



Federal Democratic Republic of Ethiopia Ministry of Health

# NATIONAL GUIDELINES FOR THE MANAGEMENT OF SEXUALLY TRANSMITTED INFECTIONS USING SYNDROMIC APPROACH

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## List of Abbreviation

<b>AIDS</b>	Acquired Immunodeficiency Syndrome
<b>ART</b>	Anti Retroviral Treatment
<b>ANC</b>	Antenatal Care
<b>BV</b>	Bacterial Vaginosis
<b>CDC</b>	Centers for Disease Control and Prevention
<b>DNA</b>	Deoxyribonucleic acid
<b>EPHI</b>	Ethiopian Public Health Institute
<b>EDHS</b>	Ethiopia Demographic Health Survey
<b>FMOH</b>	Federal Ministry of Health
<b>FP</b>	Family Planning
<b>FSWs</b>	Female sex workers
<b>GC</b>	Gonococcal
<b>HDA</b>	Health Development Army
<b>HEWs</b>	Health Extension Workers
<b>HMIS</b>	Health Management Information System
<b>HSV2</b>	Herpes Simplex Virus Type-2
<b>HTC</b>	HIV Testing and Counseling
<b>HPV</b>	Human Papiloma Virus
<b>IM</b>	Intramuscular
<b>IV</b>	Intravenous
<b>KOH</b>	Potassium Hydroxide

<b>LGV</b>	Lymphogranuloma Venereum
<b>MARPs</b>	Most At Risk Populations
<b>M&amp;E</b>	Monitoring and Evaluation
<b>NGO</b>	Non governmental organization
<b>PCR</b>	Polymerase Chain Reaction
<b>PFSA</b>	Pharmaceutical Fund Supply Agency
<b>PID</b>	Pelvic Inflammatory Disease
<b>PITC</b>	Provider Initiated Testing and Counseling
<b>RHB</b>	Regional Health Bureaus
<b>RPR</b>	Rapid Plasma Reagin
<b>RR</b>	Risk Reduction
<b>SCM</b>	Supply chain management
<b>SMA</b>	Syndromic Management Approach
<b>STDs</b>	Sexually Transmitted Diseases
<b>STIs</b>	Sexually Transmitted Infections
<b>TPHA</b>	Treponema Pallidum Haemagglutination Assay
<b>UDS</b>	Urethral Discharge Syndrome
<b>VCT</b>	Voluntary Counseling and Testing
<b>VDRL</b>	Venereal Disease Research Laboratory
<b>VVC</b>	VulvoVaginal Candidiasis
<b>WHO</b>	World Health Organization

**Foreword**

Sexually transmitted infections (STIs) are major public health problems in Ethiopia. Because of the clinical problems & complications that STIs cause in individual patients, STIs require attention. This fact becomes even more worrying if we view STIs as a proxy indicator of behaviors placing our people at a higher risk of acquiring and transmitting HIV infection. Efficient & cost effective management of STIs has long been identified as a priority intervention in the prevention and control of HIV/AIDS. Thus, comprehensive syndromic management of STIs has become a highly recommended, feasible and cost effective approach for management of patients with STIs in Ethiopia since 2001.

Cognizant of the importance of controlling STIs as a major public health intervention and in view of making the syndromic approach a standard practice in all health institutions of the country, the FMOH revised this 3rd edition national guidelines based on recent findings of gonococcal antimicrobial sensitivity validation study and other global evidence and experience.

The Federal Ministry of Health believes, this guideline will be used in the prevention and control of STIs and further more in the prevention and control of HIV/AIDS.

It is with great pleasure that I recommend this new edition to be used as the primary guiding document for STI prevention and control program in Ethiopia.



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**State Minister of Health,**  
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# 1

## INTRODUCTION



## 1.1. Background

Sexually transmitted infections (STIs) are among the most common causes of illness in the world and have far reaching health, social and economic consequences. STIs have public health importance because of their magnitude, potential complications and their interaction with HIV/AIDS. They affect the health and social well-being of women disproportionately by producing significant impact on their reproductive potential.

As their name implies, the main mode of transmission of STI is through unprotected sexual intercourse. Other modes of transmission include: mother-to-child, blood transfusions, or other contact with blood or blood products.

One means of reducing the impact of STIs is through effective case identification and management. This obviously entails improving the quality of care and treatment of patients with STIs.

