Performing Purity: Reproductive Decision-Making and Implications for a Community under Threat of Zika in Iquitos, Peru

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Abstract

The long-term management and prevention of Zika virus requires an understanding reproductive and sexual health behaviours, including mechanisms of partnered decision-making. In this article, we report on a qualitative study conducted before the arrival of Zika in Iquitos, Peru. We assessed existing patterns of reproductive decision-making among partnered men and women in a community under threat of Zika and discuss how these may impact Zika prevention in the long-term. We used a rapid qualitative assessment methodology, including in-depth semi-structured interviews with partnered women (28) and men (21). Deeply unequal gender role expectations limit discussions of reproductive decisions until after a first child is born. Women needed to perform a domestic 'of-the-house' to be considered suitable partners, leading them to hide their knowledge of sexual and reproductive health. Condoms symbolise risk and are unused with partners committed relationships. A shared perception that men must take care of female partner's sexual health, translates into male sexual and reproductive preferences overcoming female desires. Existing decision-making patterns lead to increased risk of Zika exposure. Long-term response should expand Zika virus information and preventive messages to men, and young people in addition to engaging with broader societal challenges to gender inequity.

Keywords: reproduction, decision-making, sexual risk, Zika, Peru

Introduction

Zika virus (ZIKV) poses serious challenges for public health systems, primarily due to the multifaceted nature of its transmission (mosquito, unprotected sex, and vertical); the large numbers of asymptomatic cases; and difficulties in testing (WHO Zika virus Factsheet)[1]. Although ZIKV has been detected in semen for up to 6 months after infection, the role of sexual transmission is not well understood and may be underestimated (Kim et al. 2018, Allard et al. 2017). Nevertheless, long-term prevention of ZIKV spread requires an understanding reproductive and sexual health behaviours, including mechanisms of decision-making. In this study, we assess reproductive decision-making in a community under threat of Zika and discuss its implications for long-term responses.

ZIKV is transmitted by the Aedes Aegypti mosquito and has been linked to an increasing number of adverse outcomes: stillbirths, cognitive impairment, microcephaly and increased incidence of Guillaun-Barré paralysis (Petersen et al. 2016). Zika's spread in Latin America has highlighted the gross inequalities in access to reproductive health information, contraception, sexual education and safe abortion care (Roa 2016). Official responses advocating for abstinence, use of contraception, and staying indoors as ways to avoid the disease, place the responsibility for prevention on women (Dreweke 2016). An underlying and problematic assumption is that women are indeed in a position to act; concealing the constraints of the gendered dynamics of everyday life and profound disparities in access to reproductive health.

A better understanding of the reality of reproductive and sexual health decision-making is needed to develop effective interventions. In this study, we explored the gendered experiences of reproductive decision-making before ZIKV spread in Iquitos, Peru. We sought to understand first, how women and men in a Zika-threatened community negotiate reproductive health decisions; and second, assess how these patterns may affect ZIKV exposure.

Background

Studies in reproductive and sexual decision-making in Peru have previously focused on perceptions and use of contraceptive methods from the perspectives of family planning and social-economic development (Ramos Padilla 2006, Cruz-Peñarán et al. 2003) Other research has assessed gendered barriers to male participation in contraceptive use among partnered men (Aspilcueta-Gho 2013, Quiroz Díaz and Gil Henríquez 2009) and adolescents (Chirinos, Bardales, and Segura 2006). Condom use decision making has been studied as part of HIV and STI prevention but mostly in at-risk populations such as men who have sex with men and sex workers (Sanchez et al. 2007, Kinsler et al. 2014). Overall this research points to an increasing reliance on modern contraceptive methods, although not condoms, in partnered relationships, and to the everyday exclusion of men from regular reproductive counselling services. Gender power dynamics and hierarchical gender roles have been identified barriers to sexual and reproductive decision-making (Ramos, Palomino, and Guezmes 2002,

[1] http://www.who.int/mediacentre/factsheets/zika/en/

Palomino et al. 2011). Research in other parts of the Americas suggests that gender stereotypes, the macho-dominant male, and the submissive female, are linked to significant communication barriers in sexual and reproductive decision-making, including contraception and condom use (Cianelli, Ferrer, and McElmurry 2008, Alvarez et al. 2016).

