

# Vaginal Drying Agents and HIV Transmission

By Karen E. Kun

Women's risk of HIV infection is largely influenced by biological, social and economic factors. Certain sexual practices, such as the use of vaginal drying agents, may also increase women's HIV risk when these practices result in genital irritation and inflammation. The use of vaginal drying agents has been reported in South Africa,<sup>1</sup> Senegal,<sup>2</sup> Zaire, Cameroon, Malawi, Zambia, Kenya, Zimbabwe, Saudi Arabia, Haiti and Costa Rica.<sup>3</sup> Despite these reports, the international health community knows little about the prevalence of this practice, whether it increases the risk of HIV infection or how to implement culturally sensitive and effective educational interventions addressing the potential health consequences of usage.

The literature on vaginal drying agent usage is indicative of the paucity of scientific data on sexuality, particularly on sexual practices. The studies published to date shed only minimal light on usage within the specific context of the society concerned. Because sexuality is culturally constructed,<sup>4</sup> greater understanding of the cultural contexts in which vaginal drying agents are used is essential to the development of effective interventions.

## Vaginal Drying Agent Usage

Substances inserted into the vagina to ensure dryness and tightness may include stones, leaves, powders, herbs, water, dry cloth, antiseptics, pharmaceutical products, and tissue or toilet paper.<sup>5</sup> These agents are used when there is a cultural preference for a dry rather than a lubricated vagina. Reasons for this preference vary. In South Africa, men have reported that vaginal wetness during sexual intercourse is an indicator of a woman's infidelity, and have also associated vaginal lubrication with sexually transmitted diseases (STDs) and the use of contraceptives.<sup>6</sup> In Zaire, a wet or large vagina may be considered to be the

result of a curse or bad luck.<sup>7</sup> In Senegal, drying agents may be used where there is a community belief that the vagina is not simply a natural part of the body, but must bear the mark of artistic "work."<sup>8</sup>

Both men and women have expressed preference for vaginal dryness and tightness during intercourse. In Zaire,<sup>9</sup> as well as in Zimbabwe,<sup>10</sup> it is reported to increase sexual satisfaction and pleasure for both partners. Hence, lubrication is not considered an essential element in pleasurable sexual intercourse. In Zimbabwe, both college-educated women<sup>11</sup> and women who have not attended college<sup>12</sup> have reported that using vaginal drying agents made them "like a virgin," and that this enhanced their partner's sexual pleasure. Some herbs are also believed to "heat up the woman's body," causing heat and friction during intercourse and heightened male sexual stimulation.<sup>13</sup>

## Cofactors in HIV Transmission?

A small number of studies have assessed whether the use of vaginal drying agents enhances the risk of HIV infection. Inconclusive evidence supports the existence of such a relationship. In one prospective study of 634 seronegative women recruited from a labor ward in Lusaka, Zambia, for example, the practice of "dry" heterosexual intercourse, in which the male partner mopped the vagina dry with a cloth before intercourse, was associated with a higher risk of HIV infection.<sup>14</sup>

Other researchers have focused on the physical effects of intravaginal substances. In Zaire, eight commercial sex workers recruited through the Kananga Department of Public Health were examined both prior to and after their insertion of drying agents. Among the seven women who used leaves as a drying agent, only one was left with an intact vaginal mucosa. All other women had vaginal inflammation that resembled a localized chemical burn

or an allergic reaction.<sup>15</sup>

Although this study demonstrated that drying agents affected the epithelium of the vagina, the hypothesis that the practice may be associated with an increased risk of HIV infection was not tested, most likely due to the small sample size involved. However, another study in Zaire involving a sample of 377 commercial sex workers recruited through the Kinshasha Health Department found that women who introduced any product into the vagina were significantly more likely to be infected with HIV than women who did not.<sup>16</sup>

In some regions, women use drying agents not only for tightening, but also for self-treatment of STD symptoms such as itching and discharge. A survey of 3,008 pregnant women in Malawi who reported using drying agents indicated an association between HIV infection and use of the agents to combat itching and discharge, but not use for tightening. The investigators concluded that STDs may play a role in enhancing risk of HIV infection, or that vaginal drying agents may be used differently for combating STD symptoms than for tightening, with different effects on the relative risk of HIV transmission.<sup>17</sup>

