

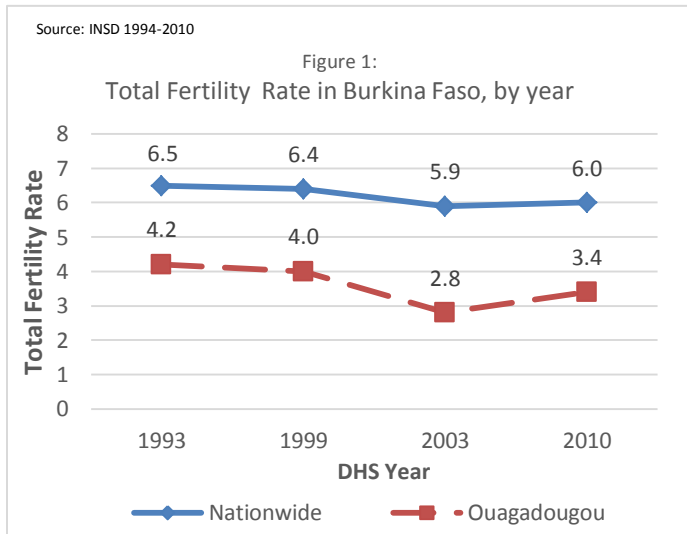
**The Effect of Side-Effects:  
Barriers to Modern Contraceptive Use in Urban Burkina Faso**

**Introduction**

Galvanized by 2011's Ouagadougou Accord and the 2012 London Summit, family planning is the subject of much renewed attention in development circles (Cohen, 2012). Donors are reaffirming support (and funding) for family planning projects and countries are piecing together actions plans and steering committees to guide new efforts (Population Reference Bureau, 2012). Family planning is not new to the development agenda, however. Most countries have had official stances in favor of family planning policies for decades (Finlay, Canning, & Po, 2012) and many regions in the world can boast of unequivocal family planning success. Worldwide, the average total fertility rate (TFR) has fallen from around 6.00 in the 1950s to around 4.44 in the 1970s, 3.04 in the 1990s, and 2.53 in the early 2000s (Bongaarts, 2003; United Nations, 2013). This extraordinary drop in total fertility has been largely driven by countries in Asia and Latin America, where TFR dropped between 1970 and 2000 from 4.99 to 2.25 and 5.02 to 2.30 respectively (United Nations, 2013). And yet, in Sub-Saharan Africa, similar gains have yet to be seen. TFR dropped in Africa only from 6.66 in 1970 to 4.88 in 2000, and remains the highest in the world by far (United Nations, 2013).

The fertility transition has not only been slower in Sub-Saharan Africa, there is evidence that the transition has started to stall, particularly in West Africa (Bongaarts, 2008; Shapiro and Gebreselassie, 2008). In Burkina Faso, for example, where we base our study, the TFR actually *rose* slightly in 2010 after years of only moderate declines (see Figure 1; INSD 2010). The Burkinabé capital of Ouagadougou, the TFR followed a similar trend, rising in 2010 after years of moderate declines. The contraceptive prevalence in Burkina Faso among married women was only 15% in 2010. In the face of these low levels of contraceptive prevalence and continuing high fertility rates, United Nations recently revised

population projections, raising the projected TFR in 15 high-fertility countries of Sub-Saharan Africa by more than 5 percent (United Nations, 2013).



Theories about why the fertility transition has lagged in Sub-Saharan Africa compared to other developing regions abound. Some (compelling) theories focus on larger sociopolitical issues (the status of women/women’s education, for example; Crissman, Adanu, & Harlow, 2012), but many focus specifically on family planning

programs and their failure to adequately supply or stimulate demand for modern contraceptives in the region (Bongaarts, 2011; Jacobstein, Bakamjian, Pile, & Wickstrom, 2009). A roster of “usual suspects” has been assembled and been cited whenever family planning is discussed in the West African context, including geographic barriers, limited method choice, financial cost, poor quality of care, partner opposition, social stigma, provider bias, side effects/misinformation, and supply chain issues (Campbell, Sahin-Hodoglugil, & Potts, 2006).

