The repertoire of human efforts to avoid sexually transmissible diseases: past and present. Part 2: Strategies used during or after sex

Basil Donovan

Background/objective: Despite the focus by public health programmes on condoms, chastity, or monogamy, people use a much wider variety of strategies to minimise their personal risk of sexually transmissible disease (STD). The objective of this study was to compile a comprehensive list of personal and societal STD avoidance strategies.

Methods: Data from clinical and research observations, computer searches, and historical texts were pooled.

Results: A variety of behaviours during or after sex, other than condoms, were identified that have been perceived to alter STD risk. STD avoidance strategies were often poorly documented and difficult to disentangle from other drives such as aesthetics, sexual variety, and contraception. They also varied in popularity in time and place. Some examples were douching; systemic and topical prophylactic antimicrobials; non-penetrative sexual practices, post-coital urination; and examining sexual partners’ genitalia. Interest in some practices has been recently revived—for example, vaginal microbicides and post-exposure chemoprophylaxis, while others—for example, withdrawal and non-penetrative sexual practices, receive scant attention but may be much more widely used.

Conclusion: The full spectrum of STD avoidance strategies warrants further study because some are ubiquitous across cultures and because they have the potential to complement or undermine safer sex programmes. Because of their greater acceptability, some less efficacious strategies may have greater public health importance than less popular but more efficacious strategies such as condoms.

(Sex Transm Inf 2000;76:88–93)

Keywords: sexually transmitted diseases; HIV; prostitution; military

Introduction
The accompanying article1 outlined the range of strategies that people use, or have used, to reduce their risk of sexually transmissible disease (STD) before (or instead of) engaging in sex. In that article societal responses to STDs and factors influencing sexual partner selection were also discussed.

In this article, the STD avoidance strategies that people initiate at the time they have sex or shortly thereafter are listed. Military and sex industry responses to STDs are also outlined. The methods used to derive this information were described previously.1

Strategies adopted during sex
The male condom received pre-eminence in HIV/AIDS safer sex campaigns2 3 because it was the most established product, it was biologically plausible, and because it was deemed to be the most acceptable option for the highest risk populations such as homosexually active men and sex workers and their clients. In retrospect, this took considerable courage as it has taken a long time to establish the substantial protective efficacy against HIV transmission of condoms.1 The protection provided by condoms against other STDs is more variable.1 4

Globally, however, consistent male condom use remains a minority strategy because of moral objections, limited consumer acceptability, or logistic reasons. The costs of condom use—including financial, interpersonal, aesthetic, and social costs1—are too high for most people. Instead, many people in different settings adapt their sexual practices in ways that do not include male condoms (table 1), often with unknown or only marginal benefit for STD prevention.

Vaginal microbicides are currently the subject of renewed interest because they minimise the need for male cooperation in HIV prophylaxis.1 A wide range of new compounds and delivery systems is being investigated, with a likelihood that a combination product will emerge with maximum antimicrobial effect and minimum side effects.1

Strategies adopted after sex
Post-coital genital washing, urinating, and applying topical antiseptics (table 2) are all strategies that were more common before better quality condoms and modern antibiotics became available, though they were of dubious value for reasons of poor compliance.1 By the 1970s, before high risk people were willing to accept condoms on any scale, systemic antibiotic prophylaxis was thought to provide the most promise for STD prevention despite its inherent problems.1 Globally, doctor initiated post-exposure prophylaxis against STDs remains uncommon. It is much more common for people to self medicate as prophylaxis against STDs.
Post-exposure systemic prophylaxis against HIV infection (and its potential to undermine safer sex campaigns) has rekindled the concept. If affordable, few clinicians would deny access to antiretrovirals for people who had been raped and perhaps people who had experienced a condom failure in an HIV discordant relationship. The debate centres on who else should be provided with antiviral drugs and the need for research assessing their efficacy.

