Improving the Measurement of Fertility Regulation Practices: Findings from Qualitative Research in Ghana

CONTEXT: *According to Demographic and Health Survey (DHS) data, highly educated urban women in some West African countries simultaneously have low rates of both contraceptive use and fertility—suggesting that the DHS may not be capturing a complete picture of women's contraceptive practices.*

METHODS: *Individual in-depth interviews and focus group discussions were conducted with a total of 48 women aged 18–49 in Accra, Ghana, who had at least a secondary education to explore their reproductive lives and relationships, and their views on and use of fertility regulation strategies. Data were analyzed using iterative thematic techniques.*

RESULTS: *Women commonly reported using combinations of contraceptive methods, including "counting days" (using a calendar and the date of one's last menstrual period to estimate "unsafe" days—those on which the risk of conception is high), as well as withdrawal, condoms and frequent use of emergency contraceptive pills. Women described practicing "periodic contraception": for example, counting days to determine unsafe days and practicing contraception ad hoc on such days. Method use combinations varied from cycle to cycle—forming a "mosaic" of method use combinations over time.*

CONCLUSIONS: *The fertility control strategies commonly reported by the study respondents—periodic contraception, and frequent use of traditional methods and emergency contraceptive pills—are likely not adequately captured in general surveys such as the DHS. Such surveys are also not well suited to measuring combinations of methods and mosaics of method combinations. New ways of capturing women's fertility regulation practices should be considered, including additional survey items, new question modules and specialist studies.*
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Universal access to contraception has been a key global health goal for decades, as currently exemplified in Family Planning 2020[1] and the Sustainable Development Goals (SDGs). The extent to which need for contraception is met is a crucial indicator of progress toward this goal. For instance, SDG indicator 3.7.1 measures the proportion of women of reproductive age (15–49 years) who have their need for family planning satisfied by a modern contraceptive method.[2]

Surveys are routinely used to measure unmet need for family planning, prevalence of contraceptive use and other relevant sexual and reproductive health indicators. The Demographic and Health Survey (DHS), arguably the best-known survey program for this purpose, allows comparisons of such indicators between countries and across time by using a format that–although modified slightly according to country needs–is broadly standardized across survey locations and time periods.

Survey data play a crucial role in understanding fertility and its correlates, yet how surveys capture fertility regulation strategies can be problematic, particularly for strategies that do not involve modern methods. For example, underreporting of traditional method use in surveys was identified in France in the 1970s,[3] as well as more recently in Burkina Faso[4] and Ghana.[5]

Different surveys can yield different estimates of fertility regulation strategies for the same or similar populations. For example, a 2010 survey conducted in Ouagadougou, Burkina Faso,[4] designed to investigate potential underreporting of natural method use in the DHS, included the specific question "Are you currently using the rhythm method (or periodic abstinence or Cyclebeads, or the calendar method)?" According to the survey, traditional method use was 26% among married women of reproductive age in the city, compared with only 5% according to the 2010 DHS;[6] however, no difference in modern method use was found.[4] Likewise, current use of the calendar rhythm method was much higher in the second wave (2008–2009) of the Women's Health Study of Accra (WHSA-II) than in the 2008 Ghana DHS (23% of nonmenopausal women aged 20–54 vs. 9% of women aged 15–49 living in Greater Accra, respectively).[7,8] The difference could be attributed to the former survey's smaller sample and slightly older age-range, but more likely was because of its inclusion of specific probe questions (e.g., "Are you currently using periodic abstinence/timing/calendar method to avoid pregnancy?").

If underreporting of fertility regulation strategies in standard household surveys is widespread, it could at

least partially explain differences in contraceptive use levels among countries with similar total fertility rates (TFRs). For instance, between 2012 and 2014, Ghana and Kenya recorded similar TFRs (4.2 and 3.9, respectively), but very different levels of contraceptive prevalence among married women (27% and 58%).[9]

Disaggregated data for Ghana show some unusual patterns in contraceptive prevalence.[10] In the 2014 Ghana DHS,[11] currently married women aged 15–49 in the top wealth quintile had a lower modern contraceptive prevalence rate (mCPR) than their less-affluent peers (20% vs. 21–25%), and urban women had a lower rate than rural women (20% vs. 25%); this is the opposite of what is generally seen. It was also unusual that the mCPR was higher among women with only a primary education than among more-educated women (27 vs. 24%).

