Considerations for Measuring Contraceptive Use and Unmet Need among Unmarried Women

Extended Abstract for PAA2019
Madeleine Short Fabic and Apoorva Jadhav
U.S. Agency for International Development (USAID)*
*Views and opinions are those of the authors and do not necessarily reflect those of USAID

Short Abstract

Historically, the family planning (FP) practices and needs of married women have been monitored and reported in a relatively uniform way across time and place. The same, however, does not hold true for the monitoring and reporting of FP practices and needs among unmarried women: both never-married and formerly-married. Specifically, contraceptive prevalence rates among unmarried women are reported in different ways across key data and information platforms, including the Demographic and Health Surveys Program, the Guttmacher Institute, and the World Health Organization. These contraceptive prevalence rate differentials, in turn, yield unmet need for FP differentials. We examine how differing measurement approaches yield differing estimates of key FP indicators – modern contraceptive prevalence and unmet need – among unmarried women. Recommendations follow, with the recognition that common and explicit measurement and reporting approaches enhance our understanding of FP behaviors, needs, and experiences of this key demographic group.

Extended abstract

Background

With the world working to achieve the goals of FP2020—that 120 million more women and girls access contraception—and of the 2030 Sustainable Development Goals—that no one is left behind—understanding the family planning (FP) needs of all women is imperative. Historically, the FP practices and needs of married women have been monitored and reported in a relatively uniform way across time, place, and data collection instrument. The same cannot be said for the monitoring and reporting of FP practices and needs among unmarried women. For example, the Demographic and Health Surveys Program (DHS) reports contraceptive prevalence among unmarried women only among those who reported having sex in the 4 weeks preceding interview.[i] Meanwhile, the Guttmacher Institute and recent World Health Organization (WHO) publications report it among women who reported having sex in the 3 months preceding interview.[ii,iii] These varying approaches to measuring CPR among unmarried women result in different CPR estimates as well as different unmet need estimates. Our interest is threefold:

1. How do various measurement approaches – different durations of sexual recency - impact estimates of CPR and unmet need among unmarried women?
2. What are the benefits and limitations of each measurement approach?
3. Is it beneficial to standardize the measurement approach? Why or why not?

Data and Methods

Data come from the DHS- nationally representative household surveys that have been implemented in 90 countries with technical assistance from The DHS Program, which has been supported since 1984 by the U.S. Agency for International Development. All women between

15 and 49 years of age in sampled households are eligible for the women's interview, further details of which are elaborated upon elsewhere.[iv] Our first inclusion criterion is country surveys that include both married and unmarried women. Second, we restrict analysis to the sample of countries that completed surveys from 2012 onward. We chose this 2012 demarcation to complement FP2020 goals outlined in the 2012 London Summit. Our final sample size thus is 42 countries with survey samples ranging from 5,329 women in Comoros to 699,686 in India. For the purposes of this extended abstract, we include analysis from only 2 of the 42 countries: Ghana and Haiti.

Our main analytic variable is timing of last sex (e.g. sexual recency). First, women are asked if they have ever had sex. For those who say they have ever been sexually active, they are asked an open-ended question, "When was the last time you had sexual intercourse?" For women who respond that they have been sexually active in the 12 months preceding the interview, the answer is recorded in days, weeks, or months. We code sexual recency in 4 different ways, with 4 corresponding denominators: All sexually active women regardless of timing of last sex (e.g., those women who have ever had sex); DHS method (sexually active in the 1 month preceding interview), Guttmacher Institute/WHO method (sexually active in the 3 months preceding interview), and one additional alternative method (sexually active in the 12 months preceding interview).

The key demographic variables in our analysis are marital status (never married, currently married or in-union, and formerly married) and age (in 5-year groups). We include currently married women in our analyses for comparative purposes. The key FP variables are: modern contraceptive prevalence (mCPR) and unmet need. We align our definition of modern contraceptive methods with the DHS definition, which includes female and male sterilization, contraceptive pill, intrauterine device, injectables, implants, male and female condoms, diaphragm, contraceptive foam and jelly, lactational amenorrhea method, standard days method, and emergency contraception.[v] We also use the DHS definition of mCPR, which assesses contraceptive use based on the question, "Are you or your partner currently doing something or using any method to delay or avoid getting pregnant?"[vi] We use the DHS Program's revised calculation of unmet need as a starting point for unmet need calculations.[vii]

First, we explore how timing of sexual activity differs by marital status using Kaplan-Meier failure curves, with failure= not having sex. These results allow us to visualize the change in denominator (eligible women) based on timing of sex. Next, we explore how estimates of mCPR and unmet need vary by timing of last sex. Finally, we disaggregate these estimates of mCPR and unmet need by age and marital status. All data presented are weighted.

