Do Natural Methods Count? Underreporting of Natural Contraception in Urban Burkina Faso

ROSSIER, Clementine, SENDEROWICZ, Leigh, SOURA, Abdramane

Abstract

Natural methods of contraception were widely used in developed countries until the late 1960s to space and limit childbirth. In France, when the first contraceptive surveys were conducted, researchers noticed that the use of natural methods was underreported, and questions to correct for this bias were subsequently added. The Demographic and Health Surveys do not currently include questions specific to natural methods. We added such questions to the standard DHS question regarding current contraceptive use when we conducted the Health and Demographic Surveillance System of Ouagadougou (2010 Ouaga HDSS) health survey in Burkina Faso among 758 women aged 15–49. Doing so enabled us to find a notable increase in the proportion of women in union who reported practicing contraception: 58 percent, compared with 38 percent in Ouagadougou in the 2010 Burkina Faso DHS. Thirty-two percent of women reported using modern medical methods or condoms in both surveys, but use of natural methods was much greater in the 2010 Ouaga HDSS health survey (26 percent) than in the 2010 Burkina Faso DHS (5 percent). Many women classified as [...]
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Fertility decline in sub-Saharan Africa has been slower than expected and has even stalled in some countries (Bongaarts 2008; Shapiro and Gebreselassie 2008). The region as a whole has the world’s highest total fertility rate (5.2 children per woman) (PRB 2011), the lowest contraceptive prevalence (22 percent of women in union) (UN 2011), and by far the world’s highest level of unmet need for family planning (nearly 25 percent of women in union) (UN 2011). The weakness of existing family planning programs has been cited as an important reason for the slow and patchy improvement in these indicators (Ezeh et al. 2009 and 2010; Cleland, Ndugwa, and Zulu 2011). To address this issue, greater attention and new
resources are being dedicated to family planning worldwide and in sub-Saharan Africa especially, as seen at the 2012 London Family Planning Summit.

With this renewed focus come new questions regarding the best ways to invigorate family planning programs. Despite evidence regarding the importance of providing clients with a wide method mix, many programs (in sub-Saharan Africa and elsewhere) have tended to offer select methods, either as a matter of expediency or as a means of promoting the most effective and long-acting methods (Sullivan et al. 2006; Hubacher, Maurnezouli, and McGinn 2008; USAID 2010). Even when providers are fully trained and supplies are in stock, certain methods may never be offered to family planning seekers. For example, in Ouagadougou—the capital of Burkina Faso, where our study is based—a recent observational study showed that health centers never introduced the Lactational Amenorrhea Method (LAM) or the Standard Days Method (SDM)\(^1\) to clients (Rossier and Hellen, forthcoming).

The disregard of natural methods might seem reasonable, considering their higher failure rates relative to modern medical methods and the available evidence suggesting that sub-Saharan African women are not particularly interested in such methods.\(^2\) According to Demographic and Health Surveys (DHSs), use of traditional and folk methods seems sparse, with only 6 percent prevalence across sub-Saharan Africa, compared with 16 percent for modern methods (UN 2011). Use of modern natural methods is also rare (in sub-Saharan Africa, <1 percent of women use “another modern method”) (UN 2011). These data suggest that traditional method use in sub-Saharan Africa is comparable to other developing regions, except perhaps in Middle Africa (see Bertrand et al. 1985; Shapiro and Tambashe 1994; and Johnson Hanks 2002): 12 percent of women in union use a traditional method (almost all use periodic abstinence) in that region; 6 percent do so in Eastern Africa, Western Africa, Latin America, and the Caribbean; and 8 percent in Southeast and Southern Asia (UN 2011).

Smaller, more localized studies, however, have painted a different picture. A stark preference for traditional or natural methods in sub-Saharan Africa has recently been documented across the entire continent and for different subgroups. Of the sexually active adolescent girls surveyed in Port Harcourt, Nigeria, 57 percent reported current traditional method use (Okpani and Okpani 2000). Results are even more marked in eastern Democratic Republic of Congo, where Mathe, Kasonia, and Maliro (2011) found that more than 64 percent of a sample of postpartum women considered themselves current users of natural methods. In Zambia, a sample of 411 women at health clinics revealed that, among current users of contraceptives, 24 percent used natural methods (Kabonga, Baboo, and Mweemba 2010).