Contraceptive use among urban and more-educated married women aged 15–49 in Ghana has decreased over time. Among urban women, current use of any contraceptive method declined from 31% in 2003 to 27% in 2008 and 26% in 2014;[8,11,12] modern method use decreased from 24% in 2003 to 19% in 2008, but then increased to 25% in 2014. In Greater Accra, modern method use declined from 26% in 2003 to 19% in 2014—the lowest level in the country, except for the Northern region (11%).[11] Among women in Ghana with a secondary education or higher, current use of any contraceptive method dropped sharply from 40% in 2003 to 30% in 2008, before recovering somewhat (to 34%) in 2014;[8,11,12] modern method use in this population was 28% in 2003, 19% in 2008 and 24% in 2014. Yet, counterintuitively, the TFR among women with a secondary or higher education followed a similar pattern, declining from 2.5 to 2.1 between 2003 and 2008,[8,12] and then increasing to 2.6 in 2014.[11] The TFR among urban women was relatively stable over the period (3.1 in 2003 and 2008, and 3.4 in 2014).[8,11,12] Reported use of traditional methods was higher among women with a secondary or higher education than among those with only a primary education (11% vs. 2%).[11]

What Explains Low Fertility in Ghana?

One explanation for the gap between Ghana's actual fertility level and what would be expected given the country's low contraceptive use is unrecorded abortions. Ghana enacted a comparatively liberal abortion law in 1985. The WHSA-II appears to show a rise in abortions in Accra around 2008, although the sample size is small and raw data are not provided.[7] According to the most recent (2007) national data, the total abortion rate among all women was 0.4, which is likely to be an underestimate because of underreporting. Higher abortion rates were found for urban women and the most highly educated (0.6 each). That these are the same groups of women with low levels of modern contraceptive use supports the idea that abortion is helping to hold fertility low, although the differences could also be because of differential willingness to report.

An additional explanation is underreporting of traditional method use, which has been cited as a problem in this setting.[9] According to one analysis of DHS data,[10] among women who reported not using a contraceptive method, those who wanted to cease childbearing or delay it for at least two years were twice as likely as those who reported wanting a child "soon/now" to have not had sexual intercourse in the last four weeks. This suggests that reduced coital frequency may be used as an alternative to contraceptive methods; however, women who had not resumed sex since their last birth were excluded from the analysis, and it is not known whether the women who reported no intercourse in the four weeks prior to the survey were abstaining long-term. A follow-up qualitative study found that the DHS may not adequately capture abstinence as an intentional contraceptive method because its questions on abstinence focus on the rhythm method.[13] Long periods of abstinence or other natural methods may be preferred over modern methods, for diverse reasons such as fear of side effects, cost, religious teachings or partner opposition to certain methods.[13,14]

Other explanations of the gap between fertility and contraceptive use in Ghana include possible underreporting of modern methods by women who use methods covertly, as well as by women in the county's Northern region, where contraceptive use can be stigmatized.[15–18] In addition, emergency contraceptive pills (ECPs)—licensed in Ghana since 2000—are widely available from clinics and pharmacies across the country without a prescription at a cost of 4–19 Ghana cedis (US$0.89–4.21) per use;[19,20] minimum wage in Ghana is currently 9.68 cedis per day. ECPs are used both for "emergencies" and as a routine postcoital method.[21]

To understand how women in Ghana are achieving low levels of fertility with such low reported levels of contraceptive use, we conducted a qualitative study of the fertility regulation strategies of highly educated women in Accra. We focused on the behavior of elite women living in the capital because they are likely to be the pioneers of reproductive change with considerable potential influence on less-privileged sectors. If such women are deliberately avoiding modern methods, it is important to understand how they are controlling their fertility and why. In this article, we present our survey-relevant findings—particularly, women's use of traditional and ad hoc methods and combinations of methods. Insights into women's behavior could have major implications for the future design of family planning programs.

