Reviewer’s report

Title: Vaginal douching in Zambia: A risk or benefit to women in the fight against cervical cancer: A retrospective cohort study

Version: 1 Date: 27 May 2019

Reviewer: Johannes Berkhof

Reviewer's report:

Methods.

p.4. A VIA positive result is replaced by cervical lesion in the results section. Why not use the term: VIA-positive result throughout the paper?

p.5.1.11. Bivariate logistic regression analysis was employed to determine both the predictors of douching as well as identifying douches that were risk factors for abnormal cervical lesions. We used a significance level of 10% for adjustment variables to be entered in the multivariable analysis and the overall significance in the adjusted model was taken to be the traditional 5% significance level.

This text is confusing. The paper only contains univariate logistic regressions with single or multiple covariates.

p.5.1.60. The majority were aged between 25-34 (3,999).

3,999 is not the majority of 11853.

The second paragraph on page 6, in which Table 1 is explained, leaves much to be improved. In particular,

p.6.1.16. The highest proportion of women who douched were older (45-54 years old) and the elderly women (55 years or older) constituted the least proportion (14.4% and 5.2%), respectively.

These numbers cannot be read from Table 1 and the sentences are not clear to me.

p.6.1.21. More women with secondary (41.1%) and primary education (35.5%) used some form of solution while only 17.6% with tertiary education used the same.
I do not understand this sentence. The percentages do not relate to proportions of vaginal douching and seem to be misinterpreted: the percentages are column percentages but they seem to be interpreted as row percentages.

Women with two to five sexual partners, housewives and those who never used a condom with their regular sexual partners constituted the majority of women who douched (66%, 45% and 51.2% respectively).

45% is not a majority.

Table 2. HIV status is not statistically significantly associated with douching. See Table 1 where the p-value is 0.105.

After adjusting for multiplicity, the p-value in Table 2 will be larger than 0.05. I consider the p-values in Table 2 confusing and suggest to remove them. Or only report p-values for all categories of a covariate together!

Table 2 and 3. Please merge these tables into one Table.

I do not see any additional value of Table 4, please discard.

The analysis of cervical lesions can also be improved.

Table 5.

Why are not all covariates used that were also used in Table 2/3?

Show both crude and adjusted odds ratios!

HIV- is reference category whereas in Table 2/3, HIV+ is reference category.

Only present p-value over all reference groups, not per reference group!
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
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