

## **HIV-risks among women who are married to men who have sex with men in India: A qualitative investigation**

Cecilia Tomori<sup>a1</sup>, Aylur K. Srikrishnan<sup>b</sup>, Shruti H. Mehta<sup>a</sup>, Nymisha Nimmagadda<sup>c</sup>, Santhanam Anand<sup>b</sup>, Canjeevaram K. Vasudevan<sup>b</sup>, David D. Celentano<sup>ad</sup>, Sunil S. Solomon<sup>abd</sup>

*Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, USA<sup>a</sup>; YR Gaitonde Centre for AIDS Research and Education, Chennai, India<sup>b</sup>; Lifebridge Health, Population Health Department, Baltimore, MD, USA<sup>c</sup>; Department of Medicine, Johns Hopkins School of Medicine, Baltimore, MD, USA<sup>d</sup>*

Corresponding Author: Cecilia Tomori   Email: [cecilia.tomori@durham.ac.uk](mailto:cecilia.tomori@durham.ac.uk)

---

<sup>1</sup> Cecilia Tomori's current affiliation is with the Department of Anthropology, Durham University UK

## **Abstract**

In countries such as India, men who have same-sex partnerships may marry women due to cultural pressures regardless of their sexual desires and preferences. The wives of such men may be at risk for HIV but limited existing research addresses this issue. This qualitative study used in-depth interviews to investigate HIV-related risk among married men who have sex with men (n=34) and women who were aware of their husband's same-sex behaviour (n=13) from six research sites in five states and a Union Territory in India: Delhi (Delhi), Visakhapatnam (Andhra Pradesh), Hyderabad (Telangana), Bengaluru (Karnataka), Chennai and Madurai (Tamil Nadu). Thematic analysis revealed that wives of men who have sex with men were at risk for HIV from their husbands' sexual practices, which are often hidden to avoid the potential consequences of stigmatisation, and from gender-based inequities that make husbands the primary decision-makers about sex and condom use, even when wives become aware of their husband's same sex behaviour. Innovative interventions are needed to address HIV-related risk in couples where wives remain unaware of their husband's same-sex behaviour, and for wives who are aware but remain in these marriages.

**Keywords:** India; HIV-prevention; marriage; women; men who have sex with men

## Introduction

The prevalence of HIV infection among men who have sex with men continues to be high globally (Beyrer et al. 2012). A key challenge to global prevention remains pervasive homophobia and discrimination against sexual minorities, which forces gay and other men who have sex with men to hide their same-sex sexual behaviour and makes it difficult to reach these populations, especially in low- and middle-income countries. Although some men may wish to engage in relationships with both men and women, cultural pressure for heteronormative partnerships may lead men to partner with and/or marry women regardless of their preferences, concealing their same-sex behaviour and placing their wives at risk of HIV (Kim et al. 2012; Guo et al. 2012; Beyrer et al. 2010; Benoit and Koken 2012; Solomon, Srikrishnan et al. 2010; Kumta et al. 2010; Schrimshaw, Downing Jr and Siegel 2013). Few studies to date however have addressed HIV-related risks among wives of men who have sex with men. India is a setting where a large proportion of men who have same-sex partnerships are married due to the cultural emphasis given to marriage and reproduction (Chakrapani, Boyce and Dhanikachalam 2011; Solomon, Mehta et al. 2010; Chakrapani, Newman and Shunmugam 2008; Closson et al. 2014; Setia et al. 2010), and where men who have sex with men are at 12-15 times higher risk for HIV compared with other men (NACO 2012).

Men who engage in same-sex relationships in India have diverse sexual identities, and perspectives on sexual relationships with men and women and marriage (Chakrapani, Boyce and Dhanikachalam 2011; Tomori, Srikrishnan et al. 2016). *Kothis*, who have more feminine demeanour, and predominately practice receptive anal intercourse with male partners, and some *double deckers* or *DD* (who have either a masculine or feminine appearance, and play a versatile sexual role with men), tend to perceive marriage as an obligation compared with *panthis* (masculine appearance, who predominately practise insertive anal sex with male partners) or *bisexuals*, who may wish to have sexual relationships with both men and women. While sexual contact among men is common and may not be considered indicative of 'homosexuality' *per se* (Kar and Koola 2007; Verma and Collumbien 2004), cultural expectations of marriage and social stigma against gender non-conformity and non-heterosexual identities remains strong (Logie et al. 2012). Consequently, regardless of personal preferences, many men ultimately marry and hide their same-sex sexual practices (Chakrapani, Boyce and Dhanikachalam 2011).

Previous research has demonstrated that married men who have same-sex partnerships frequently engage in high-risk sexual behaviours, often have higher prevalence of HIV than unmarried men who have sex with men, and have low awareness of their HIV status (Kumta et al. 2010; Brahman et al. 2008; Solomon, Mehta et al. 2010; Solomon, Srikrishnan et al. 2010; Solomon et al. 2015; Mimiaga et al. 2013). The pressure to conform to heteronormative masculine norms and conceal same-sex behaviour may lead to hurried sexual encounters with multiple partners with little time to negotiate safer sex (Setia et al. 2009) and can be associated with psychosocial concerns, including depression, suicidality and substance use (Go et al. 2004; Setia et al. 2009; Tomori, McFall et al. 2016), which collectively contribute to greater HIV prevalence and less engagement in HIV care. At the same time, men may avoid disclosure of same-sex behaviour to their wives due to fears of stigma, discrimination, and divorce, and report very low rates of condom use within the marriage (Chakrapani, Boyce and Dhanikachalam 2011;

Solomon, Mehta et al. 2010; Closson et al. 2014), leaving wives unknowingly vulnerable to potential consequences of their husbands' sexual behaviour.