Preliminary Results

For the purposes of this extended abstract,[1] we present data from two surveys, Ghana 2014 DHS and Haiti 2016-17 DHS.[viii,ix] Turning to our first and primary study objective, we observe the Kaplan-Meier curves of Figure 1, which show that there is a statistically significant and

[1] The full paper will present data from all 42 study countries.

meaningful difference in the number of eligible women depending on the timing of sex cut-off. In Ghana, for example, among never married women who ever had sex, about 20% had sex in the month preceding the interview (corresponding with the DHS method) while about 42% had sex within three months of interview (corresponding with the Guttmacher/WHO method), and 85% had sex within 12 months of interview (corresponding with the additional alternative method). A similar, expected pattern is revealed in the Haiti Kaplan-Meier curves. In both cases, sexual activity during the previous 12 months is higher among never married women who ever had sex as compared with formerly married women who ever had sex. Similarities between the Haiti and Ghana curves are also present in sexual activity trends among married women who ever had sex. As the curves reveal, currently married women are more likely to have had sex recently (e.g. within the last 1 month, 3 months, and 12 months) as compared with unmarried women. The curves also highlight the reality that marriage is not a perfect proxy for sexual activity with only about 40% of married women reporting sex in the month preceding interview and 65%-70% reporting sex in the three months preceding interview.

Applying these various sexual activity restrictions to the calculation of mCPR among unmarried women (Table 1), we observe that in Ghana, mCPR among never married women ranges from 28% (1 month), 25% (3 months), and 21% (12 months) depending on the eligibility criteria applied. In Haiti, mCPR among never married women ranges from 30% (1 month), 29% (3 months), and 24% (12 months). Because the DHS calculation of unmet need among unmarried women applies the inclusion criteria of sex in the 1 month prior to interview, we recalculated unmet need under several different inclusion scenarios, all women who were sexually active within a) 1 month (standard DHS calculation); b) 3 months (Guttmacher calculation), and c) 12 months prior to interview. As Table 1 shows, expanding inclusion criteria to capture unmarried women with less recent sex results in modest to large increases in unmet need. In both Ghana and Haiti, unmet need increases as the sexual recency criteria widens, regardless of age or marital status. For never married women in Haiti, 54% of women who have ever had sex have unmet need. The proportion is 53% for those who had sex in the 1 month prior to interview and increases to 58% for those who had sex in 3 months prior to interview. In Ghana, this jump is less stark 45% of women who had sex in the 1 month prior to interview are classified as having unmet need, increasing to 47% at 3 months prior to interview. The magnitude of unmet need differentials by measurement approach is most prominent when comparing estimates by age group, particularly for women 15-19. Unmet need for these women is 63% in Haiti and 46% in Ghana for those who had sex in the 1 month prior to interview, to 66% in Haiti and 57% in Ghana for those who had sex within the 3 months prior to interview.

Implications

As has been revealed and elaborated in recent scholarship, a substantial proportion of unmarried women have ever had sex.[x,xi] Our initial findings confirm this reality and again highlight the relatively fluid and sporadic nature of unmarried women's sexual lives as compared with married women's. This finding may spur the measurement community to expand the eligibility criteria for mCPR and unmet need calculation to a wider pool of sexually active women—i.e. expand from inclusion criteria of sexual activity within 1 month to 3 months or 3 months to 12 months. Indeed, in so doing we would be able to have a larger sample size

for disaggregation and analysis, and perhaps understand contraceptive use dynamics of a wider population of unmarried women. Caution!