The hypothesis that women may use drying agents differently remains unsubstantiated. Researchers investigating the use of drying agents among 75 HIV-positive and 76 HIV-negative women in Zimbabwe found no significant differences between the two groups' patterns of use or rationales for doing so. The study did find, however, that 14 women in the HIV-positive group had used a particular herbal drying agent (Wankie), compared

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with seven in the HIV-negative group. The authors concluded that this and related substances merit further investigation as a potential cofactor in HIV transmission.<sup>18</sup>

The literature does not uniformly support the assertion that vaginal drying practices are linked to increased HIV risk. A study conducted among 329 women attending an STD clinic at a teaching hospital in Lusaka, Zambia, found no direct association between the use of various vaginal drying agents and HIV infection. The study examined the ingestion of "porridge" (a liquid drink believed to cause vaginal drying) and the use of cloth, leaves and stones as potential risk factors for HIV infection. Although 58% of the women tested positive for HIV, no individual vaginal drying practice showed a statistically significant association with HIV infection.

The authors concluded that there may be no association between vaginal drying agent usage and increased risk for HIV infection, or that the association may be too small to be detected in the sample. In addition, the authors questioned whether their designation of variables as "ever use" and "current use" of the practices, rather than a more precise frequency measure, might have further biased their results against finding a relationship.<sup>19</sup>

Although research has not yet conclusively demonstrated that use of vaginal drying agents is associated with an increased risk of HIV infection, such a relationship is plausible through numerous mechanisms.<sup>20</sup> HIV transmission is known to be enhanced in the presence of genital lesions and ulcerations.<sup>21</sup> Since vaginal drying agents have been documented as producing lesions that disrupt vaginal membrane integrity,<sup>22</sup> the practice may also increase the risk of HIV acquisition.

Drying practices may also increase the likelihood of trauma and abrasions to the vagina and penis during intercourse because of the absence of lubrication.<sup>23</sup> Drying agents may cause swelling of the membranes, bruising, stinging and may facilitate small cuts during sexual intercourse that increase the risk of HIV infection.<sup>24</sup> In addition, intravaginal substances may alter the vaginal pH, which normally serves as a protective factor against HIV acquisition.<sup>25</sup> Drying agents may also be used to treat or mask vaginal discharge, which may be a symptom of a STD, a demonstrated cofactor in HIV transmission.<sup>26</sup>

## Implications

Additional research is needed to investigate the potential relationship between usage of vaginal drying agents and HIV

status, to understand the preferences and practices of dry, tight sex within specific cultural contexts and to demonstrate which substances and practices cause lesions, trauma during intercourse and condom disintegration.<sup>27</sup>

The development of effective prevention efforts against HIV and STDs requires a more thorough understanding of different sexual preferences and practices. The importance of such research is underscored by one study of vaginal drying agent usage in which women reported that men were reluctant to use condoms because they prevented men from assessing vaginal wetness.<sup>28</sup> In addition to discouraging use of the male condom, the cultural preference for vaginal dryness may have negative implications for the acceptability of the female condom.<sup>29</sup> The presence of drying agents in the vagina prior to sexual intercourse may also compromise condom integrity and render the condom inadequate as a contraceptive or as protection against STDs.<sup>30</sup>

The emphasis on dryness may influence women's willingness to use vaginal microbicides as well.<sup>31</sup> If effective microbicides are developed, they may only be accepted (possibly as a substitute for current dry sex practices) if they do not moisten the vagina to an unacceptable degree.<sup>32</sup>

## Conclusion

Vaginal drying practices are part of a complex web of biological, economic and cultural factors that may affect women's risk of HIV infection and other STDs. Health promotion and disease prevention initiatives can only be effective if they take these interrelated elements into account. Qualitative data are therefore needed to assess and demonstrate the impact that these agents have on reproductive health initiatives for women.

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