Reviewer’s report

Title: Demand for family planning satisfied with modern methods among sexually active women in low- and middle-income countries: who is lagging behind?

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Reviewer: Maegan Boutot

Reviewer's report:

This study was an analysis of cross-sectional surveys that examined which contraceptives and/or birth control methods, if any, reproductive age women were using.

Abstract/Plain Summary:

1) Line 23-24, "The latest survey carried out since 2000 in 77 countries were included in the analysis."

It would be clearer to say, "The most recent surveys carried out since 2000 in 77 countries were included in the analysis."

2) Lines 33-35, "The other countries had mDFPS above 20% at country-level, but in many of these mDFPS coverage was low among women in the poorest wealth quintiles, youngest age groups, with little education and living in rural areas."

It should be written, "in the youngest age groups". This same mistake is present in lines 54-56.

Introduction:

3) Lines 62-64, "Reproductive health is explicitly mentioned in goal 3 on good health and wellbeing, but may also be considered as part of goal 5, that aims at gender equality and women's empowerment [1, 2]."

The sentence should be written, "…but may also be considered as part of goal 5, which aims at…"

4) Line 65-66, "demand satisfied for family planning"
I think this expression should be phrased as "demand for family planning satisfied" rather than as "demand satisfied for family planning". The current phrase doesn't follow the order of the initialism (i.e. demand satisfied for family planning would be DSFP, not DFPS). The initialism better fits the phrase "demand for family planning satisfied", which is the way World Health Organization (WHO) phrases the indicator.

5) Lines 69-70, "Family planning also has potential to reduce poverty worldwide by improving educational and economic achievements of women [3, 11]."

I would suggest saying, "educational and economic outcomes for women", as "improving achievements" is generally not said.

6) Line 71-73, "with about one in three women of reproductive age failing to use modern methods despite their desire to delay or limit pregnancy [14]"

I couldn't find where reference 14 states "one in three". Reference 14 seems to highlight that 20-58% of women had an unmet need, depending on region.

7) Lines 81-83, "Qualitative evidence indicates that female disapproval of modern family planning methods is influenced by women's misconceptions, including their limited understanding of potential side effects"

Influenced by women's misconceptions of what? Modern methods of contraception?

Methods:

8) Lines 93-94, "We used data from the latest Demographic and Health Surveys (DHS) and/or Multiple Indicator Cluster 94 Surveys (MICS) surveys available from each LMIC country, carried out since 2000."

A clearer variant might be to write, "We used data from the most recent (post-2000) Demographic and Health Surveys (DHS) and/or Multiple Indicator Cluster Surveys (MICS) from each LMIC country."

Alternatively, you may break it up into 2 sentences: "Data from each LMIC country was gathered using the Demographic and Health Surveys (DHS) and/or the Multiple Indicator Cluster Surveys (MICS). Surveys used in analyses were the most recent available and all had been carried out since 2000."
Also, the word "survey" outside of the acronym (i.e. the lower-case appearance of "survey" in the sentence) is extraneous.

9) Lines 94-96, "Use of publicly available surveys, with similar methodology and sampling strategy ensures the comparability of results."

There either should be a comma after the phrase "sampling strategy" or the comma before "with" ought to be removed.

I'm unsure that the data's public availability ensures comparability. Similar methodology and sampling strategy would ensure comparability, not public availability. More detail on the methodology and sampling strategy would also be beneficial for readers who don't know much about the DHS or MICS and would strengthen your argument that the results among surveys are comparable.

10) Lines 111-114, "Women in need of contraception are defined as those who are fecund and do not want to become pregnant within the next two years, or who are unsure about whether or when they want to become pregnant."

Ambivalence towards pregnancy does not necessarily imply need for contraceptive services. Many women are happy or feel neutral when they become pregnant unintentionally. I am curious as to what percentage of women explicitly don't want to become pregnant and what percentage are ambivalent. Is that data available from these surveys?

11) Lines 114-115, "Pregnant women with a mistimed or unwanted pregnancy are also considered in need of contraception."