This discrepancy between smaller studies and the national-level surveys from which contraceptive use statistics are drawn could indicate an underreporting of natural methods in large-scale surveys, which is a longstanding methodological issue. In developed countries, natural methods of contraception were, together with condoms, widely used to space and limit child-

\(^1\) SDM is an approach to periodic abstinence involving tracking (typically with the use of beads)—and avoiding sexual intercourse during—the fertile period of a woman’s menstrual cycle.

\(^2\) Throughout this article, the term “natural methods” refers to methods that do not involve a device, product, or medical intervention, and have some demonstrated degree of efficacy, which can be moderate to high depending on the method and users. Natural methods include LAM, periodic abstinence, SDM, and withdrawal. Natural methods can be traditional or modern (as in the case of LAM and SDM). The term “traditional methods” refers to folk methods, periodic abstinence, and withdrawal, and “modern methods” refers to those that are accepted in clinical guidelines as a family planning method having a sufficient degree of efficacy. “Modern medical methods” refers to implants, injectables, IUDs, oral contraceptives, and sterilization. The term “folk methods” refers to methods with no known degree of biological efficacy. Folk methods are excluded from our definition of natural methods.
births until the late 1960s (Rossier, Leridon, and COCON 2004; Van de Walle 2005). When modern medical methods of contraception became widely available, national surveys were rolled out to measure the diffusion of these new methods. When the first contraceptive surveys in France were conducted in 1968 and 1978, researchers noticed that the use of natural methods seemed to be underreported (Sardon 1986). When women were asked what they did to prevent a pregnancy, they tended to underreport the natural methods they were using, because they associated the notion of contraception and pregnancy prevention only with new, modern methods. Indeed, natural methods were often used at the initiative of the husband and were considered part of a normal sex life, not even discussed between spouses (Fisher 2000). To circumvent this problem, researchers added specific follow-up questions to improve the reporting of natural methods. These follow-up questions mentioned natural methods directly by their name.

To learn about current use of a contraceptive method, the DHS asks women whether they are doing anything to avoid a pregnancy. If a woman reports use of a natural method and does not simultaneously use a more effective method, she is counted as a user of natural methods. The DHS does not currently ask follow-up questions specific to natural methods, however, leaving the strong possibility that a similar underreporting phenomenon is taking place in (at least some) developing countries today, and that more specific questions concerning natural methods may reveal a greater number of women currently using these methods than previously thought.

In Burkina Faso, periodic abstinence was the most popular contraceptive method according to the 1993, 1998–99, and 2003 DHSs (INSD and Macro International 1994, 2000, and 2004). Twenty-three percent of men in union aged 15–59 who were interviewed for the 1998–99 Burkina Faso DHS reported currently practicing periodic abstinence, compared with 5 percent of women (INSD 2000).3 In 2003, periodic abstinence remained the most popular method nationwide but ceded first place in the capital of Ouagadougou, falling behind oral contraceptives and condoms (INSD 2004). By 2010, periodic abstinence had become the fifth most widely used method nationwide (after injectables, implants, oral contraceptives, and condoms) (INSD and ICF International 2012). Recorded levels of practice of periodic abstinence remained relatively steady from 1993 to 2010, but as levels of use of modern methods increased during this period, periodic abstinence lost its leading-method status. Although abstinence (postpartum and otherwise) was also considered a traditional method of contraception in early Burkina Faso DHSs, the latest surveys do not take this method into account. We followed the DHS’s lead in not counting abstinence as a method because of the difficulty in classifying it as an intentional practice of fertility control. For example, Ouagalese women sometimes stay with their mothers-in-law for extended periods, but this may be either explicitly to avoid sex with their husbands or because their husbands have migrated away for work. Even when women cohabit with their husbands, abstinence may be practiced either as a concerted effort to avoid pregnancy or as a result of marital conflict.