But while fear of side effects is often listed as a barrier to contraceptive uptake, concerns about side effects have been the subject of very little systematic research in Sub-Saharan Africa in

**Table 1: Health/body related reasons for non-use of contraception in Burkina Faso (percentage of non-users), DHS**

Year	Health Concerns	Fear of Side Effects	Interference with Body	Total
1993	1.2%	1.2%	-	2.4%
1999	1.7%	3.3%	0.7%	5.7%
2003	3.9%	6.1%	0.8%	10.8%

general, or in Burkina Faso in particular. The Burkina Faso Demographic and Health Survey (DHS) has no questions specific to fear of side effects of contraception, but did list both “health concerns” and “fear

of side effects” as potential reasons for not using contraception since 1993. In 2003, the Burkina Faso DHS added “Interfere with body,” another category that could potentially capture women’s concern with the effects of contraception on their health and bodies. Though the percentages are small (see Table 1), the proportion of women in Burkina Faso who have reported one of these reasons as their primary reason for not using contraception has risen steadily between 1993 and 2003, from 2.4% to non-users to 10.8% of non-users (INSD and ICF International, 1993, 1999, and 2003).

Table 2 presents the reasons for discontinuation of a contraceptive method reported in the 2010 Burkina Faso DHS, with the blue shading representing modern methods and the pink representing traditional methods. Health/side effects are the second most commonly reported reason for contraceptive discontinuation (5.2%), after wanting to get pregnant (6.7%). Health/side effects seems to be of greater concern to users of oral contraceptive pills and injectables, and less so among users of the contraceptive implant and the condom. No users of the rhythm method (the only traditional method for which there is data) reported health/side effects as a reason for discontinuation.

**Table 2: Reason for contraceptive discontinuation by method; 2010 DHS**  
**(Percentage of contraceptive users who discontinued a method in the 12 months following her uptake of the method)**

	Method failure	Want to get pregnant	Other fertility reasons	Health/ side effects	More effective method	Other method related	Other	No reason given	Changed method
Pill	1.9	7.9	1.2	7.1	0.8	1.5	2.7	23.1	2.4
Injectable	0.3	10.9	1.4	9.1	1.0	2.7	2.4	27.8	1.8
Implant	0.0	1.6	0.0	1.0	0.3	0.0	0.5	3.4	0.4
Condom	1.6	2.4	5.3	0.03	1.7	0.1	4.5	16.0	2.3
Rhythm	10.7	3.7	0.3	0.0	1.4	0.7	1.4	18.1	1.4
All methods	1.5	6.7	1.7	5.2	1.1	1.4	2.4	20.0	1.8

But while this DHS data suggests that perhaps fear of side effects may be a growing reason for non-use or discontinuation of some modern contraceptive methods, there remains a lack of targeted questions on this subject in large-scale systematic studies of family planning, and we still know frustratingly little about the role of perceived side effects in the contraceptive decision-making process.

Our understanding is, however, informed by several small-scale survey-based studies from myriad Sub-Saharan African countries that show that traditional methods are preferred to modern methods in many local contexts across the continent, and that fear of side effects likely play a role in this preference (see Audu, Yahya, & Bassi, 2006; Bertrand et al., 2012; Chipeta, Chimwaza, & Kalilani-Phiri, 2010; Kabonga, Baboo, & Mweemba, 2010; Mathe, Kasonia, & Maliro, 2011; Wambui, Ek, & Alehagen, 2009, Castle, 2003).

