BARRIERS TO MALE-PARTNER PARTICIPATION IN PROGRAMS TO PREVENT MOTHER-TO-CHILD HIV TRANSMISSION IN SOUTH AFRICA

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Efforts to prevent mother-to-child HIV transmission (PMTCT) in sub-Saharan Africa have focused overwhelmingly on women, to the unintended exclusion of their male partners. A cross-sectional study was conducted in Tshwane, South Africa, to determine barriers to male-partner participation during PMTCT. In-depth interviews were conducted with 124 men whose partners had recently been pregnant, and five focus group discussions were held with physicians, nurses, HIV counselors, and community representatives. Qualitative analysis revealed that while most fathers believed that HIV testing is an important part of preparing for fatherhood, there are formidable structural and psychosocial barriers: the perception of clinics as not "male-friendly," a narrow focus on HIV testing instead of general wellness, and a lack of expectations and opportunities for fathers to participate in health care. Coupled with more family-oriented approaches to PMTCT, measurable improvements in the way that male partners are invited to and engaged in HIV prevention during pregnancy can help PMTCT programs to achieve their full potential.

The widespread uptake of programs to prevent mother-to-child HIV transmission (PMTCT) in sub-Saharan Africa has dramatically increased the number of women who receive HIV counseling and testing during antenatal care. In South Africa, over 95% of pregnant women are reported to participate in PMTCT with parallel improvements in AIDS-related childhood outcomes (WHO, UNICEF, & UNAIDS, 2010). These programs, however, are primarily designed for and delivered to women, with few formal or informal opportunities to involve their male partners (Auvinen, Suominen, & Valimaki, 2010). This unintended consequence of PMTCT

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programs is reflected in the substantial difference in the rates of HIV testing between men and women during pregnancy; male-partner testing rates across the region are well below 50% (Katz et al., 2009; Koo, Makin, & Forsyth, 2013; Msuya et al., 2008; Snow, Madalane, & Poulsen, 2010).

Greater HIV testing and treatment of men may help to improve perinatal outcomes (Aluisio et al., 2011) and reduce transmission risk to sexual partners, which is increased during pregnancy (Mugo et al., 2011). But with respect to engaging male partners more effectively in HIV care, the perspectives of men, and particularly of fathers, are not well explored (Sherr, 2010). Many fathers may wish to play a more active role in their partners' pregnancies and in the birth and caretaking of their children (Theuring et al., 2009), but in African communities these opportunities are often structurally inaccessible and culturally taboo. The social experience of being a man may also have profound effects on masculine identity and subsequently on how male partners care for their families and themselves (Hirsch, 2007; Hosegood & Madhavan, 2010).

Addressing the gaps in male-partner HIV testing during PMTCT also relates to the health centers where voluntary HIV counseling and testing (VCT) are performed. In addition to evidence across sub-Saharan Africa that the physical settings in which VCT occurs may perpetuate men's perceptions of the clinic as a gendered space (Chinkonde, Sundby, & Martinson, 2009; Falnes et al., 2011; Mlay, Lugina, & Becker, 2008), the attitudes and behaviors of health providers may in fact be a formidable barrier to greater participation in HIV care during and after the pregnancy (Horwood, Voce, Vermaak, Rollins, & Qazi, 2010; Larsson et al., 2010). Even when clinic staff perceive the lack of men's involvement as detrimental to the overall impact of PMTCT (Nuwagaba-Biribonwoha, Mayon-White, Okong, & Carpenter, 2007), their support for integrating fathers into specific antenatal services is commonly less enthusiastic (Theuring, Nchimbi, Jordan-Harder, & Harms, 2010).

The purpose of this study was to explore the social and cultural factors underlying low rates of male-partner HIV testing during PMTCT. As the perspectives of fathers may differ from those of men in general, this paper reports the beliefs of men whose female partners had recently been pregnant, as well as the observations of general practitioners (GP), clinic staff, and community leaders who form a diverse lens on men's health care in sub-Saharan Africa.

METHODS

This cross-sectional study was conducted during June–August, 2009. Participants were recruited from one health care center in Mamelodi township, Tshwane (Pretoria), South Africa. The residents of this township are predominantly black, of very low to middle socioeconomic class, with high rates of poverty and unemployment. The HIV seroprevalence of women testing during pregnancy in local clinics is approximately 25% (Visser, Makin, Vandormael, Sikkema, & Forsyth, 2009).