Materials and Methods

Iquitos is one of the largest and most remote cities in Peru, it is only accessible by air and by river. Many of its more than 400,000 inhabitants are migrants from upriver indigenous communities (INEI 2015). The city is a busy main Amazonian port, buzzing motorcycle-taxis cross the streets. The local economy subsists on tourism, commerce, and services to the nearby oil duct and refineries. In the city centre, grand rubber-boom houses have given way to more modest concrete structures. On the outskirts, wooden houses signal clear changes in the socioeconomic status of inhabitants.

The study site, Moronacocha, is a peri-urban community located on the outskirts of the city. The site was chosen in collaboration with the Regional Health Department due to the endemic presence of Aedes Aegypti and recurrent dengue infections. The neighbourhood (~15,000 people) is situated on a lake adjacent to the river. Located between the lake and an air force base, the area is crossed by two large canals that carry city sewage to the lake. It is also an important commercial stop on the river. Bars and by-the-hour hotels cater to travellers and line the main road.

To achieve our goal of understanding reproductive decision-making patterns we used a used a rapid qualitative assessment methodology. This approach allows for shorter more intensive fieldwork than traditional ethnography, and generates holistic understandings of a social phenomenon through triangulation of several modes of data collection (Beebe 2014). We conducted three focus groups, one with women and two with men; 21 in-depth semi-structured interviews with men and 28 with women; and interviews with 7 reproductive health providers over three months of research. The interviews and focus groups were conducted by gender concordant researchers. Community participants were women and men in committed relationships (married and cohabitating), over the age of 18, living in Moronacocha. We used referral sampling to access participants. The study was approved by Institutional Ethics Review boards at Indiana University Bloomington in the USA, and Universidad Peruana Cayetano Heredia in Peru. All participants provided verbal recorded consent to participate and were offered a study information sheet in Spanish.

Recorded interviews were de-identified, transcribed verbatim, and prepared for analysis using Atlas-ti. Data were coded for both expected predetermined codes, and for emergent ideas. The interview questions spanned sexual initiation with current partner, reproductive decision-making, and knowledge of Zika. The results presented here report findings only on sexual and reproductive decision-making.

Results

Socio-Demographic Characteristics of the Interview Participants

The demographic characteristics of participants are detailed in Table 1. Participants were broadly representative of the population of Moronacocha: a low-income population subsisting on temporary work; men as moto-taxi drivers, the main form of transportation in Iquitos, and women as homemakers, though several combined this work with street-food and cosmetic sales. Women more commonly reported being evangelical, an expected occurrence due to the large number of evangelical Christian churches in Iquitos. Women were also more likely to speak of church as the place where they met their partner and as a common activity. Men mostly reported being Catholic, which is the default answer in Peru and is almost akin to saying no-religion.

[Table 1]

Socially expected gender roles before union: 'playing the field' and being a girl 'of-the-house'

Socially expected patterns of sexual initiation were similar for all participants and were present among both older and younger participants. Men and women first engaged in sexual intercourse at around 15 to 17 years of age, however, expected sexual initiation patterns differed greatly.

It was expected that men would first have sex with what they considered women 'of-the street' who might be sex workers or others they met at known pick-up spots. Male participants distinguished between two 'classes' of women: those who were fair game for casual sex[2] were *de la calle* [of-the-street] or *fiesteras* [party girls], and others who were *de su casa* [of-the-house]:

> Like I said when I get with a girl, I always have to know her well. What class is she? When it is a party girl you have to be careful [use condoms]. But other girls, I've been lucky to meet are of their houses, or friends introduce me to them and I take them out, you know out of their houses because they are not party girls. Because in those parties … damn they are more *recorridas* [have lots of sexual miles] than others, they know all the tricks, how many have had sex with them? And when you get there so to be safe you must use [a condom] even if you don't want to. Juan (40[3])

The way in which men decide the class of a woman is y linked to her perceived sexual availability, how much sexual experience she has, and the likelihood of her being affected by a sexually transmitted infection (STI). Thus party-girls are dangerous, and therefore you must always use a condom or risk disease. Girls of-the-house are supposed to be less sexually available and less risky:

> A girl of-her-house is dedicated to work, or study, they go from home, to work, to home. You want to treat her to a soda, they say 'No, my mum is sick'

[2] Although we did not explicitly ask about same-sex encounters some male participants referred to the common practice of engaging in penetrative sex with homosexual men.