In 2013-2014, EPHI and FMOH in collaboration with CDC- Ethiopia conducted a gonococcal antimicrobial survey to assess the efficacy of existing treatment regimens. The findings of the Survey, other emerging evidence and new interventions necessitated revision of existing guidelines. In addition, the existing guidelines do not give emphasis to other components of STI management such as STI in MARPS, health worker attitude, integration of STI with the routine services, STI logistics supply and chain management , STI screening and programmatic implementation of STI.

The use of updated and standardized STI management guidelines is strongly recommended in order to ensure standard quality treatment and prevention at all levels of health system. It also provides a clear guidance, facilitates training and supervision of healthcare providers, helps to improve surveillance, and assists in effective STI drugs and related supplies management.

## 1.2. Epidemiology of STIs

Even though there is little information on the incidence and prevalence of STIs in Ethiopia, the problem of STIs is generally believed to be similar to that of other developing countries. According to 2011EDHS, 1%, of each Ethiopian women and men reported having had an STI in the past 12 months before the survey. Three percent of women and 2% of men reported having had an abnormal genital discharge. Also 1% of each women and men reported having had a genital sore or ulcer in the 12 months preceding the survey. These numbers may be underestimated because respondents could be embarrassed or ashamed to admit having STIs.

According to the 2012 ANC sentinel surveillance, the prevalence of syphilis is 1% which shows a reduction in trend as compared to 2.7% in 2007 and 2.3% in 2009 surveillance report.

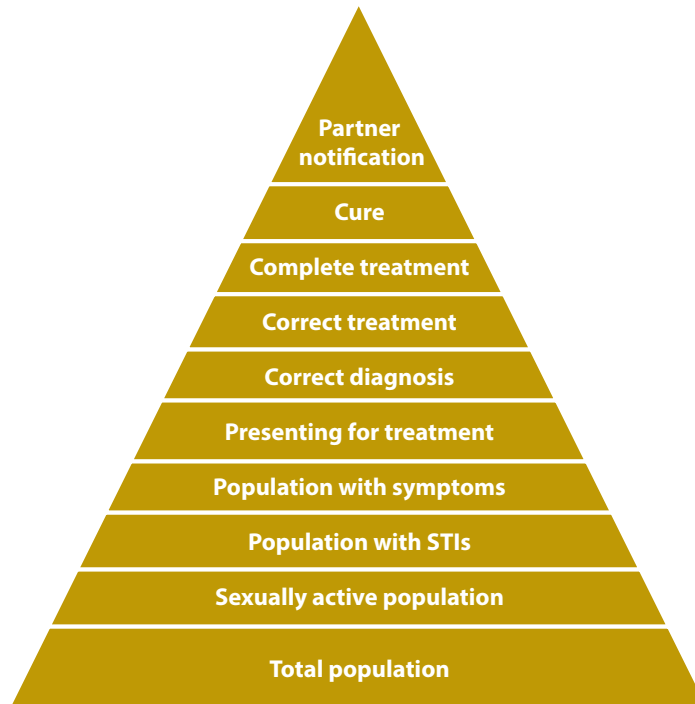
The single point adult HIV prevalence estimate for the year 2014 is 1.14%. Taking syphilis and HIV as proxy indicators, the STI prevalence is in a declining trend.

In the STI surveillance study which was conducted from January - June 2013 in 8 health facilities located in Amhara, Oromia and Addis Ababa by EHNRI in collaboration with CDC-E, a total of 636 STI cases were reported from eight sentinel surveillance sites and the commonest syndrome was vaginal discharge (50%), followed by urethral discharge (31%), genital ulcerative disease (9%), lower abdominal pain (7.3%) and two syndrome were present in few patients (3%). About 16% of the STI patients were co-infected with HIV (8.1% male and 21%female) and HIV prevalence is higher on STI patients with lower abdominal pain (41%) and genital ulcer (24.5%). Young people, in the age group 20-34 yrs, were the highly affected ones (68.2%), with a larger proportion being females (61%).

While effective STI case management represents the cornerstone of STI control, STI control efforts must go beyond case management, given that only a small proportion of people with STIs actually access health care services. There is increasing evidence that a large proportion of STIs are asymptomatic and most symptomatic patients seek treatment from traditional healers, pharmacists, drug vendors shops and marketplaces, where reporting is not the standard practice.

According to 2011 EDHS, 34% percent, of each, women and men sought care for STIs or symptoms of STIs from a clinic, hospital, or health professional. 1% of women and 6 % of men sought advice or medicine from drug retail outlet. 63% of women and 56 % of men who had STIs or STI symptoms in the 12 months preceding the survey did not seek any advice or treatment.

