

THE CONDOM CONTROVERSY: SAFE SEX OR RUSSIAN ROULETTE?

Trevor Stammers BSc, MRCPGP, DRCOG, DPAB



In the past few years, I have seen a huge increase in cases of sexually transmitted infections (STIs) in the part of London where I practice as a doctor. The genito-urinary medicine clinics are under pressure coping with the increasing workload and the Medical Society for the Study of Venereal Diseases is promoting training courses to help GPs deal more effectively with the sheer numbers of patients. Why is sexual health declining so rapidly, despite well funded government initiatives supposedly to improve it?

The Importance of Condoms

Condom promotion is usually the major priority in sexual health improvement strategies, since condoms are considered 'the only products that offer protection against both pregnancy and infections' (1).

However, with rapidly escalating rates of STIs in the UK, the effectiveness of condoms is increasingly questioned. One doctor equates condom use to playing a game of Russian roulette (2). Other leading experts have recently asked 'why condom promotion is apparently not having much effect in most developing countries and whether we have the right balance between messages about condom promotion and partner reduction and selection?' (3) and 'Have we as health care professionals been co-conspirators in propagating the erroneous belief that using condoms makes sexual activity safe?' (4).

Such questions are important since condoms are the most popular contraceptive for under-16s. Half of the girls under 16 attending family planning clinics in 2000-1 chose male condoms as their main method (5,6). The proportion of those of all ages using condoms rose from 6% in 1975 to 35% in 2001. Over the same time, the use of the contraceptive pill declined from 70% to 42% (5).

Choosing condoms and actually using them are not, of course, the same thing. A large survey of around 10,000 Americans found that only 40% of unmarried 18-59 year olds used condoms at last intercourse and, even among those whose last sexual contact was casual, only 62% used condoms (7).

Understanding Contraceptive Effectiveness and Failure

Even when used consistently, contraceptives are not 100% perfect and may fail for two principal reasons. Failure due to a defect in the product itself, such as an inherent weakness in the latex causing condom breakage, is called a *method failure*. Failure resulting from incorrect or inconsistent use, such as using condoms in association with oil-based lubricants which weaken them, is called *user failure*. The two combined comprise the total *contraceptive failure rate*.

Contraceptive failure rates are calculated only in relation to resulting pregnancies. The risk of STI transmission is much higher, as pregnancy only occurs during the fertile phase of the menstrual cycle, whereas STIs can be transmitted throughout the cycle.

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Condoms and Pregnancy Prevention

The method failure rate for condoms is 3% but the user failure rate is much higher at 14% (8). This means that, even among condoms users, one in seven women will still become pregnant each year.

However, the contraceptive failure rate varies greatly and depends upon experience of condom use. In one study amongst monogamous couples with 4,600 cumulative use attempts, condom breakage was only 0.4% and the total contraceptive failure rate was 1% (9). However these were all experienced couples in committed relationships. This is in marked contrast to adolescents who tend not to use condoms correctly. A third of heterosexual students said that they delayed putting on the condom until after initial penetration (10). In another study of 8,500 American undergraduates, though 71% were sexually active, only 43% reported that they always used condoms and 24% said they never did. Men with the most partners reported lower condom use and men who only had sex with men were less likely to use condoms than those who only had sex with women (11).

It is not surprising, then, that around 80% of requests for the emergency pill arise from contraceptive failure, mostly of condoms (12). Reliance upon condom use alone will not reduce teenage pregnancy rates if a false sense of security in their effectiveness results in more acts of intercourse occurring (13).

Risk Displacement

The theoretical protection offered by condom use in a sexually active population as a whole may be cancelled out in practice by other changes in sexual behaviour. This principle of *risk displacement* is well-recognised in many areas of public health. It explains why, for example, the numbers of road traffic accident deaths have not decreased in the UK despite the introduction of seat belt laws. Belted drivers tend to drive faster than they did before and, consequently, more pedestrians and cyclists are killed.

In a similar way, over-confidence in the ‘safety’ of condoms easily leads to an increased frequency of sexual intercourse with either the same partner or a number of other partners (3). Given the 14% condom failure rate, this means that condom promotion, without addressing such consequent changes in sexual behaviour, will inevitably result in an increase in STI transmission and unplanned conceptions, such as we have seen in the UK.

Sexually Transmitted Infections

Even without taking incorrect use and risk displacement into account, the protection condoms give against STI transmission varies considerably with the particular disease. Condom effectiveness decreases with increasing disease-specific infectivity (14). Most evidence of condom effectiveness is in relation to HIV – a virus with a low level of infectivity (14).

