Reviewer's report

Title: Knowledge and use of emergency contraception among women in South Africa: A cross-section study

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Reviewer: Douglas E Ball

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General
Overview: A useful addition to the literature on awareness of hormonal emergency contraception (EC). However, it needs to be written for an international audience and placed in the context of previous data from the region. There are serious concerns about the adequacy of the statistical analysis used and its interpretation. These will need to be addressed for it to be suitable for publication.

Title
Minor essential
· Change to reflect that it is a study just in Western Cape province of South Africa.

Abstract
· The Introduction suggests ‘few data’ in South Africa but there is more than in many/most developing countries.
· Methods is too thin on details for reader to understand how sample selected.
· More results could be provided.
· Discussion should be more focused to the results of the study than general.

Introduction
Major
· It needs to be made clear that EC is referring only to hormonal emergency contraception.

· Para1: “the only form of contraceptive” – This is inappropriate wording. The use of IUD as effective EC should also be acknowledged in the text.

· Need to provide greater background in terms of previous studies of EC use in SA and why this study was necessary.

· State objective more precisely e.g. to investigate factors associated with EC awareness….and level of use. Any hypothesis or just looking? Why urban and rural? Why WC? How do these fit into the objectives of the study?

Methods
Major
· The methodology is incomplete with inadequate detail for a reader to know how the sample was chosen, how valid the methods were, etc.

· The methodology given suggests that clinics were chosen according to urban/rural setting and patient load However, in the Discussion we learn that they were chosen because they were used in a previous survey. It should be clear that this is the criterion which needs to be justified. It can then be explained that in the previous study they were selected according to whatever reason(s). Some of the following questions relate to the original sample selection:

· How were the urban and rural settings chosen? How urban and how rural? i.e. setting, distance. Why not give names of city, district? One of each out of how many possible urban and rural settings? Need to know how representative it is.
· One wonders whether low load clinics may be different to high use clinics and whether it should have been stratified rather than weighted. A clearer objective would help to decide this.

· How many clinics were actually sampled – it is not clear if it is 30 total, or 30 urban and 30 rural. If the former, need an indication of how many were rural and why was sampling not stratified by location if it was intended to compare urban vs. rural.

· More information about the development, testing and validity of the interview instrument and training. Qualifications of interviewers.

· What variables were included in the regression model? A better description is required here and/or when results are presented.

· MAJOR ISSUE: The dependent variable (awareness of EC) is binary and logistic regression is more appropriate than linear regression models. This needs reanalysis and statistical review as the results are not robust.

Minor essential
· Give a brief overview of what the Western Cape province is and its population and health service in the South African context for international readers.

· 2004/2005 represents a potentially long study period. It should be defined more precisely.

· What gender were the interviewers? If males were used that could influence the responses.

· How private was the setting in which women were approached and asked to participate?

Discretionary
· Method more complicated than necessary and yet in spite of this there is no sample size calculation. Having clear objectives would enable this to be understood better.

Results/Findings

Major
· Table 3 and its data is not referred to in the text.

· Since so much is made of the rural-urban divide and differences, a table comparing the sociodemographic data of the women from the two regions would be useful.

Minor essential
· Give IQR for age to go with the median

· Explain grade 10 level of education for international readers.

· Was any distinction made between hormonal and non-hormonal EC by the women or the interviewers? This could be made clear here and/or in describing the method.

· Don’t concentrate on Table 2 since some characteristics are likely to be interrelated and multivariate analysis is being used to control for covariance, interaction and confounding. Report the regression findings since it is the whole point of doing it.

· p6 last line - remove hyphen in “Nine-percent”

Discretionary
· p6 line1 - “meaning they were not protected from pregnancy or STI at last intercourse” – repetitive and obvious.

· p7 para4 - Remove reference to the ‘totally sexually active sample’ – this sounds like it is a subsample of the main sample of sexually active women. Just ‘total sample’ is adequate description.

