

The United Kingdom National guideline on safer sex advice

The Clinical Effectiveness Group of the British Association for Sexual Health and HIV (BASHH) and the British HIV Association (BHIVA)

Draft for Consultation. January 2011

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Scope and purpose

The objective of this document is to provide guidance for practitioners in Level 3 Genitourinary medicine (GUM) services (Level 5 in Scotland) on safer sex advice provided in sexually transmitted infection (STI) and HIV management consultations. The guideline consists of:

- Recommendations on the format and delivery of brief behaviour change interventions deliverable in GUM clinics.
- Recommendations on the content of safer sex advice given to individuals at continued risk of STI.
- Additional advice to be provided for those living with HIV, or from groups with higher rates of HIV incidence.

Much of the guidance is applicable in other sexual health and general practice settings, including HIV care services. The evidence base for the recommendations will be summarised in an accompanying on-line document. Issues relating to implementation of behaviour change interventions in clinics, such as designing service structures and care pathways or the competencies required in different multidisciplinary staff groups, are addressed in British Psychological Society Good Practice Guidelines¹.

Identifying candidates for safer sex advice and other prevention interventions

No systematic reviews, meta-analyses, or original studies describing methods to systematically target potential candidates for interventions were found. The selection of patients for advice and behavioural interventions should be based on demographic group and individual history taking to identify recognised risk factors²⁻³. Guidance on eliciting risk factors is detailed in the BPS Best Practice Guidelines¹. Those at increased risk may include:

- Adolescents^{2 4-5}
- People from, or who have visited countries with high rates of HIV and/or other STIs^{2 5}
- Men who have sex with men^{6 5}
- Women not using contraception

Also individuals with a history of:

- Frequent partner change or sex with multiple concurrent partners^{5 6}
- Early onset sexual activity⁵
- Previous bacterial STI^{4 7}
- Attendance as a contact of STI^{3 8}

- Alcohol or substance abuse (although a history of IVDU has been associated with a lower risk of acute STI)⁶
- Poor mental health⁹⁻¹⁰
- Learning disability

Recommendation

Sexual History taking should be structured to identify risk factors for sexual ill health, sexual practices and behaviours and opportunities for brief behaviour change interventions (Evidence level IV, C).

Evidence for Behaviour Change Interventions

There is high level evidence that behaviour change interventions work^{11,12-13}. There is cost effectiveness data for interventions preventing HIV in MSM¹³, but no cost effectiveness data directly applicable in other risk groups, to the provision of interventions in GUM clinics or data comparing interventions in clinics with community based prevention interventions. Local protocols on the selection and prioritisation of candidates for various levels of intervention and the interventions provided should be based on the relative prevalence of infection in different risk groups outlined above, staff competency, training capacity and local financial constraints.

Behaviour change interventions in routine consultations with GUM clinic patients can be effective at reducing STIs and increasing condom use^{11,14}. Their effectiveness is related to the appropriateness of the intervention, its theoretical foundation, provider competency, cultural sensitivity and specificity and the provision of clear and unambiguous information, rather than length or intensity of intervention. NICE Guidance and cost estimates¹⁵⁻¹⁶ are based on the provision of a single session of 15-20 minutes, but the most robust evidence applies to multi session interventions. The minimal intervention shown to reduce STIs and increase condom use in heterosexual GUM clinic attendees is two sessions each of 20 minutes, with the greatest observed effect in adolescents and those with prior STI¹⁷. A more extended course of 10 sessions reduced unsafe sex in MSM¹⁸. Such interventions are unlikely to be routinely delivered to all at risk attendees in the UK GUM clinic setting given training and competing demands on resources. However, condom use errors are directly associated with STI rates and are reduced with both experience and the provision of instruction¹⁹⁻²⁰. Condom use also increases in the control arm of a number of studies, in which didactic advice alone was provided, suggesting that giving safer sex advice may be an effective intervention. For some individuals, increasing communication skills to enable successful negotiation of condom use may also be required.

A brief behavioural change intervention such as Motivational Interviewing (MI)²¹ is no more time consuming and is more effective than simply giving advice²². MI is a collaborative, person-centered form of guidance aimed at eliciting and strengthening motivation for change. There is very good evidence for use of MI in the treatment of addiction and for multiple sessions in sexual health^{18 23}.

Hence a pragmatic approach involves enhancing the delivery of safer sex advice routinely given by all staff across clinics using a recognised brief behaviour change strategy, such as (but not exclusively) motivational interviewing. More detailed but brief (15-20 minute) one-to-one interactive interventions using the same techniques and also delivered by clinic staff should be provided in line with NICE Guidance to those at increased risk as listed above and tailored, intensive behavioural interventions involving two or more sessions should be provided to those at the highest continuing risk of acquisition and transmission of STIs including HIV. Good Practice Guidelines developed by the British Psychological Society (BPS) will provide detail on the implementation of behaviour change interventions within services.

