF 2010). There are no global estimates of access to facilities for handwashing. School-based sanitation and hygiene interventions often focus on toilets for the safe disposal of faeces and handwashing with soap to prevent exposure to pathogens. While these may be necessary for reducing exposures, they are not necessarily sufficient to interrupt transmission of faecal pathogens. Anal cleansing behaviour, which is the act of cleaning oneself after defecation, may be an important exposure factor. Inadequate materials or inappropriate practices for anal cleansing can lead to excessive faecal hand contamination, which may reduce the effectiveness of handwashing and may result in faeces smeared on latrine floors or walls. This is particularly problematic in

school settings where soap or water may not be available.

This study took place in the context of a larger study, SWASH+,¹ which is assessing the impact of school-based water, sanitation and hygiene on educational and health outcomes in western Kenya. Interim environmental sampling found elevated levels of faecal contamination on the hands of children in intervention schools with new latrines (Greene 2009). Defecation at school, therefore, could lead to increased hand contamination.

Anal cleansing is scarcely discussed in the literature. Studies that discuss the use of toilet tissue in schools

¹SWASH+ is a 5-year applied research project to identify, develop, and test innovative approaches to school-based water, sanitation and hygiene in Nyanza Province, Kenya. The partners that form the SWASH+ consortium are CARE, Emory University, the Great Lakes University of Kisumu, the Government of Kenya, the Kenya Water for Health Organization (KWAHO), and Water.org (formerly Water Partners International). SWASH+ is funded by the Bill & Melinda Gates Foundation and the Global Water Challenge.

emphasize that poor school sanitation undermines efforts to teach children basic hygiene and endangers child health (Koopman 1978; Jewkes & O'connor 1990; Barnes & Maddocks 2002; Vernon *et al.* 2003). A school toilet lacking toilet paper and handwashing facilities has served as the source of a Hepatitis A outbreak (Rajaratnam *et al.* 1992), a conduit for viral gastroenteritis (Jewkes & O'connor 1990) and a source of discomfort and toilet avoidance, which can lead to constipation and urinary tract infections (Barnes & Maddocks 2002; Vernon *et al.* 2003). Research on transmission of diarrheal diseases in Colombian schools stratified by the condition of their toilets found that the number of toilets was less important than the availability of soap, toilet paper and clean towels in reducing disease transmission (Koopman 1978).

Anal cleansing needs are often overlooked in the design of sanitation facilities (Zomerplaa & Mooijman 2005). Materials for anal cleansing are not typically provided in or near facilities. Safe disposal of anal cleansing materials is also overlooked, which can lead to unhygienic debris inside or surrounding latrine pits. Use of inappropriate cleansing materials such as rocks and corn cobs may cause pits to fill too quickly or to become damaged. Children deserve safe toilets or latrines that allow regular use. Beyond initial construction of improved latrines, facilities must be maintained and soft goods such as handwashing and anal cleansing materials must be available.

This study sought to understand how young boys and girls learn about and negotiate cleaning themselves after defecation at school. Students also discussed practices at home.

Methods

Six focus group discussions were held with boys and girls ages 12 – 15 in three rural schools in Nyando District, Nyanza Province, Kenya. Schools selected were participating in the SWASH+ project, not involved in other ongoing studies in or outside of SWASH+, and available during the study period. There were 48 participants, 8 per focus group. A teacher or staff member from the school helped to select students in the appropriate age range. All head teachers were explained the purpose of the study and gave permission to speak with students. Approximately 20 parents were interviewed informally in an unscheduled discussion at School 1.

Selected students were divided by gender and led to a private setting on the school grounds. The language used in focus group discussions was Dholuo. Native Dholuo speakers who were trained in qualitative methods served as focus group moderators and notetakers. At the outset of

the discussions, the moderator explained the purpose of the research and students provided informed consent. The study was conducted over several days in July 2009.

Discussions were unstructured, but addressed knowledge about anal cleansing, types and preferences of anal cleansing materials, and related social concerns.