► HIV

The risk of contracting HIV from one unprotected sexual act of penile to vaginal sex with an infected partner is around 1 in 1,000; for receptive penile-anal sex the risk is thirty times greater, i.e. 1 in 33 (15). Condoms can confer substantial protection against the vaginal transmission of HIV, though none are specifically approved safe for anal sex (16).

Theoretical concerns about the ‘holes’ in latex being larger than HIV virus particles are not borne out in practice. Most HIV in semen is not free virus but is within potentially infectious lymphocytes (white blood cells) which cannot pass through an intact condom (17,18). In a multinational study of 304 seronegative partners of HIV-infected, heterosexual men and women, no seroconversions occurred among the 124 couples who used condoms consistently, despite a total of 15,000 episodes of intercourse. The 121 couples who used condoms inconsistently had a seroconversion rate of 4.8 per 100 person-years (19).

Condoms offer substantial protection against HIV if used consistently and correctly but inconsistent use carries considerable risks of HIV transmission. The recent US Department of Health and Human Services report concludes that consistent condom use is 85% effective in reducing the risk of HIV transmission (20).

► **Human Papilloma Virus (HPV)**

This is the most common STI in the UK. It is most probably transmitted by both skin-to-skin contact and also by virus present in the genital fluids. There are more than 100 types of HPV, a specific group of which leads to genital infection. Of these, the high-risk types are associated with cervical and anal cancers. Other, low-risk types cause genital warts and/or changes in cervical smears called *dysplasia* most of which spontaneously revert back to normal. There is no evidence that condom use reduces the transmission of HPV (20,21), presumably because transmission occurs from skin not covered by the male condom.

► **Herpes Simplex Virus (HSV)**

Genital herpes infection results in multiple, painful blisters which shed virus particles. The condition is often recurrent and, though the frequency and severity of attacks can be reduced with antiviral drugs, it remains incurable. There is again no conclusive evidence that condoms offer substantial protection against HSV, (20) though one recent paper has indicated that condoms give at least some protection to women against transmission from male partners (22).

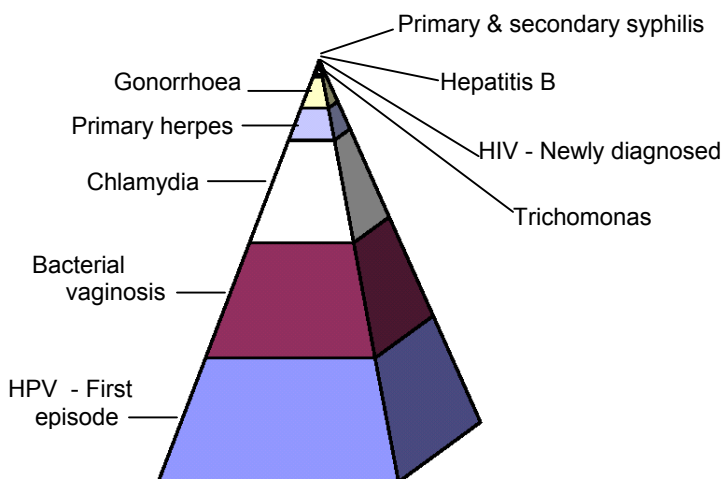
► **Chlamydia**

Chlamydia is the most common bacterial STI in the UK. It has a prevalence rate of up to 10% in sexually active women and frequently causes tubal damage and subsequent infertility, even though most infected women have no symptoms. There is no convincing evidence that condom use provides any protection use against chlamydia, though theoretically, it should offer at least some (20).

Safe Sex or Saved Sex?

Condoms do provide potentially good protection against HIV, but this STI has a very low prevalence in the UK in comparison to other STIs (Figure 1). Condoms can also provide good protection against gonorrhoea (20) but the degree of protection against other, more common diseases is less clear.

Fig 1: Infections diagnosed at genitourinary medicine clinics in England in 1999: selected conditions



Source: *Sexually Transmitted Infections in the UK: New Episodes Seen at Genitourinary Medicine Clinics 1995-2000*. London: Public Health Laboratory Service, 2001.

Consistent use of condoms is overall very low. Most people who have had sex with a condom and without will have no difficulty in knowing why this is so. Condom use reduces sexual sensitivity, and sex with condoms is rarely as spontaneous or enjoyable as sex without.

What then is an effective alternative to the inadequacies of 'safer sex'? Saved sex is being widely suggested by many sexual-healthcare workers (23-28). The idea is that sex is saved for a time when the relationship between the partners is at such a level of intimacy and commitment that they are able to make a reasoned decision that, once having made love, they

will go on making love together exclusively with each other for the rest of their lives. As the failure of the 'safer-sex' message becomes increasingly apparent, it is time for sex education policy-makers in the UK to take the saved-sex message as a credible alternative.

