

Misperceptions, misinformation and myths about modern contraceptive use in Ghana

Michelle J Hindin,¹ Laura J McGough,² Richard M Adanu³

¹Associate Professor,
Department of Population,
Family and Reproductive Health,
Johns Hopkins Bloomberg
School of Public Health,
Baltimore, MD, USA

²Independent Consultant, Accra,
Ghana

³Associate Professor,
Department of Population,
Family and Reproductive Health,
School of Public Health,
University of Ghana, Accra,
Ghana

Correspondence to

Dr Michelle J Hindin,
Department of Population,
Family and Reproductive Health,
Johns Hopkins Bloomberg
School of Public Health, 615 N
Wolfe Street, E4546, Baltimore,
MD 21205, USA;
mhindin@jhsph.edu

Received 14 August 2012

Revised 27 December 2012

Accepted 1 March 2013

Published Online First

15 June 2013

ABSTRACT

Objective Ghana, like the rest of West Africa, has very low contraceptive prevalence and is one of a few nations that reports declines in contraceptive use over time based on two of the most recent national surveys. Fear of side effects is a leading cause of non-use of contraception, based on national surveys. The objective of this study was to gain a more holistic understanding of why Ghanaian women are not using contraception.

Methods We used focus groups with vignettes to elicit normative beliefs about contraception. We recruited 91 women from three different clinics within Legon Hospital in Accra, Ghana: the antenatal clinic, the student clinic and the child welfare clinic. Focus groups were homogeneous with regard to age group and union status.

Results We found that women were most concerned with the menstrual irregularities caused by hormonal methods. In addition, women believed strongly that the hospital was the best place to get contraception as blood tests were needed to match women with the appropriate method. Knowledge of how methods worked and of basic reproductive biology was low.

Conclusions Poor knowledge of how to use modern methods combined with myths and misinformation should be the targets of programmes to increase modern contraceptive prevalence in Ghana.

INTRODUCTION

While in many low- and middle-income countries there has been an increase in contraceptive prevalence,¹ in West Africa contraceptive uptake has been remarkably slow.² Multiple studies have highlighted the importance of and need to address misinformation and side effects as a reason for contraceptive non-use.^{3–5} In the last decade, few family planning

Key message points

- ▶ Based on our sample of women from a hospital in Accra, Ghana, fear of side effects, both real and perceived, inhibit modern contraceptive uptake.
- ▶ Women lack knowledge about how modern contraceptive methods work and basic reproductive biology.
- ▶ Mass media, school-based curricula and provider training could be enhanced to increase knowledge and dispel misinformation about modern contraceptive methods in Ghana.

programmes have addressed concerns about contraceptive side effects despite evidence from a variety of settings showing that these concerns are real barriers to many women's uptake and/or continuation of contraception.^{5–11}

Setting

Ghana is a low-income country, undergoing a significant fertility transition. Ghana's total fertility rate has declined from 6.4 in 1988 to 4.0 in 2008.¹² In addition, while modern contraceptive use among married women increased from 4.2% in 1988, use declined between 2003 (18.7%) and 2008 (16.6%).¹² Declines were seen across methods including oral contraceptives (8% in 2003 to 5% in 2008) and condoms (down to only 2% in 2008 from 18% in 2003 – a 16% drop).

Based on unprompted and prompted reports of knowledge of contraceptive methods, awareness has slipped with women reporting knowledge of an average of 7.8 modern methods as compared to an average of 8.6 methods in 2003.¹² Overall,

To cite: Hindin MJ,
McGough LJ, Adanu RM.
J Fam Plann Reprod Health
Care 2014;**40**:30–35.

Ghana's levels of modern contraceptive use relative to its fertility decline are puzzling; even when the contraceptive prevalence was rising in the past, the pace of the fertility transition was substantially faster than expected, given contraceptive use levels.¹³

Fear of side effects, especially those perceived to impair fertility, remain the leading cause of non-use of modern contraception in Ghana based on the Demographic and Health Survey (DHS)¹² and other sources.^{14 15} Fear of side effects increased in importance as a reason for non-use from 18% in 1998 to 26% in 2003 and 2008.¹² In 2008, 16% of non-users said they do not intend to use in the future because they are opposed to using family planning (up from 5.8% in 2003). In 2008, 2% of women cited lack of knowledge of methods as a reason for non-use. Although the proportions remained under 10%, the proportion of women who cited "inconvenience" and "interferes with body's normal process" rose between 2003 and 2008.¹² In this study, we used in-depth qualitative methods with women attending three hospital clinics in Accra, Ghana to gain a more holistic understanding of the reasons why women are not using contraception.