METHODS

Interviews

We used snowball and purposive sampling to recruit 48 women with a secondary or higher education; women were recruited via personal networks, shopping malls, workplaces and universities. We purposively sampled women from different age-groups to capture perspectives across the reproductive life course. Although many women had experienced stable relationships, we did not

select participants on this basis. Women were interviewed in November and December 2014.

We conducted individual in-depth interviews with 25 women to explore their reproductive lives and relationships, and their views on and use of different fertility regulation strategies; the number of interviewees was based on our past experience of what would yield a reasonable diversity of responses and allow general themes to emerge. Eight of the women were aged 18–24, 12 were aged 25–39 and five were aged 40–49; the number of participants per age-group was prespecified so that half of women were between the key reproductive ages of 25 and 39. All women were currently or had previously been in a stable relationship, 19 had ever been pregnant and 12 had children. Interviews were conducted by members of the research team or by experienced local interviewers—all of whom were women aged 30–50.

In addition, 23 women participated in one of three group discussions that elicited women's views on fertility and contraceptive use generally, as well as on specific methods for regulating fertility. We split the participants into groups by age because we hypothesized that women would likely have different priorities and views at different points in their lives. In each group, many of the women were currently married or in a stable relationship; in the youngest group, many were currently studying and did not have children. Group discussions were held after hours in classrooms at a local university. They were led by Ghanaian interviewers, mostly in English, with some interjections in Twi; members of the research team contributed questions where necessary.

All participants received written information about the study and provided informed consent to participate. We received ethical approval from Ghana Health Service and from the London School of Hygiene & Tropical Medicine Research Ethics Committee. Interviews were audio-recorded and then transcribed. Transcriptions included a literal (word-for-word) translation, as well as a "correct" (i.e., a more adequately rendered meaning in English) translation of phrases or sentences in the few places where Twi was used. Interviewers made notes on locations, body language and other observations. Transcripts were double-checked in full by the research team to ensure accuracy.

Analysis

We used an inductive, thematic analytic approach in which increasingly abstract themes arising from the data were identified in a process of "constant comparison."[22] Where possible, data from early interviews informed subsequent interviews (we sought interviewees of ages different from those already interviewed and adjusted interview questions in response to ongoing findings); in this respect, we followed the principles of grounded theory.[22] We also examined cases in depth and paid close attention to specific elements of the narrative—for example, how participants reported what other people say, appealed to common sense or used metaphors. Three members of the research team conducted the analysis, which included discussing how best to characterize emerging themes and paying detailed attention to each other's work to ensure systematic and comprehensive analysis.

RESULTS

Women talked in detail about their contraceptive use. They reported using various methods at different times to avoid pregnancies and births, including modern contraceptive methods such as the injectable, the pill and ECPs, as well as traditional methods such as "counting days" and withdrawal. Participants reported undergoing both medication and surgical abortions, some repeatedly. In addition, some mentioned abstaining from sex for long periods because of being away from their partner, for instance during periods when they were studying away from home. Below, we go into detail about their accounts of the most normalized methods that are likely to cause problems in surveys: "counting days," withdrawal, condoms and ECPs.

Counting Days

A key traditional method that many women mentioned was "counting days." The method consists of using a calendar and the date of one's last menstrual period (first or last day) to estimate "unsafe" days—those on which the perceived risk of conception is high—and then acting to reduce the risk of pregnancy on those days.

Fertility awareness methods were rarely spontaneously mentioned as a way to prevent pregnancy. Yet, counting days was almost universally used at one time or another, and particpants described it as a taken-for-granted part of a woman's life. Participants seemed to expect that all women would know their menstrual cycles very well. Some mentioned being safe at certain times of their cycle. Others reported that their male partners knew that some days were safe or unsafe, although the women were in charge of keeping track of when those were.

Opinions about exactly which days were safe differed among women, as did counting techniques. Some women considered the fertile period to last "four to five days" or "from day 10 to day 16"; all focused on the middle of the cycle, although there was little precise agreement. When we asked about methods used to prevent pregnancy, women would often say that they did not use any method, but later would mention practices such as noting safe or unsafe times, as in the following exchange with a 36-year-old respondent:

Interviewer (I): Okay, have you or your partner, or any other partner, ever used a method to prevent pregnancy?

Respondent (R): Not really. Those ones that we used were out of curiosity, but not consistently using it to prevent pregnancy.