### Military responses
Driven by the imperative to maintain the health of fighting forces that were dislocated from...
domestic restraints, and aided by diminished public scrutiny, the military has tended to take many of the boldest steps in STD prevention. These steps have included:

(a) graphic education programmes with an emphasis on sexual abstinence and temperance
(b) variously declaring venues that provide sexual opportunity out of bounds or attempting to regulate local sex industries
(c) providing (sometimes compulsory) post-coital chemical prophylaxis stations, self administered chemical prophylaxis kits, or condoms
(d) punishing soldiers who contracted STDs often detected by compulsory medical examinations (“dangle parades”)
(e) quarantining infected military men or prostitutes
(f) promoting visits to camp by wives and girlfriends

Figure 1 “Love solution: AIDS virus killer” purchased in the foyer of an international hotel in China in 1990. For spraying on the external genitalia before sex. Listed ingredients include “Germicide No 1.”

(g) providing alternative physical and recreational outlets.

While the merits of many of these military measures remained unproved, public awareness of STD prophylaxis tended to open up during and after the world wars. Fear of exposing troops to “old world degeneracy” was a significant factor in the US isolationism in the early parts of the world wars. But the military in active service often had high STD incidences to cope with, compounded by the fact that many soldiers deliberately exposed themselves to STDs to avoid serving at the front. The explicitness of the military response (table 3) has only been matched by some of the community based education programmes developed since the AIDS pandemic.

### Table 2 Actions that individuals use after sex to alter the risk of STDs

<table>
<thead>
<tr>
<th>Action</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vaginally douche</td>
<td>Douching is a second rate contraceptive method that is also used for aesthetic and STD preventive reasons, with or without additional chemicals. It is often ambiguous as to what constitutes “douching,”—ie, washing out a device that provides hydrostatic pressure or simply diligent washing of the lower vagina with the fingers (clinical observation). In the Philippines, some private doctors provide a douching service.</td>
</tr>
<tr>
<td>Wash the external genitalia</td>
<td>Washing is frequently performed by sex workers on themselves and their clients (clinical observation). One study suggested a protective effect against HIV infection for sex workers if soap and water was used but not water alone. Washing the genitalia with soap and water was a component of post-exposure prophylaxis regimens used by the military (table 3). Showering is a more subtle alternative.</td>
</tr>
<tr>
<td>Pass urine</td>
<td>Urinating immediately after sex is sometimes recommended to women to avert recurrent urinary tract infections and to (particularly military) men to avert urethral infections, but it was never proved to be of benefit for the latter. It is still common practice for some groups of men (clinical observation).</td>
</tr>
<tr>
<td>Apply topical and intravaginal antimicrobials</td>
<td>Prophylaxis was provided; in the form of portable “blue light kits” or “pro-kits,” or calomel and carbolic acid ointments at “prophylaxis stations”; to military men and in ports well into this century. Post-coital antiseptic is often practised by sex workers but without any evidence of benefit. Products used include mustard oil, lemon and alcohol, toothpaste, soap, disinfectants, deodorants, and mouthwash. Some commercial sex worker organisations recommend the use of spermicide only in the event of condom failure.</td>
</tr>
<tr>
<td>Irrigate the male urethra</td>
<td>Chemical (usually dilute potassium permanganate) post-coital irrigation services were provided to soldiers and in ports around the world well into this century. Often used in combination with topical antiseptics such as calomel, its value was never formally proved.</td>
</tr>
<tr>
<td>Drink huge quantities of beer</td>
<td>A folk variant of the former strategy.</td>
</tr>
<tr>
<td>Take post-exposure systemic antimicrobials</td>
<td>Post-exposure antibiotics are a frequently used informal strategy, and more formally applied after sexual assault. Antibiotics were of proved benefit for gonorrhoea but discouraged for routine use because of the potential for the development of antibiotic resistance and the lack of a single agent to cover all important STD pathogens. This issue recently increased in profile because of the potential for direct chemoprophylaxis against HIV.</td>
</tr>
<tr>
<td>Get vaccinated against hepatitis</td>
<td>Hepatitis B vaccination (active and/or passive) is sometimes provided after sexual assault and some other high risk sexual exposures. Hepatitis A vaccination is appropriate after confirmed sexual exposure.</td>
</tr>
<tr>
<td>Get tested for STDs</td>
<td>Getting tested is a form of tertiary prevention intended to avert complications of STD if already infected and also to protect future sexual partners. This strategy is limited by test “window periods,” test insensitivity, and lack of protection against new infections but it enjoys widespread approval.</td>
</tr>
<tr>
<td>Notify past sexual partner(s) if infected with an STD</td>
<td>For curable STDs, contact tracing reduces the likelihood of reinfection for the index case.</td>
</tr>
</tbody>
</table>