METHODS

Study design

We used focus groups with vignettes to obtain normative information on why women were not using contraception. We recruited women from three different clinics within Legon Hospital in Accra, Ghana: the antenatal clinic, the student clinic and the child welfare clinic. All 16 focus groups were homogenous as regards union status (single or in union) and age group (21–25 and 26–30 years). Focus groups were conducted by two bilingual (Twi, English) female Ghanaian research assistants and were digitally recorded, after gaining each woman's signed consent to participate. In total, 91 women participated. Data collection, following Institutional Review Board approval at the University of Ghana and the Johns Hopkins Bloomberg School of Public Health, took place from February to April 2011.

Vignettes: Based on our early work in Accra¹⁶ we developed a set of vignettes or stories as we felt that stories would allow women to provide information about social and cultural beliefs about contraceptive use within the Ghanaian context.¹⁷ We provided women with three scenarios that represented a range of potential contraceptive users. The scenarios are described below.

Scenario 1: A 16-year-old girl named Abena is enrolled in school. After several months of having a boyfriend, she sleeps with him. They have slept together several times in 1 month, but Abena and her boyfriend have never discussed the risks of getting pregnant. Abena learns that one of her friends is pregnant and begins to worry.

Prompting questions: Should Abena talk to her boyfriend about her concerns about getting pregnant? Should she do anything to prevent getting pregnant? If so, what? If she were to get a method of family planning, where would she go? What would she get? What, if any, problems might she encounter?

Scenario 2: Georgina is married, aged 37 years, and has four children aged between 8 and 16 years. She and her husband have never discussed spacing or limiting their births. At this point they cannot afford any more children. She has heard something about Secure [oral contraceptive] pills on the radio but doesn't know much about them.

Prompting questions: Should Georgina talk to her husband about using family planning? Will he object? If he does object, what should she do? Where can she go to learn more about family planning? Where can she get family planning?

Scenario 3: Hanna is 27 years old and has a daughter aged 11 months. Up until she became pregnant she was using Depo [injectable contraceptive], and then she and her husband planned to have a child and she discontinued the Depo. While on Depo she had some irregular bleeding and missed some periods. It took her 6 months to become pregnant. She and her husband discussed wanting to have their next child in about 2 years.

Prompting questions: Should Hanna use a method of family planning? Should Hanna go back to using Depo? Why? Why not? What other method of family planning could she use?

In addition to these vignettes, we collected basic socio-demographic data and women's awareness of different contraceptive methods, perceived side effects, the popularity of different contraceptive methods, and where women should learn about methods and obtain them.

Analysis

The focus groups were transcribed and translated in Word™ and uploaded into Atlas.Ti for analysis. Themes were identified and coded using Atlas.Ti by the first author. Analysis was done both by both reviewing the transcripts to identify overall themes as well as summarising the responses to each vignette. Data for the socio-demographics were entered into an Excel™ spreadsheet for analysis.

RESULTS

Socio-demographics

Table 1 summarises the characteristics of the women who participated in the focus groups.

Overall themes

A number of key themes emerged from the focus group transcripts. One of the most common themes

Table 1 Characteristics of focus group participants in Legon Hospital, Accra, Ghana

Characteristic	Antenatal care (n = 35)	Student (n=39)	Child welfare (n=17)
Age [mean (SD)]	26.7 (2.7)	22.3 (1.3)	27.8 (2.4)
Ever attended school (%)	94.3	100.0	94.2
Level of schooling attended (%)			
None	5.7		5.9
Primary	14.3		–
Middle	54.3		58.2
Secondary	14.3		29.4
Higher	11.4	100.0	5.9
Ethnicity (%)			
Akan	48.6	56.4	23.5
Ga/Dangme	14.3	5.1	29.4
Ewe	14.3	17.9	29.4
Guan	–	10.3	5.9
Mole-Dagbani	2.9	2.6	–
Grussi	2.9	–	–
Other	17.1	7.6	11.8
Religion (%)			
Catholic	5.7	7.7	5.8
Anglican	–	2.6	–
Methodist	–	12.8	17.6
Presbyterian	14.3	28.2	35.3
Pentecostal/Charismatic	54.3	38.5	41.2
Other Christian	5.7	5.1	–
Moslem	17.1	5.1	–
No religion	2.9	–	–
Worked for pay in last 7 days (%)	57.1	12.8	52.9
Marital status (%)			
Married	74.3	–	76.5
In union	25.7	2.6	11.7
Not in union	–	97.4	11.8
Ever used contraception (%)	62.9	15.8	47.1
Currently using contraception (%)	NA	10.5	5.9