[3] All names are pseudonyms to preserve anonymity.

> or 'I have to tend to my mother'. They live with their mother, with their father. Even if you show them money they tell you no. The others even if they have husbands they say 'hey let's get a drink' those are wild. [The ones of-the-house] you can see they are quiet because they don't speak, they only look, they talk very little, they look, they listen, that's how you know them. […] They try to give you advice, even if they are younger, they say even if you have kids, 'why don't you study?' and those types of advice. Pablo (31))

A girl of-the-house does not only have to eschew partying, she also has to demonstrate a higher level of morality, resisting sexual advances, while also appearing quiet and speaking only to provide support and advice. Women are responsible for policing their own bodies and desires and also, those of the men around them.

In narratives of sexual activity women also referred to themselves as either party girls or girls of-the-house. For example, Maria (44) who had two grown children from different fathers, spoke of having been a party girl in her youth, linking this to her current lack of regular partner:

> 'I liked to go out, hot-headed I was and that's how I met my older boy's father. We would meet in the street, I would tell my mum I was going with my school girlfriends, and then meet up with him. I liked dancing and being out […] but now, well I am alone'

Conversely Yesenia (20) emphasised being at home and not going out much as a positive:

> "He knew me from here in the neighbourhood, so his parents live across the street from my house, so he saw me here in my house, I didn't go out, didn't like to go to parties, and he would come and talk to me, sweet talk my mother, ask her to take me out".

Young men were expected to pursue sexual encounters and relationships until they felt ready to settle down by which time they should look for a younger woman who could become a potential long-term partner:

> [S]o I had like three women [concurrently] and I did not use protection. Like I said what I liked was to ejaculate outside right? So, I wouldn't get them pregnant. And then I was older, I returned here [to parent's house] and I met the mother of my children [a neighbour] and with her, I do use birth control now." Roberto (22)

From a male perspective, it was desirable that a stable female partner, commonly called *la firme,* should have very little experience or knowledge of sex; while it was conversely better that a man have 'lots of experience'. This generally led to men being older than females in relationships. Women were cognisant of the need to fall into an of-the-house category, defined by male participants as a "girl who stays at home, doesn't go out much, and doesn't party" (Mirko 31yrs). Those who did like to be out in

the world were considered of-the-street and were not regarded as suitable long-term partners, as previous quotes imply.

Pre-union condom and contraceptive use: Trust and Care

Pre-regular union condom and contraceptive use were also guided by male perceptions of female 'class' as Juan's earlier quote suggests. Men expected that girls of-the-house would be concerned about pregnancy, so some discussion about this was to be expected and could result in the use of condoms. The decision to use condoms as protection was sometimes progressive, more use early on when – presumably when the nature of the relationship and the female's 'class' was still unclear- and none or inconsistent use when a relationship is more regular. For example, Daniel (26) explained:

> After 2 years I already knew I was her boyfriend, we were *firme* [solid] and so from time to time we had sex without a condom, but we did buy the morning after pill. [Interviewer: why did you do that?] There was more trust, and we sometimes used a condom. Other times used the pill, and sometimes nothing.

Men also spoke of the importance of building trust as part of the process of becoming *firme*. When there is more trust, condom use was less likely:

> I used to use condoms, like with all the other girls I had. There were like 2, 3 or so. I didn't ask her if she was using anything I just used the condom. I didn't have that much trust like I was seeing one girl, and another at the same time as her. I didn't think about anything serious with any of them. [..] after 6 or 8 months I started to be less careful because she trusted me more and I had more trust in her, so I stopped using protection a bit. And so sometimes we used [them], other times I spilled outside, sometimes nothing. Felipe (32)

By far the largest number of male and female interviewees said that they used either withdrawal or a calendar method with their *firme* partners. Many referred to withdrawal as 'spilling outside'. Several interviewees spoke of a mixture of calendar and withdrawal for example Claudia (24)

> We used the month method, we learned in talks at school or sometimes I heard the neighbours that talked, 7 days before and 7 days after, so 7 days before my month we could have normal sex and then after always taking precautions, and then 7 days after ovulation you can't because that's when you get pregnant. So, I always listened and then I talked to him and we controlled which week I was on […] and so it was normal sex, or he spilled outside right? And that's how I found myself pregnant, the plan failed.