References

1. Curtis H, Hoolaghan T, Jewitt C *Sexual Health Promotion in General Practice* Radcliffe, Oxford 1995 p91
2. Gardner G Promoting sexual health *BMJ* 1992 **305** 70-71
3. Richens J, Imrie J, Copas A Condoms and seat belts: the parallels and the lessons *Lancet* 2000 **355** 400-3
4. Hosker H Have we given the wrong message about condoms? *British J Sex Med* Nov/Dec **1997** p4
5. Condom most popular contraceptive for under 16s *BMJ* 2001 **232** 1024
6. www.doh.gov.uk/public/sb0127.htm
7. Anderson JE, Wilson R, Doll L et al Condom use and HIV risk behaviors among U.S. adults: data from a national survey *Fam Plann Persp* 1999 **31** 24-28
8. Fu H, Darroch L et al Contraceptive failure rates: New estimates from the National Survey of Family Growth *Fam Plann Persp* 1999 **31** 56-63
9. Haignere CS, Gold R, McDanel HJ Adolescent abstinence and condom use: are we sure we are really teaching what is safe? *Health Ed and Behav* 1999 **26** 43-54
10. de Visser RO, Smith AM When always isn't enough; implications of the late application of condoms for the validity and reliability of self-reported condom use *AIDS Care* 2000 **12** 221-4
11. Eisenberg M Differences in sexual risk behaviors between college students with same-sex and opposite-sex experience; results from a national survey *Arch Sex Behav* 2001 **30** 575-589
12. Pearson VAH et al Pregnant teenagers' knowledge and use of emergency contraception *BMJ* 1995 **310** 1644
13. Williams ES Contraceptive failure may be a major factor in teenage pregnancy *BMJ* 1995; **311**:807
14. Mann JR, Stine CC, Vessey J The role of disease-specific infectivity and number of disease exposures on long-term effectiveness of the latex condom *Sex Tran Dis* 2002 **29** 344-9
15. Fidler S, Weber J Preventing HIV infection *Prescribers' Journal* 2000 **40** 4-9
16. Silverman BG, Gross TP Use and effectiveness of condoms during anal intercourse: a review *Sex Trans Dis* 1997 **24** 11-17
17. Lytle CD et al An in vitro evaluation of condoms as barriers to a small virus *Sex Tans Dis* 1997 **24** 161-64
18. Levy JA The transmission of AIDS; the case of the infected cell *JAMA* 1988 **259** 3037-8
19. DeVincenzi I A longitudinal study of HIV transmission by heterosexual partners *N Eng J Med* 1994 **331** 341-6
20. www.naid.nih.gov/dmid/stds/condomreport.pdf
21. McClean HL, Hillman RJ Ano-genital warts and condom use- a survey of information giving *Genitourinary Med* 1997 **73** 203-6
22. Wald A et al Effect of condoms on reducing the transmission of herpes simplex virus type 2 from men to women *JAMA* 2001 **285** 3100-6
23. Kay L Adolescent sexual intercourse; strategies for promoting abstinence in teens *Postgrad Med* 1995 **97** 121-34
24. Genuis SJ, Genuis SK Adolescent sexual involvement; time for primary prevention *Lancet* 1995 **345** 240-241
25. Stuart-Smith S Teenage sex *BMJ* 1996 **312** 390-1
26. Beitz JM Sexual health promotion in adolescents and young adults: primary prevention strategies *Holist Nurs Pract* 1998 **12** 27-37
27. Stammers T Sexual spin *Postgrad Med J* 1999 **75** 641-2
28. Stammers T Why doctors should advise adolescents to abstain from sex *BMJ* 2000 **321** 1520-21

Family Education Trust

The Family Education Trust was founded in 1971 to carry out research into the causes and consequences of family breakdown, and to publicise the findings of such research. The Trust has always made the welfare of young people its special concern, and adopted the operating title of Family and Youth Concern to express this.

Trevor Stammers has over twenty years experience as a general practitioner in London. He is also an Honorary Senior Tutor in General Practice at St. George's Hospital Medical School. The author of *Love Lies Bleeding* and *The Family Guide to Sex and Intimacy*, he is also a spokesperson on sex education for the Family Education Trust.

Jubilee House, 19-21 High Street, Whitton, Twickenham TW2 7LB
 Tel: 020 8894 2525 Fax: 020 8894 3535
 e-mail: fyc@ukfamily.org.uk website: www.famyouth.org.uk

Chairman: Arthur Cornell
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