Proficiency in delivering MI can be achieved with training over one and a half days with ongoing supervision, coaching and feedback, but a single lecture or workshop or self directed learning is not effective²⁴. Manual – directed MI may be less effective²⁵.

Recommendations

Intensive multi-session, evidence based behaviour change interventions targeting individuals and focussing upon skills acquisition, enhancing communication skills and increasing motivation to adopt safer sexual behaviours should be available directly or by referral in all GUM clinics (Evidence level Ia, A).

Motivational interviewing techniques should be used as part of an intensive course of risk reduction counselling in MSM at high risk of HIV infection (Evidence level Ib, A).

Brief (15-20 minute) evidence based behaviour change interventions targeting individuals and focussing upon skills acquisition, enhancing communication skills and increasing motivation to adopt safer sexual behaviours using techniques such as Motivational Interviewing should be provided as part of routine care of those at elevated risk of STI and HIV in GUM clinics (Evidence level Ib, A).

The delivery of safer sex advice, including condom demonstration, based on the characteristics of effective brief behaviour change interventions, should be part of the routine care of all those at continued risk of infection/transmission in GUM clinics (Evidence level III, B).

The provision of accurate, detailed and tailored information on safer sex should form part of all sexual health consultations (Evidence level IV, C).

Motivational interviewing should be provided by clinic staff who have gained competency in its provision through training. (Evidence level IV, C).

Intervention delivery

Computer delivered interventions may offer consistency and reduce the demand on human resources. Meta analysis shows an effect comparable to human interventions²⁶. One study shows benefit of using safer sex advice videos in waiting rooms²⁷.

Recommendations

Computer assisted interventions are comparable in effect and should be considered as an alternative or adjunct to human delivered interventions (Evidence level Ib, A).

Video shown in waiting rooms should be considered as an aid to promoting behaviour change (Evidence level IIb, B).

Safer sex advice

The content of advice given to all those at continued risk of STI should be tailored to the individual's needs and understanding based on the sexual history. Discussion with all clients other than women who have sex exclusively with women (WSW) should include verbal and written information on:

- Condom efficacy and limitations
- Condom types, sizes
- Determinants of condom effectiveness
- Motivation for condom use

Depending on HIV status, risk of future STI, sexual practices and partner gender, this may be supplemented in some individuals by a condom demonstration, condom sizing and/or information on:

- Oral sex and STI transmission
- Other sexual practices
- Partner reduction

- Negotiated safety
- Repeat testing for STI

Abstinence should not be promoted in isolation.

Condom efficacy

There is good evidence that consistent use of the male latex condom reduces the transmission of HIV in heterosexual couples²⁸ and limited evidence for an effect in MSM²⁹. There is evidence of protection against chlamydia, gonorrhoea, syphilis and HSV 2 in heterosexual men and women³⁰, rectal but not urethral chlamydial infection in MSM³¹ and possibly trichomoniasis in women³⁰.

Recommendations

100% use of the male latex condom should be recommended to all those at risk of STIs including HIV (Evidence level IIa, B).

Non-latex condoms are an acceptable alternative to male latex condoms for vaginal sex but have higher rates of breakage (Evidence level Ia, A).

Female condoms are (at least) equivalent to male latex condoms in the prevention of STIs and should be offered as an alternative or supplement to male condoms to all women (Evidence level Ib, B).

Men should be made aware of the availability and use of female condoms (Evidence level IV, C).

Female condoms can be used as an alternative to male condoms for anal sex but are preferred to latex male condoms by a minority of MSM who have used them (Evidence level Iib, B).

Determinants of condom effectiveness

Recent condom breakage, late application, early removal and condom errors are reported by up to a third of heterosexual men³² and 17% of MSM³³. Condom slippage and errors are strongly associated with lack of training on correct condom use²⁰. Condom breakage is less likely with fitted than with standard condoms during vaginal or anal intercourse³⁴ although slippage is more likely with fitted condoms³⁵. Lubricant use reduces the risk of condom breakage for anal³⁶ but not vaginal sex³⁴ although some lubricants may damage the rectal and vaginal mucosa³⁷ and some or all may increase the risk of STI³⁸.

Recommendations

Less than 100% condom use will offer some protection – advise that using condoms as much as possible is better than not at all (Evidence level IIb, B).

MSM should be advised that thicker condoms are no less likely than standard condoms to break or slip off than standard condoms during anal sex (Evidence level Ib, A).

Non-oil based lubricant should be applied all over the condom and inside the anus, but not inside the condom, before anal sex (Evidence level Ib, A).

There is no advantage, in terms of condom safety, in the use of lubricant use for vaginal sex (Evidence level IIb, B).

Some lubricants (pH neutral, isotonic) may be safer than others (Evidence level IIb, B)

Both men and women should be instructed on the correct use of male condoms and the importance of applying a condom before penetration and avoiding early removal (Evidence level IIb, B).

Assistance with condom sizing (using a paper tape or pasta measurer) should be offered to men at high risk of STI acquisition or transmission. (Evidence level IIA, B).