In some cases, generally of younger women with older more experienced men, it was the man who took 'care' of following the female menstrual cycle and deciding whether

particular days were 'dangerous for conception or not'. For example, Piera (34), was 17 and her male partner was 22 at the onset of their sexual relationship:

> No, not even with the calendar myself. I was a *huambra* [child] really, what did I know? Nothing! I just went like that. So, he asked me when my month was, he counted and those days he didn't do anything with me, and that way he took care of me using the calendar

Similarly, Yesenia (20), who began to have sex with a 21-year-old man at age 15, said that she trusted him to take care of her when he had told her that "he was taking precautions against pregnancy". Even though she did not know at the time what this meant, she assumed he was using condoms, but she never saw one. About three months later she was pregnant.

Male perspectives on condoms and contraception were immensely influential in guiding their use in pre-union sexual encounters. Male preferences were mediated by perceptions of the type of women they were going with, as earlier male quotes indicate. When men felt they were ready to settle down and have a steady girlfriend they were less likely to want to use condoms. In these cases, women depended to a large degree on the desire of male partners to 'take care of them'. When such caretaking discourse is not in-line with female desires then a situation like that experienced by Lilith (24) can occur. She met her current partner through a friend at the technical institute where she studied:

> At the beginning we talked, I told him my studies were important, I want to finish my studies, and we did talk about settling down and kids and all that but after I had finished right? We agreed on that.

Lilith and her partner used condoms sometimes, but he did not like them; they progressed to using condoms only on her 'dangerous days', then to withdrawal on her dangerous days. By the time the relationship was a year old, he had a job and wanted her to settle down, they were not using regular contraception, and instead were using the morning after pill, which he could now afford when they had sex on her fertile days:

> [T]hat's how I found myself pregnant, sometimes we used condoms, but he said he didn't feel anything, he didn't want to use one. He said that he had heard about the [morning after] pill and he preferred it. You know, just take care of it afterward after having normal sex. But it is not 100% assured to work, and see it failed!

Male participants often said that an advantage of establishing a long-term relationship with a suitable girl was the possibility of giving up condom use, which was considered it an encumbrance to their pleasure.

The extent to which male decision-making on reproduction can override female desires was evident in three cases where women clearly told their partners they did not want to have children but were coerced or convinced to become pregnant. The

cruellest of these stories was the case of Ines (35), whose older partner lied about his ability to have children when she told him that at 18 she felt too young to have a child and wanted to use protection: 'He said he couldn't have children. Because he got hit by a ball in his parts [testicles] and he couldn't conceive'. On discovering Ines was pregnant three months later, he admitted his lie and said he wanted to have a family with her. He would take on his responsibility and take care of her. Despite an initial revulsion she agreed, she felt she had no other choice.

Societal expectations of male and female behaviour lead to a gendered power imbalance from the outset of the relationship. Male decisions carried more weight than female desires. Women's perceived that their knowledge of contraception was not valued. Rather they felt that that espousing any sexual health knowledge, about disease, contraception, and condoms, or speaking about what they would prefer, might be construed as knowing too much about sex and therefore being more of-the-street. The result of this social expectation concerning appropriate female behaviour was that some women, especially those under 25 who had received sexual health information, were not in a position to act upon that knowledge. They could not negotiate condom or other contraceptive use, lest they be seen as being of-the-street.

Getting together: unplanned pregnancy and accepting responsibility

One striking similarity among most interviewees, both male and female, and under and over 25 years old, was that unions often came about as the result of an unplanned pregnancy. Unions often consisted of committed cohabitation, more formal marriage was rare to the point of being prestigious. An undesirable effect of pregnancy as the cornerstone of committed unions, was that it meant that a woman who could not get pregnant was unlikely to be able to secure a committed partnership. For example, two of our interviewees had children and had undergone tubal ligations while with a prior partner. Now they were single and despondent because they felt unable to secure a new male partner given that they were unable to conceive a child.

