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Editorial

Sexually transmitted infections and syndromic management

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Sexually transmitted infections (STIs) are proving to be a major public health problem in developing countries. Their substantial morbidity, risk of mortality and effect on women, marginalized groups and people with high-risk activities is making them a priority in these countries.

Sexually Transmitted Diseases (STDs) are the infections that are acquired through vaginal, anal or oral sex and are caused by more than 30 different types of bacteria, viruses and protozoa. STDs rank among the top five diseases for which people seek clinical care and are a major cause of morbidity.[1] The worldwide incidence of STIs is 340 million new cases every year.[2] According to WHO, globally more than 1 million people acquire STDs every day. In Pakistan STDs are emerging as a major health problem. A study conducted in 2008 found a prevalence of 4.4% of one of the 5 STDs in general population of 6 major cities of Pakistan.[3,4] The prevalence is even higher as majority of the people with STDs do not present to healthcare providers due to social, moral, cultural or educational constraints. Prevalence is also higher in high-risk groups i.e. sex workers.[5,6,7]

The term Sexually transmitted disease (STD) was previously used in clinical practice but now Sexually transmitted infections (STI) has more or less replaced it. The word "Disease" means the presence of an adverse bodily state whereas "Infection" means presence of microorganisms in the body. No matter which term is used it has profound social impact on the patients.

STIs are transmitted predominantly via unprotected sexual contacts. These include vaginal, anal or oral sex. Other modes of transmission include maternofetal, via unsterilized needles and injections as well as blood transfusions.[2] Anal sex leads to trauma and inflammation resulting in easy transmission of STIs particularly HIV. Many STIs especially the ulcerative ones greatly enhance the sexual transmission of HIV among individuals co-infected with these STIs. To decrease the risk of transmission promotion of condom use and reduction in sexual partners are the most effective preventive measures.[2]

A person's chance of acquiring an STI depends on certain behaviors of their partners. Some members of society engage in activities and behaviors that place them at a higher risk for having and transmitting STIs. These high-risk groups (HRGs) include male and female sex workers, drug users and men who have sex with men (MSM). If there is history of sexual contact with any of these HRGs it leads to higher risk of acquiring an STI.[8]

In resource-constrained situation, a lab supported diagnosis based STI management is costly and unavailable to the clinicians most of the time. Syndromic approach is the standard

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way to make a clinical diagnosis based on history, examination and proceeding with the treatment of STIs using algorithms developed by National Aids Control Program. These algorithms have been tested and found reliable world over.[2] This approach also minimizes the antibiotic use and development of resistance. Though it has limitations and is less effective in women with STIs.

STIs, according to etiology, include:

1. Bacterial: gonorrhea (*Neisseria gonorrhea*), *Chlamydia trachomatis* (CT), bacterial vaginosis (BV), syphilis (*Treponema pallidum*), chancroid (*Hemophilus ducreyi*), lymphogranuloma venereum (*Chlamydia trachomatis*).
2. *Viral* Herpes simplex (HSV-2), warts (*Human papillomavirus*), molluscum contagiosum (*Molluscipox virus*)
3. *Fungal* Vaginal candidiasis, tinea cruris
4. Protozoal: Trichomoniasis (*Trichomonas vaginalis*)
5. *Parasitic* Scabies (*Sarcoptes scabiei)*, pediculosis pubis (*Phthirus pubis*)

To make it easier for the providers to give treatment to the patients the STIs are divided into groups according to the clinical presentation. Syndromes include: Urethral discharge, Genital ulcer, Scrotal swelling, Lower abdominal pain, Vaginal discharge, Anal symptoms (**Table 1**).[2]

STI management includes preventive as well as medical treatment. There are three levels of prevention. Primary prevention is preventing the infection before it arises and involves advocacy and outreach programs. Secondary prevention is practiced after acquisition of infection and includes prevention of further transmission of STI to the partners. Tertiary prevention is minimization of disability from infections in a patient and includes early treatment and avoiding complications. The most important component of syndromic management are the 4Cs i.e. *c*ompliance, *c*ounselling, *c*ondoms and *c*ontact (partner) management (**Table 2**).[2]

The drugs used for STI treatment include cephalosporins (ceftriaxone, cefixime), macrolides (erythromycin, azithromycin),

Table 1 Causative organisms of different syndromes

Syndrome	*Symptoms*	*Signs*	*Most common causes*
Urethral discharge	Urethral discharge Dysuria Frequent urination	Urethral discharge	• Gonorrhea • Chlamydia
Genital ulcer	Genital sore	Genital ulcer	• Syphilis • Chancroid • Genital herpes
Scrotal swelling	Scrotal pain and swelling	Scrotal swelling	• Gonorrhea • Chlamydia
Lower abdominal pain	Lower abdominal pain Dyspareunia	Vaginal discharge Lower abdominal tenderness on palpation Temperature >38°	• Gonorrhea • Chlamydia • Mixed anaerobes
Vaginal discharge	Unusual vaginal discharge Vaginal itching Dysuria Dyspareunia	Abnormal vaginal discharge	Vaginitis • Trichomoniasis • Candidiasis Cervicitis • Gonorrhea • Chlamydia
Anal symptoms	Anal pain Anal discharge Anal or perianal sores	Anal tenderness Anal discharge Anal or perianal ulcers	• Gonorrhea • Chlamydia • HSV-2

Box 1 *The 4Cs - Compliance, Counseling, Condoms and Contact (Partner) Management*
Compliance STI patients must be encouraged to comply with their prescribed treatment

- Instruct all patients to complete the full course of treatment.
- Disappearance of symptoms during treatment does not mean that the patient is cured
- Without proper treatment, STIs may cause severe complications
- Patient should avoid sexual contact during the treatment and until partner has been treated
- Ensure a follow-up visit

Counseling for prevention Every patient presenting with STI symptoms must receive and understand education messages tailored for each patient regarding

- STIs result from sexual contact
- Information about safer sex practices and use of condom
- The mode of transmission of STIs, including HIV
- STI augments the risk of HIV transmission
- Offer HIV voluntary counseling and testing (VCT)
- Consider syphilis testing

Condom use To minimize the further transmission of STIs, including HIV, it is essential to educate all clients on the proper use of condoms

- Demonstrate to each patient how to use a condom correctly
- Clinic should supply condoms to STI patients

Contact management Patients must understand the importance of partner management even if he/she is asymptomatic

- Risk of re-infection from asymptomatic partner
- Risk of complications for his/her partner
- Possible ways of partner management include:
- Providing additional treatment regimens for the partner
- Encouraging partners to come to the clinic for treatment

quinolones (ciprofloxacin, levofloxacin, ofloxacin), penicillins (benzyl penicillin, benzathine penicillin), tetracyclines (doxycycline, tetracycline), acyclovir, metronidazole, antifungals (fluconazole, tinidazole, terbinafine, itraconazole). Topical agents include metronidazole, clotrimazole, podophyllin.[2]

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