Men who attended the clinic were invited to participate, and were also referred by clinic staff, community practitioners, and other participants. Men were eligible if they had a child under age three and their partners had attended antenatal care at the clinic while PMTCT was in effect. Because of the very high rates of testing in PMTCT at this clinic, it is highly likely that the vast majority of these women received HIV testing during pregnancy. We conducted semi-structured interviews using interview guides that were prepared to provide depth and consistency in the following topics:

TABLE 1. Sociodemographic Characteristics of Interview Participants

	n = 124	(%)
Age		
Less than 30 years	39	(31.5)
30-40 years	60	(48.4)
Greater than 40 years	25	(20.1)
Mean (SD)	33.9	(7.8)
Education		
Primary or less	18	(14.5)
Secondary	80	(64.5)
Tertiary	26	(21.0)
Employment		
Not employed	39	(31.5)
Part-time or contracted	27	(21.7)
Full-time	58	(46.8)
Monthly income		
No income	40	(32.3)
R1-999 (USD1-150)	5	(4.0)
R1000-1999 (USD150-300)	23	(18.5)
R2000-2999 (USD300-450)	31	(25.0)
R3000-3999 (USD450-600)	8	(6.5)
R4000+ (USD600+)	17	(13.7)
Marital status		
Single, without partner	21	(16.9)
Single, with partner	56	(45.2)
Married	47	(37.9)
Mean number of children (SD)	2.5	(1.5)

Note. SD: standard deviation. R: South African rand. USD: U.S. dollar.

the role of men in pregnancy and PMTCT, beliefs about male-partner HIV testing, and disclosure of HIV status between men and women. Sociodemographic data were also collected to characterize the sample.

Key informants who had regular interactions with men in a health or social context were invited to participate in focus group discussions (FGD). Participants included GPs working in the clinic or local surgeries, clinic nurses, counselors, social workers, and male representatives from community organizations.

All participants gave informed consent. Interviews and FGDs were conducted in English with an interpreter, audio-recorded, and transcribed verbatim. Contemporaneous field notes were recorded and included in the transcripts. We conducted reflective discussions after each interview and FGD. No financial incentives were provided.

Transcripts were reviewed closely to develop familiarity and then subjected to thematic content analysis (Graneheim & Lundman, 2004). The material was segmented into meaning units, coded into categories using a manual indexing technique, and followed by cross-case analysis in which data were reviewed together to develop categories inductively. Categories were mapped to themes for contextual interpretation.

Ethics approval was obtained from the University of Pretoria, South Africa, and Yale University School of Medicine, United States.

TABLE 2. Emergent Themes from Interviews and Focus Group Discussions

Themes	Fathers	Focus group discussion participants
Importance of male-partner HIV testing	"Protect" and "defend" health	Assumptions that female partner's status is the same as man's
	Responsible for health of partner and children	
	Knowing HIV status as having a stake in the future	
Barriers to testing during pregnancy	Time away from work and life	Lack of institutional and political leadership
	Fears of having to surrender to HIV/ AIDS	Differences in testing rates due to structured opportunities, not gender
	No social expectation to test during pregnancy	
Increasing men's participation in PMTCT		
Structural	Clinic dominated by female staff and	Men's "primitive" attitudes about
Structural	patients	female providers
	Gender of VCT counselor	Greater focus on men's general health and wellness, not HIV
	Special hours and spaces for men's health	Providers' judgment on men who seek VCT
	Programs about fatherhood issues	Concerns about privacy and confidentiality
Psychosocial	Peer education and counseling in informal social spaces	Personal interaction more effective than mass education campaigns
	More defined roles for men to support women during PMTCT	Acceptance of PMTCT outside clinic context
		Larger role for women to play in motivating men to participate
Partner disclosure of test results	Difficult for both partners to disclose	Dependent on communication between partners
	Increased social and financial vulnerability	•
	Perceived power of male partners	
	Lack of opportunities for couples to discuss health issues before high- stakes situations	

RESULTS

In-depth interviews were conducted with 124 men whose female partners had recently been pregnant (Table 1). The fathers were recruited from diverse settings: 55 were recruited from among clinic patients, 33 were referred to the study by other participants, 21 were referred by clinic staff, and 15 were recruited by general practitioners in the community who were aware of the study. The mean age of the fathers was 33.9 years, with nearly a third under age 30 and about half between ages 30 and 40. Most of the men had completed at least some secondary education, and one in five reported receiving training beyond high school. In terms of employment, the majority of the men held a full-time job, with most earning less than 3000 South African rand per month. Finally, the largest portion of participants described their marital status at the time of the study as single but in a relationship, with many cohabitating with their partners. On average, the fathers had had between two and three children, and the recent pregnancy in question was not their first.

