

A Comparison of Young Womens Actual and Assigned Timing-of-Use of a Microbicide Surrogate

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Abstract:

Purpose: Microbicide effectiveness for HIV/STI prevention may require specific timing of application in relationship to coitus. We examined actual timing of use of a microbicide surrogate (vaginal moisturizer [VM]) compared to assigned timing condition among young women.

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Article:

Purpose: Microbicide effectiveness for HIV/STI prevention may require specific timing of application in relationship to coitus. We examined actual timing of use of a microbicide surrogate (vaginal moisturizer [VM]) compared to assigned timing condition among young women.

Methods: Young women were asked to use a VM (pre-filled, disposable applicator) with each coital act during one month cycles (every six months) in a random timing sequence—1 hour pre-coitus, 10 minutes pre-coitus, and 10 minutes post-coitus. Daily diaries collected information related to coital behaviors, VM use and timing, and young women's and partners attitudes toward VM use. Descriptive and mixed-effects model analyses were conducted that accounted for the repeated subject effect.

Results: 109 women (18-22 years old) completed at least 3 VM diary cycles. Of the 17,772 diary days collected, coitus was reported on 2128 days (1252 with VM use; 59%). The median time between VM application and coitus for the 1 hour pre-coital group was 60 minutes (range: 2+ hours pre-coitus to 1-10 minutes post-coitus) and the median for the 10 minute pre-coital group was 13.5 minutes (range: 2+ hours pre-coitus to 1-10 minutes post-coitus). The median for the 10 minute post-coital group was 5 minutes pre-coitus (range: 2+ hours pre-coitus to 1+ hour

post-coitus). The 1-hour pre-coitus and the 10-minute pre-coitus groups both had significantly smaller standard deviations than the post-coital group ($t = 4.45$ and 2.22 , respectively). In the 10 minute post-coital group 65% (286/443) of VM use was pre-coital and 18% (78/443) was 30 or more minutes post-coital. The VM was used within 30 minutes before coitus in about half of the events ($n = 513$); in the majority of these events women reported the VM was very easy to use ($n = 365$); somewhat messy ($n = 316$); that they were very wet during sex ($n = 422$); and that the sex was very good ($n = 400$). In addition, women reported that their partners liked using the VM ($n = 220$).

Conclusions: Overall there was tremendous variation in timing of VM application during the 59% of coital events in which it was used. Although median time values of actual VM use accurately reflected assigned timing condition in the pre-coital groups, there was substantial deviation in application time across the three timing conditions with significantly greater variability in the post-coital group. While VM use was positively rated in terms of ease of use and feeling during coitus; these results have implications for behavioral challenges related to specific timing requirements for microbicide application, especially for young women. For instance, it is often difficult to accurately estimate when coitus will occur, making pre-coital application difficult while post-coital application necessitates having the microbicide accessible. These findings suggest that targeted educational efforts will need to be directed at young people, including messages about the increased comfort with use, in order to increase the likelihood that future microbicides will be used at appropriate times to optimize HIV/STI prevention effectiveness.

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