I: Oh, okay.

R: And those methods are with the condoms and then the spermicides. They are the only ones that I have tried.

I: Okay, all right, apart from this period where you... tried the condom and the spermicides, have you ever tried any methods?

R: No, no. Those are the only two methods that I have tried....He is gotten to know about my cycle.

I: Okay.

R: And so he knows when I am safe, and when I am not safe.

I: Okay.

R: And so that is what he usually uses. Any time that we want to have sex, it's around the times that I am safe.

Whereas the rhythm method usually refers to avoiding sexual intercourse during periods in which the risk of pregnancy is perceived to be increased (and is defined as such in the DHS), counting days does not often involve abstinence. Rather, women told us that they used other methods to avoid pregnancy on unsafe days. These practices are, therefore, better characterized as "periodic contraception" than as the rhythm method.

Women also reported using condoms during unsafe periods, without explicitly mentioning calendar method use. Thus, it appears that changing sexual practice or contraceptive use on the basis of perceived fertility at various times in the menstrual cycle is considered a baseline behavior that everyone employs, and so might not be considered a method as such.

Withdrawal and Condoms

Combining withdrawal and counting days was a very common form of periodic contraception. Women reported using withdrawal on unsafe days, as opposed to using it as a backup on days perceived as safe. One 37-year-old woman described using withdrawal as insurance against injectable failure between doses (e.g., if she forgot to get her next dose on time), although this was unusual:

"Yes, I was doing that [withdrawal] around the same period that I was taking the injectable, because I didn't want a situation where I will go and take the injection and maybe I will be pregnant. I will take the injection and maybe I will be pregnant before taking the injection."

A 38-year-old respondent explained that she uses "the date" (i.e., counting days), withdrawal and condoms, but prefers condoms because she does not want to be "stressed out" calculating her safe periods when the condom could "do the job." Also, she enjoys the intimacy with condoms because her partner can stay next to her rather than moving away to ejaculate. Her partner initially had reservations about condoms but now uses a condom only at the last minute, preferring this to wearing a condom throughout coitus. She said:

"Once I knew I had the condom I didn't have any problem with thinking of calculating....So, I don't have to have kids when I don't want it. I can still have my fun, you know. Still have sex and be okay. Still have that intimate period with my husband having sex. And I was fine with that (pause) because it's been reliable so far. (pause) I just, my husband uses the condom and then the withdrawal, and then I use the date. (pause) A slight mistake, you know, so I am particular about that. That is the reason why, umm, if I'm safe, fine, then I could do the withdrawal and then I know. But if I am not too sure about my timing, then...I will force for him to use the condom."

Another 38-year-old respondent also reported preferring condoms and started by telling us she uses them "throughout"; however, in addition to clarifying that her partner will only put one on just before he ejaculates, she said:

"If it happens that...I run out of stock, I can use either withdrawal or I can use my calendar to calculate it, yeah. So, at almost every point in time, I do know my cycle."

Note that this reporting would also suggest that claims of consistent condom use may be overstated in surveys if additional probing (e.g., "Are there ever times you do not use a condom?") is not carried out.

A 39-year-old respondent told us she used condoms to prevent pregnancy; however, on further questioning, it became clear that she would have penetrative sex without a condom prior to having it with a condom. She also described routinely alternating use of withdrawal and condoms during different episodes of penetration in the same sexual event to enjoy nonuse of condoms first:

I: But what I want to understand is why you chose to use both condom and the "pull out," as you put it?

R: He said he wanted to enjoy me better.

Despite the fact that she was using both withdrawal and condoms, she did not mention withdrawal until asked to provide more detail.

Condom supplies and mood may also affect method choice. A 22-year-old respondent described how she might use three different methods in one day:

"For instance, if you have two small condoms available and you want to have sex like three times a day, umm, you go for the withdrawal maybe in the morning....And then maybe later in the day, after breakfast, lunch, you want to go for the condom. And then, in the evening..., you just want it all in and afterwards you go for the EC pill."

Women who used condoms for pregnancy prevention usually reported using them sporadically, and often reported using condoms and withdrawal with the same partner. However, when they said that they were using condoms for dual protection against pregnancy and infections, they would describe using condoms more consistently.