Providing a range of condom sizes is a quick alternative to formal condom sizing (Evidence level IV, C)

Motivation for condom use

Condoms are rarely applied specifically for STI prevention, and only 5.1% of STI clinic attendees used condoms on every occasion of intercourse in the year following an STI clinic visit³⁹.

Recommendation:

Advice should be based on an exploration of reasons for condom use and recognise that for heterosexual couples, pregnancy rather than STI avoidance is a major motivator (Evidence level III, B).

Advice on Oral Sex

Herpes Simplex (HSV), HPV, Gonorrhoea, Chlamydia, Syphilis, HIV, Hepatitis B and possibly Hepatitis C are transmissible through oro-genital sex⁴⁰⁻⁴¹. The risks associated with fellatio are likely to be greater than those with cunnilingus. For HIV and viral infections other than HSV, available evidence suggests the risk to the oral partner is greater than that to the genital partner⁴². The risk of HIV

transmission through oral sex remains unclear⁴³, with data suggesting 2.6-8% of cases in MSM may be attributable to oral sex^{44,42}. Condom use for oral sex is low in all groups studied⁴⁵⁻⁴⁷.

Recommendations

Safer sex advice should include information on the risks of oral sex, recognising that individuals must make an informed decision on the level of risk that is acceptable to them, and supporting pragmatic alternative risk reduction techniques. The risk of transmission of bacterial and viral STIs including HIV applies to both oral and genital partners but the risk to the genital partner is thought to be considerably lower. The risks of transmission associated with oral sex are lower than for unprotected vaginal or anal sex except in the case of HSV 1. Techniques to further reduce risk include:

- *Reduce the number of partners with whom you have oral sex. (Evidence level IIb, B with respect to syphilis in MSM)*
- *Avoiding oral sex with ejaculation reduces the risk of HIV and possibly other infections (Evidence level IV, C)*
- *Insertive fellatio is lower risk than receptive (Evidence IV, C)*
- *Avoid brushing teeth or flossing before having oral sex (Evidence level III, B).*
- *Avoid oral sex if you have oral cuts or sores, or a sore throat. (Evidence level IV, C)*
- *Use condoms for fellatio and dental dams for cunnilingus and oro-anal contact (Evidence level IV, C)*

Other sexual practices

No sexual practice can be regarded as without risk of transmission of any STI. Non penetrative skin to skin contact (including body rubbing, [non penetrative] mutual masturbation and tribadism) carries the risk of transmission of HPV⁴⁸ and HSV. Clinical experience and case reports relating to the non-sexual and accidental transmission of gonorrhoea⁴⁹, Chlamydia and syphilis⁵⁰ suggest that these infections may also occasionally be transmitted in this way, but the evidence base is poor. In penetrative practices including digital stimulation, use of sex toys and fisting, transmission risk is related to the degree of trauma. Case reports suggest that the use of sex toys may be associated with the transmission of STIs including HIV⁵¹ although there are few reports of transmission. WSW may have a variety of risks for sexually transmitted disease transmission through penetrative practices. Risks may also include sex with men. Bacterial vaginosis may be regarded as an STI in WSW and there is an increased risk of bacterial vaginosis in WSW who give a history of sharing sex toys⁵² Fisting in MSM carries significant risk of Hepatitis C⁵³ and is implicated in the transmission of LGV.

Recommendations

No form of sexual contact is entirely without risk of STI transmission. Non penetrative contact carries the lowest risk. (Evidence level IV, C)

In penetrative sex (including fingering, using sex toys and fisting) the risk of transmission is related to the degree of trauma. The use of gloves should be recommended for traumatic digital penetrative sex. (Evidence level IV, C)

Abstinence

A systematic review of abstinence only programmes in high income countries⁵⁴ showed no evidence of beneficial effects. Elective abstinence is chosen by a minority of people living with HIV⁵⁵ as a means of preventing onward transmission.

Recommendation

The promotion of abstinence alone as routine component of effective safer sex advice is not recommended. (Evidence level 1a, A)

Partner reduction

The spread of sexually transmitted infections depends on the rate of change of sexual partners, particularly concurrent partners and partner reduction has been implicated in reducing HIV prevalence⁵⁶. There is however no direct evidence for an effect of partner reduction interventions delivered to individuals in the clinical setting.

Recommendation

Safer sex advice should include discussion regarding partner reduction and in particular the risks associated with concurrent partnerships in those at increased risk of HIV infection. (Evidence level III, B)

Repeat testing for STIs

Prior infection with Chlamydia is a risk factor for reinfection with Chlamydia, gonorrhoea and TV in women⁴ with peak reinfection rates of 19-20% at 8-10 months post infection⁵⁷. Prior rectal Chlamydia, gonorrhoea or syphilis infection is associated with incident HIV infection in MSM⁷. Ulcerative and non-ulcerative sexually transmitted infections affecting either HIV positive or HIV negative sexual partners increase HIV transmission and acquisition⁵⁸⁻⁶⁰. Although the role of HIV testing in HIV prevention is unclear there is good evidence that people who know their HIV status do, in the short term at least, have less unprotected sexual intercourse⁶¹.