Only four of the men's and five of the women's narratives indicated that pregnancy was actively sought. Generally, these were cases where it was a way of overcoming parental displeasure and forcing parental acceptance or, in the case of a second partnering, when one member of the couple already had a child from a previous relationship and was looking to cement the current relationship with a second child. Most interviewees said they were surprised by the pregnancy and did not want it or did not seek it. Some alluded to possible method failure- the most common being a failure of withdrawal and the use of folk methods such as post-sex vaginal douches. Others, most of whom openly identified as religious, spoke of the unplanned pregnancy being God's will. However, many pregnancy narratives, both for first and second unions, followed the same interesting sequence: participants (male and female) first said they did not want a pregnancy, then over time they relaxed into a relationship reducing their concern for contraception if any had existed, and then finally being blindsided by the pregnancy.

Forming any union, but especially first unions, hinged on the man's perception of a woman being of-the-house because that gave him more confidence that the child would be his. A common narrative of forming a union from a woman's perspective on

the other hand began with the woman finding herself unexpectedly pregnant and presenting the news to the male partner. If the male partner considered that she was of-the-house the expected response was to accept responsibility for the pregnancy, talk to the parents and live together, generally at the man's family home. An example of this kind of response was provided by Yolanda (34):

> I told him I hadn't seen my month [menstruated], we bought those tests from the pharmacy and there it was 'pregnant'. That's when he said he would accept his responsibility. He had known he was my only man, I didn't go out or anything, so he would talk to my parents and we would be together.

Most of the women's narratives are similar, in some cases, men were reticent to accept responsibility, or would only recognise their paternity but not commit to a union with the woman. In these cases, the family members of the woman, and sometimes the man, would rally around her to advocate for his taking responsibility. The importance of being perceived as of-the-house was doubly important in these cases, as that was a quality that advocates would extol to cajole the young man into a union.

Men's narratives were more varied; indeed, as varied are their sexual partners. A common theme was the need to ascertain that "you should not be the *huevonazo* [dullard] who pays for another man's child" Francisco (28). From their perspective, if a woman is of-the-house or *firme* it is undoubtedly the man's responsibility and they will assume it. On the other hand, if they perceive the girl to be of-the-street the response is first to express doubt, then to check to see if it is likely to be their child:

> No one is going to trick me! See when they come to me saying 'I'm pregnant' I ask 'yeah, so how long?' and then I go look at the dates, I jot down when I had sex with each one. And I'll say this is not my problem, see the dates!? I ask myself how many other men does she have? Daniel (26)

Finally, if men are convinced that the child is likely their offspring, but they still judge the woman not to be union material, they will more openly share their desires for pregnancy termination with her.

While abortion remains illegal, abortifacients (herbs, pills and shots) are commonly known about and advertised as 'menstrual regulators'. The most efficacious, according to male (and female) participants, is a pill by the name Cytotec (misoprostol). However, it is only available for those who have enough money to pay for the six pills needed (according to a market vendor) at black market prices, 10 Soles (3.3 dollars) per pill. The cost is prohibitive for students with no personal income, and even for men who work as moto-taxi-drivers, whose daily income may be around only 30 soles on a good day.

Other termination options were mentioned, for example using a shot of Depo-Provera, a synthetic progestin long-term contraceptive. Midwives at the health

services are aware of the lore[4] surrounding 'the shots' and will deny them without a prior pregnancy test. However, the injections are easy to procure from private pharmacies, though cost is significant (Approx 8-10 US$ each).

Attitudes about abortion were broadly permissive even among female participants who identified as evangelical. For example, though no women described having sought an abortion, several had considered it and almost all knew of someone that had had one, abortive methods were known and discussed by all.

A common belief among both men and women in Iquitos was that unsuccessful abortion damages the foetus. Thus, any child with a disability, be it cognitive or physical, is treated as a moral indictment of their parents. Nora (29) whose child was born prematurely and without one foot was targeted by such rumours:

> I suffered from people muttering that I wanted to do away with her, that I took medicine and that it is the reason she was born like this […] It may be true that in the beginning I was not happy but then he said we will have the baby and be together and all was well.

This belief has implications for congenital Zika Syndrome. It is likely that any cognitive or physical sign Zika virus damage to the child will be attributed to a woman's desire to abort, marking her as morally reprehensible. This could have consequences in her ability to leverage social support to care for that child. Nevertheless, it is one more indication that in forming a union the focus is on ensuring female morality, thus limiting reproductive discussions and sometimes precluding female participation in decision-making.

