

Prevention of Sexually Transmitted Diseases

Dr. Neelam Gautam

Abstract

Sexually transmitted diseases (STDs) are global public health problems because of their health, social and economic consequences. Problems of STDs is like an iceberg, floating tip represents only a small portion of the clinical cases whereas a major portion of disease is submerged hidden where prevention can play the most important role in managing these infections.

Elimination of reservoirs, breaking the channel of transmission and protection of susceptible can prevent the transmission of STDs. Reservoirs can be eliminated by case detection and complete treatment. Cases can be detected either by screening of high risk groups, contact tracing or cluster testing. Complete treatment of cases is necessary. Susceptible can be protected by having 'safe sex' practices, prophylaxis vaccination, sexual awareness and other measures.

Introduction

Sexually Transmitted Diseases (STDs) are usually transmitted by sexual contacts and are caused by wide range of bacteria, virus, protozoa, fungi and ectoparasites. Some of the STDs are treatable while some such as HIV infection are not curable and can be fatal.

Despite various attempts by health care providers to reduce the prevalence and incidence of sexually transmitted diseases, more than 1 million people acquire an STD every day. Each year, an estimated 500 million people acquire one of the four STDs i.e. chlamydia, gonorrhea, syphilis and trichomoniasis [1]. STDs can have serious consequences beyond

the immediate impact of the infection itself. Therefore, prevention has an important role in managing these infections. Primary prevention focusing on the transmission of infection and secondary prevention focusing on minimizing the adverse health effects of infection (STDs) or usually a combination of the two is necessary [2]. The various intervention measures required for preventing the spread of STDs depend on several sociocultural factors such as age, gender, employment status, level of education, religion, culture etc. These factors can influence sexual conduct and therefore spread of the infections.

The prevention and control of STDs are based on the following five major strategies [3].

1. Accurate risk assessment and education.
2. Pre-exposure vaccination for vaccine-preventable STDs.
3. Identification of infected persons whether asymptomatic or symptomatic.
4. Effective diagnosis, treatment, counseling, and follow up of infected persons.
5. Evaluation, treatment, and counseling of sex partners of persons who are infected with an STD.

Primary prevention is to change sexual behaviors that increase the risk of contracting STDs i.e. 'practicing safe sex'. This can be achieved by following measures:

1. Health education: Health education is the first important step in reducing the number of persons who engage in risky sexual behavior. The aim of educational intervention is to help individual to alter their behavior in an effort to avoid STDs, that is, to minimize disease acquisition and transmission. Information on STD prevention should be individualized on the basis of the patient's stage of development and understanding of sexual issues.

The target groups may include the general public, patients, priority groups, community leaders etc. [2].

2. Abstinence: One of the best ways to prevent transmission of STDs is to avoid casual sexual contact with other individuals (i.e., anal, vaginal or oral) which may be impractical but not impossible.

3. Mutual monogamy: Mutual monogamy (only having sex with one partner) is another way to limit exposure to sexually transmitted infections (STIs). If neither partner has ever had sexual contact of any kind with another person, there is no risk of STIs. If either person has ever had sex with anyone else, they may get tested and, if necessary, treated for STIs at the beginning of each relationship. Many STIs can be 'silent' causing no noticeable symptom. Some STIs may not be detectable through testing ranging anywhere from a few weeks to a few months.

4. Sexual health check-ups: Attending a sexual health screening before engaging in sexual contact with a partner helps to prevent new cases of infection. Before resuming sexual relations one must always check if a partner has engaged in sexual activity with someone else. This may not always be a full proof method since many infections may go undetected for certain periods of time.

5. Avoid alcohol and recreational drug use: Avoiding alcohol and recreational drug use reduces the risk of contracting an STD/STI, having an unwanted pregnancy, or being coerced to have sex. Alcohol and drug use can reduce one's ability

to make good decisions and make it less likely to actually implement the safer sex decision. It increases the vulnerability of one to be coerced into participating in an activity without being able to give full and informed consent.

