Author’s response to reviews

Title: Prevalence of dysmenorrhea among university students in northern Ghana; its impact and management strategies

Authors:

Evans Ameade (sokpesh@yahoo.com)
Anthony Amalba (anthonamalba@yahoo.com)
Baba Mohammed (mbsule@yahoo.com)

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RESPONSE TO REVIEWERS’ COMMENTS

CORRESPONDING AUTHOR: Evans Paul Kwame Ameade

REVIEWER 2

Comment #1

The authors have described the prevalence and experiences of managing dysmenorrhea in a sample of university students in Ghana. The reporting of dysmenorrhea is university students is not original but the appropriateness of self-medication is of reader interest.

Response #1

Reporting of dysmenorrhea among university students not new but the medications used in Ghana is of interest to the world. Grateful.

Comment #2

The paper is methodologically sound and well written with conclusions drawn from the evidence.
Comment #3

In the introduction, I would suggest adding some more references are added to support the benefits of treatment options suggested other than NSAIDS. It may be worth checking the Cochrane Library for systematic review evidence.

Response #3

Four references added to support these non-pharmacological treatment methods.

REVIEWER 3

Comment #1

In the introduction, the authors state that fatty diet restriction, rest, and spinal manipulations eases pain due to dysmenorrhea. To my knowledge, this not evidence based and also not the potential positive effect on dietary supplements. It is mentioned that combined contraceptives might be an effective option but is that available for these women? It is not included in the results but that might not be an option in Ghana.

Response #1

Although these methods may not be evidence based, these are alternative treatment methods which several publications have found to have been helpful in the management of the pains associated with dysmenorrhea. The use of contraceptives for dysmenorrhea had been stated in the introduction on page 5 however some studies have also found its use to be inconclusive contrary to the suggestion of the reviewer. According to Proctor, Roberts and Farguhar (2001), no conclusion can be made about the efficacy of commonly used modern lower dose combined oral contraceptives for dysmenorrhea. DOI: 10.1002/14651858.CD002120.
Comment #2

Would be interesting to know in the method part I do not quite understand the power calculation and the study size determination. How did 990 become total study population? Out of 1249? And then 389 participants were supposed to represent the study population.

Response #2

The female student population at the study site (Tamale Campus of the University for Development Studies) was 1249 but those included in the study were those studying Medicine, Nursing, Midwifery, Health Science Education and Community Nutrition that formed the study population in this study is the number 990. There were other females studying Biomedical Laboratory Sciences, BSc Nurse Practitioner among other who were not included. The 389 female who took part in the study are the study sample obtained using the Cochran’s formula as stated under the method section.

Comment #3

Regarding the questionnaire, it was not described how many questions? Anonymous?

Response #3

The number of questions in the questionnaire, I do not think is necessary because all the data used for the compilation of the results were from questions which were part of the questionnaire. What effect would stating the number of questions in questionnaire have on the results? I am not sure.

Comment #4

How was pain assessed? Did they get the three categories mild, moderate and severe to choose between or was there a VAS or NRS? Or open-ended? This is important when results are being compared.
Response #4

The respondents were asked “How would you describe your pain” and were given a 3 category scale. The VRS requires the patient to indicate the level of pain using adjectives such as mild pain, moderate pain, severe or intense pain. This study was not a comparative study between the pain measurement scales; VRS, NRS and VAS.

Comment #5

There is quite wide range in age of the participants with some outliers (48 years). A median value could make this clearer.

Response #5

The age 48 was not an outlier. From the results, 13.3% of respondents were above 25 years. Again 9 out of 39 of those above 25 years were actually 40 years and above. The Midwifery class had some older practicing midwives who had enrolled in the University to pursue a BSc degree in Midwifery. So, the mean value is not out of place.

Comment #6

How was quality of life assessed? There are validated forms for this, were they used? In the tables, a lot of information can be deleted without losing any important information, i.e. type of accommodation at menarche, area of residence during vacation, etc

Response #6

Quality of life was not assessed so no need to use any validated forms. Respondents were asked to state if dysmenorrhea affects their daily life activities. The type of accommodation was used as a proxy to indicate the income levels of parents. It would have been difficult to get the income levels of parents of respondents. Those in single rooms were considered as the low-income earners while those in apartments were in the middle income earning class. For where one spends vacation, it was used to assess if there is any association between socio-cultural situation of a person and perception of pain.