Despite growing recognition of the substantial HIV-risk for the wives of men who have same-sex partnerships, systematic investigation of this risk remains limited, and mostly addresses the experiences and perspectives of husbands, but not their wives (Solomon, Mehta et al. 2010; Solomon, Srikrishnan et al. 2010; Kumta et al. 2010; Chakrapani, Newman and Shunmugam 2008; Phillips et al. 2010; Chakrapani, Boyce and Dhanikachalam 2011; Closson et al. 2014). This is partly due to the low rates of disclosure of same-sex behaviour within married couples, which makes research with the wives of these men challenging. One small study of 15 married men with same-sex partnerships from Gujarat (India) and their wives revealed that women who are aware of their husbands' sexual attraction often stay married due to cultural and economic pressures and may remain at risk for HIV (Pandya et al. 2012). The vulnerability of wives of men who have sex with men has also been the subject of a recent report commissioned by the National AIDS Control Organization (NACO), India (Chakrapani, Boyce and Dhanikachalam 2011), which calls for the development of programmes that focus on this often-overlooked group.

Against this background, the objective of this qualitative study was to investigate HIV-related risks among married men who have sex with men and their wives in the context of formative research for a larger quantitative survey. To gather multiple perspectives, the study included married men who had not disclosed their same-sex behaviour to their wives, married men whose wives were aware that they had sex with men, and wives who were aware of their husbands' same-sex practices. In this paper, we specifically focus on three key aspects of HIV-related risk among women married to men who have same-sex partners: husbands' hidden same-sex relationships, condom use within and outside of marriage, and sexual decision-making in marriage.

## **Methods**

The study procedures were reviewed and approved by the Institutional Review Boards of Johns Hopkins Medicine (JHM IRB) in the USA, and by Y.R. Gaitonde Centre for AIDS Research and Education (YRG CARE) in India. Purposive sampling was employed to recruit a sample of married men who have sex with men and the women married to such men from 6 research sites in five states and a Union Territory: Delhi (Delhi), Visakhapatnam (Andhra Pradesh), Hyderabad (Telangana), Bengaluru (Karnataka), Chennai and Madurai (Tamil Nadu) (Table 1). In-depth interviews (IDIs) (n=47) were conducted with three groups of participants: 1) married men who had not disclosed their same-sex sexual behaviour to their wives; 2) married men whose wives were aware of their same sex sexual behaviour; and 3) the wives of men who have sex with men who were aware of their husbands' sexual behaviour. Twelve of the IDIs included the members of couples married to one another (6 husbands from group 2 and 6 wives from group 3).

Recruitment posters seeking married men who have sex with men were placed in the offices of local NGOs that work with these men. Men who indicated that they had disclosed their same sex behaviour to their spouse and expressed interest in participating in this study were asked to contact their wives. This step ensured that only wives who were already aware of their husbands' same sex behaviour would be contacted and that participation in the study would not

lead to inadvertent disclosure and any added psychological burden for these couples. The interviews and discussions were held at locations that were considered comfortable for the participants, including local NGO offices and participants' homes. Interviewers obtained informed consent from each member of participating couples separately and were interviewed in a private space apart from their spouse. Special care was taken to protect all participants' privacy and avoid any locations, signs or other language that would lead to disclosure of participants' identity. Participants were compensated for their time.

IDIs were conducted by trained interviewers in local languages and audiotaped with participants' permission. Interviewers were highly experienced in working with marginalised and stigmatised populations, including men who have sex with men, as well as women. They paid close attention to establishing a confidential, safe, and comfortable non-judgemental environment for participants. Interviews addressed personal experiences of, navigating same-sex behaviour in the context of marriage (for men); disclosure or non-disclosure of same-sex behaviour (for men); wives' perceptions of their husband's same-sex behaviours; perceptions of the marital relationship over time; and sexual negotiation and condom use within the marriage.

Transcripts were transcribed and translated into English, and entered for analysis into the qualitative software package Atlas.TI (v. 7.5). All transcripts were read by the lead qualitative researcher (CT) multiple times (Sandelowski 1995) and underwent preliminary thematic analysis using open coding following principles of grounded theory (Strauss and Corbin 1990; Bernard 2011). These codes were further refined and elaborated during the process of analysis and used to develop a final coding scheme with a codebook that was applied to all the transcripts. Memos were written for each code. Responses were compared both within and among the three different groups of respondents, and among couples, when applicable. Quotations were selected to illustrate key findings, with the age, sexual identity, site, and state noted below each quote.

## Results

Participants' demographic characteristics are summarised in Table 1. The mean ages of married men who did not disclose their same-sex behaviour was 32; married men who disclosed their same-sex behaviour was 35.4, and women married to men with same-sex partners was 31.7 years old. The majority of men identified as *kothis* (n=16) and *DDs* (n=14). Wives faced multiple HIV-related risks in their marriages. Their husbands sometimes had multiple secret male sexual partners, of whom wives only become aware through accidental discovery. Husbands inconsistently used condoms with their male partners. At the same time, wives had limited decision-making power about sex and condom use in the marriage, and mostly had condomless sex with their husbands. These risks often persisted after wives became aware of their husband's same-sex behaviour.

### ***Husbands' hidden sexual partnerships and their accidental discovery***

A key HIV-risk for wives of men whose husbands had not disclosed their same-sex behaviour was their lack of awareness of this behaviour and subsequently HIV risk, which prevented them from taking any protective action to prevent potential HIV-transmission. Married men in the study reported having multiple male, and a few female, extramarital sexual partners. While some men

mentioned that some of the wives of men who had sex with men also had extramarital relationships with other men, which are sometimes encouraged by husbands who are not attracted to women, among our interview participants there were only two reports of women engaging in extramarital relationships.

None of the married men whose wives were unaware of their behaviour wanted to fully disclose it to their wives. The majority of men were concerned about preserving their reputation and feared the consequences of disclosure, especially the reactions of their wives and families.