6. STD/HIV Prevention Counselling : Prevention counselling is most effective if provided in a non-judgmental and empathetic manner appropriate to the patient's culture, language, gender, sexual orientation, age, and developmental level. Prevention counselling for STD/HIV should be offered to all sexually active adolescents and to all adults who are diagnosed with an STD, have had an STD in the past year, or have multiple sexual partners [3].

Personal prophylaxis

a. Contraceptives: Mechanical barrier (e.g. condoms and diaphragms) provide a barrier against the contraction of STDs from an infected individual. Male Condoms, however, need to be used correctly to prevent transmission. Used condoms must be removed and disposed of appropriately to prevent spread. These barrier methods especially when used with spermicides will minimize the risk of acquiring STD infections. However, their use is limited by lack of motivation, acceptability and convenience. The exposed parts should be washed after contact with soap and water as soon as possible [4]. It is observed that consistent use of male condom in heterosexual HIV serodiscordant relationships (i.e. one infected and one uninfected partner) decreases the chances of HIV-negative partners to be infected with HIV less likely by 80% compared with persons in similar relationships in which condoms were not used. Moreover, studies demonstrate

that consistent condom use reduces the risk for other STDs, including chlamydia, gonorrhea, and trichomoniasis [5]. Female condoms like male condoms are also available but are costly compared with male condoms, however they offer the advantage of being a female-controlled STD/HIV prevention method.

b. Pre-exposure vaccination: Pre-exposure vaccination is one of the most effective methods for preventing transmission of human papillomavirus (HPV) and Hepatitis B Virus (HBV). HPV vaccination is recommended routinely for boys and girls aged 11 to 12 years. All unvaccinated and uninfected persons being evaluated or treated for an STD should be immunised with Hepatitis B vaccine. In addition, hepatitis B vaccines are recommended for Men having Sex with Men (MSM), Injectable-drug users (IDUs), persons with chronic liver disease, and persons living with HIV infection who have not yet been infected with hepatitis virus [3].

Identification of asymptotically infected persons and persons with STD symptoms

Early case detection is of supreme importance. The usual methods for early detection are:

a. Screening: Screening tests are done on the apparently healthy volunteers from the general population. As STDs are not brought to notice easily in community, high priority is given to special groups- pregnant women, blood donors, industrial workers, army, police, refugees, prostitutes, convicts, restaurant and hotel staffs, truck drivers, migrants, construction site workers etc. [2].

b. Contact Tracing: Contact tracing is a technique by which the sexual partners of diagnosed patients are identified, located, investigated and treated.

This is one of the best methods of controlling the spread of infection. Patients are interviewed for their sexual contact by trained staff. The key to success in this technique is patient himself who must disclose all sex contacts voluntarily. By using telephone, telegram and other rapid means of communication contacts are sought and then persuaded to attend an STD clinic for examination and treatment [6].

c. Cluster Testing: In this technique patients are asked to name other persons of either sex who move in the same socio-sexual environment. These persons are then screened and pathological tests are done. This technique has been succeeded in finding almost double the number of cases [7].

Effective diagnosis, treatment, counseling, and follow up of infected persons

a. Case holding and treatment: Adequate treatment of patients and their contacts is the mainstay of STD control. There is a tendency on the part of patients suffering from STDs to disappear or drop out before treatment is complete. Therefore every effort should be made to ensure complete and adequate treatment [2].

b. Epidemiological treatment (contact treatment): It consists of administration of full therapeutic dose of treatment to persons recently exposed to STD while awaiting the results of laboratory tests. Its effects are not lasting unless it is combined with a venereological examination and the tracing of contacts revealed by that examination [8].

c. STD Clinic: Establishing STD clinics where all consultation, investigation and treatment, contact tracing and all other relevant services are available is an essential part of prevention and control of STDs. Because of the stigma attached to the STD clinics, many patients seek alternative

sources of medical care including self-medication. It is now being considered to integrate STD clinic service into the primary health care services. This service should be free, easily accessible and available. There should be suitable arrangements for treating female patient separately and maintain the patient's desired anonymity. In India there is a National STD Control Programme where 'syndromic approach' is adapted for prevention and control of sexually transmitted diseases [2].