Post-union contraceptive use: female responsibility, male control

After the birth of a first child and establishing a union, women could look forward to more control over their reproductive choices. For many interviewees, this was their first contact with reproductive health professionals. There is no formal from the health centres to teenagers in the community, and no formal sexual education for them. Women become visible to the health centres primarily in their role as mothers, but not before. The majority started regular contraceptive use in the hospital, immediately after birth and at the behest of the midwives there. Contraceptive choice in this situation was rarely discussed with the child's father; for some it seemed this was by design. Participants felt that midwives chose the times the male partner was not visiting to push them to make a decision:

> … they came to me and said, 'which one of these do you want: pills, shot or condoms?' [What did your partner think?] He wasn't with me, they waited until he left and then said I had to choose.

[4] An established pregnancy will likely not be affected by a progestin injection such as Depo-Provera.

Indeed, midwives reported discussing reproductive issues away from male ears, with the explicit intent of supporting autonomous female reproductive choice. While good-hearted, this limitation also leads to an oppositional rather than collaborative perspective on reproductive decision-making.

In all cases, it was only after a union had been established, and the first child of that union born, that any conversations between partners about future planning occurred:

> "The first one we didn't plan him, but the other two we did, talking with him. How many do you want? And he said let's have a little girl to have the *parejita* [one female and one male child]" Fabi (33)

> When I was with her I never used anything, never. When she had the baby, then I had her take her pills. Francisco (28)

> In the hospital, they said I had to use something to prevent pregnancy [they asked if] I wanted to get the shots for three months. So, I got that and left the hospital with it […] Katy (26)

> [Did you know about it?]

> Yes, my sister told me if you birth in the hospital; they'll ask you if you want contraception or not. So, I told him [before the birth] that I was going to get the shot, and he said yes. […] I told him I would get it even if he didn't want it because I didn't want to have my daughter with 6 months and then another again. When they are that close [in age] the babies are too small. [..] After three years I stopped. He said, 'how about stopping to have another baby?' And three months later I was expecting my second one. Yesenia (20)

Both in the hospital and in interactions with health providers, it was women who received contraceptive information and women who overtly made the choice. Male interviewees seemed to view this choice as a woman's responsibility, but it was mediated by men's preferences and economic support. For example, in Felipe's (32) case, after a first unplanned pregnancy, he told his partner that he did not want to have any more children but only use the withdrawal method:

> I told her we have to do other things [in our lives] and she said yes […] and I wanted to have this conversation with her about us contraception but she said she didn't like the shots because they made her fat, and that with the one that is free [3 month Depo shot] she didn't see her blood each month, so she didn't want to use anything. Two times I paid for her to go and get the shot and she told me that she was using it and I trusted right? And she told me later [when pregnant] that she didn't get it. [After the second child] I told her we can't be having children just because. On my side, I told her I'm not going to use anything. Why should I? It's not like I'm having sex with anyone, she is my woman. So, I made her understand right? I now demand that she

> get her shot. She says she is taking them, at least she goes to her appointments although I do not always go with her.

In Felipe's case, as in other narratives, it was evident that even though contraceptive choice was, in theory, a female decision, it was only so if did not interfere with male perceptions of what method was adequate and acceptable. He absolutely did not want to use a condom with his committed partner (a common occurrence), which is what his partner seems to have suggested. He felt the best method was the shot and thus exerted pressure on his partner to comply with something she did not want.

Participants also discussed jealousy as a central factor limiting women's contraceptive use in unions. From a male perspective, contraception could enable women to be promiscuous even when partnered. Women described how their partners did not want them to use contraceptives because they could have sex without consequences with other men. Nevertheless, because women in regular unions had regular contact with the health care system through their children, several were able to covertly get a depo-shot, going to the clinic with the child and obtaining contraception at the same time. A further reason for limit contraception was concern that lack of menstrual blood associated with the depo-shot was linked to cancer. Men discouraged its long-term use and women advocated alternating methods.