This paper seeks to add to our understanding of the role that fear of side effects plays in West Africa's lagging family planning indicators. It follows on the heels of another paper from Ouagadougou that explores the nature of unmet need and finds that the DHS is vastly undercounting the number of users of traditional contraceptive methods in the city (Clémentine Rossier, Senderowicz, & Soura, 2014), which concludes that as many as 66.8% of women in Ouagadougou are actively attempting some sort of fertility regulation, a full 29% more women than the 37.6% captured by the 2010 DHS. The reason that so few women use modern methods is not ignorance of them (97.6% of Burkinabé women report knowledge of at least one modern method; (*Enquête Démographique et de Santé et à Indicateurs Multiples du Burkina Faso 2010*) and, at least in the capital city, geographic access is unlikely to be a major impediment. Other easy explanations for this finding, such as general aversion to biomedical interventions, are contradicted by extremely high rates of pre-natal care, facility-based child delivery and child vaccination in Ouagadougou (Clémentine Rossier & Hellen, 2014; Soura, Pison, Senderowicz, & Rossier, 2013). Rather, it would seem that there is something particular to modern contraceptive methods that makes them unacceptable to or undesirable for a large proportion of Burkinabé women and couples. This paper will use qualitative methods to explore the role of side effects in women's reluctance to use modern methods of contraception in West Africa, discuss some of the historical and socio-cultural reasons for this reluctance, and then propose some areas of focus for those hoping to increase uptake of modern methods in the region.

**Methods:**

Data for this paper are compiled from two qualitative studies conducted within the Ouagadougou Health and Demographic Surveillance System (Ouaga HDSS) between 2011 and 2012. The Ouaga HDSS was established in 2008 at the University of de Ouagadougou, and follows approximately 80,000 residents living in five neighborhoods at the northern periphery of Ouagadougou. More information about the Ouaga HDSS and its methods can be found in Rossier et al., 2012.

During June and July of 2011, research assistants conducted 60 semi-structured interviews (to be known here as “Survey 1”) with the heads of household of poor families living in all five neighborhoods of the Ouaga HDSS. Respondents were identified using key informants and the snowball method. Semi-directive interviews were conducted, including two questions on family planning:

- 1) “It is said that, to escape the misery [of poverty], one needs to push one’s children to go to school and to practice contraception to have few children. What do you think about that?”
- 2) “Do you use contraception? To limit or to space? How many children would you like to have in total?”

The study was primarily focused on urban poverty rather than family planning specifically and no questions were designed to measure beliefs about side effects. Of the 60 interviews conducted, 54 include enough information on family planning for analysis. A complete description of the data collection methodology and of the results of this study (focused on urban poverty) can be found in Rossier & Duccaroz, 2012.

This paper also uses data from an observational study conducted between April and June 2012 at six health facilities that offer family planning services in the Ouaga HDSS areas (to be known here as Survey 2). A research assistant observed each facility over the course of one week, observing provider-client interactions and the functioning of various sections of maternal and child health services (immunization, deliveries, family planning, etc.). This same research assistant also conducted semi-

structured interviews with a convenience sample of men and women found in and around the health centers. A complete description of the data collection methodology and of the results of this study aimed at understanding post-partum contraceptive services can be found in Rossier and Hellen, 2013.

Content analysis techniques are used to elucidate and describe the main themes emerging from the collected discourses of both Survey 1 and Survey 2, with a focus on factors related to reasons for non-use of contraceptive methods. Illustrative quotes are presented to convey respondents’ voices. The National Health Ethics Committee of Burkina Faso approved the human subject protocols of these two studies. Participants in the semi-structured interviews signed a consent form. Pseudonyms were created for the analysis of the individual interviews, and no real names were retained.

**Preliminary Results:**

Table 3 summarizes the demographic data for the participants in the two studies. Overall, the study includes slightly more women than men, slightly more Muslims

<b>Table 3: Descriptive data</b>	<b>Survey 1</b>	<b>Survey 2</b>	<b>Total</b>
<b>Proportion men</b>	59% (n=32)	27% (n=12)	44% (n=44)
<b>Proportion women</b>	41% (n=22)	73% (n=33)	56% (n=55)
<b>Proportion Muslim</b>	61 % (n=33)	51% (n=23)	57% (n=56)
<b>Proportion Christian</b>	39% (n=21)	49% (n=22)	43% (n=43)
<b>Proportion “poor”*</b>	41% (n=22)	**	n/a
<b>Proportion “very poor”*</b>	59% (n=32)	**	n/a
<b>Proportion rural to urban migrant</b>	57% (n=31)	**	n/a
<b>Total number</b>	n=54	n=45	n=99

than Christians. All respondents are married (customarily, religiously or legally), but some report not living with their spouse (though an exact number is difficult to ascertain to the amorphous nature of living arrangements in the area).