Multiple Methods

A typical way of using multiple methods for periodic contraception reported by women involved counting days combined with withdrawal on unsafe days plus ECPs when they felt they needed them. The combination used in each cycle might vary, over time forming a "mosaic" of methods. The pattern over time (i.e., the combination of combinations) is what we refer to as the "mosaic," a term we use to distinguish this type of pattern from simple combinations of methods that might be used in a given menstrual cycle. In some cases, however, the two may be similar; for example, if there is no combined method use in any cycle or if combinations do not vary from cycle to cycle.

Women considered themselves in need of ECPs if their partner did not withdraw in time or at all. One 22-year-old respondent said:

"If withdrawal is going to take effect, then the woman has to be on top. Because if not, the guy would just... ejaculate into you...But when that happens, you still have another option, to take the emergency contraceptive pill.... And then with the withdrawal, if...you think he's withdrawn but maybe something has entered you, so you go with the EC pills, just to be sure....Withdrawal is cool, but afterwards you still be thinking 'Did the guy come in me or not?' 'Am I safe or am not safe?'

This respondent did not mention male involvement in her dual risk assessment (i.e., she tried to guess whether her partner ejaculated in her rather than asking him, and also made her own assessment of whether she was in a safe part of her menstrual cycle) and, thus, may make the decision to take ECPs on her own; this was the case with other women as well.

A woman's mosaic could include 1–3 methods at any given time. In some cycles, she would use all three in combination: for example, counting days and then ECPs if she had intercourse on an unsafe day and her partner did not withdraw in time. In other cycles, she might use only two (e.g., counting days and withdrawal).

ECPs and Other Hormonal Methods

Women expressed few concerns about the side effects of ECPs; however, some said they worried about overuse, although what constituted "overuse" or the perceived harms associated with it were not defined. Women seemed to consider ECPs to be different than other hormonal methods, for which side effects were frequently mentioned. In particular, the younger focus group participants emphasized their own and their friends' use of ECPs, and talked about it in a way that suggested it was normalized in their peer groups, and perhaps more widely as well, as shown in this focus group for 25–39-year-olds:

Participant A: Before I started, er, giving birth, whenever I have my menses...I will keep the date on the phone, so for every month, so I have...the periods, their date, so with this you will be able to calculate your safe period. You know when you are safe and when you are not safe. Yes, we do keep them. You see that sometimes you go for a quickie and you are even afraid, you come and take it and you make sure you calculate all the [laughter from room] It's true! All the (pause) the periods and see whether truly truly you were safe.

Participant B (B): So, during times that you think that... there's an emergency somewhere, then you just go in and take emergency contraception.

Moderator (M): Even within...the married couples? She says she's married.

Several participants: Yes!

M: Oh, okay.

B: We still take it.

On the other hand, women mentioned being afraid of the risk of cancer or future fertility issues connected with other hormonal methods. One 37-year-old respondent reported feeling uneasy because she had had amenorrhea for a year while she was using the implant. She said that her menstrual blood was being stored in her body, which could lead to health problems—a common concern mentioned by women in our study:

"I did the one-month injection. I did the two-month. It didn't work for me....I mean, I realize my menses was not really flowing like how it is supposed to flow....I tried the three-month too. And then for the (pause) with the one under the arm, it seized for a whole year. My menses didn't come for a whole year and I didn't really feel comfortable about that."

DISCUSSION

According to the Ghana DHS, highly educated women in Accra have both a low level of fertility and a low rate of contraceptive use. Findings from our study indicate that this paradox is likely a measurement problem. Part of the problem is the perennial underreporting of abortion, but the DHS may also underestimate periodic contraception strategies commonly reported by the women we interviewed, such as combining counting days with withdrawal. In addition, survey questions may fail to capture how women use mosaics of methods to reduce their pregnancy risk.

A key problem is that nearly all surveys, including the DHS, apply a concept of current contraceptive use, which is suitable for measuring women's ongoing use of contraceptive methods such as the pill, the injectable, the implant and the IUD. It is less suitable, however, for measuring contraceptive use among women relying on methods ad hoc and for capturing the multiple concurrent methods the women in this study reported routinely using for "periodic contraception," particularly given surveys' lack of prompts for multiple method use.