Overall, women in committed unions are more at liberty to discuss contraception and reproductive desires with their male partners without fear of repercussions. These discussions often centred on the desire for fewer children that were 'better cared for'. It was perplexing however that this expressed desire for smaller families coincided with a widespread reliance on less effective contraceptive methods like calendar methods, withdrawal, vaginal douches, and the morning after pill. Which were sometimes alternated with hormonal contraceptive use. It is possible that this disconnection between desire for a small family, and the problems encountered in realizing those desires could lead to more permanent contraceptive decisions, like ligation. In our work, we encountered several women over 30 who had undergone (6) or were considering (6) tubal ligation.

Post-union condom use and suspicion

The pattern of condom use in committed relationships did not vary much between participants: men used condoms with 'risky' women but did not use them with committed partners. The collected narratives of both women and men indicated that it was expected, and accepted, that men in unions would engage in sex with other partners, while this was categorically forbidden for females. Thus, while pre-union condoms were also used for contraception; in-union condom use became a symbolic marker of risk and caretaking. Men used condoms only with outside women, recognising the risk they posed, while at the same time caring for their committed partner's health. Risky women, those who engaged in casual sex, were viewed as promiscuous and disease-laden. As Nora (29) put it,

> He doesn't use a condom, I've lived with him for many years and he has never used a condom with me. I tell him if you're going to be with someone on the

> street use a condom, so you don't get me sick with any disease. But I don't think he has any, I have not been sick at all.

And as Ricardo (26) explained, 'I use [condoms] only when it is a *choque y fuga* [casual sex] not in a relationship'.

This perception of condoms as a marker of disease complicates both women's and men's ability to negotiate condom-use within committed relationships. As Nora's prior quote indicates women in relationships agreed that a man using a condom with a regular partner would indicate not only having sex with others but more importantly, that he did not care for her because he was happy to put her at risk for disease. Similarly, a woman asking for her regular partner to use a condom marks her as being 'of-the-street', likely unfaithful and disease-laden. Thus, women in committed relationships loose not only the ability to negotiate condom use with their partner for disease prevention, because it is the male responsibility to care for her, but also, the ability to call on condom use for contraception.

Male perspectives on condom use in unions were aptly summarised by Enzo (40): "It doesn't feel good, the condom, you can't feel anything, so why use it now if we are together". Vivian's (37) partner, for example, did not want to use condoms or withdrawal, resulting in 4 children over 9 years:

> "He said to me it doesn't feel good to spill outside all the time, he didn't like condoms he said he felt nothing. So, we used calendar and spilling outside only on dangerous days, and I used [vaginal] washes with lemon or vinegar on other days. That way we increased our family fast, now I am operated [tubal ligation]".

Discussion

The sexual lives of women and men in Iquitos develop in a context of profoundly unequal gender expectations. Women need to perform purity in Butler's (1988) sense, to be able to be considered viable long-term partners by men. Thus, women must embody the characteristics of a girl-of-the--house, which involves appearing innocent about sex, contraception and sexually transmitted infections, thus limiting the scope of acceptable discussion for women. This is especially significant as it runs contrary to public health efforts to promote sexual health education, for example among younger people.

Prevailing gender role expectations also negatively affect men, exposing them to a toxic hyper-sexual masculinity which presupposes the need for multiple partners throughout their lives. Similar restrictions on reproductive decision-making, especially the expectation for women to restrict communication on sex, have been found among Latin American communities in Colombia, Puerto Rico and the USA (Maternowska et al. 2010, Noland 2006, Quevedo-Gómez et al. 2012). In these studies, the phenomenon has been described as the coexistence of marianismo and machismo, which permeates much sexual health discussion. While in Iquitos we did not find an overt equivalence to this phenomenon, the discourse of purity and the understanding that it is a man's

responsibility (and privilege) to care for his partner's sexual and reproductive health was prevalent.

A direct consequence of these gendered expectations is that discussion of reproductive decisions remains limited, and unions are often established through unplanned pregnancy. Establishing a union requires men to accept their responsibility for the procreation of that child, something that is contingent on how they perceive a woman's sexual behaviour. Furthermore, patterns of unequal reproductive decision-making carry on after committed unions are established. Men do not officially participate in the receipt of sexual health information, yet their beliefs and preferences carry a great deal of weight with respect to women's contraception and condom use.