### Commercial sex industry responses

Long perceived by the public and authorities as central to STD epidemiology, the sex industry has often responded remarkably to the fear of HIV infection by increasing its numbers of female workers. Many potential STD avoidance strategies have been listed here and previously, though insufficient data are available to determine their effectiveness. Many commercial sex worker organisations recommend the use of spermicide only in the event of condom failure. Some commercial sex worker organisations recommend the use of spermicide only in the event of condom failure.
The repertoire of human efforts to avoid sexually transmissible diseases

1. Every girl is required to reject a diseased guest.
2. Drunken and very boisterous guests are not to be taken up to the room by the girl.
3. The girl should demand of the guest that he use a preservative instrument and if he refuses she is obliged to lubricate his organ with borated vaseline.
4. Preservatives are available at the price of ______.
5. After intercourse every girl is required to show her guest to the disinfectant room.
6. Whoever practises coitus despite the fact that he knows or can assume that he is venereally diseased is guilty of a criminal act punishable by imprisonment.
7. The best protection against infection is the use of a condom which is to be drawn carefully over the member and then sufficiently lubricated with borated vaseline. However, if no condom is available, the member should at least be thoroughly greased with vaseline. Such grease capsules are in the possession of the girls.
8. After coitus, the member should immediately be washed thoroughly with warm water and soap after which the guest should go to the disinfectant room, the entrance to which is always marked by a red lamp. The attention of the guest is called to the fact that it is his bounden duty to report to that room and that a neglect of this provision is punishable.
9. Moreover, prophylaxis is advised for the other visitors to the brothel.

Table 4 Forms of commercial sex that have thrived since the advent of AIDS

(1) Consistently protected vaginal or anal intercourse.
(2) Pornography, especially videos and electronic forms.
(3) Telephone sex.
(4) Bondage and discipline, and other fetish services.
(5) Massage with “hand relief” (client masturbated by sex worker).
(6) BJ (“blow job” or fellatio) services.
(7) Lap dancing (intimate stripping without genital contact).
(8) Sexually explicit computer bulletin boards*.
(9) Virtual sex*

*Under development.

relative efficacy, prevalence (which varies widely between cultures), or how the people engaging in these behaviours construct and combine them. Some practices that were once common—for example, topical antiseptics for men, are now rare while other practices with a long but low profile history—for example, vaginal microbicides, are currently the subject of considerable interest.7 8 Others, such as partner selection or withdrawal, that may dwarf higher profile strategies in terms of prevalence are not readily amenable to study because they signify a range of behaviours rather than a simple dichotomy. A further barrier to determining the efficacy of alternative strategies through randomised trials is that many of the techniques are readily available and blinding is usually impossible. Ethical concerns also emerge if a strategy of proved high efficacy, such as the use of male condoms, is displaced.27 The acceptability of a strategy may also hinge on cultural norms which are subject to change.25 26 Nevertheless, a practice which may provide only limited STD protection, say 20–30%, but is used by 80% of the population may have substantially more public health impact than a strategy which has over 90% efficacy but is only acceptable to 10% of the population. Programme managers need to be mindful of the heterogeneity of STD avoidance strategies within their local population and perhaps adapt accordingly. A clinician faced with an HIV discordant couple who flatly refuse to use condoms,27 despite repeated counselling, may need to discuss withdrawal and/or diaphragm use, to promptly manage any inflammatory genital conditions, and to ensure that the HIV positive partner has the lowest viral load that is achievable.