Respondent: [...] I want to hide it till the end because if my family comes to know about it then I might lose my prestige.

Interviewer: Why do you think so?

Respondent: Yes, because I want to safeguard my respect and don't want to be ashamed before them. I am not ready to get separated from my family and my family members can't accept such behaviour as we are in a culturally bonded society. So, if my family members know about my MSM [same-sex sexual partnership] behaviour they would name me as 'Pottai' like others name such persons. If my father comes to know he will definitely react violently and my wife would cry a lot and get depressed. (Undisclosed DD, 39, Chennai, Tamil Nadu)

While the most common fears of disclosure included family conflict, divorce, and loss of respect for oneself and for one's family, husbands were also concerned about the impact on their wives (as above). Some husbands did not want to burden their wives with the knowledge about their same-sex behaviour, partly because they were concerned that their wife might commit suicide:

Madam, if I tell her about my relationship with men, then [she] will commit suicide or do something to herself. She will tell my family members, in-laws and what will they think, she cannot bear all this. I am doing mistake madam, but I cannot trouble her. I don't want to trouble her, so [I] behave good with her and then start my work outside. (Undisclosed, *Kothi*, 40, Hyderabad, Telangana)

Husbands were also concerned about their children's future, particularly that their ability to marry would be damaged by their fathers' behaviour. Finally, some feared potential violence against them by family members or that they themselves would be compelled to kill themselves if their behaviour was discovered.

Husbands whose wives were aware of their same-sex behaviour had also initially aimed to keep their behaviour secret, but were unsuccessful in these efforts. Some husbands did attempt to explain their same-sex attraction to their wives, but these efforts were mostly unsuccessful because these wives did not seem to understand what their husbands were trying to say to them. Instead, in the majority of cases wives learned about their husbands' sexual behaviour by accident, usually by witnessing their husbands having sex with another man:

My wife had seen me during physical act with my partner [...] in my home. Lots of quarrels took place in my home. My wife told me if you have to do this, then why you married me, you are doing all this. I told her to be quiet. She called my parents who were sleeping upstairs and told that he was doing this – this, if all this happen with your daughter, then what you will do. She was very upset and this is normal, anyone will be so upset. (Disclosed DD, 36, Delhi, Delhi)

Sometimes wives also learned about their husbands' sexual activities by observing patterns of behaviour with their husbands, such as lots of phone calls and activities away from their home, or by witnessing or hearing about gender nonconforming behaviour or finding items associated with women. For instance:

He came home in the morning at around 4 am, with a bag. In the bag there were women dresses, lipstick, bra, sari and other things. So, I asked why he was carrying women clothes in the bag, and asked him are you doing anything? (36-year-old woman, Hyderabad, Telangana)

Conversations about these items and behaviours, in combination with other observations, might lead to some men disclosing their attraction to men and/or wives becoming aware of their sexual behaviour. Even among participant wives who were aware of their husbands' same-sex behaviour, however, they were not necessarily aware of the full extent of their husbands' sexual partnerships.

### ***Husbands' high-risk sexual practices and inconsistent condom use with male partners***

While many men stated that they used condoms consistently, they also often mentioned that they had had condomless sex in the past, and continued to have condomless sex at least on an occasional basis in the present, for a variety of reasons:

I was using condoms regularly [with male partners] but after alcohol consumption I won't be conscious to use it. (39-year-old, undisclosed DD, Chennai, Tamil Nadu)

Men also found themselves without condoms in certain situations:

This [condomless sex] generally happens when we had sex in hotel in late night and there is no possibility to have condoms because in hurry I forget to bring and shops are closed or not located nearby. In other conditions, my partner used to say that you should believe in me and we can have sex without condom. (34-year old disclosed *kothi*, Delhi, Delhi)

Some men felt that they could screen their partners to assess the need for condom use. For instance:

I would always have condoms in a secret place near my house and carry it when I go to meet clients. If I go with someone whom I like the most then I will ask him “It is necessary to use condoms?” If he says, “No need,” then I would be so happy to have sex with him. (27-year-old, undisclosed *DD*, Madurai, Tamil Nadu)

### ***Sexual decision-making in marriage***

Both men and their wives reported that women often had very limited to no understanding of sex prior to marriage. Men were generally expected to initiate sex, and expected women to comply with their desires:

... that decision is mine only, she never tells me it should be like that, whatever I say she will listen, this is good and free then she accepts but she never says anything. (32-year-old undisclosed *gay*, Visakhapatnam, Andhra Pradesh)

Although some couples had separated after the wife became aware of the husband’s same sex behaviour, or remained married but no longer had a sexual relationship, the majority of disclosed participants continued to have a sexual relationship with their wives while also having relationships with men. The dynamics of condom use did not necessarily change even after women became aware of their husband’s same-sex behaviour:

I will only decide [when to have sex] because I should give all happiness so I will decide to have sex with her even if she is not interested (27-year-old, disclosed *DD*, Bengaluru, Karnataka)

Women could initiate sex using certain signals: “If I want [sex] I put my legs or hands on him” (35-year-old woman, Hyderabad, Telangana). Even in this case, however, men could decide whether they accepted, whereas women were expected to comply. The same woman reported that when her husband desired sex, she automatically complied. Nevertheless, several men and some women reported that they initiated sex equally, and a few stated that women initiated sex more often than their husbands. Although some men, particularly *kothis* and *DDs*, lacked interest in having sex with their wives, most felt that they needed to have sex with them at least some of the time. One man described how he felt the need to initiate sex to comply with expectations, but was relieved that he was not expected to have sex frequently:

I do not have interest with ladies and she is also not interested; I only take the initiation because she may feel wrong, but it is a hell when an MSM [man who has sex with men] doesn’t have children, and ladies want children, that desire is more in them, she will eat that person psychologically, then life will become a hell, in my life it does not happen, it is a God’s gift. (25-year-old undisclosed *kothi*, Visakhapatnam, Andhra Pradesh)

Both men and women described that they expected marital sex to take place in the “Indian” way, referring to vaginal intercourse, generally without condoms. Most men stated that



they only had vaginal sex with their wives. Some women, however, described pressure from their husbands to have sex in the different ways that some men showed them through porn videos and verbal descriptions.

