

PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (<http://bmjopen.bmj.com/site/about/resources/checklist.pdf>) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below. Some articles will have been accepted based in part or entirely on reviews undertaken for other BMJ Group journals. These will be reproduced where possible.

ARTICLE DETAILS

TITLE (PROVISIONAL)	The effect of a school-based educational intervention on menstrual health: an intervention study among adolescent girls in Bangladesh
AUTHORS	Haque, Syed; Rahman, Mosiur; Itsuko, Kawashima; Mutahara, Mahmuda; Kayako, Sakisaka

VERSION 1 - REVIEW

REVIEWER	Prof Uzochukwu Aniebue College of Medicine University of Nigeria. Enugu Nigeria
REVIEW RETURNED	12-Mar-2014

GENERAL COMMENTS	<ol style="list-style-type: none">1. The description of the selection of the actual study subject was wholly ignoring vital information leading to under reporting in the result section. Fig 1 should be mentioned appropriately. Were the subjects housed in a boarding facility or did the live with their parents.2. The study instrument was incompletely described to allow verification of content validity. One wonders how stress and depression reported by the authors were determined.3. Page 7 line 27.... Spelling error4. Simple Chi-square testing is an inappropriate test where observations involve repeated sampling of the same subject.5. Page 13: the study suggested that health education reduced the occurrence of dysmenorrhoea. By what mechanism? Was this factual or imagined. Was any scale used in their assessment of dysmenorrhoea?6. Page 16: reference number 3: the authors first names and not their last names were quoted.7. Page18: incomplete references in numbers 20&22 <p>Conclusion:</p> <p>The research concept is good and the paper publishable after major revision.</p>
-------------------------	--

REVIEWER	Sonia R Grover Department of Paediatric and adolescent Gynaecology, Royal Children's Hospital, Flemington Rd,
REVIEW RETURNED	07-Apr-2014

GENERAL COMMENTS	line 14, 16, 18. I am aware of no data that says that menstrual
-------------------------	---

	<p>hygiene(which I have always understood to mean care/ cleaning) being responsible for heavy menses or pain. I am not even sure that there is data to say that UTIs are increased due to external hygiene issues. I do not dispute that menses may cause pain, be heavy and their may be poor access to menstrual hygiene products (eg pads being too expensive to purchase) - making attendance at school and social activities difficult. Maybe the expression menstrual hygiene should be defined to avoid what may be a cultural or language difference in terminology.</p> <p>P7 line 53"poor menstrual hygiene predisposing to infection - not clear on what infections and what the evidence for this is.. Unclear how hygienic practices can influence dysmenorrhoea - given that I understand hygiene to be related to use of pads (and tampons) - this will not impact on pain relating to uterine cramps/ prostaglandin production. A change in pain I would have presumed would relate to having less negative feeling about menses rather than whether one changed pads 1 or 10 times in a day, or less negative feeling as one now felt confident about washing and drying absorbent materials in the sunshine so that they did not smell - thus resulting in more positive self feeling - rather than the change in absorbent material being directly responsible for a reduction in pain.</p> <p>Likewise I cannot see how a change in menstrual care would change menstrual cycle - except that the passage of time in this young age group would allow more girls to achieve ovulatory and hence regular cycles - so time has done this , not the education.A control group of girls of a similar age who simply answer the questionnaire - and receive no education and are questioned would resolve this problem.</p> <p>An interesting paper - the fact that education regarding menses has a beneficial impact for the young women is excellent - but care needs to be taken that the benefits are not over stated - or at least that some of the benefits such as reduced pain - are acknowledged to be occurring through improved self esteem...maybe completing a self esteem questionnaire would clarify this.</p>
--	--

VERSION 1 – AUTHOR RESPONSE

Reviewer # 1			
	01	The description of the selection of the actual study subject was wholly ignoring vital information leading to under reporting in the result section. Fig1 should be mentioned appropriately. Were the subjects housed in a boarding facility or did they live with their parents.	Thank you very much for your comments. According to the reviewer's comments, in our revised text, we have added the details about the selection of the participants. We also added the information that, all the participants are living with their parents. Please see the details in page 7; lines 1-3 and lines 5-6. Please also see the revised figure 1 in page 26.
	02	The study instrument was incompletely described to allow verification of content validity. One wonders how stress and depression reported by the authors were determined.	As suggested, in our revised text, we have added the information of how we measured stress and depression for our study participants. Please see the details in page 10; lines 13-19.
	03	Page 7 line 27.... Spelling error.	We have corrected the spelling error. Please see in page 8; line 15.

