### **Condoms and reproductive health**

To the Editors: The suggestion by Genius and Genius<sup>1</sup> that current approaches to sexually transmitted diseases (STD) prevention must make way for foci on delayed sexual debut, partner reduction, and the avoidance of risky sexual behaviors failed to note several recent contributions to this debate. These studies have shown that the long-term sequelae of STD can be ameliorated by consistent condom usage. In one study, Ness et al<sup>2</sup> reported on fertility outcomes in the PID Evaluation and Clinic Health Study (PEACH). Women were followed after an episode of PID for relevant clinical outcomes (635 women followed for a mean of 35 months). Women who used condoms were protected from infertility, recurrent PID, and chronic pelvic pain. For example, the adjusted relative risk for consistent condom users compared with nonusers was 0.4 for infertility. The strengths of this study were its prospective assessment of condom usage, large sample size, adjustment for confounding variables, and validation of clinical outcomes.

Another recent study addressed the effect of condom usage on the sequelae of HPV. Hogewoning et al<sup>3</sup> from The Netherlands studied women with cervical intraepithelial neoplasia (CIN) and HPV infection. Women with their male partners were randomized to condom and "noncondom" groups. Women (n = 148) were then followed by colposcopy and molecular detection of HPV infection. After 2 years, the proportion of women who experienced clinical disease regression was 53% in the condom group and 35% in the noncondom group. This study is relatively unique in using the rigorous methodology of the randomized clinical trial to study condom use efficacy.

The link found between condom usage and reduction in STD-related morbidity in these 2 studies can be attributed to superior methodology. Devine and Aral<sup>4</sup> have recently reported a simulation exercise concerning the effect of reporting errors and potential bias on the

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# Reply

*To the Editors:* We appreciate the letter by Drs Ault and Ness, which serves to shed further light on the issue of STD prevention. They feel the studies mentioned in their letter are well designed, possess "superior methodology," and are, thus, applicable to the real world; we differ.

results of condom effectiveness studies. These authors found that a small degree of inaccurate reporting of condom usage substantially reduces the power of studies to detect a potential favorable effect. This fact may well account for the mixed picture in the present medical literature concerning the effectiveness of condom usage for preventing STD and associated adverse outcomes.

In the most recent literature, well-designed studies have demonstrated that condoms prevent STD-related adverse outcomes. Both researchers and clinicians should be aware that condom usage remains an important intervention to protect women's health.

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As mentioned in our original review paper,<sup>1</sup> longterm consistent and correct use of condoms decreases the risk of acquiring discharge-related STDs such as chlamydia and gonorrhea, the common culprits in cases of pelvic inflammatory disease (PID) and subsequent infertility. The problem is, however, that numerous studies (as referenced in our paper) repeatedly demonstrate that the overwhelming majority of people in the general population—especially adolescents and young adults, the population in which PID most commonly occurs—do not use condoms consistently and correctly, despite education and knowledge. In theory, condom promotion is an effective strategy for reducing the incidence of some infections; in the real world, however, the escalating incidence of chlamydia, other STDs, and tubal infertility in the face of widespread condom education suggests that barrier protection initiatives have not achieved their desired epidemiologic impact.

The next paper cited by Ault and Ness also raises interesting issues. Recent literature suggests that progression of high-risk human papillomavirus (HPV) lesions may be profoundly influenced by various factors such as smoking, deficient nutritional status, the presence of other STDs, continued use of hormonal agents, and other factors affecting immune system function; HPV is much more likely to regress in individuals unexposed to these adverse influences. There is no doubt that correct, consistent condom use will decrease the risk of acquiring associated STDs (which act as potent cofactors in CIN progression), and perhaps diminish the viral load exposure of recurrent HPV. As most people fail to use condoms consistently even when they are fully aware of their direct risk of serious STDs, however, this discussion remains academic from an epidemiologic stance. Furthermore, in the cited study important confounding variables have not been adequately addressed. For example, consistent condom users are more likely to discontinue hormonal contraception, a key potential determinant in CIN progression.<sup>2</sup> There is no mention of assessment for continued use of oral or injectable hormonal contraceptives in the study groups during the trial period. With ambiguity about major confounders, conclusions remain uncertain.

The final cited paper correctly emphasizes the relationship between accuracy in data collection and results.

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Although a discussion of statistical inference may be interesting, effectiveness figures are a secondary consideration if compliance is lacking and STD rates continue to mount, despite condom promotion.

We agree that factual education about barrier protection is an important component of STD, CIN, and infertility awareness. Recognizing that the present condomcentric approach to sexual behavior change has failed to adequately address the STD pandemic, however, we concur with Dr David Wilson, a Senior Monitoring and Education Specialist for Global HIV/AIDS, who wrote in the British Medical Journal: "As AIDS educators, we often publicly promote approaches that we would not countenance in our personal lives, such as the notion that it is acceptable for our spouses or children to have multiple partners, provided condoms are used."<sup>3</sup> A more comprehensive approach, as discussed in our paper,<sup>1</sup> is applicable across a range of populations, has evidence-based epidemiologic success, and provides an effective template for the campaign against STDs.

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## First-trimester crown-rump-length (CRL) discrepancy: Much ado about nothing?

To the Editors: We read with great interest the paper by Kalish et  $al^1$  about first-trimester CRL discrepancy in twin pregnancies. The authors studied 159 twin pregnancies. They reported that the 90th percentile for intertwin CRL discordance was of >10%, and that a disparity above this threshold was associated