The effects of informal STD avoidance strategies can be wide ranging. In the Philippines, up to 89% of commercial sex workers self medicate with antibiotics.28 While this is associated with some of the highest rates of drug resistant N gonorrhoeae in the world, syphilis and chancroid are relatively uncommon in this setting.29 30 But irregular use of broad spectrum antibiotics may also increase the prevalence of vaginitis and reduce the efficacy of oral contraceptives.

There seems to be an ongoing and profound resistance by many doctors to discuss sexuality and sexual safety with their patients.29 30 Discussion of sexual matters, particularly with women, may be socially precluded.31 Eliciting many of the subtle attitudinal, behavioural, and cultural factors listed here requires specialist skills that are not widely available.32 Even when risk histories are adequately established, dilemmas arise for clinicians and health educators. For example, practices such as the use of vaginal drying agents or “negotiated safety”33 may pose some risk of HIV transmission within a relationship but, by adding quality to that relationship, they may reduce extramarital HIV risk. Personal STD avoidance strategies will remain a complex and dynamic area of study, but it is a fascinating and worthwhile field.

Thanks to Virginia Wynne-Markham for preparation of the manuscript and assistance with searches. Thanks also to Graham Neilsen for his helpful comments on the manuscript.

8 Larkin M. Easeing the way to safer sex. Lancet 1998;351:964.
11 Centers for Disease Control and Prevention. Management of possible sexual, injecting drug use, or other non-occupational exposure to HIV, including considerations related to antiretroviral therapy. MMWR 1998;47:RR-17.

*In three languages—German, Hungarian, and Croatian. Source: Hirschfeld.94

Table 3 Instructions* posted by Austrian military authorities in brothels in occupied territories during the first world war

<table>
<thead>
<tr>
<th>Instruction</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Every girl is required to reject a diseased guest.</td>
<td></td>
</tr>
<tr>
<td>2. Drunken and very boisterous guests are not to be taken up to the room by the girl.</td>
<td></td>
</tr>
<tr>
<td>3. The girl should demand of the guest that he use a preservative instrument and if he refuses she is obliged to lubricate his organ with borated vaseline.</td>
<td></td>
</tr>
<tr>
<td>4. Preservatives are available at the price of ______.</td>
<td></td>
</tr>
<tr>
<td>5. After intercourse every girl is required to show her guest to the disinfectant room.</td>
<td></td>
</tr>
<tr>
<td>6. Whoever practises coitus despite the fact that he knows or can assume that he is venereally diseased is guilty of a criminal act punishable by imprisonment.</td>
<td></td>
</tr>
<tr>
<td>7. The best protection against infection is the use of a condom which is to be drawn carefully over the member and then sufficiently lubricated with borated vaseline. However, if no condom is available, the member should at least be thoroughly greased with vaseline. Such grease capsules are in the possession of the girls.</td>
<td></td>
</tr>
<tr>
<td>8. After coitus, the member should immediately be washed thoroughly with warm water and soap after which the guest should go to the disinfectant room, the entrance to which is always marked by a red lamp. The attention of the guest is called to the fact that it is his bounden duty to report to that room and that a neglect of this provision is punishable.</td>
<td></td>
</tr>
<tr>
<td>9. Moreover, prophylaxis is advised for the other visitors to the brothel.</td>
<td></td>
</tr>
</tbody>
</table>

[94]
The repertoire of human efforts to avoid sexually transmissible diseases: past and present. Part 2: Strategies used during or after sex

Basil Donovan

Sex Transm Infect 2000 76: 88-93
doi: 10.1136/sti.76.2.88

Updated information and services can be found at:
http://sti.bmj.com/content/76/2/88

These include:

References
This article cites 46 articles, 5 of which you can access for free at:
http://sti.bmj.com/content/76/2/88#BIBL

Email alerting service
Receive free email alerts when new articles cite this article. Sign up in the box at the top right corner of the online article.

Topic Collections
Articles on similar topics can be found in the following collections

Condoms (761)
Reproductive medicine (1356)
Health education (960)

Notes

To request permissions go to:
http://group.bmj.com/group/rights-licensing/permissions

To order reprints go to:
http://journals.bmj.com/cgi/reprintform

To subscribe to BMJ go to:
http://group.bmj.com/subscribe/