In this study, we examine the extent to which natural methods—specifically, LAM, periodic abstinence, SDM, and withdrawal—are underreported by women in Demographic and Health Surveys. We compare the rates of use of natural methods in Ouagadougou reported in the 2010 Burkina Faso DHS with the results of a health survey conducted by the Ouagadou-

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3 This differential rate by sex of reporting of periodic abstinence supports the idea that women do not think of these methods when asked about pregnancy prevention but that they, in fact, are using them.
METHODS

The Ouaga HDSS was established in 2008 by the Institut Supérieur des Sciences de la Population (ISSP) at the University of Ouagadougou (Rossier et al. 2012). The Ouaga HDSS is a member of the International Network for the Demographic Evaluation of Populations and Their Health (INDEPTH), which includes 48 similar demographic surveillance systems in developing countries. The Ouaga HDSS follows approximately 80,000 residents living in five neighborhoods (two formal and three informal) at the northern periphery of Ouagadougou. The population studied, in comparison with the average city resident, is younger, poorer, and contains a higher proportion of rural–urban migrants.

A health survey was conducted in the Ouaga HDSS areas between February and September 2010 (Rossier et al. 2012). Using the HDSS database as the sampling frame, a sample of 791 households was drawn. All women aged 15–49 were eligible for the study, and all those selected were surveyed unless they declined or were absent, with an overall response rate of 77 percent. Altogether, 758 women aged 15–49 were successfully interviewed, of whom 518 were in union. Sexually active women who were not in union were excluded for the sake of comparison with the 2010 Burkina Faso DHS, in which contraceptive indicators are calculated for women in union. Weights taking into account the response rate were calculated for each individual and used in this analysis. The Ouaga HDSS database contains information regarding every resident’s age, marital status, and educational level at the time of the survey. The sociodemographic profile of women in union aged 15–49 who responded to the health survey is presented in Table 1.

The health survey was administered via face-to-face interviews by trained fieldworkers using Pocket PCs. Women aged 15–49 were questioned about past and current contraceptive needs and use. In this section of the questionnaire, women were first asked about current contraceptive use using the DHS’s wording—“Right now, are you doing something or are you using a method to avoid becoming pregnant?”—to which they could spontaneously list any methods used, as in the DHS. The fieldworkers conducting the 2010 Burkina Faso DHS did not cite specific methods when inquiring about current contraceptive use, but the question that preceded pertained to women’s knowledge of various contraceptive methods and included separate subquestions concerning every method (including LAM, periodic abstinence, and withdrawal), with brief explanations as necessary.

In addition to this standard question, we subsequently introduced three new questions concerning use of natural methods, one for each of the following natural methods: LAM, the rhythm method, and withdrawal. We asked women whether they were currently using any of these methods, regardless of their previous answers. The questions were phrased as follows: “Are you currently using the rhythm method (or periodic abstinence, or Cyclebeads [SDM—called le Collier or “the Necklace” in French], or the calendar method)?” “Are you currently
using withdrawal?” “Are you currently using the Lactational Amenorrhea Method?” Fieldworkers were instructed to describe the method when necessary. A standard description of every method was provided in the fieldworkers’ manual, and each fieldworker was provided with training regarding the relevant methods.

Using data from the 2010 Ouaga HDSS health survey, we calculate the contraceptive prevalence among women in union, first from the answers to the DHS-worded question alone, and then incorporating the follow-up questions, disaggregating by method and age. As with the DHS, when a woman reports using several contraceptive methods, we classify her as using the most effective method cited (Trussell 2011). For example, a woman who reports using both oral contraceptives and periodic abstinence is classified as a pill user. Women classified as users of natural methods are therefore not using another, more effective method.

RESULTS

Contraceptive prevalence in the 2010 Ouaga HDSS health survey, using the DHS wording alone, is very similar to the contraceptive prevalence found in the 2010 DHS. For modern medical method and condom use, our survey revealed a prevalence rate of 32.0 percent of women in union aged 15–49, compared with the DHS rate of 32.2 percent for Ouagadougou4 (Figure 1).

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4 The 2010 Burkina Faso DHS does not distinguish LAM and SDM within the “other modern methods” category and does not distinguish folk methods from natural traditional methods (breastfeeding, long-term abstinence, withdrawal) in the “other traditional methods” category. Method-specific figures for Ouagadougou from the 2010 Burkina Faso DHS were obtained from http://www.statcompiler.com/.
Using the standard DHS wording regarding current contraceptive use, we find that 35.5 percent of women in union are using any method of contraception (modern or otherwise) (Table 2), compared with 37.3 percent in the 2010 DHS (Figure 1). When using the classic DHS wording followed by specific questions referring to natural contraceptive methods by name, the number of women in union reporting that they are currently doing something to avert a pregnancy rises to 58.1 percent, a 22.6 percentage point increase (Table 2).