REVIEWER 3

The study shows very useful for both clinical and research perspectives regarding the management of dysmenorrhea, a problem that affects many women of working age, becoming a public health problem. Communication between doctor and patients on the intensity of pain in the VRS (mild, moderate and severe) can be related to ease their equivalence in NRS thus ensuring maximization of therapy.

The study shows is elegant and very well designed, with statistical studies very well thought out and performed.

Response

Very grateful

REVIEWER 4

Comment #1

The manuscript requires thorough language editing.

Response #1

Authors have read through the manuscript again and wherever changes, need to be made, they have been taken care of. I would have wished the reviewer would specify some sentences and words that were inappropriate which require editing. The editor could also advise on sentences and words that require editing. There would be some more editing during the proof reading if the manuscript is accepted for publication.

Comment #2

The objective of the study could be focused only on the prevalence of dysmenorrhea and its concomitants. The management part is not required in the context of the manuscript.

Response #2

A lot of studies had been conducted on prevalence of dysmenorrhea but management methods could be influenced by various factors hence the need to look beyond the prevalence. With the respondents in this study being those pursuing health profession programmes, the study sought to
determine if they were more involved in self-medication and what they use most. Whereas several studies found various forms of NSAIDs to be the first option for the management of dysmenorrhea, this study rather found Paracetamol which is not an NSAID to be the first choice of female university students in Northern Ghana.

Comment #3

The method section does not allow a reader to understand the data types collected, the description of the variables used in the study; the age range of the participants, the statistical analyses undertaken in the study. This requires serious revision.

Response #3

This was part of the method section in the manuscript

“This cross-sectional study conducted between March and April, 2015 was among undergraduate students of School of Medicine and Health Sciences and Allied Health Sciences of the University for Development Studies studying Medicine, Nursing, Midwifery, Health Science Education and Community Nutrition. The total number of female students in the schools was 1,249 but the study population total was 990. The instrument for this study was a self-design questionnaire comprising both closed ended and open-ended questions”

Data were obtained using a questionnaire made up of both closed and open-ended questions in a cross-sectional investigation. This shows that the data collected is mainly quantitative. Individual interviews, focus groups, observations, as well as action research are the main methods for the collection of qualitative data.

Table 1 shows the age categories of the respondents. Under the socio-demographic profile of the results section, the age range of 18 to 48 was clearly indicated.

“Data was entered into Microsoft Excel, and analyzed using Graph Pad Prism, Version 5.01 (Graph Pad Software Inc., San Diego CA). Association between variables was assessed using the independent t-test (now changed to Chi-square test of independence). Statistical significance was assumed at p < 0.05 and at a confidence interval of 95%.”
This section under methods also shows the statistical tool used in the analysis and that association between variables was assessed using Chi-Square test of Independence.

Comment #4

The discussion section also lacks the critical appraisal of the results. It failed to address the why socio-demographic variables and other menstrual characteristics showed significant association with dysmenorrhea.

Response #4

The socio-demographic variables that were associated with dysmenorrhea were discussed (Refer to an excerpt of the discussion below). None of the menstrual characteristics showed any significant association with dysmenorrhea (refer to Table 3). There was no reason to discuss results that did not show any significant association with occurrence of dysmenorrhea among the respondents.

“This study did not find any significant association between incidence of dysmenorrhea and socio-demographic characteristics such religious affiliation, socio-economic status at menarche and locality of residence. This study however found a significant association between a respondent experiencing dysmenorrhea and the biological as well as gynecological ages which was also reported in other studies which showed that incidence of dysmenorrhea decreases with increasing biological age or gynecological age [14, 24]”

Comment #5

The author can take up a binary regression analyses in order to understand the determinants of dysmenorrhea in the study population.

Response #5

Binary regression is used when there are two binary dependent variable. Logistic regression would be useful if the study was to find the determinants of occurrence of dysmenorrhea in which case absence could be coded “0” and presence of dysmenorrhea designated as “1”. The
study was not to determine the determinants of occurrence of dysmenorrhea since the inferential analysis was for the 245 out of the 293 who suffer dysmenorrhea. The objective of the study was to determine the prevalence of dysmenorrhea, its impact and management strategies.