It's all about sex that he used to show me, he keep showing me that thing called blue films, he keeps watching those blue films, He used to say let's try this position etc. [...], He used to say they do it from backside, two people do together, three people do together, etc.... but I don't go for it and I'm not interested, the only sexual act that they showed me from the beginning [vaginal intercourse] is very interesting for me and nothing else. (30-year-old woman, Bengaluru, Karnataka)

One woman reported that her husband sometimes forced her to have anal sex:

[We have sex] From front. He used to ask me to do from back, but I don't like, he will also explain me. He used to torture me, but I used to not like. (32-year-old, Hyderabad, Telangana)

Despite his wife's assertion that she did not enjoy anal sex, he continued to pressure her:

Yes, we talk while having sex. He expresses his desires, likes and dislikes. I don't like to do like this. At times he forces me, I push him off saying I don't like to do this. [...]

### ***Husbands' perspectives on condom use in marriage***

Husbands nearly always stated that they did not use condoms with their wives, and they did not feel that condom use with their wives was necessary, even when they had condomless sex with other partners. For example, the same man who earlier stated that he made decisions about condom use on a case-by-case basis explained,

Every three months I go for RMC (Regional Medical Centre) and when she [his wife] is pregnant in her third month she underwent HIV testing. Whenever I have sexual contact with men and with my wife I am having routine medical check-up every three months so what is the need for condom use with my wife. (27-year-old undisclosed DD, Tamil Nadu, Madurai)

In this case, as with several other men, HIV testing was seemingly equated with the prevention of HIV-transmission.

The perception that condom use was not "needed" with wives and that men should control condom use within marriage persisted among men whose wives were aware of their same-sex behaviour. For instance, the following man, like several others in the study, used condoms with other men but only used condoms for birth control with his wife:

There no need for a condom with my wife. Because I don't have sex outside without condom so it's not needed with wife. If we don't need children then we

can use, now that I have a child and if I want sometime between the next children I can use condom. Otherwise it's not needed. (40-year-old disclosed *kothi*, Bengaluru, Karnataka)

Another key reason for not using condoms was the desire to have children. Several participants were actively seeking a pregnancy at the time of the interview, and consequently avoided using condoms with their wives:

Actually, she has problems. Her tubes are blocked. Treatment is going on. We have one child and now we want another one. Therefore, we do not need condoms. (34-year-old disclosed *kothi*, Delhi, Delhi)

Finally, some men, whose wives were unaware of their same-sex behaviour, would have preferred using condoms with their wives, but were concerned that this would raise questions about their sexual behaviour:

Sorry madam, I do not use with my wife, she will ask me "Why are using this today that before you were not using, what is the problem?" This argument will start, even family problem I will have, and there will be misunderstanding if I use condom with wife (29-year-old undisclosed *DD*, Bengaluru, Karnataka)

Some of this "misunderstanding" related to arguments arising from accusations of infidelity with other women, but it was also driven by concerns about the unwanted disclosure of same-sex sexual behaviour, which men feared because of potentially severe consequences, including problems between their own and their wives' families, separation and divorce.

The significant exception of these attitudes about condom use were three men who stated that they were aware of their HIV status, and who felt that they should use condoms with their wives after their diagnosis. One man explained this simply in terms of love:

I love my wife, so I used condom[s] (32-year-old disclosed *kothi*, Visakhapatnam, Andhra Pradesh)

Another husband who had been diagnosed for eight years also decided to use condoms with his wife post-diagnosis:

... that [HIV] is the reason am taking precautionary measures, so I used condoms and I have sex with her very rare[ly]. (38-year old *panthi*, Visakhapatnam, Andhra Pradesh)."

This same participant, however, did not disclose his HIV-diagnosis to his wife, partly because his wife was unaware that he had sex with men and he was worried about the consequences of her learning about his diagnosis and then questioning his sexual activities.

### ***Wives' perceptions of condom use in marriage***

Among wives in our sample, who were all aware that their husbands had relationships with men and who continued to have a sexual relationship with their husbands, several women also stated that condom use was unnecessary. For instance, one woman, who witnessed her husband having sex with a man, simply responded, “No we don’t use” to a question about condom use after this event. (35-year-old, Hyderabad, Telangana). It was not clear whether this woman, who was illiterate, was aware of the role of condoms in HIV prevention. Another woman in a similar situation had a similar response,

Respondent: No madam we don’t use condom.

Interviewer: Why?

Respondent: We wanted to use but the current operation [tubal ligation] happened, and we already have two children and we also had the third child, so my parents took me and did the current operation for me, and since then all the menstruation happens correctly on time. So, we don’t use anything madam we directly have sex. We both had no problems with it. We also keep doing blood check-ups... (30-year old woman, Bengaluru, Karnataka)

This case echoes some husbands’ perspectives from above, where the primary purpose of condoms use is seen as that of birth control. Moreover, here as elsewhere, “blood check-ups” appeared to be equated with HIV prevention.

When wives expressed the desire for condom use to their husbands, however, they were sometimes met with resistance. One woman, who witnessed her husband having sex with a man, subsequently made a case for using condoms to prevent HIV,

I tell him that, I have heard about HIV transmitted through sex, then you have sex with many people. So, I might get it. So, he tells me that he ensures to wear condom while having sex with men. After hearing this, I told him that we will have sex after you get tested for HIV after six months. Even I want to get tested. I don’t trust him and reject sex, then he convinces me saying, even I am conscious, I will come closer to you after being tested for HIV. (32-year old woman, Hyderabad, Telangana)

In this case, the husband was able to persuade his wife to have sex with him without condoms, with periodic HIV tests.