Among women who are doing something to avoid pregnancy (including those revealed through the follow-up questions), 45 percent are using natural methods, whereas 55 percent are using a modern medical method or condoms (Table 3). Almost as many use natural methods (45 percent) as modern medical methods (46 percent).

The aversion to modern medical methods among women in union aged 15–19 is stark. Among adolescent girls and young women in union doing something to avoid a pregnancy,

<table>
<thead>
<tr>
<th>Age</th>
<th>DHS question only</th>
<th>DHS question plus follow-up questions regarding natural methods</th>
<th>(n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15–19</td>
<td>25.7</td>
<td>48.6</td>
<td>(35)</td>
</tr>
<tr>
<td>20–24</td>
<td>34.1</td>
<td>54.8</td>
<td>(126)</td>
</tr>
<tr>
<td>25–29</td>
<td>40.8</td>
<td>64.5</td>
<td>(138)</td>
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<tr>
<td>30–34</td>
<td>39.3</td>
<td>63.1</td>
<td>(84)</td>
</tr>
<tr>
<td>35–39</td>
<td>30.7</td>
<td>55.2</td>
<td>(67)</td>
</tr>
<tr>
<td>40–44</td>
<td>31.0</td>
<td>54.8</td>
<td>(42)</td>
</tr>
<tr>
<td>45–49</td>
<td>34.6</td>
<td>50.0</td>
<td>(26)</td>
</tr>
<tr>
<td>All</td>
<td>35.5</td>
<td>58.1</td>
<td>(518)</td>
</tr>
</tbody>
</table>

SOURCE: 2010 Ouaga HDSS.
only a small proportion is using a modern medical method, with condom use much more highly favored (Table 3 and Figure 2). Modern medical methods of contraception are much more likely to be used by women in union aged 20 and older. Among the oldest age groups, most cite using a modern medical method.

The most popular natural method among most age groups is periodic abstinence /SDM, followed by LAM, with withdrawal very rarely practiced in Ouagadougou. According to the

![FIGURE 2: Contraceptive prevalence among women in union aged 15–49, by age and method type, Ouagadougou, 2010](source: 2010 Ouaga HDSS)
2010 DHS, withdrawal is the least known and used of all natural methods (INSD and ICF International 2012). Interestingly, neither the practice of periodic abstinence/SDM nor of LAM has a distinct pattern across age groups. Further analysis shows that women practicing LAM tend to be poorer and more often born in rural areas than are those who do not practice LAM, and women practicing periodic abstinence are more likely than others to be born in Ouagadougou (and thus not a migrant). These differences between socioeconomic groups are not significant for either method, however (results not shown).

**DISCUSSION**

By adding questions regarding natural methods of fertility regulation to the standard DHS question concerning current contraceptive use in a 2010 health survey conducted among 758 women aged 15–49 (518 in union) in the Ouagadougou HDSS, we observed a notable increase in the proportion of women who reported doing something to avoid a pregnancy. We found that 32 percent of women in union were using a modern medical method or condoms and 26 percent were using a natural method. This finding is in stark contrast to the results found in the DHS, which recorded in that same year that 32 percent were using a modern medical method or condoms, and only 5 percent were using a natural method.

The high prevalence of use of natural methods in Ouagadougou may seem surprising, but a large body of literature has documented the reasons why women may prefer these methods in the developing world—albeit often framed in the negative as barriers to modern method use. These barriers are manifold and result from problems on both the supply and demand side of family planning. Supply-side issues are well known (Campbell, Sahin-Hodoglugil, and Potts 2006) and include limited method choice, poor quality of care at health centers, long wait times, and frequent stock-outs. The cost of modern contraceptive methods, although often subsidized, presents a barrier for many consumers. Provider bias, legal restrictions, lack of youth-friendly services, and other factors further contribute to supply-side difficulties in family planning. Conversely, natural methods are perceived as free, discrete, always available, and typically not requiring a visit to a health center.