Recommendations

Retesting for asymptomatic STIs should be recommended to all individuals with a prior STI diagnosis including HIV (Evidence level III, B).

Screening for asymptomatic STIs should be recommended at least annually to all individuals at risk of acquisition or transmission of HIV (Evidence level IV, C).

HIV testing should be routinely recommended to all individuals attending GUM or sexual health services. Pre and post test discussions and counselling support should be available (Evidence level IV, C).

Advice specific to the prevention of sexual transmission of HIV infection

This guidance is applicable to those who are HIV negative, HIV positive and for those who as yet do not know their status. It is important that any discussion around HIV transmission acknowledges the complex issues relating to disclosure for those who are HIV positive. Detailed advice on sexual and reproductive health for people living with HIV (PLHIV) is given in recent guidelines by BHIVA, BASHH and FSRH⁶²

HIV infectivity on antiretroviral therapy (ART)

Successful antiretroviral therapy reduces plasma viral load to below the level of detectability of most currently used laboratory assays and at these levels, HIV transmission is extremely rare⁶⁴⁻⁶⁵ However, a negative plasma viral load cannot always be considered as a marker of an undetectable seminal viral load⁶⁶⁻⁶⁷ and there are reports of HIV transmission with undetectable plasma viral load⁶⁴.

Recommendations

Advice to people living with HIV, their sexual partners and those from groups with higher incidence of HIV infection should include:

Taking effective antiretroviral therapy and having a quantitative plasma viral load below the limit of detection of currently available assays significantly reduces the risk of HIV transmission. (Evidence level Ia, A)

Despite routine undetectable plasma viral load measurements a residual risk of transmission is likely to exist, this is likely to be higher for anal sex than for vaginal or oral sex (Evidence level IIb, B)

The risks are increased with reduced ART adherence or the presence of STIs in either partner. The risks can be reduced by using condoms and having regular sexual health check ups (Evidence level IV, C).

Irrespective of HIV status, couples might consider discontinuing use of condoms for a number of reasons, in long term monogamous relationship, in the planning of a pregnancy etc.

Recommendation

Serodiscordant or HIV+ve seroconcordant couples should receive detailed expert counselling and support on the transmission risks and other relevant issues (Evidence level IV,C).

Initiation of ART to reduce transmission risk

Mathematical modelling suggests that widespread regular HIV testing of a population or a risk group and the immediate commencement of treatment may reduce HIV prevalence⁶⁸. Although there is currently insufficient evidence to support a public health policy of treatment as prevention, the early initiation of treatment to reduce the risk of onward transmission may be appropriate as part of a risk reduction approach for some individuals.

Recommendation

Discussion regarding the early initiation of antiretroviral therapy to reduce the risk of HIV transmission should be considered as part of safer sex counselling for some people living with HIV (Evidence level IV, C).

Harm reduction, including negotiated safety and serosorting

Negotiated safety (NS) may include the open discussion of risk factors (such as HIV serostatus) prior to sex, the establishment of ground rules for sex both within and outside a regular sexual relationship, or agreement on indications for and frequency of repeat HIV testing. Serosorting is an element of NS in which individuals choose to have sex with only those of perceived or declared similar infection status. There is evidence that serosorting may reduce the incidence of new HIV infections in MSM²⁹ but there may be an increase in other STIs when serosorting occurs⁶⁹.

Recommendations

Negotiated safety and serosorting should be discussed with those who are known or suspected to be unable or unwilling to maintain 100% condom use (Evidence level IV, C)

Detailed information and advice should be tailored to the

individual's circumstances to maximise the health improvement benefit (Evidence level IV, C)

MSM should be advised that serosorting is less effective than consistent condom use but more effective than non selective non-use in preventing HIV acquisition or transmission (Evidence level III, B).

Post exposure Prophylaxis following sexual intercourse (PEPSE)
BASHH guidance on post exposure prophylaxis for HIV following sexual exposure is available ⁷⁰.

Recommendation

All individuals at increased risk of HIV acquisition (including those in serodiscordant relationships, MSM and those from, or with partners from, populations with high HIV seroprevalence) and those at risk of transmission should receive verbal and written advice on the indications for and availability of PEPSE (Evidence level IV,C).

Male circumcision (MC)

Three randomised controlled trials have shown that male circumcision protects against the acquisition of HIV in men in the setting of a high prevalence (generalised) HIV epidemic⁶³. There is currently no randomised control trial (RCT) evidence on the role of MC in countries of low HIV prevalence or for heterosexual or homosexual anal sexual intercourse.

Recommendation

There is currently no public health evidence to recommend MC as a strategy for HIV transmission reduction in the UK, either at a population or individual level (Evidence level IV, C).