Five FGDs were held with 23 participants: two FGDs with GPs; two with non-physician clinic staff; and one with community representatives.

Four themes emerged from the analysis: (1) the importance and value of male-partner HIV testing; (2) barriers to male testing during pregnancy; (3) increasing men's participation in PMTCT; and (4) partner disclosure of HIV test results. The findings are summarized in Table 2.

IMPORTANCE OF MALE-PARTNER HIV TESTING

Nearly all of the fathers believed that testing men is important, given the high prevalence of HIV in the community and the uncertainty about a partner's HIV status. The fathers used words like "protect" and "defend" to describe men needing to be active in their health care. Some men emphasized that, as fathers, they were now responsible not only for their own lives, but their children's as well.

Your children will suffer if you don't fix the problems right away. If you have HIV, you must get the tablets. The tablets mean you can have a better life, then your children will have the better life. (Father, 30 years old)

Knowing one's HIV status was described as being fundamental to having a stake in one's future.

It's better for every person to know their status than to live in darkness. To not know [your status] is the same thing as to not know what you're doing with your life. (Father, 34 years old)

Some fathers mentioned that men in the community may have extramarital partners. The participants suggested that, rather than give up these other partners, men might perceive HIV testing to be a demonstration of caring for one's spouse.

You can't trust anyone at this moment. Not knowing your status means you do not care about your [primary] partner. (Father, 28 years old)

FGD participants described a widespread assumption held by male partners that their status is the same as the female partners', thus obviating the need for men to be tested. Six of the 124 participating men did not believe that male HIV testing during pregnancy is important, citing two reasons: first, if a man has only one partner, then having the female partner get tested during pregnancy is sufficient; and second, that because only the mother can transmit HIV to the fetus, the man's HIV status is not relevant to the health of the child.

BARRIERS TO MALE-PARTNER TESTING DURING PREGNANCY

Fathers focused on three obstacles to HIV testing at the clinic. First, they cited the time required to obtain testing, which included taking time away from jobs, receiving counseling, having the test performed, then returning to the clinic for the results.

Men have no time to come to the clinics for testing. Everything is so slow. The staff make you wait hours and hours. Men have busy lives! (Father, 33 years old)

Second, the men cited fear, guilt, and subsequent denial associated with a positive test result. HIV was described as being fundamentally different from other illnesses,

such that a man would prefer "to not know, to just die, than to have mental torture of knowing he has AIDS" (Father, 26 years old).

Third, fathers talked about the lack of social expectation for a man to get tested during his partner's pregnancy. Several participants believed that fathers were not expected or welcome to join their partners for HIV testing, even though some men might want to. Several respondents suggested incorporating routine testing of fathers in PMTCT to shift social norms surrounding antenatal care.

Men getting tested is not a part of the PMTCT program. It is not automatic, like for women. But it should be—it's the right thing to do. (Father, 35 years old)

Clinic staff agreed that the current antenatal care program did not include structured involvement of fathers. Some nurses suggested that the difference in testing rates did not depend on whether the individual was a man or a woman or on inherent gender characteristics. Instead, the difference was due to antenatal care programs having required HIV counseling and testing for mothers, but not for fathers. Community GPs said that they routinely counseled their male patients on HIV testing, but that without a shift in social norms and expectations, health care providers were fighting a losing battle.

What do you do in a country where even the president refuses to test? I mean, what do you expect? How do you control a disease like HIV? You definitely cannot. (Male GP)

INCREASING MEN'S PARTICIPATION IN PMTCT

Respondents advocated both structural and psychosocial strategies to encourage more fathers to attend the clinic for VCT.

Structural Strategies. Many fathers noted men's reluctance to go to the clinic because it is considered a "female" space, with a predominance of female staff and patients and dedicated areas for antenatal and pediatric care. The fathers suggested that not all men express a preference for a VCT counselor's gender, but for those men who do, this could be an important factor in deciding whether to proceed with testing.