From the demand side as well, several factors induce women to turn to natural methods when seeking to delay or avoid a pregnancy. Partner opposition to modern methods is often cited (Wolff, Blanc, and Ssekamatte-Ssebuliba 2000; Onwuzurike and Uzochukwu 2001) and goes beyond disliking condoms (Castle 2003; Chipeta, Chimwaz, and Kalilani-Phiri 2010). The use of modern methods of contraception may be associated with promiscuity and infidelity, a stigma that keeps many women (especially adolescents) from exploring these options (Rasch et al. 2000; Varga 2003; Williamson et al. 2009; Prata, Weidert, and Sreenivas 2012). Another commonly cited reason for having an aversion to modern methods and a preference for natural methods is fear of side effects—a fear expressed by men as well as women (Castle 2003; Williamson et al. 2009; Chipeta, Chimwaz, and Kalilani-Phiri 2010; Mathe, Kasonia, and Maliro 2011).

Our results suggest that high levels of use of natural methods could be an important contributor to the high levels of unmet need for modern contraceptive methods in sub-Saharan Africa and other developing regions. What many studies and family planning programs have
characterized as unmet need may, in fact, include a large proportion of unreported use of natural methods. Nonuse of modern medical methods or condoms among women wanting to avoid pregnancy may not automatically translate to unmet need, but instead may show that these women feel that their needs are better met through the use of natural forms of fertility regulation.

From a programmatic perspective, high reliance on traditional methods is problematic. Natural methods are not as effective as long-acting modern methods of contraception, especially when used by couples having minimal experience using them. Moreover, users of traditional methods often lack the appropriate knowledge required to use their method correctly. The existing literature shows that only two-thirds of women practicing periodic abstinence in Burkina Faso have correct knowledge of their fertile periods (INSD 2012). Furthermore, partner cooperation in the use of periodic abstinence can be difficult to garner consistently in Ouagadougou, where gender inequalities are pronounced (Rossier et al. 2013). Additionally, a recent qualitative study shows that women have very little knowledge of LAM (though many are fulfilling its requirements inadvertently in the course of their normal breastfeeding practices) (Rossier and Hellen, forthcoming). Modern natural methods can be viable options for family planning among knowledgeable and cooperating couples, but a great deal of work needs to be done in Burkina Faso and elsewhere to enable women and couples to use these methods effectively, including efforts to enhance women’s knowledge and negotiation skills.

The results of this study have several methodological implications. Our question regarding LAM may seem redundant to users of the proximate determinants framework. Indeed, women who are amenorrheic after a birth are currently taken out of the pool of women at risk of a pregnancy. When calculating the “need for family planning,” amenorrheic women (up to 24 months after a birth) are also removed, unless their last birth was unwanted. Our question is more restrictive than the question used for these calculations because, in our case, women have to not only be amenorrheic but also be breastfeeding exclusively and have a child six months of age or younger. Up for debate is whether women practicing LAM should be taken away from the pool of women having a need for family planning (as is usually done) and be considered users of family planning (as we did here).

Our results strongly argue for the testing of additional items in the DHS questionnaires to more completely measure use of natural methods in different developing countries. In urban Burkina Faso, although as many individuals practice periodic abstinence as use oral and injectable contraceptives combined (the two most popular modern medical methods), practitioners of periodic abstinence are barely captured by the current DHS questionnaire.

This study has two main limitations. First, prompting women regarding specific natural methods increases the likelihood of their reporting of use of these methods. We did not prompt women in a similar fashion for modern medical methods or condoms; thus, we cannot rule out that these other methods could also have benefitted from prompting. Because women spontaneously associate pregnancy prevention with modern contraceptive methods, however, we think they likely report these methods accurately, especially because the social desirability bias goes in that direction, at least among women in union. Second, we did not collect information regarding the correct use of natural methods, which leaves us unable to know whether the outcomes of women’s use of natural methods are significantly different from no method use at all. Even without data concerning correct use, however, our data help
us understand why so many women are currently characterized as having an unmet need for contraception in Ouagadougou.

CONCLUSION

In quantitative surveys, the underestimation of the importance of use of natural methods of contraception has considerable programmatic implications. Program designers, unaware of the popularity of natural methods, may underestimate the dislike for modern methods, attributing the nonuse of contraceptive technologies to problems of access or lack of education, rather than a negative perception of modern medical contraception. These results highlight the need for large-scale behavior-change communication to debunk misinformation concerning modern medical contraception, complemented by changes in family planning counseling so that women can be reassured on a one-to-one basis. At the same time, family planning programs could consider promoting modern natural methods more effectively. Presenting a wide range of methods has been shown to be a key element of the quality of family planning programs.

REFERENCES


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