Evidence and consensus based patient advice statements

Condom Advice:

- **Use a condom every time you have vaginal, oral or anal sex to minimise the risk of transmission of HIV and other sexually transmitted infections. (IA)**
- **Even if you don't use a condom every time, or for every type of sex, use one as often as possible – this is safer than not at all (IIb)**
- **Even if you occasionally did not use a condom, that does not mean it is not worth using a condom every time in future (IIb)**
- **Non-Latex condoms are a bit more likely to break than latex condoms (IA)**

- **Use non-latex condoms if you have a latex allergy (or if you are using creams or treatments that damage latex condoms) (IV)**
- **Some men prefer the feel of latex condoms and find that they are less likely to lose erection (IV)**
- **Some men find latex condoms easier to put on (IV)**
- **Female condoms are at least as good as male condoms at preventing STIs (IA)**
- **You get better at using condoms the more you practice (IIb)**
- **Practising opening and using a condom alone, and in the dark, might make it easier to do when you have sex (IV)**
- **Make sure you use a condom of the right size. Condoms are more likely to split if too tight (IIA).**
 - **The girth (circumference) may be more important than penis length (IIA)**
 - **A fitted condom is more likely to slip off during withdrawal (IIA)**
- **There is no need to use extra lubricant with condoms for vaginal sex – lubricant increases the chance that the condom will slip off. (IIb)**
- **Avoid common condom errors. Make sure you....**
Remove all the air from the condom before putting it on
Hold the condom during withdrawal (pulling out)
Don't unroll it before putting it on
Put the condom before you start having sex
If you put it on the wrong way by mistake, use another one don't just flip it over

For anal sex:

- **Ordinary condoms are no more likely than thicker condoms to break or slip off during anal sex (Ib)**
- **Put water based lubricant all over the condom and inside the anus, but not inside the condom, before anal sex (Ib)**
- **You can use female condoms instead of male condoms for anal sex: remove the ring at the end of the condom and place on the penis like a male condom (III)**

For HIV

- **Taking effective antiretroviral therapy (ART) and having an undetectable plasma or blood HIV viral load significantly reduces the risk of HIV transmission during sex.(Ia)**

- ***Even with an undetectable viral load, there is still a small risk of HIV transmission. This is higher for anal sex than for vaginal or oral sex (IIb).***
- ***Continuing to use condoms for vaginal, anal and oral sex will further reduce any remaining risk of transmission (IV).***
- ***Poor adherence (missing doses of ART) may increase the risk of HIV transmission (III).***
- ***If you are living with HIV, or you have partners who are or may be HIV positive, have an STI check at least once a year (IV).***

Appendix

Levels and grading of evidence

Recommendations have been graded according to the level of evidence, utilising the US Department of Health and Human Services agency for Healthcare Policy and Research (AHCPR) System.

Table A

Level	Type of evidence
Ia	Evidence obtained from meta-analysis of randomised controlled trials
Ib	Evidence obtained from at least one randomised controlled trial
IIa	Evidence obtained from at least one well-designed controlled study without randomisation
IIb	Evidence obtained from at least one type of well-designed quasi-experimental study
III	Evidence obtained from well-designed, non-experimental descriptive studies, such as comparative studies, correlation studies and case control studies
IV	Evidence obtained from expert committee reports or opinions and/or clinical experience of respected authorities

Table B

Grade	Recommendation
A (Evidence levels Ia, Ib)	Requires at least one randomised controlled trial as part of the body of literature of overall good quality and consistency addressing the specific recommendation
B (Evidence levels IIa, IIb, III)	Requires availability of well conducted clinical studies but no randomised clinical trials on the topic of recommendation
C (Evidence level IV)	Requires evidence from expert committee reports or opinions and/or clinical experience of respected authorities. Indicates absence of directly applicable studies of good quality

Rigour of development

The guideline was developed by review of Cochrane Library, Medline, Embase and Conference reports and existing guidelines from 2000-2010. Main title searches included keywords 'Condoms' (1762 citations), 'Behavioural interventions' and 'Motivational interviewing'. Other keyword searches included 'STI prevention', 'condom error/s', 'condom breakage', 'female condom', 'partner reduction', 'oral sex', 'anal sex', 'digital', 'non-sexual', 'accidental', 'non-sexual' (combined with sexually transmitted infections, HIV, syphilis, herpes, HSV, Chlamydia, gonorrhoea, warts), 'abstinence', 'contraception', 'negotiated safety', 'serosorting', 'testing in relationships', 'frequency of rescreening' and others. Articles published in English only were included. In the absence of directly applicable evidence, recommendations are based on expert opinion and practice.