Men tend to associate the clinic with a very bad place where you have nurses, pregnant women. It is a woman's domain...[The staff] needs to be more balanced in gender. (Father, 36 years old)

Clinic staff, in contrast, believed this problem was rooted in a "primitive mentality that [men] will only be seen by a male person" at the clinic (Male GP).

Both fathers and focus group respondents thought offering men-only spaces in the clinic would make attending the clinic less daunting for men. They suggested special hours staffed by male clinicians and nurses with a focus on general men's health issues, not primarily HIV, thus removing the stigma surrounding the VCT area of the clinic. Many younger fathers admitted that they had felt unprepared for the responsibilities of fatherhood and would have been enthusiastic about "a consulting room for advice about life or fatherhood, and maybe you talk about HIV as part of that" (Father, 35 years old).

Clinic staff admitted that they may contribute to the stigma of getting tested at the clinic by passing judgment on the men who come for testing, such as by assuming the men are promiscuous.

We are not supposed to judge. But now when we start judging them, we are instilling this thing into them, and then, you know, this person doesn't have anywhere to go [for testing]. (Female VCT counselor)

Respondents described some men's conception of the clinic as a place for the sick and dying and felt that this discouraged men without symptoms from attending. There were also concerns about the clinic's cleanliness or the professionalism of the staff in maintaining confidentiality.

Psychosocial Strategies. Subjects suggested overcoming misinformation about HIV testing and treatment in the community by training male community members to teach other men informally at places of work, worship, or social meetings. Having individuals promote testing face to face was thought to be more effective than being "bombarded with information without the personal aspect" (Male GP).

Community representatives described local efforts to get fathers involved in PMTCT outside the context of clinic-based antenatal care, which they believed reinforces cultural stereotypes.

Maternity is female stuff, at least according to our culture. But we are gradually encouraging men to get more involved, how he can also participate in prevention at the same time, not necessarily just during the pregnancy. (Male representative)

Many fathers favored a more defined role for men in PMTCT as a way to support their female partners. There was consensus among respondents that although women have more built-in services during PMTCT, women face the same anxieties as men about VCT and are more vulnerable if the result is positive.

When someone is there for you when you test, it could make you stronger, make you more powerful, not to be weak. To face the consequences of the [positive] test with someone is better. (Father, 27 years old)

Attending antenatal care and VCT as a couple was suggested to relieve the burden that women bear in disclosing test results to their male partners because the information would given by a neutral third party, which one father characterized as "taking power away from the man and giving it to the woman" (Father, 31 years old).

Clinic staff agreed that women had a larger role to play in motivating their partners to come to the clinic for VCT because the fathers would not otherwise feel welcome or become involved.

If the women don't ask, the men think, all right, she's fine, she can go alone. But if she asks him, "Will you come with me on this date," then he feels invited to be part of it. Men have pride, too. (Female nurse)

DISCLOSING HIV TEST RESULTS BETWEEN PARTNERS

The majority of fathers in this study who had never received a positive HIV test result said they would disclose a hypothetical positive result to their partners, citing an obligation or responsibility to tell their partners. Even if some men found it difficult to disclose a positive result, nearly all respondents said it would be harder for a woman to do the same because this would jeopardize the social and financial support from the man.

Most women are afraid of their men, because there is no communication. The woman wants to secure her relationship. If she tells the man [about a positive result], he could leave her, then she's vulnerable. (Father, 35 years old)

The extent to which couples could disclose their statuses and obtain VCT together was described as likely to "depend on the one-to-one communication between the husband and wife" (Male representative).

Some fathers attributed this fear to cultural norms, which dictate that "a woman will always be below the man" in status (Father, 29 years old). Others suggested that sharing health information with one's partner "rarely comes about unless you are sick or something goes wrong, so there are no opportunities to talk about [health] until the stakes are too high" (Father, 35 years old).

DISCUSSION

This study found that although many fathers believed that male-partner HIV testing is important and supported its inclusion in PMTCT, numerous concerns remain about the way VCT is offered to men in the clinic. There were also differing views about what roles fathers are expected or allowed to play with regard to their partners' pregnancies, in the context of existing PMTCT programs. The fathers and FGD participants agreed that addressing both structural and psychosocial components of these challenges can help PMTCT programs to achieve their full potential. They also echoed that the broader behavioral and social changes that are needed for positive impact across the PMTCT cascade will likely require a number of interventions, working in concert and targeted to men and women, rather than any initiative alone.