Discussions were audio recorded, transcribed and translated. Transcripts were reviewed to identify common themes. Codes were developed based on identified themes and were applied to segments of the interviews. Coded text was extracted from each interview and manually organized during debriefing sessions with focus group moderators and researchers. Themes were re-contextualized accordingly.

A quantitative evaluation of various school-related WASH factors, including the provision of anal cleansing materials, was administered to 114 head teachers in Nyando, Kisumu, Rachuonyo, and Suba districts in Nyanza Province. All of the primary schools evaluated received an intervention 3 years prior as participants of the SWASH+ randomized controlled trial, and the survey was conducted as part of a sustainability assessment of those schools. At the outset of the trial, all schools within six divisions were asked to complete a structured self-assessment of WASH conditions, with over 90% of schools responding. One hundred and fifteen schools were assigned to one of the three intervention arms comprising water treatment, handwashing promotion, sanitation infrastructure improvement and/or water supply. None of the schools had been given anal cleansing materials or education. Another 70 schools were assigned as controls to receive the intervention at the end of the trial. The present study reports results from a 3-year follow up in the intervention schools. One school was not included because of inaccessibility. Results from the complete quantitative assessment are forthcoming.

Results

Qualitative findings are arranged into three categories: materials and material preferences, social norms, and motivations and knowledge. Quantitative findings follow.

Materials and material preferences

Students reported using several materials and methods for anal cleansing including schoolbook paper, their hands, leaves, paper found in rubbish bins, newspaper, corncobs, toilet paper, stones, pebbles, water and – particularly in reference to young children and the elderly – removing clothes and scooting oneself on soft grass. The use of water, often reported as a Muslim practice, was described as useful only when one has diarrhoea or feels especially messy. Otherwise using water was viewed as foreign in

this predominantly Christian setting. Desired materials, such as tissue paper and schoolbook paper, were described as difficult to acquire. 'I find it difficult to get the materials for bottom cleaning. Maybe you have money for food only. Do you go hungry and buy wiping tissue? Schoolbooks are also important. It's a problem. Maybe your younger sibling in class 1 sees you tearing your book, just a sheet or two, but they may get the wrong idea and pluck sheets ruthlessly' – female student, grade 7, School 1.

The methods most commonly mentioned while in school were: tearing pages from one's schoolbook, using leaves from nearby trees and, in one focus group, using toilet paper. Schoolbooks are provided free to students. The best schoolbook paper is old paper, which is crunched and folded to make it softer and 'better at soaking up' faeces. Still, paper is considered inadequate. 'Paper is not good because ... when it hurts, you will not clean your bottom well' – female student, grade 7, School 2.

Using leaves was considered less appropriate for older children and damaging to the environment. Leaves were described as 'scratchy', 'ineffective' and sometimes difficult to find or dangerous because of insects or worms that can jump from the leaf to one's bottom. '(Leaves) just smear the stuff around' – female student, grade 8, School 3. 'At our school they only planted eucalyptus, which is not effective for wiping' – female student, grade 8, School 3.

'There is one *major* disadvantage of using leaves; you may use one that itches' – female student, grade 7, School 2.

Toilet paper was considered the best method because it is soft, absorbent and does not leave a lingering smell of faeces. It is, however, expensive. Shops in the vicinity of the school or community charge 20–35 Kenyan Shillings (US\$ 0.13–0.45) per roll. Students in most focus groups reported feeling guilty about tearing up schoolbooks to wipe because they were forced to lie to teachers about why pages were missing and they were ruining learning material. 'Tissue paper is better than book paper. It is good (to use tissue paper) because we should not behave like children. A child can take bad things and use them' – male student, grade 7, School 3.

Gender did not appear to play a role in what material is used. Age plays a role in method selection, as younger children were reportedly unashamed of using leaves, hands or scooting on grass to clean their bottoms while older children found this embarrassing.