NA, not applicable; SD, standard deviation.

was fear of changes in menstrual patterns related to hormonal contraception.

“You see fibroid is caused by blood clot and when you use some of them [hormonal methods] it causes your menses to stop. So the blood remains there and it clots leading to fibroid.” [Woman aged 21–35 years, single, student clinic]

“I have never experienced it [contraception] before but a sister [friend] has. When she did it [used hormonal contraception] she was not having her menses but whenever it was time for her menses she had severe menstrual pains and we had to bring her to the hospital for medication before it stops.”

Interviewer: *“Which one was she using?”*

“The injectable. So we told her to stop but she also says if she stops what will she do? Another one also

when she took the injection, something like a lump came into her abdomen and it was really aching and so she had to go to the hospital.” [Woman aged 26–30 years, in union, antenatal clinic]

“There was a sister who also took the injection and her breast became big and hard. It was the blood, which was not flowing which clotted in her breast. So she went to the hospital several times before she was cured.” [Woman aged 26–30 years, in union, antenatal clinic]

In general, women who had never used contraception were fearful of methods based on hearsay or sometimes first-hand accounts of friends, relatives or acquaintances:

Interviewer: *“So why don’t women use contraceptives?”*

Respondent: *“It is because of what they have heard others say.”* [Woman aged 26–30 years, in union, antenatal clinic]

“I want to do it [contraception] but because of what people say about it, that it can make you sick, I am afraid... They say that, for instance the 5 years [implant], they will insert something like needle into the arm and you will not feel normal again.” [Woman aged 26–30 years, in union, antenatal clinic]

“I had a friend who used the 5 years [implant]. She continued to bleed until she stopped. And while she was using it, she became very fat and so when she stopped, she became very slim like a pen.” [Woman aged 26–30 years, in union, child welfare clinic]

Some women who had used contraception in the past confirmed these fears, noting that hormonal methods “made them fat” and changed their menstrual patterns. Some ever users did offer positive experiences, but these were not common.

Most women believed that the best place to get contraception was the hospital and women needed to be sure someone “tested their blood” to be sure they had the right method.

“My problem is that they should check our blood before giving it [contraception] to us. But now it is as if we just decide what we want. And if something is good then do it for a fee. But now they give it [contraception] to us free without testing us and it is causing a lot of problems. So they are helping us and hurting us at the same time.” [Woman aged 26–30 years, in union, child welfare clinic]

Vignette-specific themes

Abena

Many women expressed concern that Abena was “too young” to be sexually active. Some suggested that were she to use contraception, she should use a “natural” method such as counting days, as modern contraception could lead to infertility or a delay in getting pregnant. As has been found in Ghana¹⁸ and

other settings,^{19–21} perceived or diagnosed infertility is a significant concern. In our sample, some women believed that contraceptive use at too young an age could result in delayed childbearing or in infertility.

"You see, if you are a girl who has never given birth and you are taking those tablets, it can delay you in giving birth when you get married." [Woman aged 26–30 years, in union, antenatal clinic]

Interviewer: *"Do you think she will encounter any problems when she gets family planning or contraceptives?"*

Respondent: *"Barrenness."* [Woman aged 21–25 years, not in union, student clinic]

Some women did not consider condoms a method of contraception or "family planning".

"She should just go get a condom and use because it is not compulsory that you use family planning but condoms are always available to help you prevent pregnancy." [Woman aged 26–30 years, in union, antenatal clinic]

"Abstinence is the best. But if they can't abstain, then they can use condoms. But family planning is too early." [Woman aged 26–30 years, in union, child welfare]

Georgina

Women felt in the case of Georgina, that if her husband opposed her using contraception, covert use was Georgina's right.