Fig.1: STI epidemiology model and care seeking behavior



### 1.3. Public Health Impact of STIs

Failure to diagnose and treat STIs at an early stage may result in serious complications. The most serious health consequences of STIs, other than HIV/AIDS, tend to occur in women and newborn children. Complications in women include cervical cancer, pelvic inflammatory disease with resulting infertility, chronic abdominal pain, ectopic pregnancy, preterm labor and related maternal mortality. Women may lose their fertility without ever realizing that they had PID.

Complications in newborns include congenital syphilis, gonococcal infection of the conjunctiva - a potentially blinding condition, chlamydial pneumonia and perinatal hepatitis B infection, premature deliveries, low birth weight, growth retardation. Urethral stricture and infertility are complications that could occur in men who are not treated early. Majority of the complications of STIs are preventable if the patient is diagnosed and treated early.

STIs have also enormous social and economic consequences. For instance, marital disharmony may occur when one partner develops STI or infertility. The costs of STI drugs may place a heavy financial burden on families, communities and the country at large. This is in part because antimicrobial resistance of several sexually transmitted pathogens has been increasing in most parts of the world and has rendered some low-cost regimens ineffective.



# **RELATIONSHIP BETWEEN STIs AND HIV**

**2**

The relationship between STIs and HIV/transmission has been described as an epidemiological synergy. In addition, HIV and STIs share the same risk factors. Thus, it is very critical to strengthen STI prevention and control program not only to improve quality of life and to overcome the complications caused by these infections, but also to prevent the spread of HIV infection.

### 2.1. STIs enhance the sexual transmission of HIV through:

- a. STIs that primarily cause ulcers disrupt the integrity of the skin barrier enabling HIV easy access through such defects in the skin. The presence of genital ulcers is known to increase the risk of HIV transmission by five folds.
- b. STIs that primarily cause inflammation such as gonorrhea, trichomoniasis, and chlamydial infections present a weak barrier to HIV.
- c. In both the above scenarios, infected lymphocytes among HIV infected individuals are attracted to the lesions and hence increase likelihood of infection to the partner
- d. STIs increase viral shedding (reported in genital fluids of patients with STIs) and increase susceptibility to HIV (STI treatment has been demonstrated to significantly reduce viral shedding).

### 2.2. HIV infection affects STIs through:

- a. HIV alters susceptibility of STI pathogens to antibiotics
- b. Increased susceptibility to STIs among immune suppressed individuals
- c. The clinical features of various types of STIs are influenced when there is co-infection with HIV. This can be demonstrated well in the following examples:
  - Syphilis has atypical presentation with a tendency to rapidly progress to neurosyphilis. The patient could present with atypical facial plaques, which is different from the typical rash of secondary syphilis. Both the specific and the non-specific treponemal serologic tests for syphilis may be non-reactive in the presence of infection with *T. Pallidum* when there is co-infection HIV.
  - Atypical lesions of chancroid are common and tend to be less purulent often with indurations mimicking primary syphilis. The lesions could as well be extensive and multiple which could be associated with fever and chills
  - Recurrent or persistent genital ulcers caused by Herpes simplex virus are common in patients with HIV and they are often multiple and extensive. Extra-genital or perianal ulceration could as well occur.
  - Human papilloma virus produces epiphytic genital warts that may be large and extensive, with an increased tendency to produce epithelial dysplasia and cervical cancer.
- d. The treatment of conventional STIs is also affected when infection with HIV coexist. Risk of treatment failure following single injection of benzathine penicillin is increased among patient with primary syphilis.
  - Topical anti-fungals are less effective and hence oral antifungals like ketoconazole may be indicated for patients with candidiasis.
  - Severe genital herpes may require treatment of primary episode or suppression of recurrence with acyclovir. However, resistance to acyclovir may subsequently develop.

#### Note

- **Conventional STI and HIV infection share similar risk factors.**
- **Conventional STI facilitate the acquisition and transmission of HIV infection**
- **Effective management of STI can reduce HIV infection.**



# **APPROACHES TO STI CASE MANAGEMENT**

**3**

Globally, service providers use one of the following three diagnostic approaches: etiologic, clinical and syndromic approach. Traditionally, a presumed sexually transmitted infection has been diagnosed by either clinical appearance alone (which is often inaccurate) or a laboratory-based test, which can be complicated and expensive and commonly delays in treatment.

