

educate others about the role and place of GUM services.⁵ The recent Department of Health chlamydia pilot study has shown that the rates of chlamydial infection are almost identical in those 19–24 year olds attending a GUM clinic as those asymptomatic 19–24 year olds attending a GP surgery with an unrelated problem.⁶ STIs can no longer be viewed as the special problems of self referrers to GUM clinics, and will have to be seen as an important component of primary health care. The introduction of universal HIV antibody testing into antenatal clinics will undoubtedly raise awareness of STIs in both pregnant women and antenatal clinic staff.⁷ We need to capitalise on these events and use them to break down the prejudices that exist for individuals with STIs and GUM clinics. Healthcare workers will need to develop skills in raising the subject of sexual health, in communicating the presence of disease and the need for effective management—probably involving referral to genitourinary medicine services. Clinicians will need to be able to communicate the positive nature of an early diagnosis and the ease with which STIs can be acquired, without losing sight of the opportunities in reducing risk of further disease acquisition. In addition, closer working and some integration across different sexual health services may provide choice for patients unwilling to attend traditional GUM services.

We should feel encouraged that the experience for an individual visiting a GUM clinic is generally positive, and not as bad as is often anticipated. However, we must

endeavour that as our service becomes stretched and increasing demands are made on our time, we do not allow an individual to feel let down by the service we offer. Giving patients adequate time in the clinic setting to explore their feelings and to help unravel the felt stigma they may have developed must be an essential part of our job.

The surest way to end stigma related to STI is to find effective means of identifying, eradicating, and preventing infection. Until that time we must acknowledge the importance of an all too human response to circumstances.

ELIZABETH FOLEY
RAJ PATEL

Department of Genitourinary Medicine, Southampton University
Hospitals NHS Trust, Southampton, Hampshire. SO14 0YG, UK

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Oral sex and HIV transmission

It is well established that oral sex may lead to the transmission of a wide variety of STIs, including HIV.^{1–4} As discussed elsewhere in this issue (see syphilis symposium, pp 309–26) oral sex appears to be important in the resurgence of early infectious syphilis in the United Kingdom. Many of these latter cases have been in HIV positive individuals and it is likely that co-infection with syphilis would increase the risk of (oral) transmission of HIV—as has been shown similarly in numerous studies of genital HIV/STI co-infection.

Despite recognising that transmission does occur, some feel that the underlying risk of HIV transmission via oral sex is so low as to be negligible. However, two recent studies (as yet unpublished in peer review journals) suggest that oral sex may be contributing to a higher proportion of new HIV infections than previously thought. In the first study, of 102 men who had recently seroconverted, eight (7.8%) were attributed to oral sex. Of these eight, unprotected oral sex was the only risk factor in four, but four had also had protected anal sex.⁵ A second study from my own unit was of 494 HIV positive patients (mostly homosexual) who completed a questionnaire on sexual behaviour. Six per cent believed themselves to have been infected because of oral sex alone. Further follow up of these and other patients in our unit, who believe themselves to have been infected by unprotected oral sex is ongoing and about half, where data are available, have had recurrent infections of the mouth, which could have increased their risk.⁶

A third report of two studies from Australia, gave contradictory results. An interview study found that a similar proportion, seven of 75 (9.3%), homosexual men gave receptive oral intercourse as the likely source of their infection. However, the investigators felt that they must have had other risk factors as they denied ejaculation as

part of their oral sex. Furthermore, in a cohort study of over 700 men, 26% reported unprotected receptive oral intercourse with ejaculation but they did not have an increased risk of seroconversion⁷ (for further discussion, see CDR⁸).

Finally, the press release from a very recent report of an ongoing study of homosexual men from San Francisco states that receptive oral intercourse with ejaculation was a very low risk. One seroconversion was found but thought to have occurred outside the study period. However, the study population was small (198), only 20% of these claimed to have had receptive oral sex with an HIV positive partner, only 40% to ejaculation, and follow up was for only 6 months. It is therefore unlikely such a study would have had sufficient power to detect transmission, or to reject the hypothesis that transmission does occur (presented by Dr Kimberly Page-Shafer *et al*, National HIV prevention conference, Atlanta, August 2001).

