

# TECHNICAL PAPERS ON HEALTH AND BEHAVIOR MEASUREMENT

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**Measuring the Acceptability of Microbicides:  
Problems and Principles**

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**LEAD SENTENCE:** 'More than 21 million sexually active women in the United States would be interested in using a vaginal microbicide to reduce their risk of getting HIV or another sexually transmitted disease (STD) if one were available . . .'

While I have *no evidence* that this interpretation is wrong, I would suggest that one should be skeptical of such claims until they have carefully examined the evidence that stands behind them. In considering whether 21 million American women are ready to use vaginal microbicides, we might begin by examining the question sequence that generated this conclusion (4):

'Currently, scientists are developing substances that can kill or block some of the organisms that cause sexually transmitted diseases. Imagine that these new substances could be added to a cream, or a jelly, or to a suppository or sponge that a woman could insert in her vagina before having intercourse. And imagine that these products would greatly reduce a woman's chances of getting HIV or STDs, even if her partner didn't use a condom.'

'Now, imagine that for whatever reason, you found yourself in a situation where you might be at risk of getting a sexually transmitted disease or AIDS, at that time, how interested do you think you would be in using such a product?'

'Now, thinking about your life in the past, such as when you first became sexually active or during prior sexual relationships, at any earlier time, how interested do you think you would have been in using such a product.'

'If such a product were available, given your current situation, how interested do you think you would be in using such a product.'

For each question, the respondent characterized themselves as: (1) very interested, (2) somewhat interested, (3) a little interested, or (4) not at all interested. The headline claiming that 21 million U.S. women 'would be interested in using a vaginal microbicide' was derived by totalling all women who answered very (16%), somewhat (13%) or a little (11%) interested in response to the last question. (The aggregate percentage [40%] was projected to the population using NSFG estimates of the number of U.S. females ages 15 to 44 who were sexually active in the past 12 months.)

Buried in the research article that prompted this press release, the authors noted appropriately that: '[This survey] . . . should not be taken as an exact prediction of the numbers and characteristics of women who will use a vaginal microbicide when it becomes available, since women are reporting about a hypothetical method and do not have to take any actions toward its use.' To this I would add, that there is evidence suggesting that measurements such as those reported here are particularly prone to large measurement artifacts. Writing in 1984, a National Academy of Sciences' Panel on Survey Measurement of Subjective Phenomena (1, pp. 156-157) found that anomalous subjective measurements appear to occur most commonly when questions: (1) ask for judgments on topics to which respondents have given little thought; (2)

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### Measuring the Acceptability of Microbicides: Problems and Principles

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When a colleague at NIH invited me to give this talk, I insisted that I had nothing relevant to say. While I have done some work on social and behavioral research issues relevant to HIV, none of my work has been concerned with the acceptability of vaginal microbicides. But my NIH colleague insisted that I would have something worthwhile to say if I immersed myself in the literature for a while. After reading for a while, I concluded that she might, perhaps, be right.

First, to state the obvious, when we seek to measure the 'acceptability' of vaginal microbicides we are attempting to measure an inherently subjective phenomena. These measurements involve some notoriously difficult issues including understanding humans' perceptions of risk and their prediction of both subjective reactions to unfamiliar situations and their future behaviors in these situations.<sup>1,2</sup> Second, it seems to me that research on the acceptability of vaginal microbicides has sometimes been interpreted as providing a more certain understanding of this phenomena than is scientifically warranted.

Consider, for example, the following press release<sup>3</sup> which was widely reported in the U.S. media.

**HEADLINE:** 'New Survey Shows U.S. Women Want Microbicides for STD Prevention'.

require answers that have no explicit implications in the everyday life of respondents; (3) require a seemingly arbitrary choice between response categories; or (4) are vague or overly general in their meaning. Several of these characteristics apply to the present measurements.

I believe caution should be our watchword when asked to interpret any such data derived from questioning respondents about the acceptability of *hypothetical* microbicides. This is not to say that asking such questions has no value, but rather the value, meaning, and meaningfulness of such measurements must be demonstrated. These considerations should also cause us to prefer measurements that: (1) involve actual testing of real products rather than evaluations of hypothetical products, (2) monitor long-term use of and reactions to such products, and (3) include both subjective and objective indicators of acceptance.

#### References

1. Turner C. F. and Martin E., eds. Surveying Subjective Phenomena. Two volumes. *Report of the National Academy of Sciences—National Research Council Panel on Survey Measurement of Subjective Phenomena*. New York: Russell Sage Foundation (1984).
2. Committee on Risk Perception and Communication, National Research Council—National Academy of Sciences. *Improving Risk Communication*. (1989) Washington DC: National Academy Press.
3. Allan Guttmacher Institute (AGI). Press Release, 10 February 1999. New York: AGI. (Available at: [www.agi-usa.org/pubs/archives/newsrelease3101](http://www.agi-usa.org/pubs/archives/newsrelease3101)).
4. Darroch J. and Frost J. Women's interest in vaginal microbicides. *Family Planning Perspectives* (1999) 30: 16–23.