---

\* Poor” is defined here as those in a precarious economic situation but able to meet basic needs for food, shelter, health and education, while the “very poor” are unable to meet these basic needs.

\*\* Information on this was not collected in this survey

Of the 99 interviews conducted, 23 people raised the issue of side effects without any prompting. Concerns raised by respondents included side effects concordant with the biomedical understanding of hormonal contraceptives. These include women like Safiatou, a 31 year-old married Muslim woman with a middle-school education, who asked to have her Norplant removed when her menstrual bleeding lasted over a month. Safiatou was a rare case: motivated enough to take-up another contraceptive method (oral contraceptive pills) despite her husband's opposition to modern contraception. A much more common scenario is represented by Odile, a 25 year-old married Protestant with a primary education, who asked to have her Norplant removed after she said it made her gain weight but, did not take up another method after it was removed.

The most common discussions of side effects are focused on those perceived side effects of modern contraception that have no biomedical evidence to support them. By far the most prominent of these concerns is that modern methods cause permanent infertility or otherwise interfere with a woman's ability to bear children upon method discontinuation. This was a view expressed by 6 people in Survey 1 and by 17 people in Survey 2, all unprompted. The following exchange between the interviewer and Kadi, a 40 year-old married Muslim woman with a primary education is illustrative:

**Interviewer:** What methods of contraception are you familiar with?

**Kadi:** The first method I took was the injectable, which I hid [from my husband] in 2002. With that one shot, I was no longer able to get pregnant. After a while, he got suspicious and went to tell my parents that I had screwed up any chance of motherhood and that he was going to leave me because of it. I went to get treatment, but it was only just recently in 2011 and that I was able to have a baby. So now, I will never use the injectable again.

A similar experience is recounted by Melissa, a 36 year-old married Catholic woman with a secondary education:

Sometimes I tell myself that this [modern contraception] can cause some sort of illness that I'm not aware of. Because when I had a Norplant, after 5 years I took it out. I had a pregnancy but then it started dripping [I miscarried] without me ever knowing why. I had never had this problem before, and so I told myself that maybe it was [the Norplant]. A second time it dripped again, so ... I didn't ever want to take contraceptives ever again.

In addition to those who describe their own personal stories leading them to conclude that modern contraception causes permanent infertility, several respondents without similar experiences evoked the same idea by saying that they would not consider modern contraception as a means to space, only to limit childbearing once they had attained their desired family size. A good example of this mentality is Simon, a married Christian man of unknown age and no formal education. When asked by the interviewer if he had ever used modern contraception, Simon responded:

**Simon:** Ah! No, we have not used contraception

**Interviewer:** Why haven't you used it?

**Simon:** We think that if we change our minds, we can have some more children.

Thus, without ever saying the words "side effects," Simon is implying that that once you start a modern method, you can never have children again. This is similar to the mentality expressed by Albert, a 30 year-old married Christian man with a primary education, who, when asked a similar question about why he doesn't use contraception, replied, "I want to have one or two before using contraception. If you don't have children, you can't use contraception."

Still others recount the great lengths they go to in order to avoid a pregnancy without considering modern contraception as an option. A good example of this is Abderhaman, a 44 year-old married Muslim man with a primary education, who had this exchange with the interviewer:



**Interviewer:** Have you ever practiced family planning with your wife?

**Abderhamane:** No, but I know what to do to space births

**Interviewer:** What do you do?

**Abderhamane:** If I restrain myself [practice abstinence] for a year, I can space the births. We can practice family planning without using products.