Social norms and motivations

Generational differences in anal cleansing practices were noted by students in all schools. Students stated that the elderly, adults and small children have little-to-no shame about using their hands, leaves or nothing to wipe, while

this practice is embarrassing for respondents. Students repeatedly discussed the need to be secretive when collecting leaves prior to entering a latrine for fear of teasing. Girls report teasing from boys and young children. Boys report teasing from fellow boys.

Students reported that grandparents use and reuse cloth to wipe although students do not use this method. According to students, parents and grandparents do not understand or respect hygiene and anal cleansing as much as they should. Parents do not typically instruct children on how to use a latrine or how to practice anal cleansing. When students ask parents to buy toilet paper, parents often refuse. 'If you ask your mother for tissue she will tell you, 'You want to eat and you also want to go to the toilet with tissue.' ' She will tell you to look for the leaves like she does' – female student, grade 8, School 3.

In an unscheduled discussion at School 1, parents stated that they had never been trained on how to use a latrine and many had no home latrine. Because they engaged in open defecation – and almost always used leaves that were an arm's reach away – there was never an opportunity to train their children on latrine use or how to use materials other than natural materials. Parents also questioned the effectiveness and utility of toilet paper, which they never or rarely used and which was considered expensive and prone to tearing.

Social responsibility played a significant role in students' desires to wipe and to wash their hands after. Students often were concerned that they may spread illness or make friends ill. 'Sometimes there is feces left on you and your hands and, say, you have bought doughnuts and shared them with someone and then he will eat your dirt... and then he is sick and then you feel bad' – male student, grade 7, School 3.

Social pressure fosters a strong desire to avoid smelling. 'If you are clean, you don't have to worry about suffocating others' – male student, grade 7, School 3.

Self-respect was mentioned by one student as a reason to engage in proper anal cleansing: 'We must respect every part of our body, we should respect our bottoms the same way we respect our mouths' – female student, grade 7, School 2.

Perceived personal risk of disease or illness was mentioned near the end of discussions as a reason to clean properly. Cholera was the illness mentioned first within all focus groups followed oftentimes by dysentery and typhoid as health hazards from improper wiping or handwashing. *Nyach* – a local term for any STD excluding HIV/AIDS – was mentioned as a disease that children believed could spread from improper anal cleansing or poor hygiene.

Emotional factors motivated students to wipe, including a desire to avoid shame because of soiled clothing or smelliness. They mentioned that ineffective cleansing inhibits concentration. 'When you smell, you cannot focus

in class’ – female student, grade 7, School 1. Effective cleansing adds to comfort. ‘It will stop the flies from following you and when you don’t wipe the flies follow you’ – male student, grade 7, School 3.

Knowledge

There was confusion on how to wipe and which method is best. Students often reported that they have rarely or never discussed this topic with friends or family. A minority of students reported having conversations with teachers, community health officers or parents. Students consistently reported that they learned how to cleanse by themselves or by watching others gather supplies before leaving to defecate. Some students, particularly boys, reported being self-taught. Boys reported educating their peers.

I was in class once and I saw a friend take a book and he went with it to the choo [pit latrine] and when he was back I noticed that he smelled like feces, so when we were going home I told him he should be using tissue paper and washing his hands... he was annoyed... I was also annoyed because he is my classmate and friend male student, grade 7, School 3.

I was walking with my friend and I saw him plucking the leaves, and I asked him what he wanted to do with it and he said he was going for a long call [going to defecate], I told him to buy tissue and he told me he didn’t know about [this method]... I felt good that I can help him so that he can be like me male, grade 7, School 3.

School budgeting and provision of materials: quantitative findings

Of the 114 school head teachers interviewed, 111 (97%) reported never providing materials for anal cleansing. The remaining 3 (3%) reported providing paper some of the time, while no school reported providing it always. Forty-nine schools (43%) reported always providing soap and water for handwashing, and 58 (51%) reported providing it some of the time. Only nine schools (8%) actually provided soap and water on the day of the unannounced visit.