"These days if you follow a man, it is you the woman who will suffer, he will get up and leave for work and the children will be surrounding you. If you die he will go marry another woman. So as for me I think she should just forget about the husband and think about her own well-being." [Woman aged 26–30 years, in union, antenatal clinic]

"I think they have been married for some time now so she knows the kind of man he is. She should discuss with him and see if he agrees. But if it were me and he doesn't agree, I will ask the doctors to tie my womb after I deliver the last child." [Woman aged 21–25 years, not in union, student clinic]

Others believed Georgina could just convince her husband.

"At the beginning, he might object but if you the woman take your time to pamper him as time goes on, he will give in." [Woman aged 26–30 years, in union, antenatal clinic]

Hanna

For Hanna, focus group respondents were divided between three possibilities: some respondents believed she should go back and use Depo-Provera® despite irregular menses; others felt she should consider a longer-term method such as the implant or intrauterine device, and just get it removed in 2 years; whereas

a final group of respondents were concerned about her menstrual irregularities and she should just "count days" to determine when she can and cannot have sex. In discussing Hanna's situation, and in the open-ended questions on awareness of different modern methods of contraception, many women lacked specific knowledge about how methods work or how they are supposed to be used.

"I learned the pills, Secure [combined oral contraceptive], for instance are taken 30 minutes before the act so that it will reduce the potency of the sperms." [Woman aged 26–30 years, in union, antenatal clinic]

Women also lacked knowledge about basic reproductive biology.

"I have also heard that after the act you can get up and push the sperms out like you are pushing out a baby. I know how to push it out so I have been with my husband for about 6 years without using a condom and never became pregnant." [Woman aged 26–30 years, in union, antenatal clinic]

"I also know that there are men who if they sleep with you, you can only be pregnant when he sleeps with you the next 3 days [in a row]. So you can calculate and if sleeps with you today, you can do it without a condom and then the next day, you use a condom." [Woman aged 26–30 years, in union, antenatal clinic]

Few women raised vasectomy spontaneously as a method of contraception despite efforts to increase vasectomy prevalence in Ghana through provider training.²² Like in other settings,²³ women had misinformation about this method.

"It [vasectomy] will have a psychological effect on the man and he will think he is no more a man." [Woman aged 21–25 years, not in union, student clinic]

CONCLUSIONS

We found fear of side effects to be a leading reason for non-use of contraception. Menstrual irregularities due to hormonal methods, and concerns that contraception can lead to infertility, particularly among young women, emerged as key themes. Hearsay about side effects and misinformation were common reasons for non-use. Women believed that blood tests are required for clinicians to recommend the best method for an individual woman.

Despite the consistency in themes that emerged, there are some limitations to our study. Our sample was limited to women who were attending clinics in a local hospital in the capital city who are likely to be different from women not seeking health care for themselves or their children and women in rural areas. We did not interview providers or male partners, who are a likely influence in the decision to use contraception. Despite these limitations, we were able to get a wide cross-section of women and find common themes.

Some of the key findings match some of what has been found in other settings. Women in our sample relied on hearsay about contraception, as found in Kenya.²⁴ Concerns regarding menstrual irregularities²⁵ and concerns that hormonal methods cause infertility, particularly for younger women,^{26–29} have been documented elsewhere. We found that few women had a clear knowledge of how methods are used or how they worked. Nationally representative data from DHS reports on knowledge of methods based on the combination of unprompted and prompted awareness of each method. This measure of awareness rather than knowledge may lead to the false sense that efforts to educate the population on methods are not needed. In addition, providers in Ghana^{30–31} and elsewhere in Africa^{32–33} may perpetuate some of the misinformation that women reported.

The belief that blood tests are necessary to determine the appropriate contraceptive method has not been documented elsewhere. In part, this finding may be due to the sample being hospital-based. The perceived need for blood tests may be inhibiting uptake of methods readily available at pharmacies (condoms, oral contraceptives and emergency contraception). Further work is needed to see if this belief is more widespread, particularly in rural areas where women may have poor access to health facilities.

Targeted efforts are needed to address real and perceived side effects, as well as provider-level training, particularly at hospitals and clinics, to ensure that women know what to expect when using modern contraceptive methods. While we did not document potential supply-side issues such as the unavailability of methods or poor method mix, it is essential that facilities have adequate stocks and offer a variety of methods for new users and users who want to switch methods. In addition, basic information about reproductive biology is needed. This could be accomplished with mass media, school-based curricula and provider training. Educational videos in waiting areas in antenatal, postnatal, child welfare and other wards, where women often spend many hours, could provide this information.