In another similar case, a woman tried to negotiate condom use with her husband, but he displayed reluctance. She pursued the matter further and sought condoms on her own at the local hospital, overcoming the embarrassing questions asked by the health care provider, but her husband continued to resist her request.

Then my husband said what is this, why did you get this. ... When he comes closer, I used to tell him to wear condom and come. Or else, I used to ask him not to come to me without wearing that. Then, my husband said, next time, don’t bring this. I

brought the condoms for six weeks from the hospital. (30-year-old woman, Hyderabad, Telangana)

After realising that he was having sex with men and *hijras* (considered a “third sex” or transgender women in India), a third woman immediately demanded that her husband use condoms. She confronted him after a night he had spent in the public gardens with other men who have sex with men and with *hijras*:

I asked him that you where you went? He said I was on duty; our neighbour told that you were near the bushes, he said that no, no I was not there, he promised on God. From then onwards I was not interested [in sex] and asked if you have any interest use condom. (35-year-old woman, Visakhapatnam, Andhra Pradesh)

Even after this, however, her husband resisted using condoms:

.... he used to say, no I do not like to use condom. It is compulsory, if you use condom only it is ok with me, otherwise *not* OK [her emphasis].

Despite these concerns, most participating wives continued to have condomless sex with their husbands at least on occasion after they became aware of their husbands’ same-sex behaviour.

## Discussion

Our findings reinforce the view that women married to men who have same-sex partnerships are at risk for HIV. Consistent with previous research, married men in our study reported having multiple, mostly male, sexual partners, and attempted to keep these sexual relationships secret from their wives in order to avoid the consequences of disclosure (Solomon, Mehta et al. 2010; Closson et al. 2014; Chakrapani, Boyce and Dhanikachalam 2011; Pandya et al. 2012). Even those men in the study whose wives were aware of their same-sex sexual behaviour learned about it by accidental discovery rather than intentional disclosure. Many married men in this study did not report consistent condom use with their male partners, and both husbands and wives reported limited condom use within marriage, usually restricted for periods of contraception. The primary exception to this was known HIV status among husbands, which compelled them to use condoms with their wives.

Sexuality-related stigma clearly contributed to the lack of condom use among husbands and wives, since men did not want to raise suspicion about their sexual behaviour by using condoms within marriage, which might lead to unwanted disclosure of same-sex behaviour and significant negative social consequences. Secrecy also hindered the disclosure of HIV status, as in the case of the man who used condoms with his wife post-diagnosis but hid the diagnosis from her because he was worried about the consequences, which included the potential disclosure of his same-sex sexual behaviour. Our recent quantitative study of married men who have sex with men (n=299) and their wives (n=149) suggests that the HIV risks we describe above can lead to a high burden of HIV among wives, over a quarter of whom (27.5%; CI 20.5, 35.4) tested positive –

the strongest correlate of HIV infection being HIV status of husband (aOR: 15.3) (Solomon et al. 2016).

Our research also provides additional insight into the gendered vulnerabilities that contribute to HIV-risk for wives of men who have sex with men. Accounts from both husbands and wives in our study indicate that husbands are the primary sexual decision makers; some men clearly consider it a right, and most husbands and wives see it as the social expectation. Many husbands do not perceive a “need” for condom use with their wives because they believe that their condom use with male partners is sufficient (even when it is inconsistent), and presume that their wives do not have other sexual partners. These husbands’ views are consistent with previous research on heterosexual married men in India who visited female sex workers, but did not perceive a need to use condoms with their wives (Bhattacharya 2004). In our study, as in heterosexual couples, it appears that these husbands’ assumptions about their wives are usually correct, since there were few reports of wives having extramarital relationships. Indeed, the vast majority of HIV among married women is the result of husbands’ extramarital relationships (Chakrapani, Boyce and Dhanikachalam 2011; Gangakhedkar et al. 1997; Newmann et al. 2000). Moreover, condom use is counterproductive if the couple desire children. Some wives also reported that their husbands pressure or coerce them into sexual acts, including anal sex. These findings reflect profoundly unequal gendered power relations, whereby men have considerable control over women’s sexuality, which makes these wives in these marriages highly vulnerable to HIV. These gendered inequalities (Rao, Horton and Raguram 2012; Farré 2013; Solomon et al. 2003; Bhattacharya 2004) and their implications for limited forms of sexual communication (Marlow et al. 2010; Bhattacharya 2004), physical and sexual violence (Koenig et al. 2006), mental health problems (Nayak et al. 2010; Shidhaye and Patel 2010), and HIV (Chakrapani, Boyce and Dhanikachalam 2011; Solomon, Mehta et al. 2010; Newmann et al. 2000; Gangakhedkar et al. 1997; Bhattacharya 2004) are well-documented in India, and are not unique to men with same-sex partnerships who are married to women.

Importantly, our findings suggest that these same power relations remain intact even after wives become aware of their husbands’ same-sex sexual behaviour. Although there are indications that some marriages dissolve or sexual relations end upon disclosure of same-sex behaviour, many women may remain in these marriages, and continue to have limited power to refuse sex, to consistently use condoms, or receive regular HIV testing. Moreover, some women in our study were illiterate and may have lacked knowledge about the role of condoms in HIV-prevention, further hindering their ability to reduce their HIV risk. The majority of our small group of women participants continued to have condomless sex with their husbands even after women had clear evidence that their husbands were having sex with men. If women became aware of their husbands’ HIV diagnosis, however, this could be the basis of discontinuing sexual relations with one’s husband, and also provide grounds for separation and divorce.