For instance, in the 2014 Ghana DHS,[11] the interviewer could have recorded multiple answers if women happened to mention more than one method when asked about how they tried to prevent pregnancy. The questionnaire itself, however, does not contain a prompt question to elicit multiple methods, and women were not asked directly whether they used more than one method. Even if multiple methods were recorded, follow-up questions asked only about the most effective one. In addition, the DHS does not record the temporal variations within a cycle or across several cycles seen in mosaics of method use. To capture these, a more detailed module on behavior in the last menstrual cycle would be needed.

Yet, even with improved measures of current use to account for these combinations, it would also be important to recognize that combinations of methods may change over time—forming a mosaic of method combinations employed over individual menstrual cycles depending on the circumstances. Capturing method mosaics is likely beyond the scope of the DHS, and would therefore

require specialist studies. Interpretations of DHS data, however, should take these mosaics into account.

The contrast between the low level of current calendar rhythm method use recorded in the DHS (3% among married women aged 15–49 in 2014)[11] and the almost universal ever-use of a similar method—counting days—reported by women in our study is striking. Our sample was not meant to be statistically representative; however, given that nearly every respondent in our sample reported counting days, and that higher use rates of similar calendar methods are recorded in other surveys in response to specific prompts, it is likely that the DHS has not fully captured current use of this key method in Ghana.

Underreporting may occur because—as we found in this study—women appear to assume counting days is the baseline for everyone. Thus, it may be so normalized that women do not consider it worth mentioning. The DHS already takes steps to minimize this by asking respondents in an early part of the questionnaire whether they have heard of a number of different methods, including the rhythm method, which should help to establish calendar methods as being part of the range of methods of interest; however, the DHS does not currently account for periodic contraception. The rhythm method is explained in the DHS as follows: "to avoid pregnancy, women do not have sexual intercourse on the days of the month they think they can get pregnant."[11,23] Many of the women in our study reported using other methods on unsafe days rather than abstaining from sex. This may help explain some of the apparent discrepancy: They are correctly reporting nonuse of rhythm as defined in the survey (i.e., they are not abstaining).

Our study also highlights the way fertility awareness may be considered fundamental for all well-educated women in Ghana and may be used at least to some extent by most; this may reduce its being thought of as a method, which in turn could result in it being underreported. The DHS asks women whether they do anything to avoid or delay pregnancies, rather than asking about "methods"; however, in Ouagadougou, Burkina Faso, more-focused survey questions yielded a higher prevalence of natural methods than in the DHS.[4] The DHS might yield higher estimates of how counting days contributes to overall protection if it were addressed more directly in the questionnaire. In Cameroon, the rhythm method is favored because it conforms to notions of modernity and self-discipline among women there;[24] a similar association may occur in Ghana, although none of the women in our study stated it explicitly.

It is also important to understand from survey data exactly how women combine methods. For instance, combining withdrawal with the rhythm method could be an effective strategy if women abstain from sexual intercourse in the middle of their cycle and use withdrawal at other times; however, women in our study reported using withdrawal in the middle of their cycle. They described using condoms in a similar way (i.e., only on unsafe days), except when using them for dual protection, which again would not be readily captured by the DHS.

DHS questions are also limited in how they capture use of ECPs, a key hormonal method among women in our study. The 2008 Ghana DHS asked about knowledge and ever-use of the method; although 35% of women reported knowing of the method, only 3% reported ever using it.[8] In our study, ECP use seemed normalized, which would suggest a higher proportion of women had ever used the method than was recorded in the DHS. Underreporting of ECP use in the DHS seems likely and might stem from a desire among women to avoid stigma if they erroneously conflate ECPs with medication abortion, although there was no evidence of that in our data.

Another possibility is that ECP use may have increased since 2008. Current use of the method was not recorded in the 2014 Ghana DHS, except possibly in the category "other modern method," which was reported for fewer than 1% of respondents.[11] In our study, women reported frequent use of ECPs and seemed to prefer the method to other hormonal methods, perhaps viewing ECPs as having fewer side effects. Although the DHS asks about knowledge and ever-use of ECPs, women may not report ECP use in the contraceptive calendar because they use the method ad hoc, even when they use it regularly. Even if women do report ECP use in the calendar, the current DHS classifies and records these women as using an "other" modern method for the widely used variable on current contraceptive method (v312) and does not ask any follow-up questions.[25] Questions that ask directly about repeated ECP use might provide a clearer picture.