This study highlights some of the important barriers that need to be surmounted to create a greater demand for family planning in Ghana. Women need reliable sources of information and better access to trained providers who can address their concerns. Retraining providers is both time and resource intensive. An additional approach could be to reinvigorate the mass media campaigns of the late 1980s and 1990s.^{34–37} While mass media campaigns are often difficult to evaluate properly,^{38–39} they have been shown to be effective in increasing contraceptive use. By taking a multi-faceted approach, the myths and misperceptions that Ghanaian women report regarding contraception could be overcome.

Acknowledgements The authors would like to acknowledge their two research assistants and the women who gave their time to participate in our study.

Competing interests None.

Ethics approval Ethical approval for the study was granted by the University of Ghana Medical School and the Johns Hopkins Bloomberg School of Public Health.

Provenance and peer review Not commissioned; externally peer reviewed.

REFERENCES

- 1 Cleland J, Bernstein S, Ezeh A, *et al.* Family planning: the unfinished agenda. *Lancet* 2006;368:1810–1827.
- 2 Cleland JG, Ndugwa R, Zulu EM. Family planning in sub-Saharan Africa: progress or stagnation? *Bull World Health Organ* 2011;89:137–143.
- 3 Campbell M, Sahin-Hodoglugil NN, Potts M. Barriers to fertility regulation: a review of the literature. *Stud Fam Plann* 2006;37:87–98.
- 4 Casterline JB, Sinding SW. Unmet need for family planning in developing countries and implications for population policy. *Popul Dev Rev* 2000;26:691–723.
- 5 Küçük M, Aksu H, Sezer SD. Misconceptions about the side effects of combined oral contraceptive pills. *Gynecol Endocrinol* 2012;28:282–285.
- 6 Curtis S, Evens E, Sambisa W. Contraceptive discontinuation and unintended pregnancy: an imperfect relationship. *Int Perspect Sex Reprod Health* 2011;37:58–66.
- 7 Mathe JK, Kasonia KK, Maliro AK. Barriers to adoption of family planning among women in Eastern Democratic Republic of Congo. *Afr J Reprod Health* 2011;15:69–77.
- 8 Rustagi N, Taneja DK, Kaur R, *et al.* Factors affecting contraception among women in a minority community in Delhi: a qualitative study. *Health Popul Perspect Issues* 2010;33:10–15.
- 9 Diamond-Smith N, Campbell M, Madan S. Misinformation and fear of side-effects of family planning. *Cult Health Sex* 2012;14:421–433.
- 10 Chipeta EK, Chimwaza W, Kalilani-Phiri L. Contraceptive knowledge, beliefs and attitudes in rural Malawi: misinformation, misbeliefs and misperceptions. *Malawi Med J* 2010;22:38–41.
- 11 Nalwadda G, Mirembe F, Byamugisha J, *et al.* Persistent high fertility in Uganda: young people recount obstacles and enabling factors to use of contraceptives. *BMC Public Health* 2010;10:doi:10.1186/1471-2458-10-530.
- 12 Ghana Statistical Service GHS, IFC Macro. *Ghana Demographic and Health Survey* 2008. Accra, Ghana, 2009.
- 13 Agyei-Mensah S. Fertility transition in Ghana: looking back and looking forward. *Popul Space Place* 2006;12:461–477.
- 14 L'Engle KL, Hinson L, Chin-Quee D. "I love my ECPs": challenges to bridging emergency contraceptive users to more effective contraceptive methods in Ghana. *J Fam Plann Reprod Health Care* 2011;37:146–151.
- 15 Krakowiak-Redd D, Ansong D, Otupiri E, *et al.* Family planning in a sub-district near Kumasi, Ghana: side effect fears, unintended pregnancies and misuse of a medication as emergency contraception. *Afr J Reprod Health* 2011;15:121–132.
- 16 Bowen V, Hindin MJ, Adanu R. Contraception and abortion decision-making in Accra, Ghana: the lesser of two evils. *Contraception* 2012;85:319.
- 17 Barter C, Renold E. 'I Wanna Tell You a Story': exploring the application of vignettes in qualitative research with