Our data also reveal that expanding the eligibility range from one month to three months and beyond yields lower mCPR estimates and higher unmet need estimates. This is to be expected—not because women who had sex less recently are more likely than others to not use contraception or to be in greater need of contraception—but rather, because expanding the inclusion criteria based on time since last sex creates a concerning measurement misalignment. Specifically, as mentioned above, contraceptive use is based on a "current use" measure. This "current" measure aligns well with the experiences of women who had sex more recently. However, if you are seeking to understand contraceptive use of women whose last sex was 3 or more months ago, you are unlikely to get a reliable estimate based on a "current use" question.[xii,xiii] Rather, contraceptive use at last sex would need to be examined. In the DHS, one can assess use at last sex by proxy employing the contraceptive calendar. A recent analysis did just that, exploring CPR among three groups of women: 1) women who had sex in the last 3 months, using the contraceptive calendar to assess whether she used contraceptives in the three months before the interview; 2) women who had sex in the last three months, using the responses to the "current use" questions to define contraceptive use; and 3) women who had sex in the last 1 month, measuring contraceptive use based on responses to "current use."[xiv] The results showed that CPR was similar in groups 1 and 3, but slightly lower as measured for the second group. Based on these findings, plus the fact that contraceptive calendar data are not as widely available as current use data, authors chose to use group 3 as their analytic group. We agree with this assessment.

Because DHS data are cross sectional, unmarried women meeting the 1 month inclusion criteria represent all types of sexual activity—frequent, sporadic, periodic—and mCPR estimates as well as unmet need estimates therefore reliably reflect the population-level estimates for this diverse demographic group. We therefore recommend maintaining the DHS method for reporting mCPR and unmet need among unmarried women. We also suggest for clarity and messaging that the wider FP community adopt this approach for measuring and reporting mCPR and unmet need among unmarried women.

Though the evidence for this recommendation is quite clear, measurement challenges remain. For example, in many countries unmarried women are face stigma for sexual activity outside the bounds of marriage. Such cultural sensitivity may make unmarried women unlikely to report sexual activity, leading to measurement bias. For those women who do report sexual activity, their life experiences may not be reflective of other sexually active unmarried women who are uncomfortable self-reporting. Perhaps women who self-report are more likely to access and use contraception, which would artificially inflate mCPR among unmarried women and deflate unmet need. Finally, because sexual activity is more likely to be sporadic among unmarried women compared with married women, it is important to recognize that these women are perhaps more likely to be unprepared (contraceptive-wise) for their next sexual encounter and more exposed to the risk of an unintended pregnancy as a result. This is a key challenge that public health programs can and should address.

Figure 1: Kaplan-Meier failure curves for sexual recency by marital status among women who ever had sex, Ghana and Haiti (failure= not having sex)