Qualifying statement

The recommendations in this guideline may not be appropriate for use in all clinical situations. Decisions to follow these recommendations must be based on the professional judgement of the clinician and consideration of individual patient circumstances and available resource

Stakeholder involvement

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Conflict of Interest

None

References

1. BPS. British Psychological Society Good Practice Guidelines on Public Health NICE Guidance no.3: Prevention of Sexually Transmitted Infections and under-18 Conceptions – A Guide for Implementation Leads, Managers and Commissioners of Sexual Health Services., 2010.
2. Hughes G, Catchpole M, Rogers PA, Brady AR, Kinghorn G, Mercey D, et al. Comparison of risk factors for four sexually transmitted infections: results from a study of attenders at three genitourinary medicine clinics in England. *Sex Transm Infect* 2000;76(4):262-7.
3. Katz BP, Fortenberry JD, Tu W, Harezlak J, Orr DP. Sexual behavior among adolescent women at high risk for sexually transmitted infections. *Sex Transm Dis* 2001;28(5):247-51.
4. Peterman TA, Tian LH, Metcalf CA, Satterwhite CL, Malotte CK, DeAugustine N, et al. High incidence of new sexually transmitted infections in the year following a sexually transmitted infection: a case for rescreening. *Ann Intern Med* 2006;145(8):564-72.
5. NICE. One to one interventions to reduce the transmission of sexually transmitted infections (STIs) including HIV, and to reduce the rate of under 18 conceptions, especially among vulnerable and at risk groups. <http://www.nice.org.uk/nicemedia/pdf/PHI003guidance.pdf>
ed, 2007.
6. Catchpole M, Connor N, Brady A, Kinghorn G, Mercey D, Band B, et al. Behavioural and demographic characteristics of attenders at two genitourinary medicine clinics in England. *Genitourin Med* 1997;73(6):457-61.
7. Bernstein KT, Marcus JL, Nieri G, Philip SS, Klausner JD. Rectal gonorrhoea and chlamydia reinfection is associated with increased risk of HIV seroconversion. *J Acquir Immune Defic Syndr* 2010;53(4):537-43.
8. Orr DP, Johnston K, Brizendine E, Katz B, Fortenberry JD. Subsequent sexually transmitted infection in urban adolescents and young adults. *Arch Pediatr Adolesc Med* 2001;155(8):947-53.
9. Brown AP, Lubman DI, Paxton SJ. STIs and blood borne viruses - risk factors for individuals with mental illness. *Aust Fam Physician* 2008;37(7):531-4.
10. Brown AB. STIs and blood borne viruses – risk factors for individuals with mental illness. . *Australian Family Physician* 2008;37:531-34
11. Downing J JL, Cook PA, Bellis MA. Prevention of sexually transmitted infections (STIs): a

review of reviews into the effectiveness of non-clinical interventions

Evidence Briefing Update: Liverpool John Moores University Centre for Public Health, 2009.

12. Noar SM. Behavioral interventions to reduce HIV-related sexual risk behavior: review and synthesis of meta-analytic evidence. *AIDS Behav* 2008;12(3):335-53.
13. Herbst JH, Sherba RT, Crepaz N, Deluca JB, Zohrabyan L, Stall RD, et al. A meta-analytic review of HIV behavioral interventions for reducing sexual risk behavior of men who have sex with men. *J Acquir Immune Defic Syndr* 2005;39(2):228-41.
14. Ward DJ, Rowe B, Pattison H, Taylor RS, Radcliffe KW. Reducing the risk of sexually transmitted infections in genitourinary medicine clinic patients: a systematic review and meta-analysis of behavioural interventions. *Sex Transm Infect* 2005;81(5):386-93.
15. NICE. National Costing Report (Prevention of STIs and Under 18 Conceptions), 2007.
16. NICE. Prevention of sexually transmitted infections and under 18 conceptions: costing template 2007.
17. Kamb ML, Fishbein M, Douglas JM, Jr., Rhodes F, Rogers J, Bolan G, et al. Efficacy of risk-reduction counseling to prevent human immunodeficiency virus and sexually transmitted diseases: a randomized controlled trial. Project RESPECT Study Group. *JAMA* 1998;280(13):1161-7.
18. Koblin B, Chesney M, Coates T. Effects of a behavioural intervention to reduce acquisition of HIV infection among men who have sex with men: the EXPLORE randomised controlled study. *Lancet* 2004;364(9428):41-50.
19. Hatherall B, Ingham R, Stone N, McEachran J. How, not just if, condoms are used: the timing of condom application and removal during vaginal sex among young people in England. *Sex Transm Infect* 2007;83(1):68-70.
20. Yarber WL, Graham CA, Sanders SA, Crosby RA. Correlates of condom breakage and slippage among university undergraduates. *Int J STD AIDS* 2004;15(7):467-72.
21. Rollnick S, Butler CC, Kinnersley P, Gregory J, Mash B. Motivational interviewing. *BMJ* 2010;340:c1900.
22. Rubak S, Sandbaek A, Lauritzen T, Christensen B. Motivational interviewing: a systematic review and meta-analysis. *Br J Gen Pract* 2005;55(513):305-12.
23. Petersen R, Albright J, Garrett JM, Curtis KM. Pregnancy and STD prevention counseling using an adaptation of motivational interviewing: a randomized controlled trial. *Perspect Sex Reprod Health* 2007;39(1):21-8.