d. Laboratory services: Adequate laboratory facilities and trained staff are essential for proper patient management. It provides a basis for correct aetiological diagnosis and treatment decision, for contact tracing, surveillance of morbidity and detection of antimicrobial resistance [9].

e. Primary health care: As STD control activities are integrated into primary health care system, it imply the inclusion of primary health care workers (eg. village health guides, multi purpose workers) in the STD 'health team'. Then only it will be possible to provide effective treatment to the greatest number of cases in the community [2].

f. Information system: The basis of an effective control of any communicable disease is an existence of a robust information system. Three types of data requirement are relevant in the control of STDs: clinical notification, laboratory notification and sentinel and adhoc surveillance. National notification system at best includes only the classical venereal diseases where existing reporting systems suffer from under notification, inaccurate diagnosis and concealment of cases owing to social stigma. Without a notification system, it is not possible to assess the magnitude of the problem, to allocate resources and to evaluate the impact of control measures. There is an urgent need to develop an effective and

detailed reporting system of STDs in countries where it does not exist [9].

g. Legislation: Many countries are still far away in enacting suitable legislation for the control of STDs [10]. The purpose of legislation should be to encourage patients to seek early treatment and name their sexual contacts, to screen high risk groups to improve notification by general practitioners, health education of the public etc. The Immoral Traffic (Prevention) Act, 1986 covers all persons whether male or female who are exploited sexually for commercial purposes. It makes punishment for the offences under the Act more stringent than the previous Act [2].

Social Welfare Measures

STDs are social problems with medical repercussions. It implies there should be 'social therapy' which would prevent or control the conditions leading to promiscuity and STDs. The various social measures include:

1. Rehabilitation of commercial sex workers
2. Provision of recreation facilities in the community

3. Provision of decent living conditions (home discipline, parents should understand that their own sex behavior influences the children).
4. Marriage counseling
5. Sex education in school and colleges
6. Prohibiting the sale of sexually stimulating literature, pornographic books, photographs and films etc. [2].

Conclusion

Appropriate treatment at the first point of contact with the health system is an important measure to prevent further transmission and development of complications. Health providers from both private sector and public system should be given frequent periodic training regarding syndromic management of STIs and the training should stress on the need for risk reduction and condom promotion messages along with medical management. Program planners should take necessary steps to ensure adequate and continuous supply of free drugs and tackle issues of confidentiality and privacy. Without promotion of health and sex education, STDs cannot be prevented.

References

1. WHO. Fact sheet; No.110.Nov, 2013. <http://www.who.int/mediacentre/factsheets/fs110/en/> [Last accessed on 11-04-2017].
2. Park K. Park's Textbook of Preventive and Social Medicine. 23rd edition. M/s Banarsidas Bhanot Publications, New Delhi. 2015 : 339-340.
3. Centres for Disease Control and Prevention. Morbidity and mortality weekly report, Recommendations and reports. 2015.vol.64, No.3:pp.2. <https://www.cdc.gov/mmwr/index2015.html> [Last accessed on 12-04-2017].
4. World Health Organisation (WHO). Tech Rep Ser 1986; 736.S.
5. Weller S, Davis K. Condom effectiveness in reducing heterosexual HIV transmission. Cochrane Database System, Rev 2002;1: CD003255.
6. World Health Organization (WHO) Tech Rep Ser 1982; 674.
7. World Health Organization (WHO) Tech Rep Ser 1963; 262.
8. World Health Organization (WHO) Tech Rep Ser 1978; 616.
9. WHO. Control of Sexually Transmitted Diseases, WHO, Geneva.1985.
10. World Health Organization, Venereal Disease Control: A Survey of Recent Legislation. Geneva: WHO, 1975.