Discussion

This study of how students negotiate anal cleansing revealed that many materials and methods are currently used, several norms guide behaviour and wide knowledge gaps exist. Students at all schools were willing and, oftentimes, eager to discuss their anal cleansing practices.

For many students, this represented the first time they had discussed this topic and students were using focus group discussions to compare practices and educate one another.

While health is commonly stated as a reason to engage in proper cleansing among public health professionals, students seem more likely to engage in cleansing to feel comfortable and avoid embarrassment. This finding is in line with several studies that have found that key motivations for engaging in hygienic behaviours such as handwashing are disgust, comfort and affiliation (Sidibe & Curtis 2007; Curtis *et al.* 2009).

The results suggest several barriers to addressing anal cleansing in resource-poor settings. First, the lack of intergenerational support may reduce the number of coping strategies available to children. The lack of support may be explained by lack of familiarity with the social and environmental context of children’s schools. Parents may not have attended school or they may expect a greater availability of natural materials. Community sensitization among parents, school staff and students on the importance of adequate cleaning and the use of proper materials may clarify confusion and encourage conversation on an otherwise taboo subject.

A second barrier is the lack of a mandate making specific parties accountable for ensuring that personal hygiene can be practiced at the school level. The Government of Kenya’s National School Health Policy talks of hygiene loosely: ‘Hygiene promotion will be pupil based and an ongoing process whose spillover effect from the schools to homes will positively influence behavior change’ (MoH 2009b). The National School Health Guidelines, a follow-up to the Policy, notes that ‘Hygiene education should be organized at least once every 4 months in collaboration with the Ministry of Public Health and Sanitation. This should also be performed through school health clubs, drama, music, etc.’ (MoH 2009a). The Guidelines do not make it clear who should organize these events or what they should entail. When such proposals, activities and roles are not explicit, they will not be carried forward.

A third barrier is the lack of materials that are required for practicing healthy hygiene behaviours. Kenya’s National School Health Guidelines state that ‘Schools should provide appropriate anal cleansing materials (e.g. water, toilet paper, etc.)’ (2009a). Schools are not allocated money specifically for these items however and would need to draw on funds designated for competing needs (Sawamura & Sifuna 2008). It is thus not surprising that only 3% of schools in our study reported ever providing anal cleansing materials. The lack of soap and water for handwashing magnifies this problem; handwashing promotion and soap provision is

associated with significantly reduced school absenteeism (Bowen *et al.* 2007). Focusing on lower cost approaches, such as using water and planting appropriate shrubs for leaves, present other barriers, but may be appropriate.

The gap between what is required and what is provided suggests the need for more transparency about responsibility and accountability for these materials and related activities. Policies should include clear guidelines on what must be provided, including regular school oversight by local health authorities and the provision of resources for purchase. Culturally and linguistically, appropriate manuals outlining key messages would be useful for teachers. Materials and appropriate education must go hand-in-hand. If materials are not available for students to practice good hygiene, hygiene education efforts will be undermined.

This study was limited because it only reflects the views of the demographic targeted. Anal cleansing practices in other parts of Kenya, where resources and practices may be very different, are not represented. There is a need for additional research to identify effective and sustainable strategies in low-resource settings with attention to local customs and available materials. The effect of appropriate interventions on health, absenteeism, hand contamination, latrine use and the combined effectiveness of handwashing with soap should be evaluated.

Conclusions

Providing toilets for safe disposal of faeces and facilities for handwashing with soap may not be sufficient to provide a safe and hygienic environment for school children if there are inadequate materials for anal cleansing. The complex relationship between defecation, anal cleansing and handwashing behaviours is poorly understood. The behaviours themselves are likely to be interdependent, linked to available materials, and influenced by underlying social factors. While the findings presented here are exploratory, designing better interventions and reducing exposures to faecal pathogens requires a better understanding of these connections. We recommend a more global study to build evidence on the importance of anal cleansing as it pertains to improving sanitation in schools.

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