An important theme that emerged from this analysis was the concept of wellness as an approach to male-partner involvement in PMTCT and, more generally, as an alternative model for delivering health care to men. GPs proposed connecting VCT to wellness, including health promotion and education, and integrating social services with routine primary care. Clinic staff and community representatives also advocated for the bundling of services in a model of care delivery oriented toward not only men's needs, but also their social expectations. The manifestation of these recommendations could take the form of various changes in the way services are provided to men at the clinic. For instance, designating a "men's health" area in the clinic could help fathers to claim a physical space within the clinic. Then, within that space, an antenatal care program designed for expecting fathers might tackle health concerns, including HIV testing and PMTCT, in the context of a fathers' support group. This model shows promise in reducing the stigma of seeking HIV testing by promoting health in the culturally bound context of fatherhood (Larsson et al., 2010).

The influence of hierarchy and power between men and women appeared to permeate numerous aspects of decision-making: whether to get an HIV test, whether to attend the clinic together, or what impact the test results might have on the partnership. Participants identified partner communication as a central component of overcoming barriers to male-partner involvement and greater adherence to PMTCT (Auvinen et al., 2010; Orne-Gliemann et al., 2010; Villar-Loubet et al., 2012), but communication about health issues is particularly sensitive to guilt, blame, or denial. A recent systematic review found that traditional invitation letters that are sent to the male partners of women participating in PMTCT may in fact reduce the

women's uptake of and adherence to PMTCT services (Becker, Mlay, Schwandt, & Lyamuya, 2010; Brusamento et al., 2012). While the involvement of men appears to be central to improving PMTCT outcomes, interventions that engage the roles and responsibilities of fathers in health care decision-making more generally may find better success in increasing male-partner VCT in the context of greater PMTCT adherence.

Building on this evidence, a proposal in this study that gained support in multiple FGDs was a non-threatening, non-binding way to invite men to attend the clinic for a health consultation focused on their fatherhood. This partner invitation card could be delivered to the men by their female partners participating in PMTCT, thus laying the foundation for trust among male and female partners and services at the clinic. Approaches that integrate both partners and are oriented toward the health of the family are more likely to improve retention in antenatal interventions throughout the PMTCT cascade (Wettstein et al., 2012). The proposed invitation card also creates opportunities for discussion centered on health, rather than HIV, that other studies have found to be effective in engaging male partners and encouraging them to seek VCT during the pregnancy (Falnes et al., 2011; Koo et al., 2013; Mohlala, Boily, & Gregson, 2011).

The importance of testing was linked to a father's feelings of duty to and responsibility for his children, in a way that suggested that, beyond protecting himself as an individual, he would prioritize the welfare of his family. The language used by the men—"protect," "control," "defend"—suggests that, in the context of inviting a father to attend the clinic, appealing to his sense of responsibility may be more convincing than focusing on benefits to the individual man. The explanations of fathers who did not view male testing as important were related to misinformation about HIV and vertical transmission, rather than philosophical objections. This may relate to previous findings about why the majority of male partners who attend the clinic ultimately accept testing (Byamugisha et al., 2011): the education and counseling provided by GPs, nurses, and counselors can help to address factual concerns.

The larger concept of how fatherhood is addressed in health care settings deserves exploration. Men who are fathers or fathers-to-be often want to be involved with their children, but the systems presently in place at many community health centers, including PMTCT programs and antenatal and perinatal care units, are oriented toward women to the extent that they have become institutional barriers to greater involvement of men. Younger men in this study also described feeling inadequately prepared to be fathers; many men of their generation were raised during the early AIDS epidemic and perhaps had not had fathers themselves. Increasing male-partner participation during pregnancy likely requires a broader scope, beyond promoting VCT for couples or summoning the man to the clinic for testing. Interventions need to be centered on the involvement of both partners in the health care of the family, in conjunction with local and policy-level changes that support an environment more conducive to men's participation. Examples suggested by participants in this study included dedicated staff, space, and times at the clinic for men's health and wellness; invitations for male partners to attend the clinic for "fatherhood counseling"; and the automatic inclusion of fathers in at least one antenatal care visit. By challenging the status quo in multiple domains, the role of male partners in PMTCT may at last move beyond an ancillary, supportive position and become one that critically strengthens the liaison between mother and clinic while actively meeting the clinical and psychosocial needs of the man.