In June 2000, the Department of Health, following the deliberations of a working party of the chief medical officers' expert advisory group on AIDS (EAGA), published a document entitled "Review of the evidence on the risk of HIV transmission associated with oral sex."⁹ The authors concluded, as with other extensive reviews, that oral transmission of HIV occurs and that certain factors might increase the risk. These include receptive oral intercourse (ROI) with ejaculation, high viral load, and various factors which might breach the oral defence mechanisms. Saliva is protective and has a number of antiviral components, such as thrombospondin and secretory leucocyte protease inhibitor (SLPI), but these are likely to be overcome by the volume effects of seminal fluid.¹⁰

Although most of the several dozen case reports to date have been of receptive oral intercourse, it should be noted

that there have been reports of HIV transmission associated with insertive fellatio as well as two reports of transmission associated with cunnilingus and one of insertive anilingus.⁹ The presence of inflammation in the mouth, caused by sores, trauma, or infection is described in some of these reports. The relative rarity of cases of HIV infection attributed to oral transmission is likely to be influenced by the rarity with which oral exposure has occurred without other forms of penetrative sexual contact and the tendency of attributing HIV transmission to any higher risk exposure which can be identified.

In recent years, many participants in studies have indulged in protective anal and vaginal sex but oral sex has normally been unprotected. This might explain why a real (but low) risk of unprotected oral sex is now becoming more apparent. Another difficulty is the power of studies to identify such a small increase in risk. For example, in one important cohort study from four sites, the multivariate analysis showed that for the pooled data, the odds ratio for receptive oral intercourse and increased risk of HIV transmission was only 1.01 (95% CI 1.00–1.02).¹¹

The dilemma is how to present this small but real risk as appropriate public health messages. Concern has also been raised that highlighting the risk of unprotected oral sex may incite higher risk sexual practices as alternatives. Conversely, it is important that individuals and the public understand that oral sex is not risk free and may lead to transmission of HIV as well as other STIs.

UNAIDS and Centers for Disease Control (CDC) state, on their websites, that a condom or dental dam is recommended to reduce the risk of HIV transmission when indulging in oral sex. The expert advisory group on AIDS, following the publication of the working party review on the evidence on the risk of HIV transmission and oral sex last year, recently released a statement on risk. This reads as follows:

“There is a risk of HIV transmission during unprotected oral sex. This risk is less than from unprotected penetrative anal or vaginal sex. The risk of HIV and other sexually-transmitted infections can be reduced by using a condom for all forms of penetrative sex, including oral sex. If a condom is not used, avoidance of ejaculation into the mouth probably lessens (but does not eliminate) the risk of HIV transmission.”

This risk statement recognises that oral sex is often unprotected, despite official recommendations, and enters into the discussion of what other factors might reduce the risk. A more comprehensive discussion, in the form of questions and answers, is available on the Department of Health website: www.doh.gov.uk/eaga. A recent issue of the Communicable Disease Review (CDR) has also discussed oral sex, as has National AIDS Manual (NAM), which has provided a useful fact sheet.^{8 12} The Terence Higgins Trust has also relaunched its “Use your head” campaign, avoiding the use of the word “rare” in describing the risk of oral sex as this may be misinterpreted and equated with negligible risk.

Are there figures to assist counselling of the risk of oral sex on an individual level? Samuel *et al*, using several different mathematical models, estimated a per partner risk for receptive oral intercourse at about 1% (range 0.85–2.3%) where per partner relates to the risk with that partner, uncontrolled for sexual activity.¹³ It is of course the per contact risk that we need to consider when approaching

the contentious issue of post exposure prophylaxis (PEP) following sexual exposure. Is there ever any justification for using PEP following oral sex? There have been no per contact risks provided for unprotected receptive fellatio with a known HIV positive individual. However, Vittinghoff *et al* have come up with an estimate of 0.04% following receptive oral intercourse with a known, or possibly HIV infected, partner.¹⁴ Clearly, there may be factors which might increase this overall risk and, as always with PEP, either following occupational or sexual exposure, an individual risk assessment needs to be performed.¹⁵ Receptive fellatio with ejaculation with a known HIV individual is probably the only oral sex activity of sufficient risk to justify consideration of provision of PEP. Additional factors such as a known high viral load in the source, recent dental surgery, pharyngitis, trauma, oral ulceration, or bleeding gums would also increase the likely risk. Clearly if the patient requesting PEP regularly has unprotected receptive oral intercourse with known HIV positive individuals then counselling him/her around this behaviour would probably be more important than provision of PEP.

In conclusion, unprotected oral sex carries a risk for the transmission of HIV. Owing to the frequency with which it is practised and given the fact that those with the highest risk of acquiring HIV often have protected anal or vaginal sex, it is possible that it may lead to 6–8% of new HIV infections. Although using a condom will reduce the risk of transmission of HIV and other STIs, following penetrative oral sex, it has to be recognised that many will choose not to follow that advice. A wider discussion of risk assessment should take place so that individuals might make informed choices about their sexual behaviour.

DAVID A HAWKINS

HIV/GU Medicine Directorate, Chelsea and Westminster Hospital, London SW10 9NH, UK

david.hawkins@chelwest.nhs.uk

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