

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.

ARTICLE DETAILS

TITLE (PROVISIONAL)	Women's knowledge and attitudes surrounding abortion in Zambia: a cross-sectional survey across three provinces
AUTHORS	Cresswell , Jenny; Schroeder, Rosalyn; Dennis, Mardieh; Owolabi, Onikepe; Vwalika, Bellington; Musheke, Maurice; Campbell, Oona; Filippi, Veronique

VERSION 1 - REVIEW

REVIEWER	Caroline de Costa Professor of Obstetrics and Gynaecology James Cook University College of Medicine Cairns Queensland Australia
REVIEW RETURNED	07-Oct-2015

GENERAL COMMENTS	<p>I think this is an excellent study with some quite surprising (to me) conclusions and important information which should help shape health policy and planning in Zambia. Clearly there is an urgent need to increase women's knowledge of legal, safe accessible abortion, in order ultimately to lower the very high maternal mortality and morbidity from unsafe abortion.</p> <p>I ticked 'no' to question 4 on methods because it is not clear to me exactly how the fieldworkers administered the questionnaires to the study participants. Did they give the women the tablet computers and leave them to answer the questions anonymously? Or did the fieldworkers verbally interview the women and then put their answers into the computers? I think the degree of anonymity should be clarified because I believe this may have affected the women's answers. Whatever method was used this should be more clearly explained and discussed. If women themselves put their answers in were there not some women whose literacy levels might have made this difficult, given that 6% had no formal education and others only primary education? If however the fieldworkers were privy to the information could this have influenced women, eg into making more conservative statements? This aspect of the methods should be made clear before the study is accepted for publication. There are also a few typos and minor errors of grammar needing correction .</p>
-------------------------	--

REVIEWER	Janie Benson Ipas, United States Ipas has a program in Zambia that involves work with the public health system and local NGOs on the issue of abortion and contraception. I am not directly involved in these activities.
REVIEW RETURNED	16-Oct-2015

GENERAL COMMENTS

Overall comments:

This is a well-written paper that describes the results of a household survey in Zambia to assess women's knowledge of the current abortion law and attitudes toward abortion. It has the advantage of being a probability-based population sample of WRA, an adequate sample size, and application of a previously-used questionnaire. In addition to descriptive analysis, the investigators examined the relationship between abortion law knowledge and knowledge of someone who has had an abortion and women's beliefs about abortion and knowledge of someone who has had an abortion.

One of the main weaknesses in this study is both conceptual and operational. It makes the assumption that knowledge of the law and attitudes toward abortion affect women's ability to obtain a safe abortion or are the primary drivers of such ability. Women obtain safe and unsafe abortion around the world---including in Zambia---in spite of limited knowledge of their countries' abortion laws as well as holding individually negative attitudes toward abortion. The more important questions for us to understand about abortion in Zambia (and elsewhere) are: Do women know where they can obtain a safe abortion in their community? Do women believe that safe abortion is available in health facilities, including public facilities?

Detailed comments:

Page 4: The Zambian abortion law of 1972 (replicated from the UK law of 1967) was written to be purposefully arcane and confusing so as to reduce the possibility of conservative attacks; the medical provider requirements written into the law are unachievable given the human resource capacity of Zambia. It is a "provider-oriented" law, with providers as gatekeepers to services, and women's limited knowledge of the specifics of the abortion law, therefore, may be understandable. Please see:

Ngwena C. 2010. Protocol to the African charter on the rights of women: implications for access to abortion at the regional level. *International Journal of Gynecology and Obstetrics*, (110): 163-66.

Page 5 (line 30): Please see the following reference on other sources of abortion methods:

Fetters T et al. 2015. Using a harm reduction lens to examine post-intervention results of medical abortion training among Zambian pharmacists. *Reproductive Health Matters*, Supplement (44): 116-24.

Page 6: Was there a pre-test of the questionnaire? Who were the interviewers?