The fact that Abderhamane would prefer a year's worth of abstinence (or more) to modern contraception that is widely available for subsidized prices is certainly worth noting. Abderhamane and many like him do not present strong religious views in opposition to family planning or other moral grounds for non-use -- they simply do not seem to consider it an option.

The counseling sessions observed over the course of the health center observations may provide some insight into why fear of side effects is so prevalent. Four of the six health centers that were observed were public facilities and in all four of these public health centers, women were instructed to go to the "pharmacy" portion of the center first to buy their method. After purchasing their method, they were ushered in to see the nurse on duty. A typical counseling session consisted of the nurse asking the woman what method she picked, and explaining to her how to correctly use that method. In the weeks of observation recorded, the research assistant did not witness a single instance when the nurse explored the woman's contraceptive history (previous methods used, reasons for discontinuation, side effects experienced) or asked her what she was seeking in a contraceptive method.

Some nurses explained the side effects of the woman's selected method, while others did not. One nurse reported that she preferred not to talk about side effects with her patients because women tend to "get fixations on side effects," and preferred not to plant any ideas about potential side effects in women's heads. No family planning messages or method options were available for women's perusal during the long wait times. Some women came with ideas of the method they wanted (often because a

relative or friend used that method) but others came in with no clear ideas. In none of the public centers was there any informational material about various methods and how to choose one in the waiting rooms or other public areas.

Observations in the two health centers run by non-governmental organizations showed improved counseling practices in those locations. Women were able to consult with nurses before choosing their methods and the waiting rooms were filled with posters and pamphlets on various methods. In all health centers, however, the volume of patients and limited number of nurses made the time that patients had to interact with providers very short, limiting the quality and depth of the counseling offered.

**Discussion:**

The survey data show that fear of side effects is strong, widespread, and an impediment to uptake of the most effective modern methods. Health center observations that illustrate that women are often poorly informed about the contraceptive method they choose and the side effects that may go along with it. With low levels of health literacy, women often conflate association with causation, and every benign headache or stomachache subsequent to contraceptive use may be blamed on the method, with just cause or not. As in the case of Odile (above), when women discontinue one method, they often do not follow up with the uptake of a different method, entering into periods of risk-taking or relying on poorly understood temporal methods of fertility regulation. The poor quality of the counseling and the set-up of the public clinics that has women choosing their methods on their own *before* their counseling session is counterproductive, leaving women to choose methods based on name recognition or similarly flawed premises with no way for women to explore which methods best meet their needs. The fact that some nurses decline to discuss known side effects (such as weight gain) with women at the time of counseling also contributes to the problem, breeding mistrust and suspicion of

the health workers and the products. For a woman may well ask herself, if the nurse did not tell her she might gain weight or experience menstrual disruptions, what else might that health worker be keeping from her?

The question as to why people believe health workers are promoting the uptake of dangerous products is a complex one, and one that is not explicitly addressed in the data in this study. However, given the biomedical system's ties to the Global North, there is reason to believe that many people see family planning efforts as a part of an ongoing effort by White people (the French, in the Burkinabe population imagination) to control them and limit their power. In the case of this study, it was our very own research assistant who introduced this dynamic into the study. In Survey 1, the text of the interview guide read, "It is said that, to escape the misery [of poverty], one needs to push one's children to go to school and to practice contraception to have few children. What do you think about that?" In practice, however, one of our research assistants phrased this question "*White people* say that, to escape the misery..." This happened in no fewer than eight of the 60 interviews conducted. Sometimes, the assistant did so at the outset, but sometimes she rephrased the question this way if it appeared that the respondent did not fully understand the question as it was written. In either case, it is noteworthy that the research assistant used this trope to add meaning and enhance the comprehensibility of this question for a subset of respondents. The concern about why "White people" are so invested in promoting family planning on the African continent has been explored in other studies. A 2008 study by Aninyei et al., for example, examined fears surrounding modern family planning, and found that 30.3% of respondents in Abraka communities in Nigeria did not use modern methods because of fear of side effects, and further 16.2% of respondents cited "Whiteman's deceit" as their primary reason for non-use (Aninyei et al., 2008).