Discussion
Major

· p7 para5 “Awareness is lower in South Africa than developed countries” is too much of a generalisation as awareness varies in developed nations and in SA too. There are reports of low awareness in some populations in developed countries. Some description of the populations or recognition of this is required e.g. age, socioeconomic status. Greater comparison of the result to awareness in other countries would be desirable. Give some idea of percentages instead of just ‘higher’ or ‘lower’.

· p8 para1 “Used the same methodology and clinics as the previous survey.” This should not be the first time to find this out. Refer to this in the methodology. Had the clinic characteristics not changed in 6 years? Was it appropriate to base selection on historical data?

· p8 para1 “We hypothesized that EC knowledge would be increased in 2004/2005 compared to 1999/2000”. This is not related to the objective stated in the introduction. If this is the hypothesis, the methodology must be appropriate and analysis and presentation of data given in Results, not the Discussion. There are methodological concerns about comparing studies performed at different times which are not addressed. Rather discuss the current results in light of those of the previous study without statistical comparison, just as with other citations.

· If you had the data from 1999/2000 why do this study? The story in the Introduction needs to be changed to reflect the full background and objectives.

· Discussion is based upon significant findings of individual tests (Table 2) and ignores the multivariate analysis (Table 3) which finds some of the factors not significant after correction for other variables (assuming analysis correct). Base it on the multivariate analysis. E.g. Using a condom at last sex was not significant after controlling for other variables.

· p9 para3 - “Almost all of the women who had used EC had purchased it from private pharmacies” – this is not true according to Table 1. Pharmacies accounted for less than 50% of supply.

· The conclusion is too non-specific. A conclusion more focused on the results of the study and what leads from it would be more appropriate than a general statement which is justified without even knowing the results.

Minor essential

· p9 para3 - Obtaining EC from pharmacies does not necessarily indicate lack of awareness that it can be obtained from clinics. As mentioned, pharmacies may be more accessible (opening hours, distance, etc.), be perceived to offer ‘better’ service e.g. less likely to be out of stock than a clinic, etc. Revise this wording.

· “In fact, we found that a smaller proportion of women who were aware of EC had been told about EC by a health care provider in the urban area (24%) than in the rural area (33%).” Is this statistically significant? Not tested in results but if not, then it should be reported as ‘no difference’ rather than a ‘smaller proportion’.

· Limitations
What ‘other settings’ need to be investigated – is the study representative of the WC or not? Conducting research among providers is not a limitation but a recommendation or suggestion for future work.

Discretionary

· Were the women attending for family planning more likely to have heard about EC from a healthcare provider?

References

Minor essential

· Some have abbreviated journal titles and some don’t.
· Some give all authors, some three and et al.
· Be consistent in line with journal guidelines.

Discretionary
‘Anon.’ Can be author for reference 10.

Tables

Table 1
- Remove underlining from text.
- The “Characteristic, %” column only contains characteristics. Place the % designation over the data columns (n [%]).
- Are there any significant differences to point out?
- Remove reference to the ‘totally sexually active sample’—this sounds like it is a subsample of the main sample of sexually active women. Just ‘total sample’ is adequate description.

Table 2.
- Should not report these in so much detail if regression is being used to control for interactions and confounding. Just report the results of the regression analysis.
- Which factors were not associated? This is as interesting and informative too and needed to know if the model was complete.

Table 3.
- What other factors were included in the model and found not to be significant?

Answers to Reviewer Guidelines

When assessing the work, please consider the following points:

1. Is the question posed by the authors new and well defined?
   No.

2. Are the methods appropriate and well described, and are sufficient details provided to replicate the work?
   No.

3. Are the data sound and well controlled?
   No.

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?
   Don’t know.

5. Are the discussion and conclusions well balanced and adequately supported by the data?
   No.

6. Do the title and abstract accurately convey what has been found?
   No.

7. Is the writing acceptable?
   Yes.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Discretionary Revisions (which the author can choose to ignore)