	04	Simple Chi-square testing is an inappropriate test where observations involve repeated sampling of the same subject.	As suggested, we used McNemar's Chi-square analyses. Please see in page 11; lines 2-3.
	05	Page 13: the study suggested that health education reduced the occurrence of dysmenorrhoea. By what mechanism? Was this factual or imagined. Was any scale used in their assessment of dysmenorrhoea?	As suggested, in our revised text we have provided some details description of how health education can reduce the occurrence of dysmenorrhea. Please see the details in page 14; lines 20-24. We did not use any scale to assess of dysmenorrhea. However, based on the previous literature, we considered those adolescents, who experienced pain in the abdominal, groin and lumbar regions on the day before or on the first day of menstruation, as dysmenorrhea. In future we will consider this point. Please see the details in page 14; lines 15-19.
	06	Page 16: reference number 3: the authors' first names and not their last names were quoted.	As suggested, this was corrected accordingly. Please find in page 18; reference number 3.
	07	Page18: incomplete references in numbers 20 & 22.	This was corrected accordingly. Please find in page 20; reference numbers 20 & 22.
Reviewer # 2	01	Line 14, 16, 18. I am aware of no data that says that menstrual hygiene (which I have always understood to mean care/cleaning) being responsible for heavy menses or pain. I am not even sure that there is data to say that UTIs are increased due to external hygiene issues. I do not dispute that menses may cause pain, be heavy and they may be poor access to menstrual hygiene products (e.g. pads being too expensive to purchase) - making attendance at school and social activities difficult. Maybe the expression menstrual hygiene should be defined to avoid what may be a cultural or language difference in terminology.	Thank you very much for your comments. We are agreeing but the situations vary. Previous several studies highlighted that poor menstrual hygiene management effects on reproductive tract infection (RTI), social restrictions and school attendance. Even after intervention in this study, only 22.4% of girls using pad and rest are using poor quality cloths. The cloths are colored using toxic elements which might make them to uterine pain. On the other hand, they dry the cloths inside the room which might effects also. We have added this information in our revised draft. Please see the details in page 14; lines 1-5. However, we also discussed this issue as one of the limitation of our study.
	02	P7 line 53"poor menstrual hygiene predisposing to infection - not clear on what infections and what the evidence for this is. Unclear how hygienic practices can influence dysmenorrhoea - given that I understand hygiene to be related to use of pads (and tampons) - this will not impact on pain relating to uterine cramps/ prostaglandin production. A change in pain I would have presumed would relate to having less negative feeling about menses	Previous several studies highlighted that poor menstrual hygiene management effects on reproductive tract infection (RTI), social restrictions and school attendance. In this study, most of the girls are using cloths during their period. The cloths are colored using toxic elements which might make them to uterine pain. On the other hand, they dry the cloths inside the room which might effects also. We have not collect information about the quality of cloths in this study but it is really an important issue that cloths contain high toxic. Sometimes when we wash new cloths, the water is totally colored.

		rather than whether one changed pads 1 or 10 times in a day, or less negative feeling as one now felt confident about washing and drying absorbent materials in the sunshine so that they did not smell - thus resulting in more positive self-feeling - rather than the change in absorbent material being directly responsible for a reduction in pain.	Please find the revised draft in page 16; lines 6-9.
	03	Likewise I cannot see how a change in menstrual care would change menstrual cycle - except that the passage of time in this young age group would allow more girls to achieve ovulatory and hence regular cycles - so time has done this, not the education. A control group of girls of a similar age who simply answer the questionnaire - and receive no education and are requisitioned would resolve this problem.	As suggested, we have provided this information as one of the limitation of this study. Please see the details in page 16; lines 1-6.
	04	An interesting paper - the fact that education regarding menses has a beneficial impact for the young women is excellent - but care needs to be taken that the benefits are not over stated - or at least that some of the benefits such as reduced pain - are acknowledged to be occurring through improved self-esteem...maybe completing a self-esteem questionnaire would clarify this.	We are encouraged for your positive comments and agree to build-up social awareness for this important public health issue. We except your suggestions and will add self-esteem questionnaire in our future study.