

The introduction of vaginal microbicides must also target men

Keywords

Microbicides

HIV

Female sex workers

Condoms

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Abstract

Vaginal microbicides hold great hope of reducing the spread of HIV and other sexually transmitted infections, as they provide women with a female-controlled protection option. The design and testing of vaginal microbicides thus far has been targeted primarily towards women. We argue that such thinking is limited and that, by ignoring men's needs and attitudes to microbicides, the burden of health responsibility will fall solely on women and may increase their vulnerability to the HIV epidemic. We suggest that a greater understanding of the range of men's responses to microbicides may be usefully incorporated into the research, development and marketing of microbicides. Demonstrating that men's responses to microbicides depend on a number of factors – including cultural difference, attitudes toward pregnancy, biological ramifications, and the nature of their relationship towards their sexual partner(s) – we propose a number of parameters that would be useful in the study of men's attitudes towards microbicides. © 2007 WPMH GmbH. Published by Elsevier Ireland Ltd.

Microbicide usage

There is an urgent need for female-controlled protection options to combat sexually transmitted infections (STIs) in both the developing and developed world [1–3]. Vaginal microbicides are chemical compounds that act to prevent or reduce the transmission of STIs, including human immunodeficiency virus (HIV), herpes, *Chlamydia* and gonorrhoea [4]. Candidate microbicides currently in development and clinical testing consist of intravaginal formulations that curb transmission by directly inactivating HIV, or by preventing the virus from attaching, entering or replicating in susceptible target cells [5]. Although their importance as an empowering protection option for women cannot be overestimated [6], men's responses to microbicides remain underexamined [2]. Avoiding the problematic assumption that microbicide usage is solely the woman's responsibility, we argue that men's attitudes to microbicides must be studied in their specificity in the hope that this may help to illuminate how men's support for,

and participation in the use of, this form of protection might be encouraged.

Mathematical models have projected that, even if microbicide efficacy is initially low, microbicide use can offset the limitations of an imperfect product [7]. Thus, marketing and design factors that promote frequent microbicide use and acceptability are the most crucial determinants of microbicide success. However, condom replacement (replacing condoms with lower-efficacy microbicides) may shift the burden of responsibility for HIV and STI prevention solely onto women [7]. The likelihood of such a shift was documented by a survey conducted with men in urban South Africa [1]: 82% of men surveyed preferred a vaginal microbicide to a condom, with 61.2% preferring sole microbicide use over sole condom use (17.3%) or concurrent use of both (21.5%).

This shift may potentially lead to higher male risk-taking, due to perceptions that microbicides may be more effective than they are, resulting in decreased condom use by men. The fact that men may prefer microbicides to condoms also poses further questions

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Online 27 February 2007

about efficacy. Suppose low-efficacy microbicides come to be preferred to their high-efficacy condom counterparts? What health ramifications might this have for women and men? Clearly, men need to be included in conversations about microbicides in order to ensure that the burden does not fall on women to use lower-efficacy microbicides in ways that might increase both men and women's susceptibility to STIs.

Contextual microbicide usage must be considered in their development

While developing a female-controlled protection option is empowering for women, the population-level impact needs to be assessed in conjunction with design and marketing. In particular, the psychological acceptability and physical tolerance of microbicides should be studied for both men and women. Supplementary requirements, such as taste, lubrication and packaging must also be investigated. Microbicides may allow men the illusion of risk-free, condom-free sex if education campaigns are not developed that specifically target men. What microbicide studies have overlooked, thus far, is the recognition that while microbicides are physically applied to the vagina, that must not make them the sole domain of women. The assumption that a man may have sex with one woman who uses a microbicide (with or without his knowledge and/or approval), but will have unprotected sex with another simply because she doesn't have access to a microbicide, assumes that men are uninterested in protection, even when offered a condom-free protection option. Marketing strategies that encourage men to keep microbicide gel packets in their wallets increase the likelihood of protection being used and of normalising microbicide usage.

Neo-colonial agendas aimed at population control have given rise to considerable scepticism concerning new forms of protection among the communities at whom they are targeted. Scientists must recognize that the development of microbicides should take into account these racist histories and their legacy [8]. Thus, microbicides are being developed that can be combined with a contraceptive or used when pregnancy is intended [6]; or which may be added both to lubricants and

to powders, to take into account communities who participate in 'dry sex' [1].¹ However, designing microbicides that can be applied discreetly may potentially backfire: for some women, the potential repercussions of discovery could nullify the advantages of covert microbicide application [2]. This is especially true if a range of sex acts are performed: a microbicide added to a lubricant may go unnoticed during vaginal intercourse, but be discovered if it has a distinct taste that is detected during cunnilingus.

Men's attitudes towards microbicides vary according to race/ethnicity, national origin, class, disability, urban/rural location, sexual orientation, age and whether their relationships are short term or long term, monogamous or polygamous. Interviews to determine men's attitude towards microbicides have been conducted in Zimbabwe, Mexico and the United States, accounting for urban and rural subpopulations [6]. Both subpopulations of men in Zimbabwe indicated that if microbicides were safe, then women could use them as long as they had the man's permission. Rural farmers in Mexico expressed similar views, although urban Mexican taxi drivers felt male permission was needed only if the microbicide were combined with a contraceptive. Conversely, both rural and urban men in the US claimed they would have no problem with their partners using a microbicide, as long as it did not have side effects that affected the men. All groups of men in that study thought microbicides should be targeted solely, or primarily, towards women. Lack of lubrication and the availability of a non-contraceptive microbicide were identified as the predominant concerns among urban men in South Africa [1]. The majority of these men reported a desire to be involved in the decision to use a microbicide and indicated that they would be willing to pay for such a product.