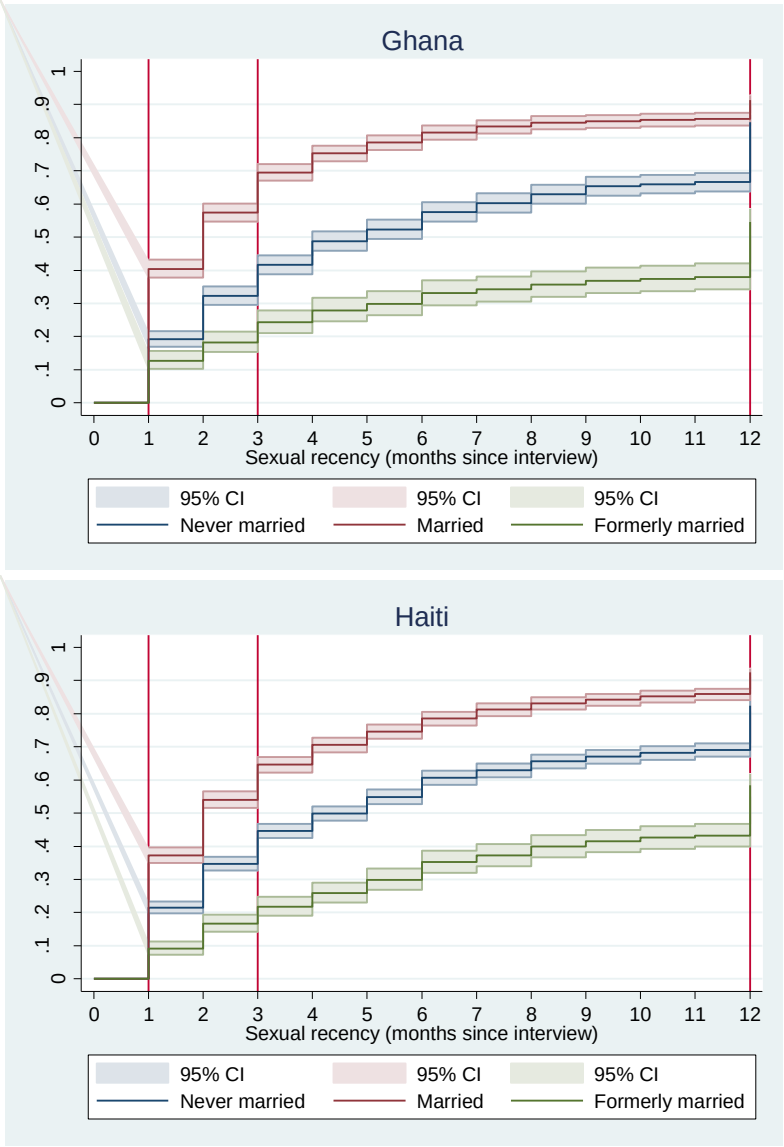

Table 1: mCPR and unmet need estimates disaggregated by age and marital status – based on sexual recency in Haiti and Ghana

	Haiti DHS (2016-17)					Ghana DHS (2014)				
		Sexual recency (time before interview)					Sexual recency (time before interview)			
	All women	Sexually active (ever)	1 month	3 months	12 months	All women	Sexually active (ever)	1 month	3 months	12 months
mCPR										
Total	22.3	26.9	35.4	33.7	30.3	18.2	20.6	28.3	27.1	24.7
15-19	8.2	20.2	27.6	27.0	22.8	6.3	14.8	30.5	24.3	17.9
20-24	24.9	29.0	38.6	35.5	31.7	21.1	24.2	33.0	31.8	29.2
25-29	31.3	32.9	41.5	39.8	36.0	24.2	23.8	33.6	32.1	29.0
30-34	29.7	30.6	40.1	37.5	34.6	22.0	21.5	28.5	28.1	26.6
35-39	29.2	29.5	38.3	37.0	33.9	20.9	21.1	26.0	26.1	24.8
40-44	23.6	23.7	29.2	29.3	26.9	18.5	18.9	22.4	21.7	21.1
45-49	12.5	12.6	17.5	16.7	15.4	13.1	13.3	20.0	17.9	15.9
Never Married	11.8	20.6	29.8	28.7	23.9	11.0	17.8	30.9	27.4	21.4
Married	31.8	31.8	36.5	35.4	33.7	22.2	21.9	27.5	26.1	25.4
Formerly Married	13.7	13.8	37.6	31.4	22.6	18.8	19.0	33.9	37.4	28.6
Unmet need										
Total	31.6	40.9	37.4	41.3	45.3	27.0	31.1	29.6	31.4	35.4
15-19	26.2	64.7	62.7	65.7	71.0	26.1	60.9	45.8	57.2	67.4
20-24	43.7	50.9	44.5	50.6	55.5	32.0	36.9	33.8	36.9	42.0
25-29	38.0	40.0	36.0	39.4	43.0	29.2	30.4	30.5	30.8	33.7
30-34	34.3	35.3	31.4	34.6	37.9	27.0	27.0	26.4	27.9	31.1
35-39	32.0	32.3	32.1	33.7	35.7	29.8	29.5	32.8	32.4	34.2
40-44	32.2	32.4	35.3	36.0	37.9	24.7	24.9	26.4	27.1	28.1
45-49	25.7	26.0	29.2	30.0	31.8	14.0	13.8	16.6	16.0	18.1
Never Married	31.2	54.4	53.3	57.8	63.4	29.1	47.3	44.9	47.3	55.6
Married	35.7	35.7	33.9	35.5	36.4	26.0	25.9	26.9	27.3	27.5
Formerly Married	34.3	34.5	44.7	51.8	59.6	26.1	26.4	33.8	35.1	43.5
N	14,371	11,845	6,544	8,675	10,195	9,396	7,817	3,945	5,455	6,400

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