These findings highlight the fact that that wives’ HIV risk in these marriages is driven by the confluence of multiple dynamics – the stigmatisation of same-sex sexual behaviour, which leads to social pressure to marry and hide same-sex sexual behaviour; high-risk sexual practices, which place men who have sex with men at risk for HIV transmission; and pervasive gendered inequalities in India, which grants married men considerable sexual freedom both within and outside marriage and severely curtails women’s control and decision making about their own sexuality. Thus, women married to heterosexual men share many of the risks of women married

to men with same-sex partnerships, but risk among women in this study may be amplified because of the high prevalence of HIV among men who have sex with men compared to other men.

Our study also points to continued misconceptions about HIV prevention. The distinction between the purpose of condom use within marriage (contraception) and condom use with other partners (for STI prevention), and the lack of knowledge about the importance of condom use among women who were aware of their husbands' sexual behaviour may reflect family planning programmes' continued emphasis on condom use for contraceptive purposes, and inadequate education about the role of condoms in HIV prevention (Bhattacharya 2004). Comprehensive sex education, which also addresses the frequency of extramarital sex among men, including with male partners, may help empower women to advocate for condom use in circumstances where they suspect that their husbands have sex with men.

There is an urgent need for interventions to address wives' HIV-related risk without the unwanted disclosure of husbands' same-sex behaviour. For instance, engagement of these husbands in pre-exposure prophylaxis (PrEP) could reduce men's own risk of HIV, and thereby also reduce the risk of onward transmission to their wives. Additionally, a broader educational campaign directed at married women about sexual minorities, and a warm-line for wives who may be concerned about their husbands' same-sex behaviour with referral to a centre that can provide testing, condoms (male and female), PrEP, and psychological assistance may be helpful. Finally, couple-based interventions are needed men who have disclosed their same-sex behaviour and their wives, which could provide similar services as above, but also provide post-disclosure support to both husbands and wives regardless of whether they remain in the relationship.

## **Limitations**

Although this study is one of the first to provide insight into HIV-risk among wives of men who have sex with men, it was only able to reach wives who were aware of their husband's same-sex behaviour. This was a necessary limitation in order to avoid putting husbands at risk for unwanted disclosure of their same-sex partnerships. Since very few men who have sex with men disclose their same-sex behaviour voluntarily, the women in our sample comprise a relatively small group of women among the wives of men who have sex with men overall. Moreover, some wives decide to separate and divorce upon disclosure, and therefore might not be able to be reached in this kind of a study design. Therefore, our sample may not represent the diversity of wives' perspectives and experiences. Finally, our study had limited ability to compare husbands' and wives' perspectives within couples, since not all husbands of the wife participants decided to be interviewed for the study. Despite these limitations, findings provide valuable insight into wives' vulnerabilities to HIV within these marriages.

## **Conclusion**

In conclusion, in India the wives of men who have sex with men may be at considerable risk for HIV due to the societal nonacceptance of sexual minorities, which forces men to conceal their same-sex behaviour; their husbands' high-risk sexual practices; and the unequal power dynamics

that mostly leave husbands in charge of the negotiation of sex and condom use, often even after wives become aware of their husband's same sex behaviour. There is a pressing need for programmes and interventions that address HIV-risk among the wives of men who have not disclosed their same-sex partnerships that avoid unwanted disclosure, and for the wives of those men who have disclosed their same-sex behaviour but who remain at high risk for HIV.

### **Acknowledgements**

We thank the National AIDS Control Organization (NACO), India, all of our partner non-governmental organizations throughout India, and the countless participants, without whom this research would not have been possible.

### **Funding**

This study was supported by grants from the US National Institutes of Health (R01MH89266, R21MH101059) and the Johns Hopkins Center for AIDS Research (1P30AI094189). The funders had no role in the study design, data collection and analysis, the decision to publish, or the preparation of the manuscript.

### **Disclosure statement**

The authors declare no financial interests or benefits from this research.