Finally, the problems of enumerating abortions in standard surveys appear to be intractable. Use of counting days combined with withdrawal—instead of use of implants, for example—would likely increase a woman's risk of unintended pregnancy and, thus, would be associated with greater use of abortion to attain the desired level of fertility.[26]

Can These Problems Be Addressed?

It is difficult to elicit detailed information in survey instruments that must have a limited number of questions. Nevertheless, questions relating to sex and method use in the last menstrual cycle could be added into surveys in West Africa, and possibly elsewhere. Any changes should be piloted to assess whether they yield substantially different data and make the additional burden worthwhile. And to maintain international comparability, extra questions would need to be an adjunct to the conventional questions on current use.

Additional items could not only be used to ascertain whether women correctly identify likely safe and unsafe days, but also how they use that knowledge. Do women abstain from sexual intercourse on unsafe days or simply use another method? Do they use withdrawal on days perceived as safe to try to mitigate risks of pregnancy?

Do they use ECPs on days perceived as safe days or just on unsafe ones? Without more detail on counting days practices, surveys will have limited explanatory power, particularly if these practices are widespread or becoming more popular—something that is currently unknown.

In addition, questions about recent (e.g., in the last menstrual cycle) ECP use should be included. Our data suggest that, in Accra, ECPs are often used. Without questions on recent ECP use, surveys are likely to overestimate the reliability of other reported methods.

Mosaics and combinations of fertility regulation methods should be reported using existing data where available (e.g., to illuminate in what ways and where women have reported multiple concurrent methods in existing surveys). It would also be helpful in future surveys to find ways to account for different combinations of method use and periodic contraception. One possible way could involve asking "Have you used [method] in the last four weeks (in your menstrual cycle)?" in regard to traditional methods rather than only "Which method are you currently using?" and potentially adding further questions about how different methods are used. This study has identified key areas where question content and sequencing may adversely affect surveys. To obtain a clearer picture of fertility regulation in Ghana and elsewhere, these areas should be addressed. Meanwhile, analysis of existing survey data should take into account the fact that data on traditional methods are likely to be incomplete.

A new module about sex and method use in the previous menstrual cycle will not solve all problems, for several reasons. Underreporting of abortion—and perhaps of ECP use—is likely to continue. In addition, any general survey would be unlikely to capture individual women's changes in method use over different cycles given the detailed questions required. There is also some evidence that women underreport methods primarily controlled by men (i.e., condom and withdrawal).[27] Moreover, the practices of women who have not had sex in the past month would not be captured. This is an important limitation given that, according to the 2014 Ghana DHS, some 37% of married women report no sexual intercourse in the past four weeks (including postpartum abstinence).[11] In addition, some women in our study reported spending weeks or months away from their partners for study or for work, and our participants reported abstinence practices similar to those already documented in this setting.[13]

Furthermore, adding any module to the DHS is undesirable because the questionnaire is already very long. It may also seem far-fetched to advocate for a new module on the basis of this and a few other localized studies in West Africa. However, if it were introduced, the module would be applied only to the subset of sexually active women who do not report use of a continuous method.

It is important to consider testing new ways to capture the method combinations described here, because they were reported by educated women who were aware of highly effective modern methods but chose alternative ways of limiting their fertility. There is no reason to believe this is a temporary aberration. Indeed, such practices may spread given the social influence of elite women, and there is currently limited opportunity to measure these types of fertility limitation strategies and their changes over time on a population level.

A better understanding of traditional method use is also important, given that current family planning initiatives tend to emphasize highly effective continuous methods, even though ECPs and medication abortion make the use of inherently less-effective methods more feasible for birth control. Unless traditional methods are measured properly, their role will continue to be largely ignored, and the gap between reported contraceptive practice and fertility in Africa will continue to perplex.