At what point in a pregnancy were pregnant women asked if their pregnancy was wanted or mistimed? A woman's pregnancy may be both unintended but wanted, and her response may change over the course of the pregnancy.

Relatedly, a mistimed or unwanted pregnancy may not actually represent a person who is need of contraception. It's possible that their contraception or birth control method failed.

I worry that including this group of pregnant women may bias your results among communities of women in which it is culturally inappropriate to say an ongoing pregnancy is unwanted and may be misclassifying women whose contraceptive (which might be modern) failed.
12) Is there any information on the post-partum status of women surveyed? Post-partum women have a reduced number of contraceptive choices, in that they can't use anything containing estrogen for the first few months. If an estrogen-containing form of contraception is their preferred method, then they may be abstaining from sex or using lactational amenorrhea until they can use their preferred choice of contraception. Given a scenario in which these women have access to other forms of contraception, such as condoms or progesterone only hormonal contraceptives, but choose not to use them doesn't necessarily represent a case in which the women is in-need.

13) Given some of the issues surrounding the classification and inclusion pregnancy and post-partum women, did you or are you able to stratify based on not pregnant, pregnant, or post-partum?

14) Lines 115-116, defining modern contraceptives.

I think there should be more justification as to why fertility awareness methods were excluded entirely from modern methods.

I know that reference 26 (Hubacher & Trussell, 2015) groups all fertility awareness methods together as "traditional", but the World Health Organization (WHO) separates modern forms of fertility awareness methods (such as Standard Days Method) from non-modern (such as the rhythm method). It seems odd to include spermicide in the list of modern contraceptives but not these modern forms of fertility awareness methods when spermicide has lower efficacy and effectiveness as compared to modern fertility awareness methods. Fertility awareness methods are usually free, can be more culturally appropriate and are available regardless of war, trade disputes, natural disasters, etc. For more information on WHO classification, see http://www.who.int/mediacentre/factsheets/fs351/en/. Note that WHO doesn't list spermicide at all.

15) Line 133-134, "Analysis were stratified by woman's age (15-17 years; 18-19 years; 20-49 years old)…”

This sentence should start, "Analyses were stratified…”

How was the age group 20-49 decided upon? This a pretty big age group, and women 35 years and older usually represent a different population in terms of risks of pregnancy (ex. pre-term birth) and desire to have children.
16) Is there any information available on occupation? Women who work as sex workers may be more likely to use certain forms of contraception than others. Married women who work as sex workers may choose to use one form of contraception or birth control practices with their spouse but another with their clients.

17) Is there any information on availability of contraception, other than the mDFPS (which really is examining use of contraception)? This matters for interpretation. For example, if someone lives in an area without any access to hormonal contraception (i.e. it's not sold anywhere nearby), they have a different problem as opposed to someone who could access it but can't afford it or who is choosing not to use it for a different reason.

Results:

18) Line 49, "The latter presented mean mDFPS of 32.9%..."

I would not use "latter" in this way. Latter is used when there are only two items on a list, but the list that is being referenced contains more than 2 items. Also, the use of "presented" seems inappropriate.

I would substitute, "The mean mDFPS in West Africa was 32.9%...".

19) Line 152, "Still in table 2, DFPS was subdivided by the type of contraceptive method used."

The word "still" is inappropriate here. I would simply write, "In Table 2, DFPS was subdivided...".

20) Line 159-161, "Even among these countries, Barbados, Saint Lucia and Suriname have around one quarter of the women in need of contraception failing to use any method."

What are the levels of contraception use in high income countries, especially ones with easily-accessed contraception?

There is probably a point at which patient preference comes into play and we don't expect everyone to use one of these methods or any method. I think breaking down your tables by women who report they don't want to be pregnant and those who are unsure might better get at the need for contraception among this quarter of women.
21) Lines 161-162, "In Uzbekistan, Malawi, Kazakhstan, Indonesia, Kenya, Rwanda and Ethiopia most of these women relied on long-acting contraception."