## References

- Benoit, Ellen, and Juline A. Koken. 2012. "Perspectives on Substance Use and Disclosure among Behaviorally Bisexual Black Men with Female Primary Partners." *Journal of Ethnicity in Substance Abuse* 11 (4): 294-317.
- Bernard, H Russell. 2011. *Research Methods in Anthropology: Qualitative and Quantitative Approaches*. Lanham, MD: Rowman Altamira.
- Beyrer, Chris, Stefan D. Baral, Frits van Griensven, Steven M. Goodreau, Suwat Chariyalertsak, Andrea L. Wirtz, and Ron Brookmeyer. 2012. "Global Epidemiology of HIV Infection in Men Who Have Sex with Men." *The Lancet* 380 (9839): 367-77.
- Beyrer, Chris, G. Trapence, F. Motimedi, E. Umar, S. lipinge, F. Dausab, and Stefan Baral. 2010. "Bisexual Concurrency, Bisexual Partnerships, and HIV among Southern African Men Who Have Sex with men." *Sexually Transmitted Infections* 86 (4): 323-7.
- Bhattacharya, Gauri. 2004. "Sociocultural and Behavioral Contexts of Condom Use in Heterosexual Married Couples in India: Challenges to the HIV Prevention Program." *Health Education & Behavior* 31 (1): 101-17.
- Brahmam, Ginnela N.V., Venkaiah Kodavalla, Hemalatha Rajkumar, Hari Kumar Rachakulla, Srinivasan Kallam, Shiva Prakash Myakala, Ramesh S. Paranjape, Mohan D. Gupte, Lakshmi Ramakrishnan, and Anjalee Kohli. 2008. "Sexual Practices, HIV and Sexually Transmitted Infections among Self-Identified Men Who Have Sex with Men in Four High HIV Prevalence States of India." *AIDS* 22: S45-S57.
- Chakrapani, Venkateshan, Peter A. Newman, and M. Shunmugam. 2008. "Secondary HIV Prevention among Kothi-Identified MSM in Chennai, India." *Culture, Health & Sexuality* 10 (4): 313-27.
- Chakrapani, Venkateshan, Paul Boyce, and D. Dhanikachalam. 2011. "Women Partners of Men who Have Sex with Men in India." In *India 'MSM Situation Paper' Series*. London: Futures Group International, with funding from UKaid, Department for International Development.
- Closson, Elizabeth F., Murugesan Sivasubramanian, Kenneth H. Mayer, A. Srivastava, Steven A. Safren, V. R. Anand, Raman Gangakhedkar, and Matthew J. Mimiaga. 2014. "The Other Side of the Bridge: Exploring the Sexual Relationships of Men Who Have Sex with Men and their Female Partners in Mumbai, India." *Culture, Health & Sexuality* 16 (7): 780-91.
- Farré, Lidia. 2013. "The Role of Men in the Economic and Social Development of Women: Implications for Gender Equality." *The World Bank Research Observer* 28 (1): 22-51.
- Gangakhedkar, Raman R., Margaret E. Bentley, Anand D. Divekar, Deepak Gadkari, Sanjay M. Mehendale, Mary E. Shepherd, Robert C. Bollinger, and Thomas C. Quinn. 1997. "Spread of HIV Infection in Married Monogamous Women in India." *JAMA* 278 (23): 2090-2.
- Go, Vivian F., Aylur K. Srikrishnan, Sudha Sivaram, G. Kailapuri Murugavel, Noya Galai, Sethulakshmi C. Johnson, Teerada Sripaipan, Suniti Solomon, and David D. Celentano. 2004. "High HIV Prevalence and Risk Behaviors in Men Who Have Sex with Men in Chennai, India." *JAIDS Journal of Acquired Immune Deficiency Syndromes* 35 (3): 314-9.
- Guo, Yan, Xiaoming Li, Yan Song, and Yingjie Liu. 2012. "Bisexual Behavior among Chinese Young Migrant Men Who Have Sex with Men: Implications for HIV Prevention and Intervention." *AIDS Care* 24 (4): 451-8.



- Kar, Nilamadhab, and Maju Mathew Koola. 2007. "A Pilot Survey of Sexual Functioning and Preferences in a Sample of English-Speaking Adults from a Small South Indian Town." *The Journal of Sexual Medicine* 4 (5): 1254-61.
- Kim, Evelyn J., Jacob Creswell, Maria Elena Guardado, Neha Shah, Andrea A Kim, Ana Isabel Nieto, Flor de Maria Hernandez-Ayala, Edgar Monterroso, and Gabriela Paz-Bailey. 2012. "Correlates of Bisexual Behaviors among Men Who Have Sex with Men in El Salvador." *AIDS & Behavior* 17 (4): 1279–87.
- Koenig, Michael A., Rob Stephenson, Saifuddin Ahmed, Shireen J. Jejeebhoy, and Jacquelyn Campbell. 2006. "Individual and Contextual Determinants of Domestic Violence in North India." *American Journal of Public Health* 96 (1): 132-8.
- Kumta, Sameer, Mark Lurie, Sherry Weitzen, Hemangi Jerajani, Alka Gogate, Ashok Row-kavi, Vivek Anand, Harvey Makadon, and Kenneth H Mayer. 2010. "Bisexuality, Sexual Risk Taking, and HIV Prevalence among Men Who Have Sex with Men Accessing Voluntary Counseling and Testing Services in Mumbai, India." *Journal of Acquired Immune Deficiency Syndromes* 53 (2): 227-33.
- Logie, Carmen H., Peter A. Newman, Venkatesan Chakrapani, and Murali Shunmugam. 2012. "Adapting the Minority Stress Model: Associations Between Gender Non-Conformity Stigma, HIV-Related Stigma and Depression among Men Who Have Sex with Men in South India." *Social Science & Medicine* 74 (8): 1261-8.
- Marlow, Heather M., Elizabeth E. Tolley, Rewa Kohli, and Sanjay Mehendale. 2010. "Sexual Communication among Married Couples in the Context of a Microbicide Clinical Trial and Acceptability Study in Pune, India." *Culture, Health & Sexuality* 12 (8): 899-912.
- Mimiaga, Matthew J., Katie B. Biello, Murugesan Sivasubramanian, Kenneth H. Mayer, Vivek R. Anand, and Steven A. Safren. 2013. "Psychosocial Risk Factors for HIV Sexual Risk among Indian Men Who Have Sex with Men." *AIDS Care* 25 (9):1109-13.
- National Institute of Medical Statistics and National AIDS Control Organisation (NACO) India. 2012. "Technical Report: India HIV Estimates." *National AIDS Control Organization*, New Delhi: Ministry of Family and Welfare, Government of India.
- Nayak, Madhabika B., Vikram Patel, Jason C. Bond, and Thomas K. Greenfield. 2010. "Partner Alcohol Use, Violence and Women's Mental Health: Population-Based Survey in India." *The British Journal of Psychiatry* 196 (3): 192-9.
- Newmann, S., P. Sarin, N Kumarasamy, E. Amalraj, M. Rogers, P. Madhivanan, T. Flanigan, S. Cu-Uvin, S. McGarvey, K. Mayer, and S. Solomon. 2000. "Marriage, Monogamy and HIV: A Profile of HIV-Infected Women in South India." *International Journal of STD & AIDS* 11 (4): 250-3.
- Pandya, Apurva, Siddhi Pandya, Bharat Patil, and Sylvester Merchant. 2012. "Invisible "Others": Sexual Health Vulnerabilities of Wives of Men Who Have Sex with Men." *Sexuality & Culture* 16 (1): 76-89.
- Phillips, Anna E., Catherine M. Lowndes, Marie-Claude Boily, Geoff P. Garnett, Kaveri Gurav, B.M. Ramesh, John Anthony, Stephen Moses, and Michel Alary. 2010. "Men Who Have Sex with Men and Women in Bangalore, South India, and Potential Impact on the HIV Epidemic." *Sexually Transmitted Infections* 86 (3): 187-92.