Table. 3.1: Advantages and disadvantages of STI diagnostic approaches

Diagnostic Approaches	Advantages	Challenges
<b>Etiologic</b>		
This is done by identifying the causative agent(s) using laboratory tests and giving treatment targeting to the pathogen identified.	<ul style="list-style-type: none"> <li>• Avoids over treatment.</li> <li>• Conforms to traditional training.</li> <li>• Satisfies patients who feel not properly attended to</li> <li>• Can be used to screen asymptomatic patients.</li> </ul>	<ul style="list-style-type: none"> <li>• Identifying the 30 or more STI causative agents requires skilled personnel and sophisticated lab equipment.</li> <li>• Testing facilities usually not available at primary health care level where a large number of patients seek care for STI.</li> <li>• Lab tests are expensive, time consuming and results may not be reliable. Delay in treatment and reluctance of patients to wait for lab results.</li> <li>• Mixed infections often overlooked, thus miss treatment/under treatment can lead to complications and continued transmission.</li> </ul>
<b>Clinical</b>		
Uses clinical experience to identify symptoms which are typical for a specific STI, then giving treatment targeted, to the suspected pathogen(s)	<ul style="list-style-type: none"> <li>• Saves time for patients</li> <li>• Reduces lab expenses</li> </ul>	<ul style="list-style-type: none"> <li>• Requires high clinical skill</li> <li>• Mixed infections often overlooked</li> <li>• Doesn't identify asymptomatic STIs</li> </ul>
<b>Syndromic</b>		
Identification of clinical syndrome and giving treatment targeting all the locally known pathogens which can cause the syndrome	<ul style="list-style-type: none"> <li>• Complete STI care offered at first visit</li> <li>• Simple, rapid and inexpensive</li> <li>• Patients treated for possible mixed infections</li> <li>• Accessible to a broad range of health workers</li> <li>• Curtails unnecessary referral to hospitals</li> </ul>	<ul style="list-style-type: none"> <li>• Risk of over-treatment</li> <li>• Requires prior research to determine the common causes of particular syndromes</li> <li>• Asymptomatic infections are missed</li> <li>• Has low specificity and positive predictive value for detecting cervical infections in women presenting with vaginal discharge.</li> </ul>

Syndromic management is based on the identification of a group of symptoms and easily recognized signs associated with infection with well-defined pathogens. Treatment for each syndrome is directed against the main organisms within that geographical setting responsible for the syndrome. The syndromic approach has been shown to be highly effective for the management of majority of the STI. Prompt and efficient case detection and treatment, results in immediate health benefits for individual patients.

Furthermore, reducing the duration of patients' infectiousness decreases the incidence and prevalence of STIs in the population. Taking this into account, Ethiopia has been implementing syndromic approach since 2001 by adopting the WHO generic guidelines to serve as a national guideline for the management of STIs. Since then, trainings on syndromic approach have been given for health care workers. Syndromic approach is called "Comprehensive approach" because in addition to the provision of treatment it includes: education of the



patient, condom supply, counseling, partner notification and management and HIV testing and counseling (HTC).

Although the syndromic management approach is effective, It should be realized that syndromic management approach is not without criticism; for instance clients may not be satisfied when they are treated without being told the diagnosis and hence, may find alternative modes or places for treatment. Furthermore, the SMA approach weighs towards over-treatment, rather than under-treatment, and this may cause drug resistance. Although these arguments are valid, it is important to understand that in our country, where diagnostic services are limited, the only reliable way to manage STIs is through syndromic management approach.

The commonly encountered STI syndromes are:

- Urethral discharge in men
- Genital ulcer
- Vaginal discharge
- Lower abdominal pain in women
- Inguinal bubo
- Scrotal swelling
- Neonatal conjunctivitis.

### Note

- **Any patient who presents with STI syndrome have to be manage by syndromic approach at all level regardless of the expert capacity provided that it is a first visit for the current syndrome.**
- **The main reason for the development of STI syndromic approach is not merely lack of skilled health professionals rather it is inadequate access to sophisticated laboratory for etiological diagnosis.**

### 3.1. Introduction to Flow Charts

For each syndrome a clinical algorithm is developed to be followed in managing STI patients. A flow chart (also known as an algorithm) is a decision and action tree. It is like a map that guides the health worker to go through a series of decisions and actions. Each decision or action is enclosed in a box, with one or two routes leading out to another box, containing another decision or action.