Page 7 (line 39): Was the ATPR sample the source of women's knowledge of someone who had had an abortion, not the full sample? Please clarify, including the n.

Page 8: Suggest not using the word "legal" vs "illegal." More accurate terminology is "grounds for a legal abortion." The bifurcated term, legal vs illegal, is imprecise and covers many, many options and attitudes.

	<p>Page 9: UTH has offered TOP services prior to 2000, although at low levels. Donor and international NGO support to improve quality and availability of TOP at UTH and other public facilities began about 2009.</p> <p>Page 10, line 30: The state of the draft constitutional amendment requires more contextual information.</p> <p>Page 10: The recommendations or implications for action based on the research finding are incomplete. Knowledge of the abortion law is low and reported attitudes are negative in Zambia. Yet women still seek and obtain abortion services. Communicating more information about the grounds for legal abortion in Zambia is unlikely to have much impact on women's ability to obtain safe services. What will have an impact is ensuring that safe services exist and widely communicating where and when they are available when women need them. The India study cited on page 11 is an example of this approach (ref #32).</p> <p>Page 15: Figure 1 is difficult to read and interpret with so many bars. It also includes a mixture of potential legal grounds and women's perceptions (cannot afford another child, wants to continue studies). Urban and rural responses could be shown, rather than by specific regions as most readers are unlikely to be familiar with these.</p> <p>Figures 1-3 should include the "N" in the titles.</p> <p>Page 19, Table 3: Wording of the question, "is abortion immoral?," casts it as a negative from the start. The wording of abortion questions influences responses which should be noted as a study limitation, including if questions are third-person oriented or phrased to apply to the woman herself. This question could have been framed more positively.</p> <p>Recommend revise and resubmit.</p> <p>Thank you for the opportunity to review this paper. My Ipas colleague, Tamara Fetters, also contributed to this review.</p>
--	--

REVIEWER	Chelsea Morroni Institute for Women's Health/Institute for Global Health, University College London, UK
REVIEW RETURNED	19-Dec-2015

GENERAL COMMENTS	<p>This is a straight-forward, valuable study of an important topic, with a clear question, appropriate methodology and statistics. It is generally clearly and well-written, but with a few grammatical errors and typos that need correction throughout. The conclusions are appropriate. My only suggestion would be to consider combining this paper with the ATPR paper, but the authors may have strong justifications for not doing so. Overall, I feel that continued documentation though well-conducted studies of the gaps that exist between abortion laws</p>
-------------------------	--

	and knowledge/attitudes/practices regarding abortion, abortion stigma, and the continued occurrence of unsafe abortion even in the context of more liberal abortion laws is of value.
--	---

VERSION 1 – AUTHOR RESPONSE

Reviewer 1: Caroline de Costa

I think this is an excellent study with some quite surprising (to me) conclusions and important information which should help shape health policy and planning in Zambia. Clearly there is an urgent need to increase women's knowledge of legal, safe accessible abortion, in order ultimately to lower the very high maternal mortality and morbidity from unsafe abortion.

We would like to thank the Reviewer for their kind and helpful comments, and for taking the time to assess our paper.

I ticked 'no' to question 4 on methods because it is not clear to me exactly how the fieldworkers administered the questionnaires to the study participants. Did they give the women the tablet computers and leave them to answer the questions anonymously? Or did the fieldworkers verbally interview the women and then put their answers into the computers? I think the degree of anonymity should be clarified because I believe this may have affected the women's answers. Whatever method was used this should be more clearly explained and discussed. If women themselves put their answers in were there not some women whose literacy levels might have made this difficult, given that 6% had no formal education and others only primary education? If however the fieldworkers were privy to the information could this have influenced women, eg into making more conservative statements? This aspect of the methods should be made clear before the study is accepted for publication.

Interviewers verbally interviewed the women and entered the responses onto the tablet. Due to low levels of functional literacy levels among many respondents, in addition to cost considerations, we did not consider it practical to use any form of anonymised/self-report method. We have modified the appropriate sentence in the methods section to clarify this (page 6) and added a brief discussion of this to the limitations section (page 12).