- Rao, Deepa, Randall Horton, and R. Raguram. 2012. "Gender Inequality and Structural Violence among Depressed Women in South India." *Social Psychiatry and Psychiatric Epidemiology* 47 (12): 1967-75.
- Sandelowski, Margarete 1995. "Qualitative Analysis: What It Is and How to Begin." *Research in Nursing & Health* 18 (4): 371-5.
- Schrimshaw, Eric W., Martin J. Downing Jr, and Karolynn Siegel. 2013. "Sexual Venue Selection and Strategies for Concealment of Same-Sex Behavior among Non-Disclosing Men Who Have Sex with Men and Women." *Journal of Homosexuality* 60 (1): 120-45.
- Setia, Maninder Singh, Paul Brassard, Hemangi R. Jerajani, Shalini Bharat, Alka Gogate, Sameer Kumta, Ashok Row-Kavi, Vivek Anand, and Jean-François Boivin. 2009. "Men Who Have Sex with Men in India: A Systematic Review of the Literature." *Journal of LGBT Health Research* 4 (2-3): 51-70.
- Setia, Maninder Singh, Murugesan Sivasubramanian, Vivek Anand, Ashok Row-Kavi, and Hemangi R Jerajani. 2010. "Married Men Who Have Sex with Men: The Bridge to HIV Prevention in Mumbai, India." *International Journal of Public Health* 55 (6): 687-91.
- Shidhaye, Rahul, and Vikram Patel. 2010. "Association of Socio-Economic, Gender and Health Factors with Common Mental Disorders in Women: A Population-Based Study of 5703 Married Rural Women in India." *International Journal of Epidemiology* 39 (6): 1510-21.
- Solomon, Sunil S., Shruti H. Mehta, Amanda Latimore, Aylur K. Srikrishnan, and David D. Celentano. 2010. "The Impact of HIV and High-Risk Behaviours on the Wives of Married Men Who Have Sex with Men and Injection Drug Users: Implications for HIV Prevention." *Journal of the International AIDS Society* 13 (Suppl 2): S7.
- Solomon, Sunil S., Shruti H Mehta, Aylur K. Srikrishnan, Canjeevaram K. Vasudevan, Allison M. Mcfall, Pachamuthu Balakrishnan, Santhanam Anand, Panneerselvam Nandagopal, Elizabeth L. Ogburn, and Oliver Laeyendecker. 2015. "High HIV Prevalence and Incidence among MSM across 12 cities in India." *AIDS* 29 (6): 723-31.
- Solomon, Sunil S., Shruti H. Mehta, Cecilia Tomori, Santhanam Anand, P. Balakrishnan, David D. Celentano, Gregory M. Lucas, and Sunil S. Solomon. 2016. "High Prevalence of HIV among Wives of Married Men Who Have Sex with Men in India." *Conference on Retroviruses and Opportunistic Infections*. Boston, MA.
- Solomon, Sunil S., Aylur K. Srikrishnan, Frangiscos Sifakis, Shruti H. Mehta, Canjeevaram K. Vasudevan, Pachamuthu Balakrishnan, Kenneth H. Mayer, Suniti Solomon, and David D. Celentano. 2010. "The Emerging HIV Epidemic Among Men Who Have Sex with Men in Tamil Nadu, India: Geographic Diffusion and Bisexual Concurrency." *AIDS & Behavior* 14 (5): 1001-10.
- Solomon, Suniti, Jessica Buck, Sreekanth K. Chaguturu, A.K. Ganesh, and N. Kumarasamy. 2003. "Stopping HIV Before It Begins: Issues Faced by Women in India." *Nature Immunology* 4 (8): 719-721.
- Strauss, Anselm, and Juliet Corbin. 1990. *Basics of Qualitative Research*. Newbury Park, CA: SAGE.
- Tomori, Cecilia, Aylur K. Srikrishnan, Kathleen Ridgeway, Sunil S. Solomon, Shruti H. Mehta, Suniti Solomon, and David D. Celentano. 2016. "Perspectives on Sexual Identity Formation, Identity Practices, and Identity Transitions among Men Who Have Sex with Men (MSM) in India." *Archives of Sexual Behavior* epub ahead of print.

Tomori, Cecilia, Allison M. McFall, Aylur K. Srikrishnan, Shruti H. Mehta, Sunil S. Solomon, Santhanam Anand, Canjeevaram K. Vasudevan, Suniti Solomon, and David D. Celentano. 2016. "Diverse Rates of Depression Among Men Who Have Sex with Men (MSM) Across India: Insights from a Multi-Site Mixed Method Study." *AIDS & Behavior* 20 (2): 304-16.

Verma, Ravi Kumar, and Martine Collumbien. 2004. "Homosexual Activity among Rural Indian Men: Implications for HIV Interventions." *AIDS* 18 (13): 1845-7.

Table 1. Participant characteristics

Participants	N	Mean age	Sexual identity				State or Union Territory/Site				
			<i>Kothi</i>	<i>DD</i>	<i>Panthi</i>	<i>Gay</i>	Delhi/ Delhi	Andhra Pradesh/ Visakhapatnam	Telangana/ Hyderabad	Karnataka/ Bengaluru	Tamil Nadu/ Chennai, Madurai
Married men who have not disclosed their same-sex behaviour	21	32	7	10	3	1	3	5	7	3	3
Married men who have disclosed their same-sex behaviour	13	35.4	9	4	0	0	3	2	5	2	1
Wives who were aware of their husbands' same-sex behaviour	13	31.7	N/A	N/A	N/A	N/A	1	3	5	3	1
Total	47	32.8	16	14	3	1	7	10	17	8	5