- children and young people. *Int J Soc Res Methodol* 2000;3: 307–323.
- 18 Fledderjohann JJ. 'Zero is not good for me': implications of infertility in Ghana. *Hum Reprod* 2012;27:1383–1390.
 - 19 Barden-O'Fallon J. Unmet fertility expectations and the perception of fertility problems in a Malawian village. *Afr J Reprod Health* 2005;9:14–25.
 - 20 Dhont N, Van De Wijgert J, Coene G, *et al.* 'Mama and papa nothing': living with infertility among an urban population in Kigali, Rwanda. *Hum Reprod* 2011;26:623–629.
 - 21 Hollos M, Larsen U, Obono O, *et al.* The problem of infertility in high fertility populations: meanings, consequences and coping mechanisms in two Nigerian communities. *Soc Sci Med* 2009;68:2061–2068.
 - 22 Subramanian L, Cisek C, Kanlisi N, *et al.* The Ghana vasectomy initiative: facilitating client-provider communication on no-scalpel vasectomy. *Patient Educ Couns* 2010;81:374–380.
 - 23 Bunce A, Guest G, Searing H, *et al.* Factors affecting vasectomy acceptability in Tanzania. *Int Fam Plan Perspect* 2007;33:13–21.
 - 24 Rutenberg N, Watkins SC. The buzz outside the clinics: conversations and contraception in Nyanza Province, Kenya. *Stud Fam Plann* 1997;28:290–307.
 - 25 Snow R, Garcia S, Kureshy N, *et al.* Attributes of contraceptive technology: women's preferences in seven countries. *Reprod Health Matters* 1997(Suppl.):36–48.
 - 26 Ehlers VJ. Adolescent mothers' non-utilisation of contraceptives in Zimbabwe. *Afr J Nurs Midwifery* 2010;12:14–26.
 - 27 Williamson LM, Parkes A, Wight D, *et al.* Limits to modern contraceptive use among young women in developing countries: a systematic review of qualitative research. *Reprod Health* 2009;6: doi:10.1186/1742-4755-6-3.
 - 28 Goncalves H, Souza AD, Tavares PA, *et al.* Contraceptive medicalisation, fear of infertility and teenage pregnancy in Brazil. *Cult Health Sex* 2011;13:201–215.
 - 29 Castle S. Factors influencing young Malians' reluctance to use hormonal contraceptives. *Stud Fam Plann* 2003;34: 186–199.
 - 30 Stanback J, Twum-Baah KA. Why do family planning providers restrict access to services? An examination in Ghana. *Int Fam Plan Perspect* 2001;27:37–41.
 - 31 Creanga AA, Schwandt HM, Danso KA, *et al.* Knowledge about emergency contraception among family-planning providers in urban Ghana. *Int J Gynecol Obstet* 2011;114:64–68.
 - 32 Mekonnen W, Worku A. Determinants of low family planning use and high unmet need in Butajira District, South Central Ethiopia. *Reprod Health* 2011;8:doi:10.1186/1742-4755-8-37.
 - 33 Van Zijl S, Morroni C, Van Der Spuy ZM. A survey to assess knowledge and acceptability of the intrauterine device in the Family Planning Services in Cape Town, South Africa. *J Fam Plann Reprod Health Care* 2010;36:73–78.
 - 34 Hindin MJ, Kincaid DL, Kumah OM, *et al.* Gender differences in media exposure and action during a Family Planning Campaign in Ghana. *Health Commun* 1994;6:117–135.
 - 35 Piotrow PT, Kincaid DL, Hindin MJ, *et al.* Changing men's attitudes and behavior: the Zimbabwe Male Motivation Project. *Stud Fam Plann* 1992;23:365–375.
 - 36 Piotrow PT, Rimon JG II, Winnard K, *et al.* Mass media family planning promotion in three Nigerian cities. *Stud Fam Plann* 1990;21:265–274.
 - 37 Kane TT, Gueye M, Speizer I, *et al.* The impact of a family planning multimedia campaign in Bamako, Mali. *Stud Fam Plann* 1998;29:309–323.
 - 38 Hutchinson PL, Meekers D. Estimating causal effects from family planning health communication campaigns using panel data: The "Your Health, Your Wealth" campaign in Egypt. *PLoS ONE* 2012;7.
 - 39 Mwaikambo L, Speizer IS, Schurmann A, *et al.* What works in family planning interventions: a systematic review. *Stud Fam Plann* 2011;42:67–82.