One limitation of the study was that the fathers were recruited in a clinical setting, which could bias enrollment toward individuals more likely to accept or endorse male-partner testing in PMTCT. FGD participants were also selected from a single clinic, so their ideas may not be generalizable to all health care workers or community leaders. As explanations of the social, cultural, and institutional challenges to engaging male partners in PMTCT, however, their responses are valuable starting points for further intervention and empiric evaluation, which are urgently needed to ensure that opportunities for male-partner involvement to enhance and complement PMTCT services to women do not continue to be missed (Wettstein et al., 2012).

This study explored ways to increase men's involvement in PMTCT from the perspectives of fathers whose partners have recently completed clinic-based PMTCT and of key informants in clinical and community settings. Efforts directed at making not only VCT but clinical services more male-friendly may facilitate greater male-partner participation, which could benefit couples in several dimensions beyond HIV prevention. PMTCT programs that include HIV testing for male partners as part of a wellness approach to fatherhood and that actively and creatively promote partner communication and shared decision-making appear most likely to be successful in engaging men in HIV care during pregnancy, and beyond.

REFERENCES

- Aluisio, A., Richardson, B.A., Bosire, R., John-Stewart, G., Mbori-Ngacha, D., & Farquhar, C. (2011). Male antenatal attendance and HIV testing are associated with decreased infant HIV infection and increased HIV-free survival. Journal of Acquired Immune Deficiency Syndromes, 56, 76-82.
- Auvinen, J., Suominen, T., & Valimaki, M. (2010). Male participation and prevention of human immunodeficiency virus (HIV) mother-to-child transmission in Africa. *Psychology, Health & Medicine*, 15, 288-313.
- Becker, S., Mlay, R., Schwandt, H. M., & Ly-amuya, E. (2010). Comparing couples' and individual voluntary counseling and testing for HIV at antenatal clinics in Tanzania: A randomized trial. AIDS and Behavior, 14, 558-566.
- Brusamento, S., Ghanotakis, E., Tudor Car, L., van-Velthoven, M. H., Majeed, A., & Car, J. (2012). Male involvement for increasing the effectiveness of prevention of mother-to-child HIV transmission (PMTCT) programmes. *Cochrane Database of Systematic Reviews*, 2012 (10), 1-10. doi: 10.1002/14651858.CD009468.pub2
- Byamugisha, R., Astrom, A. N., Ndeezi, G., Karamagi, C. A., Tylleskar, T., & Tumwine, J. K. (2011). Male partner antenatal attendance and HIV testing in eastern Uganda: A randomized facility-based intervention trial. *Journal of the International AIDS Society*, 14, 43.
- Chinkonde, J. R., Sundby, J., & Martinson, F. (2009). The prevention of mother-to-child HIV transmission programme in Lilongwe, Malawi: Why do so many women drop out.

- Journal of Reproductive Health Matters, 17, 143-151.
- Falnes, E. F., Moland, K. M., Tylleskar, T., de Paoli, M. M., Msuya, S. E., & Engebretsen, I. M. (2011). "It is her responsibility": Partner involvement in prevention of mother to child transmission of HIV programmes, northern Tanzania. *Journal of the International AIDS Society*, 14, 21.
- Graneheim, U. H., & Lundman, B. (2004). Qualitative content analysis in nursing research:
 Concepts, procedures and measures to achieve trustworthiness. *Nurse Education Today*, 24, 105-112.
- Hirsch, J.S. (2007). Gender, sexuality, and antiretroviral therapy: Using social science to enhance outcomes and inform secondary prevention strategies. *AIDS*, 21(Suppl. 5), S21-29.
- Horwood, C., Voce, A., Vermaak, K., Rollins, N., & Qazi, S. (2010). Routine checks for HIV in children attending primary health care facilities in South Africa: Attitudes of nurses and child caregivers. Social Science and Medicine, 70, 313-320.
- Hosegood, V., & Madhavan, S. (2010). Data availability on men's involvement in families in sub-Saharan Africa to inform family-centred programmes for children affected by HIV and AIDS. *Journal of the International AIDS Society*, 13(Suppl. 2), S5.
- Katz, D. A., Kiarie, J. N., John-Stewart, G. C., Richardson, B. A., John, F. N., & Farquhar, C. (2009). Male perspectives on incorporating men into antenatal HIV counseling and testing. *PLoS One*, 4, e7602.
- Koo, K., Makin, J. D., & Forsyth, B. W. (2013). Where are the men? Targeting male part-