Conversely, it has been speculated that if men prefer microbicides to condoms, they may insist on their use, even if women do not want to use them [2]. Assessing the reaction of men in Zimbabwe, it has been suggested that 'Many men were concerned that women would be able to use the products without their consent

¹ 'Dry sex' is the practice of inserting drying substances into the vagina to create sensations of vaginal dryness, tightness or warmth [9].

or knowledge. Several products may be acceptable in this culture but must be introduced within the existing gender power structure' [10]. Microbicides will, of course, have to be introduced within existing gender power structures in every culture, not just Zimbabwe.

Moving microbicides beyond female sex workers

Clinical trials conducted in Africa have most often targeted female sex workers [11]. For sex workers, condom use may be economically difficult; for example, sex without condoms in Durban, South Africa costs twice as much (US\$20) as sex with condoms [12]. Female sex workers in ongoing clinical trials have reported high microbicide use and enthusiasm for this form of protection; however, they have also described the need to inform their steady male partners (partners who do not pay for sex) of microbicide use [13].

Although it has been recognised that rectal microbicides for men-who-have-sex-with-men and for heterosexual couples engaging in anal sex should be developed, funding and enthusiasm has focused primarily on vaginal microbicides [14]. Current thinking on vaginal microbicide development is skewed towards the model of the female sex worker who intends to use the product without her clients' knowledge. Sex workers were the first (and often only) women to be imagined both as carriers and as vulnerable to the HIV/AIDS epidemic [15]. The targeting of female sex workers for new forms of protection results, in part, from the fact that their 'discursive legacy – despite their long-standing professional knowledge and continued activism about AIDS – is seen as so contaminated that their bodies are virtual laboratory cultures for viral replication' whereas other heterosexual women were 'constructed as inefficient and incompetent transmitters of HIV – without projective capacity of penis or syringe' [15].

However, sex workers are also involved in unpaid relationships for which they may require other criteria for microbicides. It should not be assumed that the best vaginal microbicide is necessarily one that may be used covertly (i.e. without her sexual partners' knowledge). Nor should the need for vaginal microbicides be assumed to apply only to heterosexual women.

Vaginal microbicides may be an excellent addition to barrier methods, such as dental dams, for lesbian sex. Lesbian sex is often ignored altogether by research on vaginal microbicides, perhaps responding to old stereotypes 'that sex between two women was so gentle and non-jaculatory it really wasn't sex at all; . . . much too wholesome to transmit so lethal a virus as HIV' [15]. Thinking about the usage of vaginal microbicides needs to be broadened to include non-covert use. Furthermore, greater attention needs to be paid to the development of rectal microbicides. Rectal microbicide development is significantly less advanced than that of vaginal microbicides, arguably demonstrating that some sexual acts are seen as more worthy of protection than others, regardless of which types carry the greater risk of infection. Over a quarter of men surveyed in urban South Africa engaged in anal sex, but only 40% of them were aware that anal sex was a high risk for HIV [1].

Microbicide design must take into account the complexities of identity: their design must not account for race, gender, class and sexuality serially [16,17]. Scientists have put a limited amount of effort into accounting for historic cultural differences, have considered gender only as far as making microbicides the provenance of women, and have largely failed to think about class and sexuality. The research, development and marketing of microbicides must consider the complexity of identities in order to ensure that larger numbers of women and men are informed and protected from the epidemic. A vaginal microbicide that cannot be tolerated anally, or which offers no protection against infections transmitted rectally, may nevertheless result in decreased condom use for heterosexual anal sex, if condoms are largely replaced by microbicides for vaginal sex, but no rectal microbicide is available.

Including men

It follows that targeting strategies for vaginal microbicides should develop campaigns that account for different male behaviors. Although there are obvious benefits to having a product that women can use discreetly, education campaigns should, nevertheless, include men in the development and introduction of microbicides. Other factors that must be considered include the impact of microbicides on potentially

sensitive male tissues (penile epithelial tissue, oral mucosal tissue, anal and rectal epithelial tissue), the risk of female-to-male HIV transmission and the effect of microbicide use on female-to-male transmission of other STIs. Assuming that men are not interested in whether they can be infected with HIV is highly problematic. To leave men out or assume men have no interest in protection, or have no input or, in many cases, control over women's usage, endangers both men's and women's health and facilitates the spread of the epidemic.

Further studies are needed to address the specific issues that will cause men to become interested and positive participants in the introduction of microbicides. These include, but are not limited to, taste, side effects for men, microbicide gel packs that fit in men's wallets, contraceptive issues, lubricant/dry sex issues, acceptance of microbicides in male-male discussions, the diversity of sexual acts performed, the overlap between men who have relationships with women and who have sex with men, and the interaction of microbicides with sexual pleasure. Consideration must also be given to the development and equal acceptance of microbicides for those who engage in same-sex sexual relationships.

What is needed is an understanding of the role that men will play in determining

microbicide use, as well as appropriate educational and marketing strategies aimed at inclusiveness. The idea that men can simply be ignored when introducing a product that women are expected to apply, whether overtly or covertly, is naive at best. At worst it will increase the vulnerability of women, men and their children to HIV and other STIs. Assuming that men's responses to microbicides are unimportant is fraught with peril. Microbicide development presents the ideal opportunity to address these issues before they become a reality, not afterwards: 'AIDS is more than an epidemic disease, it is an epidemic of meanings' [15]. Women are often conceived as the only group responsible for the epidemic and asked to shoulder the entire burden of protection, regardless of their interactions with the men in their lives. This is dangerous for both women and men, and self-defeating for epidemic control.

Acknowledgements

The authors thank Sanda Rodgers, Himika Bhattacharya, Celiany Rivera-Velázquez, Aisha Durham and Paula Treichler for technical discussions, and are grateful to two anonymous reviewers, whose comments helped improve the manuscript.

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