Reviewer’s report

Title: Estimating the Prevalence of Obstetric Fistula: A Systematic Review and Meta-Analysis

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Reviewer: L. Lewis Wall

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I appreciate the chance to review this article.

1. In general, the “technical” aspects of the review are sound, but I am still bothered by some aspects of this paper.

Major Compulsory Revision

2. In the abstract under “Main Results” the authors write: “The pooled prevalence in population-based studies was 0.29 (95% CI 0.00, 1.07) fistula per 1000 women of reproductive age (1.57 (95% CI 1.16, 2.06) in sub Saharan Africa and South Asia, 1.60 (95% CI 1.16, 2.10) per 1000 women of reproductive age in sub Saharan Africa and 1.20 (95% CI 0.10, 3.54) per 100 in South Asia.” Please explain to me how the pooled prevalence for sub Saharan Africa and South Asia can be exponentially lower than the prevalence of the individual areas considered. I suspect that the pooled prevalence is actually for all studies rather than sub Saharan Africa and South Asia and that this represents sloppy writing on the part of the authors. This needs clarification.

Minor Essential Revisions.

3. There remains a lack of clinical precision in their writing, particularly in the introduction. An obstetric fistula is a fistula from obstetric causes and that needs to be part of the definition. There are plenty of other causes of fistula—trauma, cancer, surgery, infection—but those are NOT obstetric fistulas.

4. Paragraph 1, page 3, last two lines are written in such as way as to imply the fistulae are not devastating in high income countries, which is clearly incorrect, as any clinician who has taken care of a fistula patient in the UK or US can attest.

5. Paragraph 2, line one “In high income countries, fistulae are generally the result of radiation and iatrogenic practices.” “Practices” sounds like it is some routine clinical procedure. Fistulae are the result of complications of radiation therapy and surgical interventions.

6. Paragraph 3 on page 3 confuses obstetric fistulae as a phenomenon with the cause of obstetric fistulae, namely prolonged obstructed labor. All of the consequences mentioned by the authors are the result of prolonged obstructed labor, of which a fistula is also a consequence; the consequences they mention are not the result of the fistula itself, but rather the process that led to the fistula,
which itself is a consequence of that process. That is an important difference. The leakage of urine damages the skin, not the thighs proper. Fistulas do not lead to “lack of sexual ability” but may lead to lack of sexual intercourse because of the unaesthetic circumstances, and obstructed labor may lead to vaginal stenosis which can preclude the ability to have sexual intercourse. Fistulas do not lead to amenorrhea, but obstructed labor can produce this, etc, etc. These may not be important distinctions to epidemiologists, but I assure you they are important clinical distinctions for anyone taking care of patients.

I remain concerned about the recommendations at the end. It doesn’t seem to me that the authors haven’t thought through this part very clearly. These seem like afterthoughts to an epidemiological study, rather than considered opinions from people wrestling with the clinical issues here.

7. “Signal functions for comprehensive emergency obstetric care could be expanded to include an explicit signal function for fistula prevention or treatment.” Explain, please, how this would work. Fistula prevention essentially means early diagnosis of prolonged labor and treatment to prevent the consequences of obstructed labor. That is already inherent/implicit in the current EmOC guidelines. It is unclear to me how you would add fistula treatment to these signal functions. There is a growing recognition among the obstetric fistula community that many of these cases are complex and require expert surgical treatment. It is clear that the best chance for cure is at the first operation. The authors argue that the prevalence of fistula is lower than many people think. Accepting their recommendations would probably increase the number of attempts at fistula repair carried out by less-skilled surgeons, with worsening consequences for fistula victims. I don’t see these recommendations as justifiable, well thought out, or particularly well-defended.

8. The authors also contradict themselves. On the one hand they write “In many countries in sub-Saharan Africa there is an emphasis on building specialized fistula hospitals dedicated to the treatment of women suffering from fistula. The results of this review suggest that resources may be better placed on prevention of fistula through the strengthening of maternal health services, and training of local providers into the management of prolonged and obstructed labour, safe caesarean techniques and fistula repair, which would have the additional effect of providing treatment of other causes of maternal morbidity.”

If fistulas are a relatively rare occurrence---as the authors argue---and often require very special surgical skill-sets and rehabilitation techniques which are above the capacity of local providers, doesn’t it make sense to consolidate fistula repair operations at centers of excellence where all of the needed resources can be centralized? Surgeons get better with higher surgical volumes. I would rather have my fistula operation at a centralized location where there is acknowledged expertise, than have it done by an SHO who has done one operation in his or her lifetime.

The authors fail to explain or to demonstrate how the creation of a center of clinical excellence for fistula care would detract from these other efforts at fistula prevention, which are achieved by strengthening the overall system—do they
think that the creation of such a center would be so expensive as to preclude expanding maternal healthcare services in the way they recommend? Might it not be better to consolidate fistula care at a center of excellence and to link that center to outlying facilities through better transportation and communication networks as part of the overall upgrade of maternal healthcare services? Again, their recommendations seem superficial to me.

On the next page the authors then emphasize the importance of fistula identification and treatment, writing “Given the seriousness of the condition, and the devastating consequences of fistula for women and their families, efforts should also be made to find these women and treat them.” So, what is it? Abandon fistula treatment in favor of prevention? treat fistulas locally with poorly trained surgeons who do a small volume of cases badly? or create centers of excellence to provide the high quality care such women need? This waffling detracts substantially from this paper.

9. The authors suggest that there are roughly 6,000 fistulae per year in sub Saharan Africa, yet a prospective clinical study of a large population base suggested the incidence was around 33,000 (Vangeenderhuysen et al). I think they should comment more specifically on this discrepancy.

10. There are numerous syntactical errors in this paper. “Fistula” is used singularly and in the plural, for example; “obstetric fistula” is either the phenomenon of the fistula or a single fistula. The plural is either “fistulas” if one is adopting the word to standard English or “fistulae” if one prefers to be Latinate in orientation.

**Level of interest:** An article of importance in its field

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I am a consultant to The Worldwide Fistula Fund, a not-for-profit public charity involved in patient advocacy, fistula care, and research.