Burkina Faso and the West African region are not the only places in the world where there is mistrust of Western medical interventions. And yet other post-colonial settings (like Latin America, for example) family planning indicators are not nearly so poor. This begs the question: what about the West African context makes mistrust of contraception and fear of side effects so salient there? The answer might lie in the overwhelming importance of motherhood in Burkina Faso and in West Africa in general. Bearing children in West Africa is more than just a family milestone or rite of a passage. Childbearing earns parents prestige and respect in the eyes of their communities, and legitimizes the couple in the eyes of their families (Castle, 2003; Johnson-Hanks, 2002). For a woman to lose her ability to become pregnant is for her to lose her marriage prospects and her social standing. It thus makes perfect sense that, when weighing the risks of a mistimed pregnancy from a less effective traditional method on the one hand, and the risk of permanent infertility from modern contraceptive use on the other, many couples choose to take their chances with traditional methods. In the cultural context of Burkina Faso, a mistimed pregnancy is the lesser of the two evils.

This phenomenon is not limited to Burkina Faso, however. A 2001 study from Nigeria, for example, demonstrated that Nigerian adolescents actually preferred illegal abortion to modern contraceptive use because they perceived it to be the safer choice (Otoide, Oronsaye, & Okonofua, 2001). The authors found that, “Many focus-group participants perceived the adverse effects of modern contraceptives on fertility to be continuous and prolonged, while they saw abortion as an immediate solution to an unplanned pregnancy—and, therefore, one that would have a limited negative impact on future fertility” (Otoide et al., 2001). Motherhood is, of course, an important cultural factor in many places, but its tremendous importance in West Africa, combined with the region’s colonial history, low levels of health literacy and poor quality of counseling and service, when taken all together, may begin to explain why contraceptive indicators in the region in general, and in Burkina Faso in particular, are so poor. And as more women try out contraceptive methods, receive poor quality of care and are unable

to understand or manage their side effects; as rumors and myths diffuse through social networks and as nothing is done to combat misperceptions, the fear of side effects and its effect on contraceptive uptake will likely continue to grow.

### **Limitations**

Since these data were not collected explicitly to study side effects, they likely underappreciate the extent to which side effects affect contraceptive decision making by only recording the cases where respondents spontaneously mentioned them. The small sample size, qualitative methodology and fact that data were gathered in 5 specific neighborhoods of Ouagadougou, limit widespread generalizability or inference to other populations. These data, however, do tell a story of how some urban residents in Burkina Faso conceive of modern contraception and begin to show the extent to which health concerns loom large in the popular imagination.

### **Conclusion:**

Perhaps because the prevailing beliefs about the side effects do not fit into perception of modern contraception that most Westerners hold, they have rarely been the object of large-scale research or programmatic interventions. The approach to these “myths” and “rumors” has been to ignore them, in the hope that they die out on their own. Unfortunately, it seems that quite the contrary is happening: these beliefs may be gathering steam and becoming fixture of the family planning discourse. With fertility desires already ambivalent and demand for contraception already fragile (Rossier & Senderowicz, 2014), these myths present an important obstacle to increased contraceptive uptake. Fears of side effects should not be dismissed as irrational, but should be taken seriously by family planning programs as the firmly-held beliefs that they are. Educational programs to increase health literacy are needed to help women and couples understand how contraception works. Much improved counseling is needed, not only to reassure on a one-to-one basis of the safety and efficacy of

modern methods, but also to make sure that each woman leaves the clinic with the method that is best suited to her particular needs, and the information on what to do if she does indeed experience side effects. Once women start having positive experiences in the family planning wards and with the contraceptive products themselves, they will tell their neighbors and friends, and perhaps a new type of buzz will start to spread.