There are also a few typos and minor errors of grammar needing correction.

We have checked the paper for spelling and grammatical errors, and believe that these have now been removed.

Reviewer 2: Janie Benson

This is a well-written paper that describes the results of a household survey in Zambia to assess women's knowledge of the current abortion law and attitudes toward abortion. It has the advantage of being a probability-based population sample of WRA, an adequate sample size, and application of a previously-used questionnaire. In addition to descriptive analysis, the investigators examined the relationship between abortion law knowledge and knowledge of someone who has had an abortion and women's beliefs about abortion and knowledge of someone who has had an abortion.

We would like to thank the Reviewer for their detailed and helpful comments on our paper.

One of the main weaknesses in this study is both conceptual and operational. It makes the assumption that knowledge of the law and attitudes toward abortion affect women's ability to obtain a safe abortion or are the primary drivers of such ability. Women obtain safe and unsafe abortion around the world---including in Zambia---in spite of limited knowledge of their countries' abortion laws

as well as holding individually negative attitudes toward abortion. The more important questions for us to understand about abortion in Zambia (and elsewhere) are: Do women know where they can obtain a safe abortion in their community? Do women believe that safe abortion is available in health facilities, including public facilities?

We agree with the Reviewer that women's knowledge of where they could obtain a safe abortion is an extremely important question. Unfortunately, we did not collect data on this in our original study.

Page 4: The Zambian abortion law of 1972 (replicated from the UK law of 1967) was written to be purposefully arcane and confusing so as to reduce the possibility of conservative attacks; the medical provider requirements written into the law are unachievable given the human resource capacity of Zambia. It is a "provider-oriented" law, with providers as gatekeepers to services, and women's limited knowledge of the specifics of the abortion law, therefore, may be understandable. Please see: Ngwena C. 2010. Protocol to the African charter on the rights of women: implications for access to abortion at the regional level. *International Journal of Gynecology and Obstetrics*, (110): 163-66.

This reference has now been added to the introduction.

Page 5 (line 30): Please see the following reference on other sources of abortion methods: Fetters T et al. 2015. Using a harm reduction lens to examine post-intervention results of medical abortion training among Zambian pharmacists. *Reproductive Health Matters*, Supplement (44): 116-24.

This reference has now been added to the introduction.

Page 6: Was there a pre-test of the questionnaire? Who were the interviewers?

There was a pre-test of the questionnaire before use. The interviewers were women or reproductive age able to communicate fluently in English and at least one of Bemba or Nyanja (the two most common local languages). Most had previously worked with Population Council and found to be reliable, the remainder were recruited via recommendations from other trusted local research organisations – for example a few had worked as interviewers on the last DHS. This information has now been added to the methods section (page 6).

Page 7 (line 39): Was the ATPR sample the source of women's knowledge of someone who had had an abortion, not the full sample? Please clarify, including the n.

Yes, that is correct. Only one woman per household was randomly selected to respond to the ATPR module: we decided to do this to prevent multiple women living within the same household potentially being asked to report on each other's abortions – which we felt could have led to recriminations later. This was stated in the methods section and the Ns were provided in Table 1. We have modified the text to further clarify this (page 7). We hope it is now clear.

Page 8: Suggest not using the word "legal" vs "illegal." More accurate terminology is "grounds for a legal abortion." The bifurcated term, legal vs illegal, is imprecise and covers many, many options and attitudes.

We completely agree with the Reviewer that reduction to a binary variable is too simplistic and did our best to avoid such reductions in the manuscript. We could not see where in the text the term "illegal" had been used, but have modified a number of sentences to make them as precise as possible.

Page 9: UTH has offered TOP services prior to 2000, although at low levels. Donor and international NGO support to improve quality and availability of TOP at UTH and other public facilities began about

2009.

This sentence has now been amended.

Page 10, line 30: The state of the draft constitutional amendment requires more contextual information.