24. Miller WR, Yahne CE, Moyers TB, Martinez J, Pirritano M. A randomized trial of methods to help clinicians learn motivational interviewing. *J Consult Clin Psychol* 2004;72(6):1050-62.
25. Hettema J, Steele J, Miller WR. Motivational interviewing. *Annu Rev Clin Psychol* 2005;1:91-111.
26. Noar SM, Black HG, Pierce LB. Efficacy of computer technology-based HIV prevention interventions: a meta-analysis. *AIDS* 2009;23(1):107-15.
27. Warner L, Klausner JD, Rietmeijer CA, Malotte CK, O'Donnell L, Margolis AD, et al. Effect of a brief video intervention on incident infection among patients attending sexually transmitted disease clinics. *PLoS Med* 2008;5(6):e135.
28. Weller S, Davis K. Condom effectiveness in reducing heterosexual HIV transmission. *Cochrane Database Syst Rev* 2002(1):CD003255.
29. Golden M. HIV serosorting among men who have sex with men: implications for prevention. *Thirteenth Conference on Retroviruses and Opportunistic Infections*. Denver, 2006.
30. Holmes KK, Levine R, Weaver M. Effectiveness of condoms in preventing sexually transmitted infections. *Bull World Health Organ* 2004;82(6):454-61.
31. Hocking J, Fairley CK. Associations between condom use and rectal or urethral chlamydia infection in men. *Sex Transm Dis* 2006;33(4):256-8.
32. Crosby RA, Yarber WL, Sanders SA, Graham CA, McBride K, Milhausen RR, et al. Men with broken condoms: who and why? *Sex Transm Infect* 2007;83(1):71-5.
33. Stone E, Heagerty P, Vittinghoff E, Douglas JM, Jr., Koblin BA, Mayer KH, et al. Correlates of condom failure in a sexually active cohort of men who have sex with men. *J Acquir Immune Defic Syndr Hum Retrovirol* 1999;20(5):495-501.
34. Smith AM, Jolley D, Hocking J, Benton K, Gerofi J. Does additional lubrication affect condom slippage and breakage? *Int J STD AIDS* 1998;9(6):330-5.
35. Reece M, Herbenick D, Sanders SA, Monahan P, Temkit M, Yarber WL. Breakage, slippage and acceptability outcomes of a condom fitted to penile dimensions. *Sex Transm Infect* 2008;84(2):143-9.
36. Golombok S, Harding R, Sheldon J. An evaluation of a thicker versus a standard condom with gay men. *AIDS* 2001;15(2):245-50.
37. Russo J RL, Moncla B, Na Ayudhya RP, Lin Wang L, Cost M, , Pryke K LM, Pickett J, Dezzutti CS. Safety and Anti-HIV Activity of Over-the-Counter Lubricant Gels. *2010 International Microbicides Conference*, . Pittsburgh, 2010.

38. Gorbach PM, WR, Jeffries R, Fuchs E, Hezerah M, Brown S, Voskanian A, Robbie E, Anton P, Cranston RD. Rectal Lubricant Use and Risk for Rectal STI. *2010 International Microbicides Conference*. . Pittsburgh, 2010.
39. Peterman TA, Tian LH, Warner L, Satterwhite CL, Metcalf CA, Malotte KC, et al. Condom use in the year following a sexually transmitted disease clinic visit. *Int J STD AIDS* 2009;20(1):9-13.
40. Edwards S, Carne C. Oral sex and transmission of non-viral STIs. *Sex Transm Infect* 1998;74(2):95-100.
41. Brook MG. Sexual transmission and prevention of the hepatitis viruses A-E and G. *Sex Transm Infect* 1998;74(6):395-8.
42. Campo J, Perea MA, del Romero J, Cano J, Hernando V, Bascones A. Oral transmission of HIV, reality or fiction? An update. *Oral Dis* 2006;12(3):219-28.
43. Hawkins DA. Oral sex and HIV transmission. *Sex Transm Infect* 2001;77(5):307-8.
44. Gilbert VL, Evans BG, Dougan S. HIV transmission among men who have sex with men through oral sex. *Sex Transm Infect* 2004;80(4):324.
45. Stone N, Hatherall B, Ingham R, McEachran J. Oral sex and condom use among young people in the United Kingdom. *Perspect Sex Reprod Health* 2006;38(1):6-12.
46. Imrie J, Lambert N, Mercer CH, Copas AJ, Phillips A, Dean G, et al. Refocusing health promotion for syphilis prevention: results of a case-control study of men who have sex with men on England's south coast. *Sex Transm Infect* 2006;82(1):80-3.
47. Yap L, Richters J, Butler T, Schneider K, Kirkwood K, Donovan B. Sexual practices and dental dam use among women prisoners - a mixed methods study. *Sex Health* 2010;7(2):170-6.
48. Dunne EF, Karem KL, Sternberg MR, Stone KM, Unger ER, Reeves WC, et al. Seroprevalence of human papillomavirus type 16 in children. *J Infect Dis* 2005;191(11):1817-9.
49. Goodyear-Smith F. What is the evidence for non-sexual transmission of gonorrhoea in children after the neonatal period? A systematic review. *J Forensic Leg Med* 2007;14(8):489-502.
50. Goh BT. Syphilis in adults. *Sex Transm Infect* 2005;81(6):448-52.
51. Kwakwa HA, Ghobrial MW. Female-to-female transmission of human immunodeficiency virus. *Clin Infect Dis* 2003;36(3):e40-1.
52. Marrazzo JM, Thomas KK, Agnew K, Ringwood K. Prevalence and risks for bacterial vaginosis in women who have sex with women. *Sex Transm Dis* 2010;37(5):335-9.