### **Acknowledgements**

Survey 1 was funded by the Wellcome Trust, grant number WT081993MA and Survey 2 was funded by the Bill and Melinda Gates Foundation, grant number OPP1017071, in collaboration with Tulane University School of Public Health and Tropical Medicine. The PIs of these projects were Dr. Clementine Rossier and Dr. Jane Bertrand respectively. I am thankful that they generously allowed me to use the data for this paper.

Works Cited

- Audu, B. M., Yahya, S. J., & Bassi, a. (2006). Knowledge, attitude and practice of natural family planning methods in a population with poor utilisation of modern contraceptives. *Journal of Obstetrics and Gynaecology : The Journal of the Institute of Obstetrics and Gynaecology*, 26(6), 555–60. doi:10.1080/01443610600811482
- Bertrand, J. T., Mangani, N., Mansilu, M., & Landry, E. G. (2012). the Use of Factors Influencing Traditional versus Modern Family Methods in Bas Zaire Planning, 16(6), 332–341.
- Bongaarts, J. (2003). Completing the fertility transition in the developing world: The role of educational differences and fertility preferences. *Population Studies*, 57, 321–335. doi:10.1080/0032472032000137835
- Bongaarts, J. (2008). Fertility Transitions in Developing Countries: Progress or Stagnation? *Studies in Family Planning*, 39(2), 105–110. doi:10.1111/j.1728-4465.2008.00157.x
- Bongaarts, J. (2011). Can family planning programs reduce high desired family size in Sub-Saharan Africa? *International Perspectives on Sexual and Reproductive Health*, 37(4), 209–16. doi:10.1363/3720911
- Campbell, M., Sahin-Hodoglugil, N. N., & Potts, M. (2006). Barriers to fertility regulation: a review of the literature. *Studies in Family Planning*, 37(2), 87–98. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/16832983>
- Castle, S. (2003). Factors influencing young Malians' reluctance to use hormonal contraceptives. *Studies in Family Planning*, 34(3), 186–99. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/14558321>
- Chipeta, E. K., Chimwaza, W., & Kalilani-Phiri, L. (2010). Contraceptive knowledge, beliefs and attitudes in rural Malawi: misinformation, misbeliefs and misperceptions. *Malawi Medical Journal : The Journal of Medical Association of Malawi*, 22(2), 38–41. Retrieved from <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=3345759&tool=pmcentrez&rendertype=abstract>
- Cohen, S. (2012). London Summit Puts Family Planning Back on the Agenda, Offers New Lease on Life for Millions of Women and Girls. *Guttmacher Policy Review*, 15(3), 20–24. Retrieved from <http://www.guttmacher.org/pubs/gpr/15/3/gpr150320.html>
- Council, P., & Planning, F. (2012). Factors Reluctance Influencing Young Use Hormonal Malians' Contraceptives, 34(3), 186–199.
- Crissman, H. P., Adanu, R. M., & Harlow, S. D. (2012). Women's sexual empowerment and contraceptive use in Ghana. *Studies in Family Planning*, 43(3), 201–12. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/23185863>

