

Condom use: still a sexual health staple

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The global pandemics of HIV, sexually transmitted infections (STIs) and unintentional pregnancy clearly necessitate innovative prevention strategies.^{1,2} Although recent biomedical approaches such as antiretroviral (ARV) treatment for persons living with HIV,³ ARV pre-exposure prophylaxis (PrEP) for HIV-negative people at risk of acquisition^{4–6} and adult male circumcision^{7,8} programs are valuable assets against the spread of HIV, these biomedical strategies are not a panacea. Moreover, their associated costs are sizeable.⁹

Condoms are the oldest and most affordable method of HIV prevention. Recent advances in knowledge about the nuances of this method have been spawned by the AIDS pandemic.¹⁰ These condom innovations are not always product-oriented; indeed, most involve harnessing the behavioural and social sciences to promote improved frequency and quality of condom use, especially among those at greatest risk.

This special issue of *Sexual Health* provides state-of-the-art reviews of recent research on both male and female condoms. More importantly, it builds upon the foundation of ‘what we know’ to offer concrete future directions for optimal public health impact. Even today, condom use remains a fundamental prevention practice for both the HIV and STI pandemics, as well as the ongoing global problem of unintentional pregnancy.

The issue opens with Warner and colleagues¹¹ making an eloquent case that condom use is a complex behaviour, embedded in the fabric of gender inequalities. They highlight the need for creative programs to rectify issues that users experience with condoms. They offer a scenario – however utopian – where condom use could be perceived as pleasurable. Indeed, a population-level, sex-positive approach to promoting condom use is an aspirational aspect of this opening commentary. It also touches upon the empirical question of condom effectiveness, an issue dealt with at length in the subsequent article.¹²

Rather than being an exhaustive review of the extant literature, the condom effectiveness review¹² captures the immensely complicated challenges inherent in studies of human sexual behaviour. Prospective observational studies

offer a relatively strong body of evidence supporting condom effectiveness even in the presence of the multiple forms of bias towards the null. This suggests that our current condom effectiveness estimates are usually understated. The review concludes that consistent and correct use of condoms is highly effective in protecting against STIs, HIV and unintended pregnancy.

Next, Gallo and colleagues¹³ describe our current thinking about the female condom. Although the recent technical innovations of new female condoms are exciting, widespread adoption of this prevention strategy remains a challenge. Studies of female condom effectiveness contain similar methodological difficulties to those facing studies of male condoms. Nonetheless, initial evidence suggests female condoms have an STI-protective effect equivalent to the male condom and similar rates of protection against pregnancy. Because the female condom covers more of the female genitalia than the male condom, it could provide an additional level of protection against genital herpes, syphilis and human papillomavirus. They offer the female condom as a viable alternative to the male condom, and outline the future research needed to help solidify its public health niche.

Subsequent reviews cover China, central and eastern Europe, and Sub-Saharan Africa.^{14–16} Several themes emerge across these three articles, with the need for intensified national education programs being predominant. This, in turn, depends on the different political contexts for condom promotion efforts in the various nations. China exemplifies a nation highly dependent on government initiatives to promote condom use; their current paradigm is largely focussed on the contraceptive role of condoms rather than disease prevention.

Another theme is the low uptake of condom use across diverse high-risk populations. Fortunately, emerging evidence presented by Chapman and colleagues¹⁶ suggests that rates of condom use can be substantially increased through innovative social marketing programs such as the one described for Kenya. A central challenge in the coming decades will be to construct programs similar to the Kenyan model while allowing for

cultural adaptations and the harsh realities of poverty and gender inequality.

Next, Beksinska and colleagues review progress in and challenges to male and female condom use in South Africa.¹⁷ They document steady improvements in knowledge and use of condoms in this high HIV prevalence nation. In addition to creative social marketing programs, South Africa has promoted national policies to facilitate increased condom use. For example, all children aged 12 years and older have access to condoms. The uptake of female condoms is relatively high in South Africa compared with other African nations, although male condom use remains the most cost-effective barrier method. The authors describe multiple behavioural issues regarding male condoms, including intravaginal practices that may interfere with correct use. They also discuss condom use among men who have sex with men.

Also focussing on South Africa, Maticka-Tyndale¹⁸ provides a synthesis of cognitive factors affecting the use of male condoms. These include some culturally sensitive perceptions such as the depositing of semen being a display of manliness and the reception of semen being a way to enhance feminine beauty. This article also examines how condom use is influenced by complex social and interpersonal interactions occurring within societal structures and cultures. The article describes the role of parents, peers and sex partners in shaping condom use behaviours. Many of the cognitive and behavioural concepts described (including widespread misconceptions about preventing HIV transmission) may be highly applicable in other African nations.

Turning to pregnancy prevention, Higgins and Cooper¹⁹ focus on the simultaneous use of condoms and other forms of contraception. This review of dual-method use in the United States provides insight into the demographic and social correlates of those reporting using two methods. The findings reinforce the importance of expanding peer education, developing programs that reach parents of adolescents, and conducting research with men and couples.

Subsequently, Sanders and colleagues²⁰ provide a review of condom use problems commonly experienced by people in 14 countries. This review illustrates that condom promotion programs are unlikely to be optimally successful without teaching people to navigate the often complicated aspects of correct use. A particularly challenging issue is the all-too-common practice of putting condoms on after penetrative sex begins and removing them before penetrative sex ends. Their article reminds us of the ongoing need to create new educational approaches that will equip people with the skills needed to protect themselves better. They close by suggesting a model that can become an important tool for researchers. The model posits that condom problems may stem from contextual factors and may, in turn, influence consistency of condom use.

Turning attention to the interactive effects of biomedical innovations, Crosby and colleagues²¹ summarise issues relevant to the concept of risk compensation (also known as disinhibition or condom migration). Risk compensation occurs when the use of one prevention method (e.g. vaginal microbicides) leads people to abandon another method (e.g. condoms). This phenomenon has the potential to minimise the

value of prevention strategies such as male circumcision, oral and topical pre-exposure prophylaxis, and vaccines against HIV and other STIs. Biomedical innovations must be developed in parallel with behavioural innovations to optimise prevention-oriented behaviours.

Finally, Graham²² provides a compelling argument for a better integration between the fields of public health and sex research. She reviews studies to suggest that a broader conceptualisation of 'sexual pleasure' could greatly add to public efforts aimed at promoting consistent and correct condom use. She introduces the dual-control model as a means of enriching condom use research and she argues for more attention to couple-level designs in condom use research. This article provides a compelling case that concepts such as sexual desire, sexual arousal and pleasure should be focal points in research devoted to improved understandings of condom use behaviours.

In conclusion, male and female condoms are vital in our sexual health toolkit. Used consistently and correctly, they provide dual protection against both STIs (including HIV) and unintended pregnancy. In addition, condoms remain an essential part of the global HIV prevention agenda. We need the full alphabet (A, B, C . . . Z), including condoms, of targeted combination prevention to optimise our public health impact and ultimately reverse the pandemic.²³ As this special issue shows, our knowledge about how to improve condom adherence at the individual or couple level and condom access at the population level has increased over the past decade. We will continue to apply and evaluate these lessons as we adapt the role of condom use into the always evolving sexual health landscape.

Conflicts of Interest

None declared.

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