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RESUMEN

Contexto: *Según datos de Encuestas Demográficas y de Salud (EDS), las mujeres urbanas con un alto grado de escolaridad en algunos países de África Occidental tienen simultáneamente tasas bajas tanto de uso de anticonceptivos como de fecundidad, lo que sugiere que las EDS pueden no estar capturando el panorama completo de las prácticas anticonceptivas de las mujeres.*

Métodos: *Se condujeron en Accra, Ghana, entrevistas en profundidad individuales y discusiones en grupos focales con un total de 48 mujeres en edades de 18–49 años, que tenían al menos educación secundaria, para explorar sus vidas y relaciones reproductivas, así como sus opiniones y uso de estrategias de regulación de la fecundidad. Los datos se analizaron mediante técnicas temáticas iterativas.*

Resultados: *En general, las mujeres informaron estar utilizando combinaciones de métodos anticonceptivos, que incluyen "contar los días" (usar un calendario y tener en cuenta la fecha de su último período menstrual para estimar los días "inseguros," es decir, aquellos en los que el riesgo de concepción es alto), así como el retiro, los condones y el uso frecuente de píldoras de anticoncepción de emergencia. Las mujeres describieron estar practicando "anticoncepción periódica:" por ejemplo, contar los días para determinar aquellos que son inseguros y practicar anticoncepción ad hoc en esos días. Las combinaciones en el uso de métodos variaron de ciclo a ciclo, formando un "mosaico" de combinaciones relativo al uso de métodos a través del tiempo.*

Conclusiones: *Es probable que las estrategias de control de la fecundidad mayoritariamente reportadas por las mujeres entrevistadas en el estudio–anticoncepción periódica y uso frecuente de métodos tradicionales y píldoras de anticoncepción de emergencia–no estén siendo adecuadamente capturadas por las encuestas generales como las EDS. Esas encuestas tampoco son apropiadas para medir combinaciones de métodos y mosaicos de combinaciones de métodos. Es necesario considerar nuevas formas de captar las prácticas de regulación de la fecundidad de las mujeres, mediante la inclusión de elementos adicionales en las encuestas, nuevos módulos de preguntas y estudios especializados.*

RÉSUMÉ

Contexte: *D'après les données d'Enquête démographique et de santé (EDS), les femmes hautement instruites des milieux urbains de certains pays d'Afrique de l'Ouest présentent simultanément de faibles taux de pratique contraceptive et de fécondité–laissant entendre que l'EDS ne capture peut-être pas une image complète des pratiques contraceptives adoptées par les femmes.*

Méthodes: *Des entretiens individuels en profondeur et des discussions de groupe focalisées ont été menés à Accra (Ghana) avec un total de 48 femmes âgées de 18 à 49 ans et dotées pour le moins d'une éducation secondaire, afin d'explorer leur vie et leurs relations reproductives ainsi que leur perception et pratique des stratégies de contrôle des naissances. Les données ont été analysées par techniques thématiques itératives.*

Résultats: *Beaucoup de femmes ont déclaré pratiquer une combinaison de méthodes contraceptives, y compris «compter les jours» (à l'aide d'un calendrier, d'après la date de leurs dernières règles, pour estimer les jours «à risque»–où le risque de concevoir est élevé), le retrait, le préservatif et le recours fréquent à la pilule contraceptive d'urgence. Les femmes qualifient leur pratique de «contraception périodique»: par exemple, en comptant les jours pour déterminer ceux à risque et en pratiquant une contraception ad hoc ces jours-là. Les combinaisons d'utilisation de méthodes varient de cycle en cycle, formant une «mosaïque» de combinaisons au fil du temps.*

Conclusions: *Les stratégies de contrôle de la fécondité souvent déclarées par les répondantes à l'étude–contraception périodique et recours fréquent aux méthodes traditionnelles et à la pilule contraceptive d'urgence–ne sont probablement pas bien cernées dans les enquêtes générales telles que l'EDS.*

Ces enquêtes ne conviennent pas bien non plus à la mesure des combinaisons de méthodes et des mosaïques formées par ces combinaisons. De nouveaux modes de capture des pratiques de contrôle des naissances adoptées par les femmes doivent être envisagés, sous la forme de questions d'enquête supplémentaires, de nouveaux modules de questions et d'études spécialisées.

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