The paucity of reproductive health programmes and interventions directed at heterosexual men has been discussed before in relation to contraception and STI/HIV prevention (Sternberg and Hubley 2004). This 'planning men out of family planning' as Gutmann (2011) calls it, has had detrimental consequences. In the case of Iquitos, this discourse seems to be reinforced by the reproductive health professionals and programmes that target their messages exclusively towards women.

Women in regular and committed unions have more control and agency over their reproductive lives. In contrast to others, they can bring up issues of reproductive care and health without fear of repercussion. The ways in which some engage in the covert use of contraception, leveraging their motherhood role and new connections to healthcare systems to their advantage, is reminiscent of similarly unequal situations in Kenya (Harrington et al. 2016). Yet women remain restricted by persisting inequalities in their relationships, including economic dependence on male partners.

Implications of reproductive decision-making processes for an effective Zika response

The described gendered reproductive decision-making patterns have significant implications for an effective Zika response.

The need to display sexual purity, and the fact that committed unions are often established through pregnancy, set young un-partnered women at particular risk for an unplanned pregnancy, and Zika virus infection, either via a mosquito or through unprotected sex. Additionally, the negative connotations of condoms and the inconsistent use of contraception increases Zika risk for partnered women. To be effective, beyond focusing on pregnant and partnered women, Zika prevention should include younger women and men (both teenage men and adults) as part of programme activities. Engaging men in broader discussion concerning reproduction and contraceptive knowledge may serve to enhance contraceptive use and destigmatise sexual discussions.

Certainly, a more effective long-term response should include interventions that seek to challenge existing gendered power dynamics, affording women the ability to assert their contraceptive and reproductive desires more openly reproductive desires more openly. Some signs of change and hope in this respect may be visible in the more collaborative decision-making of the younger, better educated women in our group. Two of them described patterns of discussions with male partners where both jointly sought and shared information, arriving then at a consensus of what was good

for both parties. Similarly, the Ni una menos (not one less) movement (Boesten 2016) in Peru has taken critiques of gender inequality and broader call to action to the national stage. The sustained action of this movement may succeed in prompting policy and programmes which can disrupt the pernicious 'of the-house' and 'of the street' dichotomy.

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Disclosure statement

There are no conflicts of interest to declare.

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Table 1: Socio-Demographic Characteristics of Interviewees

Men (n=21)			**Women (n=28)**		
Age	Average: 33.2yrs (Range 22--61)		Age	Average 31.4 yrs. (Range 19--44)	
Number of children	2.2 (Range 1--6)		Number of children	2.1 (Range 1--12)	
Number of people in the household	6.4 (Range 12--3)		Number of people in the Household	6.6 (Range 12--2)	
	n	**%**		**n**	**%**
Education			**Education**		
Primary School	1	4.8	Primary School	3	10.7
Some Secondary School	3	14.3	Some Secondary School	8	28.6
Secondary School	0	0.0	Secondary School	5	17.9
Some Higher Ed. (including trades)	6	28.6	Some Higher Ed. (including trades)	4	14.3
Completed Higher Ed. (including trades)	11	52.4	Completed Higher Ed (including trades)	8	28.6
Occupation			**Occupation**		
Moto-taxi driver	14	66.7	Her house	17	60.7
Electronic Services	1	4.8	Front room store	1	3.6
Construction- Civil Engineer	1	4.8	Studying	3	10.7
Credit Union Teller	1	4.8	Food Market Seller	3	10.7
Day laborer	1	4.8	Sales person	1	3.6

Municipal worker	1	4.8	Teacher	1	3.6
Mechanic	1	4.8	None reported	2	7.1
Salesman	1	4.8			
Income			**Income**		
Less than 1,000 NS (*)	8	38.1	Less than 1,000 NS (*)	13	46.4
1,000-2,000	10	47.6	1,000-2,000	10	35.7
2,000-3,000	3	14.3	2,000-3,000	4	14.3
3,000 +	0	0.0	3,000 +	1	3.6
Religion			**Religion**		
Catholic	12	57.1	Catholic	7	25.0
Evangelical	8	38.1	Evangelical	17	60.7
Christian	1	4.8	Christian	0	0.0
none	0	0.0	none	4	14.3

(*) Nuevo Sol exchange rate at the time of research was $US1=NS 3.3