- D, S., & T, G. (2013). Fertility transition in sub-saharan Africa: falling and stalling. *African Population Studies*, 23(1). Retrieved from <http://www.bioline.org.br/pdf?ep08001>
- Family Planning: Francophone West Africa on the Move; A Call to Action*. (2012). Retrieved from [http://www.prb.org/pdf12/ouagadougou-partnership\\_en.pdf](http://www.prb.org/pdf12/ouagadougou-partnership_en.pdf)
- Finlay, J. E., Canning, D., & Po, J. Y. T. (2012). *Reproductive Health Laws Around the World. Program on the Global Demography of Aging- Working Paper Series*. Cambridge, MA.
- Institut National de la Statistique et de la Demographie (INSD) and ICF International. 2012. 2010 Enquête Démographique et de Santé et à Indicateurs Multiples du Burkina Faso. Calverton, MD: ICF International.
- Institut National de la Statistique et de la Demographie (INSD) and Macro International. 1994. 1993 Burkina Faso Enquête Démographique et de Santé. Calverton, MD: Macro International.
- Institut National de la Statistique et de la Demographie (INSD) and Macro International 2000. 1998–99 Burkina Faso Enquête Démographique et de Santé. Calverton, MD: Macro International.
- Institut National de la Statistique et de la Demographie (INSD) and Macro International 2004. 2003 Burkina Faso Enquête Démographique et de Santé. Calverton, MD: Macro International.
- Jacobstein, R., Bakamjian, L., Pile, J. M., & Wickstrom, J. (2009). Fragile, Threatened, and Still Urgently Needed: Family Planning Programs in Sub-Saharan Africa. *Studies in Family Planning*, 40(2), 147–154. doi:10.1111/j.1728-4465.2009.00197.x
- Johnson-Hanks, J. (2002). On the Modernity of Traditional Contraception: Time and the Social Context of Fertility. *Population and Development Review*, 28(2), 229–249. doi:10.1111/j.1728-4457.2002.00229.x
- Kabonga, R. M., Baboo, K. S., & Mweemba, O. (2010). Factors influencing utilization of Natural Family Planning among Child Bearing Women in Chilonga Northern Province Zambia, 37(4), 223–233.
- Mathe, J. K., Kasonia, K. K., & Maliro, A. K. (2011). Barriers to adoption of family planning among women in Eastern Democratic Republic of Congo. *African Journal of Reproductive Health*, 15(1), 69–77. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/21987940>
- Otoide, V. O., Oronsaye, F., & Okonofua, F. E. (2001). Why Nigerian Adolescents Seek Abortion Rather than Contraception: Evidence from Focus-Group Discussions. *International Family Planning Perspectives*, 27(2), 77. doi:10.2307/2673818
- Rossier, C., & Duccaroz, L. (2012). *La pauvreté dans les quartiers de l'OPO : une approche qualitative*. Ouagadougou. Retrieved from <http://www.issp.bf/opo>
- Rossier, C., & Hellen, J. (2014). Traditional birthspacing practices and uptake of family planning during the postpartum period in Ouagadougou: qualitative results. *International Perspectives on Sexual and Reproductive Health*, 40(2), 87–94. doi:10.1363/4008714



- Rossier, C., & Senderowicz, L. (2014). The One God Sends to Save Me: Conflicted Fertility Preferences and Unmet Need among Burkina Faso's Urban Poor. In *Population Association of America Annual Meeting*. Retrieved from <http://paa2014.princeton.edu/abstracts/141994>
- Rossier, C., Senderowicz, L., & Soura, A. (2014). Do natural methods count? Underreporting of natural contraception in urban burkina faso. *Studies in Family Planning*, 45(2), 171–82. doi:10.1111/j.1728-4465.2014.00383.x
- Rossier, C., Soura, A., Baya, B., Compaoré, G., Dabiré, B., Dos Santos, S., ... Zourkaleini, Y. (2012). Profile: the Ouagadougou Health and Demographic Surveillance System. *International Journal of Epidemiology*, 41(3), 658–66. doi:10.1093/ije/dys090
- Rossier, C & Hellen, J. (2013). Family Planning during the Postpartum Period in Ouagadougou, Burkina Faso: A Qualitative Supply and Demand Perspective. In *Population Association of America Annual Meeting*. Retrieved from <http://paa2013.princeton.edu/papers/131993>
- Soura, A., Pison, G., Senderowicz, L., & Rossier, C. (2013). Religious differences in child vaccination rates in urban Africa: Comparison of population surveillance data from Ouagadougou, Burkina Faso. *African Population Studies*, 27(2), 174. doi:10.11564/27-2-439
- United Nations. (2013). *World Population Prospects: The 2012 Revision. Key Findings and Advance Tables. Population and development review* (Vol. 36, pp. 775–801). doi:10.1111/j.1728-4457.2010.00357.x
- Wambui, T., Ek, a-C., & Alehagen, S. (2009). Perceptions of family planning among low-income men in Western Kenya. *International Nursing Review*, 56(3), 340–5. doi:10.1111/j.1466-7657.2009.00726.x