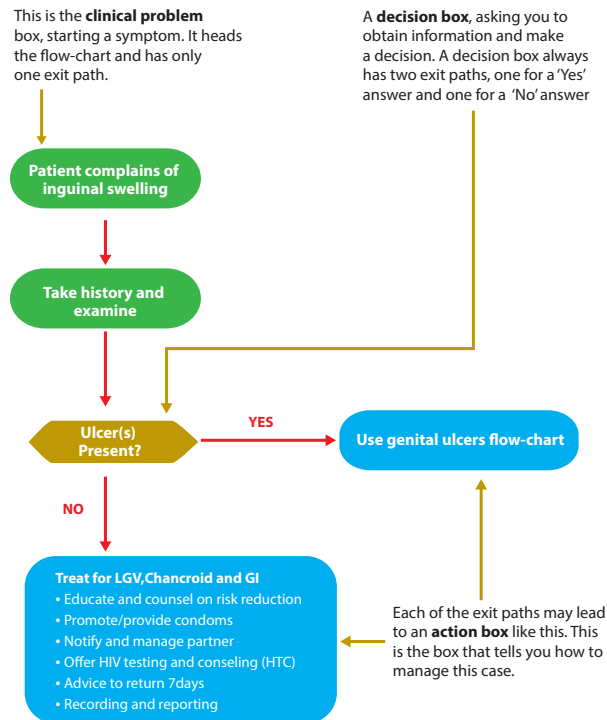
Benefits of using flow-charts

- They can be used at any time in all types of health facilities
- They suggest clear decisions

Each flow-chart is made up of a series of three steps. These are:

- **The clinical problem:** is what the patient complains of, i.e. the patient's presenting symptoms
- **The decision that needs to be taken:** this is the box, which requires further information, which the health care provider finds out by taking a history or examining the patient.
- **The action that needs to be carried out.** Each of the exit paths leads to an action or do box. This is the box that instructs the service provider on what action to take.

Figure.2: Example of Syndromic management flowchart



### 3.2. Assessment of a Patient with STIs

The diagnosis of STIs relies on proper history taking and physical examination. The relationship between the caregiver and the patient dictates the outcome of clinical diagnosis and treatment. Thus, the personal attribute of the health worker is important to build trust between the patient and care giver. This is even more important for patients with STI because they need privacy and confidentiality. Therefore, it is mandatory for the health worker to be friendly and refrain from judgments and accusations.

Syndromic diagnosis relies on identification of symptoms and signs and hence the health worker should elaborate on the chief complaints of the patient in order to determine the syndrome. The demographic characteristics of the patient that include age, sex, and marital status are important components of the history.

The following syndromes are expected in patients with STI and the history should address questions related to each specific syndrome.

- **Urethral discharge or burning sensation on urination in men:** Onset, history of unprotected casual sex, the amount of discharge.
- **Vaginal discharge:** change of color, amount and odor of vaginal discharge, history of STI in the partner, multiple sexual partners and change in sexual partner.
- **Genital ulcer in men and women:** The onset, history of recurrence, presence of pain, location and whether the ulcer is single or multiple.
- **Lower abdominal pain in women:** The onset, type of pain, radiation, severity, presence of vaginal discharge, last menstrual period, and systemic symptoms like fever, nausea and vomiting.
- **Scrotal swelling:** The onset, presence of pain, history of trauma and history of concomitant urethral discharge.
- **Inguinal Bubo:** Presence of pain, ulceration, discharges and the locations of the swelling.
- **Neonatal conjunctivitis;** onset, presence of unilateral or bilateral eye discharge, sticky eyes and swollen eyelids

It is possible that patients with STI may have concomitant medical illnesses or infection with HIV and hence the health worker should ask for more complaints in addition to the symptoms of STIs. Moreover, the past medical and sexual history is important to assess the risk behavior of the patient with STIs.

The physical examination of a patient suspected to have STIs is complimentary to the history of the patient. The health worker should be systematic and meticulous during the examination. The examiner should create confidence in the patient to avoid distress and discomfort while examining the sexual organs. Proper light, examination table, privacy, vaginal speculum and examination glove should be available in the examination room. The health worker should also extend his/her examination not to miss coexisting STIs or other medical conditions. For example, presence of oral thrush, lymph-adenopathy or herpes zoster scar would indicate concomitant infection with HIV that may need additional care and treatment.

#### Examination in men should proceed as follows:

1. **General examination:** an inspection of the skin is carried out and any rash, sores, warts and discoloration are noted. Then palpation is carried out to determine the presence of enlargement of lymph nodes in the anterior and posterior cervical region, sub mental, suboccipital, axillary and epitrochlear areas.
2. **Examination of the oral cavity:** the oral cavity should be carefully visualized with a torch for ulcers, candidiasis, leukoplakia, gingivitis.
3. **Examination of the penis:** first the foreskin should be retracted to look for redness, rash, discharge, warts and ulcers on the glans penis, and then the urethra should be milked for discharge if an obvious urethral discharge is not seen.
4. **Examination of the scrotum and testes for swelling and/or pain:** Both the scrotum and testes should be carefully palpated with the aim of ruling out any swelling and pain.
5. **Examination of the inguinal and femoral triangle lymph nodes:** The inguinal areas and the femoral triangles should be palpated to check for lymphadenopathy or lymphadenitis.