- ners in preventing mother-to-child HIV transmission. *AIDS Care*, 25(1), 43-48. doi:10.1080/09540121.2012.687822
- Larsson, E. C., Thorson, A., Nsabagasani, X., Namusoko, S., Popenoe, R., & Ekstrom, A. M. (2010). Mistrust in marriage: Reasons why men do not accept couple HIV testing during antenatal care—A qualitative study in eastern Uganda. BMC Public Health, 10, 769.
- Mlay, R., Lugina, H., & Becker, S. (2008). Couple counselling and testing for HIV at antenatal clinics: views from men, women and counsellors. AIDS Care, 20, 356-360.
- Mohlala, B. K., Boily, M. C., & Gregson, S. (2011). The forgotten half of the equation: Randomized controlled trial of a male invitation to attend couple voluntary counselling and testing. AIDS, 25, 1535-1541.
- Msuya, S. E., Mbizvo, E. M., Hussain, A., Uriyo, J., Sam, N. E., & Stray-Pedersen, B. (2008). Low male partner participation in antenatal HIV counselling and testing in northern Tanzania: Implications for preventive programs. AIDS Care, 20, 700-709.
- Mugo, N. R., Heffron, R., Donnell, D., Wald, A., Were, E. O., Rees, H., et al. (2011). Increased risk of HIV-1 transmission in pregnancy: A prospective study among African HIV-1-serodiscordant couples. AIDS, 25, 1887-1895.
- Nuwagaba-Biribonwoha, H., Mayon-White, R. T., Okong, P., & Carpenter, L.M. (2007). Challenges faced by health workers in implementing the prevention of mother-to-child HIV transmission (PMTCT) programme in Uganda. *Journal of Public Health (Oxford)*, 29, 269-274.
- Orne-Gliemann, J., Tchendjou, P. T., Miric, M., Gadgil, M., Butsashvili, M., Eboko, F., et al. (2010). Couple-oriented prenatal HIV counseling for HIV primary prevention: An

- acceptability study. BMC Public Health, 10, 197.
- Sherr, L. (2010). Fathers and HIV: Considerations for families. *Journal of the International* AIDS Society, 13(Suppl. 2), S4.
- Snow, R. C., Madalane, M., & Poulsen, M. (2010). Are men testing? Sex differentials in HIV testing in Mpumalanga Province, South Africa. AIDS Care, 22, 1060-1065.
- Theuring, S., Mbezi, P., Luvanda, H., Jordan-Harder, B., Kunz, A., & Harms, G. (2009). Male involvement in PMTCT services in Mbeya Region, Tanzania. *AIDS and Behavior*, 13(Suppl. 1), 92-102.
- Theuring, S., Nchimbi, P., Jordan-Harder, B., & Harms, G. (2010). Partner involvement in perinatal care and PMTCT services in Mbeya Region, Tanzania: The providers' perspective. *AIDS Care*, 22, 1562-1568.
- Villar-Loubet, O. M., Bruscantini, L., Shikwane, M. E., Weiss, S., Peltzer, K., & Jones, D. L. (2012). HIV disclosure, sexual negotiation and male involvement in preventionof-mother-to-child-transmission in South Africa. Culture, Health & Sexuality. doi:1 0.1080/13691058.2012.716166
- Visser, M. J., Makin, J. D., Vandormael, A., Sikkema, K. J., & Forsyth, B. W. (2009). HIV/ AIDS stigma in a South African community. AIDS Care, 21, 197-206.
- Wettstein, C., Mugglin, C., Egger, M., Blaser, N., Salazar, L., Estill, J., et al. (2012). Missed opportunities to prevent mother-to-child-transmission in sub-Saharan Africa: Systematic review and meta-analysis. *AIDS*, 26(18), 2361-2373. doi:10.1097/QAD.0b013e328359ab0c
- WHO, UNICEF, & UNAIDS. (2010). Towards universal access: Scaling up priority HIV/ AIDS interventions in the health sector. Progress report 2010. Geneva, Switzerland: World Health Organization.