We have added additional information as requested. Since we submitted our manuscript there have been developments, with the constitutional amendments being passed, although not including the Article of concern. We have updated the manuscript to reflect this.

Page 10: The recommendations or implications for action based on the research finding are incomplete. Knowledge of the abortion law is low and reported attitudes are negative in Zambia. Yet women still seek and obtain abortion services. Communicating more information about the grounds for legal abortion in Zambia is unlikely to have much impact on women's ability to obtain safe services. What will have an impact is ensuring that safe services exist and widely communicating where and when they are available when women need them. The India study cited on page 11 is an example of this approach (ref #32).

We agree with the Reviewer that access to services is of vital importance. We have added additional emphasis to the text to reflect this (page 10).

Page 15: Figure 1 is difficult to read and interpret with so many bars. It also includes a mixture of potential legal grounds and women's perceptions (cannot afford another child, wants to continue studies). Urban and rural responses could be shown, rather than by specific regions as most readers are unlikely to be familiar with these. We have modified Figure 1 so that it is only stratified urban/rural, instead of by region.

However, since the region-specific data is likely to be useful locally, we would like to request to the Editors that the original Figure 1 be presented alongside online as an accompanying supplementary file (now appears in manuscript titled Supplementary Figure 1B).

Figures 1-3 should include the "N" in the titles.

This has now been added.

Page 19, Table 3: Wording of the question, "is abortion immoral?," casts it as a negative from the start. The wording of abortion questions influences responses which should be noted as a study limitation, including if questions are third-person oriented or phrased to apply to the woman herself. This question could have been framed more positively.

A sentence on this has now been added to the limitations section (page 12).

Reviewer 3: Chelsea Morrone

This is a straight-forward, valuable study of an important topic, with a clear question, appropriate methodology and statistics. It is generally clearly and well-written, but with a few grammatical errors and typos that need correction throughout. The conclusions are appropriate. My only suggestion would be to consider combining this paper with the ATPR paper, but the authors may have strong justifications for not doing so. Overall, I feel that continued documentation through well-conducted studies of the gaps that exist between abortion laws and knowledge/attitudes/practices regarding abortion, abortion stigma, and the continued occurrence of unsafe abortion even in the context of more liberal abortion laws is of value.

We thank the Reviewer for their helpful comments. We have checked the paper for spelling and grammatical errors, and believe that these have now been removed. Estimates of the incidence of induced abortion, which the ATPR method is aimed at, are particularly sensitive in a context such as Zambia. We have decided not to combine the ATPR incidence data and knowledge/attitudes data together in the same paper to allow sufficient space to set out detailed methods and key messages clearly - along with contextual information - and so hopefully reduce the risk of misinterpretation.

VERSION 2 – REVIEW

REVIEWER	Caroline de Costa James Cook University College of Medicine Cairns, Queensland, Australia
REVIEW RETURNED	30-Jan-2016

GENERAL COMMENTS	My questions about the methods of data collection when I first reviewed this paper have now been clearly answered and the implications of having the fieldworkers privy to the information from the women participating have been included in the discussion around the limitations of the survey. I congratulate the authors on an important piece of research.
-------------------------	--

Correction: *Women's knowledge and attitudes surrounding abortion in Zambia: a crosssectional survey across three provinces*

Cresswell JA, Schroeder R, Dennis M, *et al.* Women's knowledge and attitudes surrounding abortion in Zambia: a crosssectional survey across three provinces. *BMJ Open* 2016;6:e010076. This paper has been resupplied with the CC BY license.

Open Access This is an Open Access article distributed in accordance with the terms of the Creative Commons Attribution (CC BY 4.0) license, which permits others to distribute, remix, adapt and build upon this work, for commercial use, provided the original work is properly cited. See: <http://creativecommons.org/licenses/by/4.0/>

BMJ Open 2016;6:e010076corr1. doi:10.1133/bmjopen-2015-010076corr1



CrossMark