#### Examination in women should proceed as follows:

1. **General examination:** an inspection of the skin is carried out and any rash, sores, warts and discoloration are noted. Then palpation is carried out to determine the presence of enlargement of lymph nodes in the anterior and posterior cervical region, sub mental, suboccipital, axillary and epitrochlear areas.
2. **Examination of the oral cavity:** The oral cavity should be carefully visualized with a torch for ulcers, candidiasis, leukoplakia, gingivitis.
3. **Examination of the abdomen:** The abdomen is inspected and any obvious lumps are noted. The abdomen is then palpated and the size of the liver and spleen and the presence of any masses, tenderness, guarding and rebound tenderness are noted.
4. **Examination of the inguinal and femoral triangle lymph nodes:** The inguinal areas and the femoral triangles should be palpated to check for lymphadenopathy or lymphadenitis.
5. **Examination of the vulva:** The labia should be separated, the vulva should be visually inspected for any lesions and the Bartholins glands should be milked for discharge.
6. **Examination of the anus and perineum:** The anal area should be visually inspected for any lesions.
7. **Speculum examination:** The speculum should be inserted fully and gently opened in order to visualize the cervix; then gently withdrawn to visualize vaginal mucosa as it falls into place.
8. **Digital bimanual examination:** Physical examination in women is not complete without a digital bimanual examination which will help to enlist cervical tenderness/excitation or adnexal masses.

The color and consistency of vaginal discharge is best determined by visual inspection or speculum examination. If speculum examination is not possible, inspection of the discharge found on the examiner's gloved finger following bimanual digital examination may be a substitute. In addition, risk assessment should be conducted to rule out possibilities of cervicitis. The examiner should always use clean, disposable gloves for all physical examination procedures.

# 4

## DIAGNOSIS AND TREATMENT OF STI SYNDROMES

#### 4.1. URETHRAL DISCHARGE SYNDROME

Urethral discharge is the presence of abnormal secretions from the distal part of the urethra and it is the characteristic manifestation of urethritis. Urethritis is usually due to sexually transmitted infections although urinary tract infections may produce similar symptoms. Urethral discharge is one of the commonest sexually transmitted infections among men in our country. Usually urethral discharge is accompanied by burning sensations (dysuria) during micturition. Person with urethral discharge can also have increased frequency and urgency of urination and itching sensation of urethra. The amount and nature of the discharge vary according to the causative agents and other factors like prior treatments with antibiotics. The appearance of the discharge can be purulent or mucoid, clear, white, or yellowish-green. Sometimes it can be associated with scrotal swelling and pain which tends to be unilateral.

Urethral discharge can be caused by different causative micro-organisms. It can be caused by a single micro-organism or mixture of micro-organisms. In some rare cases it can be also the result of non-infectious causes. Due to these reasons urethral discharge is a syndrome of many causes rather than a single disease to be dealt with and it needs to be dealt with as a syndrome while it is being managed.

Urethral discharge syndrome needs to be treated as soon as possible because if it is not treated on time it can cause serious complication.

#### ETIOLOGY OF URETHRAL DISCHARGE SYNDROME

The causative agents of urethral discharge syndrome are many; but the two most common causative agents of the syndrome are *Neisseria gonorrhoea* and *Chlamydia trachomatis* ( 81% and 36.8% respectively according the 2014 EPHI gonococcal antimicrobial sensitivity validation study ). Some of the other causative micro-organisms are *mycoplasma genitalium*, *Trichomonas vaginalis*, and *Ureaplasma urealyticum*. Most of the time urethral discharge is due to mixed infection of *Neisseria gonorrhoea* and *Chlamydia trachomatis*

#### CLINICAL MANIFESTATIONS OF URETHRAL DISCHARGE SYNDROME

The urethritis caused by *N. gonorrhoea* has usually an acute onset with profuse and purulent discharge and the one caused by *C. trachomatis* has sub-acute onset with scant mucopurulent discharge. The other common signs and symptoms are burning sensation during micturition, urgency and frequency of urination with itching sensation of the urethra.

The signs and symptoms of complications of the syndrome are testicular pain and swelling, polyarthralgia, tenosynovitis, arthritis, skin lesions and constitutional symptoms.