53. van de Laar TJ, Paxton WA, Zorgdrager F, Cornelissen M, de Vries HJ. Sexual Transmission of Hepatitis C Virus in Human Immunodeficiency Virus-Negative Men Who Have Sex With Men: A Series of Case Reports. *Sex Transm Dis* 2010.
54. Underhill K, Montgomery P, Operario D. Abstinence-plus programs for HIV infection prevention in high-income countries. *Cochrane Database Syst Rev* 2008(1):CD007006.
55. Bogart LM, Collins RL, Kanouse DE, Cunningham W, Beckman R, Golinelli D, et al. Patterns and correlates of deliberate abstinence among men and women with HIV/AIDS. *Am J Public Health* 2006;96(6):1078-84.
56. Shelton JD, Halperin DT, Nantulya V, Potts M, Gayle HD, Holmes KK. Partner reduction is crucial for balanced "ABC" approach to HIV prevention. *BMJ* 2004;328(7444):891-3.
57. Hosenfeld CB, Workowski KA, Berman S, Zaidi A, Dyson J, Mosure D, et al. Repeat infection with Chlamydia and gonorrhoea among females: a systematic review of the literature. *Sex Transm Dis* 2009;36(8):478-89.
58. Laga M, Crabbe F. [Definition of sexually transmissible diseases. Relationship between sexually transmitted diseases and HIV infection]. *Acta Urol Belg* 1993;61(1-2):55-60.
59. Laga M, Manoka A, Kivuvu M, Malele B, Tuliza M, Nzila N, et al. Non-ulcerative sexually transmitted diseases as risk factors for HIV-1 transmission in women: results from a cohort study. *AIDS* 1993;7(1):95-102.
60. Jin F, Prestage GP, Imrie J, Kippax SC, Donovan B, Templeton DJ, et al. Anal Sexually Transmitted Infections and Risk of HIV Infection in Homosexual Men. *J Acquir Immune Defic Syndr* 2009.
61. Marks G, Crepaz N, Senterfitt JW, Janssen RS. Meta-analysis of high-risk sexual behavior in persons aware and unaware they are infected with HIV in the United States: implications for HIV prevention programs. *J Acquir Immune Defic Syndr* 2005;39(4):446-53.
62. Fakoya A, Lamba H, Mackie N, Nandwani R, Brown A, Bernard E, et al. British HIV Association, BASHH and FSRH guidelines for the management of the sexual and reproductive health of people living with HIV infection 2008. *HIV Med* 2008;9(9):681-720.
63. Mills E, Cooper C, Anema A, Guyatt G. Male circumcision for the prevention of heterosexually acquired HIV infection: a meta-analysis of randomized trials involving 11,050 men. *HIV Med* 2008;9(6):332-5.
64. Attia S, Egger M, Muller M, Zwahlen M, Low N. Sexual transmission of HIV according to viral load and antiretroviral therapy: systematic review and meta-analysis. *AIDS* 2009;23(11):1397-404.

65. Vernazza P, Hirschel B, Bernasconi E, Flepp M. HIV-positive individuals without additional sexually transmitted diseases (STD) and on effective anti-retroviral therapy are sexually non-infectious. *Bulletin des medecins suisses* 2008;89:5.
66. Gilling-Smith C, Nicopoullos JDM, Cox A, Almeida P, Wood R, Vourliotis M. Detectable HIV in semen from HIV positive men on HAART with undetectable serum viral load. Human Reproduction. *Proceedings of ESHRE meeting Barcelona July 2008*.
67. Garnett GP, Gazzard B. Risk of HIV transmission in discordant couples. *Lancet* 2008;372(9635):270-1.
68. Granich RM, Gilks CF, Dye C, De Cock KM, Williams BG. Universal voluntary HIV testing with immediate antiretroviral therapy as a strategy for elimination of HIV transmission: a mathematical model. *Lancet* 2009;373(9657):48-57.
69. HIV serosorting? Increases in sexually transmitted infections and risk behavior without concurrent increase in HIV incidence among men who have sex with men in San Francisco
AIDS 2006 - XVI International AIDS Conference; 2006; Toronto.
70. Fisher M, Benn P, Evans B, Pozniak A, Jones M, Maclean S, et al. UK Guideline for the use of post-exposure prophylaxis for HIV following sexual exposure. *Int J STD AIDS* 2006;17(2):81-92.