Reviewer's report

Title: Impact of the Introduction of Ultrasound Services in a limited resource setting: Rural Rwanda 2008.

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Reviewer: Roz Glazebrook

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This is an interesting and important topic and this original paper is worthy of publication. The paper does require some editorial work and I have provided suggestions to improve and enhance it.

Abstract: The abstract does indicate the purpose of the work and describes what was done and the results and outcomes of the work.

Methods: The methodology section could be improved by the authors adding more information to describe how the ultrasound images were sent to the blind reviewer from Africa to America? How were the digital images transmitted e.g. digitally or by hard copy? A description of the data sheets would have been useful. The types of transducers used would be useful.

Background and Discussion: The Literature Review was fairly old. There are more up to date published papers about the use of ultrasound in rural and remote areas. It would be have been good for the authors to give more information about the education of the local clinicians in using the non invasive ultrasound techniques (although this information could be included in a separate paper e.g. how were the operators deemed to be competent in using the technology which is very operator dependent).

Results: The paper could be strengthened by giving some more detailed descriptions about why the management of patients was changed following ultrasound assessment. The authors stated that 43% of patients had their management changed following ultrasound. Why was the decision made for women to have a caesarean section. Was it because of the position or size of the baby or position of the placenta? etc.

Discussion: Some of the references are quite old and during the last 5-10 years there have been major advances in ultrasound technology with smaller, more portable ultrasound machines which are cheaper and produce much higher quality than was available 16 years ago when some of the papers referenced in the article were published. In parts of the discussion on page 11 the authors of studies referred to in the text should be named and added to the references e.g. Instead of saying “in another study of AIDS patients undergoing abdominal ultrasound in Central Africa, researchers found...” say “in another study of AIDS patients undergoing abdominal ultrasound in Central Africa, Brown and Smith, 2003 found........... the authors of the Mexico study should also be mentioned...
and the year of publication so that any interested readers can look up the studies.

References: In the paper the authors reference using roman numerals and in the reference list they use numerical numbering. It would be better to use the same system for both areas.

It is usual academic practice to list the first three authors of published papers in the reference section.

General comments: Overall the writing is clear but some general comments include making the tense consistent. In some areas it is in past tense and some in present tense. Some of the sentences require a full stop, e.g. at the end of some of the references. Some of the paragraphs are very long and probably need to be broken up.

- On page 8 the authors need to delete the words “maybe here mention” and delete the word that and start a new sentence with “This gave”……..

Labelling for the Figures needs to be consistent e.g. either Figure 1, Figure 2 in the text and on the Figures or Figure 1, Figure 11. I could not find Figure 3 in the paper.

- On page 6 add a which in the sentence beginning with “The only exception was the cardiac echo lecture which was given……..”

- Page 7 – bottom of page suggest changes to sentence to read. This is most likely due to the fact that patients presented in the 2nd and 3rd trimesters of pregnancy for first time prenatal care.

- Page 8 – it states that “rarely, the ultrasound was used to assist in obtaining……….. IV access”. It would be useful to state the actual number of cases if that is known.