### **COMPLICATIONS OF URETHRAL DISCHARGE SYNDROME**

Untreated UDS can cause some important acute and chronic complications. Early and prompt treatment of the syndrome is very important to avoid the possible complications.

Some of the common complications of UDS are:

#### **Acute complications**

- Disseminated gonococci syndrome
- Perihepatitis
- Acute epididymo-orchitis

#### **Chronic complications**

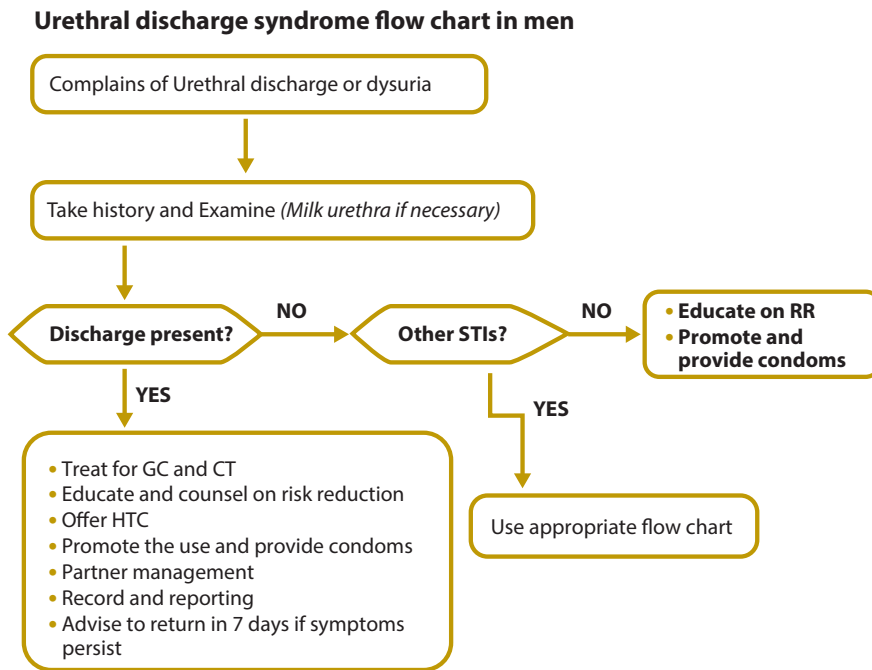
- Urethral stricture
- Infertility
- Reiter's syndrome

### **TREATMENT OF URETHRAL DISCHARGE SYNDROME**

As mentioned under etiology section in most of the cases urethral discharge syndrome is caused by mixed infections of N gonorrhoea and C trachomatis and it must be treated in a way that the treatment addresses both agents

In properly managing the syndrome by syndromic case management approach, the healthcare provider must take thorough and relevant history and do all relevant physical examinations. It must be noted that there is no need of lab investigations to identify the specific etiologic agents to manage the syndrome; it must be treated as a syndrome by sticking to syndromic case management which doesn't need to identify the specific cause.

Figure 3. The algorithm of syndromic case management of urethral discharge syndrome



In Ethiopia the recommended drugs of choice and their doses for the treatment of urethral discharge syndrome are:

Ceftriaxone 250mg IM stat/Spectinomycin 2 gm IM stat

**Plus**

Azithromycin 1gm po stat/Doxycycline 100 mg po bid for 7 days/Tetracycline 500 mg po qid for 7 days/Erythromycin 500 mg po qid for 7 days in cases of contraindications for Tetracycline (children and pregnancy)

**Note: The preferred regimen is Ceftriaxone 250mg IM stat plus Azithromycin 1gm po stat**

**Note:** In addition to treatment, the healthcare provider who is taking care of the patient with urethral discharge syndrome should educate the patient on