The phrase "most of these women" should be replaced with "most women".

22) Lines 177-179, "This region showed peculiar results, with huge variation in mDFPS (from 13.5% to 83.0%, Figure 1), and the lowest reliance on modern methods. Albania and Kosovo, for instance, have DFPS over 80%, but only about a quarter of these women use modern methods."

Do Albania and Kosovo have high unintended pregnancy rates? According to Figure 3, Albania has lower fertility rates despite their reliance on "non-modern" methods. Are they more likely to be using certain forms of "traditional methods"?

23) Line 179-180, "We show in Figure 3 that, generally countries with higher mDFPS have lower total fertility rates."

I'm guessing Table 3 is trying to use the fertility rate as an indirect metric for unintended or unwanted pregnancy. Is this common in the literature? Is there any metric that describes how accurately this maps against unintended/unwanted pregnancies? Higher income countries may have lower fertility for reasons other than access to contraception.

Also, the comma following "that" should be removed.

24) Line 194, the acronym CAR is never defined in the text.

Discussion:

25) Line 220-223, "This suggests that efforts must be directed not only to the supply side - including provision of contraceptives through appropriate delivery channels - but also against child marriage and increasing woman's empowerment through changes in social norms that might inhibit uptake of contraception (including married woman)."

The phrase in parentheses should be "including among married women"
26) Line 231-232, "religion - which is commonly believed to present a barrier to family planning with modern contraceptives [27] - did not come up in our analysis as an important determinant of mDFPS."

Grammar: The dash lengths don't match. Also, commas may be more appropriate.

27) Line 233, "countries, Islam, Christianism and other religions..."

Christianity is the religion, not Christianism. Christianism is used as a pejorative term, at least in the United States.

28) Lines 258-259, "The use of traditional contraceptive methods is associated with sexual disorders and dissatisfaction, and also makes men and women more susceptible to sexually transmitted diseases."

There shouldn't be a comma before "and".

29) Line 258-260, "The use of traditional contraceptive methods is associated with sexual disorders and dissatisfaction, and also makes men and women more susceptible to sexually transmitted diseases [41]."

I cannot find this information in reference 41, and I think the claim that traditional contraceptive methods are associated with sexual disorders and dissatisfaction should have a reference.

30) Line 260-261, "The literature also shows that the individual efficacy of the traditional contraceptive methods is lower than the efficacy of the modern methods [42]."

I cannot find any commentary regarding the efficacy of any contraceptive methods in reference 42. The WHO puts the Standard Days method at 95% efficacy and withdrawal at 96% efficacy, which is not a far cry from the efficacy of condoms (98%) (http://www.who.int/mediacentre/factsheets/fs351/en/).

31) Line 261-264, "Thus, the low fertility rates found in these countries can be a result of the use of traditional contraceptive methods being effective at the population level, or it can be due to the high induced abortion rates in the region - one of the highest in the world [43]."
It's unclear here who you're referring to here. Are you referring to CEE & CIS? I would restate that. Regarding abortion in CEE, I'd make sure that the data is recent. Abortion trends and behaviors have changed in CEE since the fall of the Soviet Union, but some countries in CEE use an old Soviet system of accounting for abortion where induced abortions and spontaneous abortions (i.e. miscarriages or pregnancy losses) are grouped into the same statistic, which artificially inflates that induced abortion statistic.

Also, I cannot find any reference to abortion in reference 43. Reference 43 is a paper on child height, so I'm not sure how it's related to this article.

Tables/Figures

32) Overall comment for all tables/figures: all acronyms should be spelled out in the comments for both tables and figures. If someone only saw the tables and abstract, they wouldn't be able to understand the tables/figures.

33) All figures are titled as "Figure 1". This seems to be a formatting error.

34) In Table 4, the term "literate" should probably replace the term "literacy", given that the metric is yes/no.

35) Figures 2 and 3 have no y-axis title.

36) Figure 4 has the acronym "mFPC". Is this meant to be mDFPS?

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