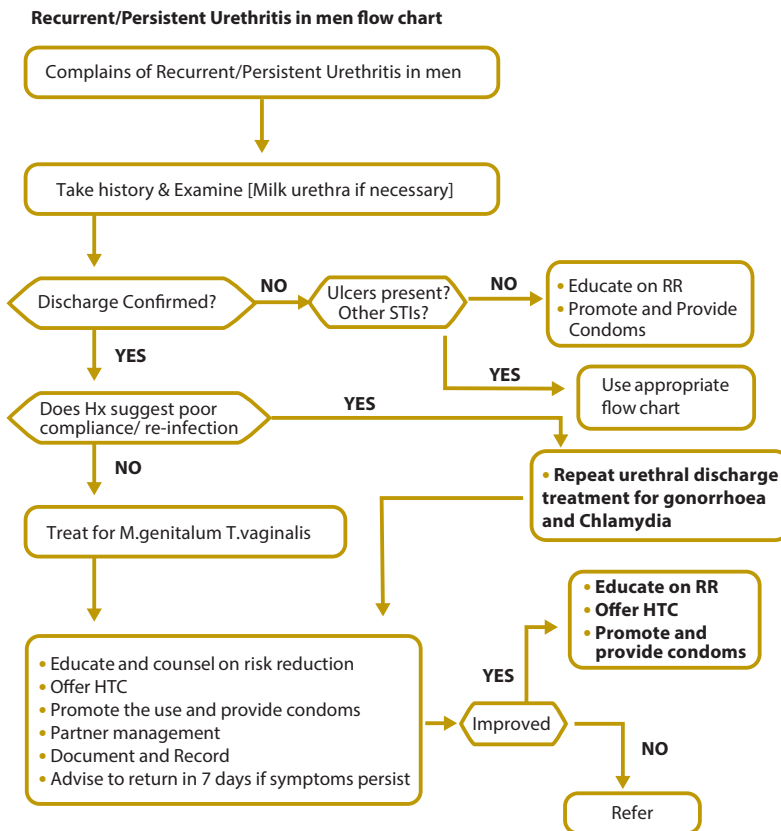
- Risk reduction
- Treatment compliance
- Proper and consistent use of condom
- Partner notification and management
- Importance of HIV testing
- Abstinence from sex till all symptoms resolve

### 4.2. RECURRENT/PERSISTENT URETHRAL DISCHARGE SYNDROME

Some patients may complain of persistent or recurrent burning sensation on urination, with or without discharge, due to various reasons

- Inadequate treatment or poor compliance and/or
- Re-infection (partner/s not managed)
- Persistent urethritis after Doxycycline based treatment might be caused by doxycycline-resistant M. genitalium
- T. vaginalis is also known to cause Urethritis in men
- Infection by drug-resistant organisms ( N.gonorrhoea)

Figure 4. The algorithm of syndromic case management of recurrent or persistent urethral discharge syndrome





## TREATMENT OF PERSISTENT/RECURRENT URETHRITIS SYNDROME

### Re-treat with initial regimen

- If non-compliant or re-exposure occurs ,re-treat with the initial regimen with due emphasis on drug compliance and/or partner management.

### Cover *M. genitalium* and *T. vaginalis*

- If compliant with the initial regimen and re-exposure can be excluded, the recommended drug for persistent or recurrent urethral discharge syndrome in Ethiopia is:
- Metronidazole 2 gm po. stat/Tinidazole 1gm po once for 3 days (Avoid Alcohol!)

### PLUS

- Azithromycin 1 g orally in a single dose (only if not used during the initial episode to address doxycycline resistant *M.genitalium*)

### Referral

- If men require treatment with a new antibiotic regimen and a sexually transmitted agent is the suspected cause, all partners in the past 3 months before the initial diagnosis and any interim partners should be referred for evaluation and appropriate treatment of treatment failure.

## 4.3. GENITAL ULCER SYNDROME

Genital ulcer is an open sore or a break in the continuity of the skin or mucous membrane of the genitalia as a result of sexually acquired infections. Commonly genital ulcer is caused by bacteria and viruses. Genital ulcer facilitates transmission of HIV more than other sexually transmitted infections because it disrupts continuity of skins and mucous membranes significantly.

### ETIOLOGY OF GENITAL ULCER SYNDROME

There are different kinds of bacteria and viruses which cause genital ulcer. Some of the common etiologies of genital ulcer syndrome are:

- Herpes simplex virus (HSV-1 and HSV-2)
- *Treponema pallidum*
- *Haemophilus ducreya*
- *Chlamydia trachomatis*
- *Klebsiella granulomatis* (donovanosis)

Most cases of genital herpes are caused by HSV-2. According to the validation study conducted in 2001 HSV2 alone was the leading cause of genital ulcer syndrome in both males and females constituting 44% and 76% of the cases respectively. Moreover dual infection with other genital ulcer pathogens was found in 52% of males and 78% of females.

### CLINICAL MANIFESTATION

Genital ulcer is caused by different causative agents and due to this fact genital ulcer has different kinds of clinical manifestations. Common clinical manifestations of genital ulcer are:

- Constitutional symptoms such as fever, headache, malaise and muscular pain
- Recurrent painful vesicles and irritations
- Shallow and non-indurated tender ulcers

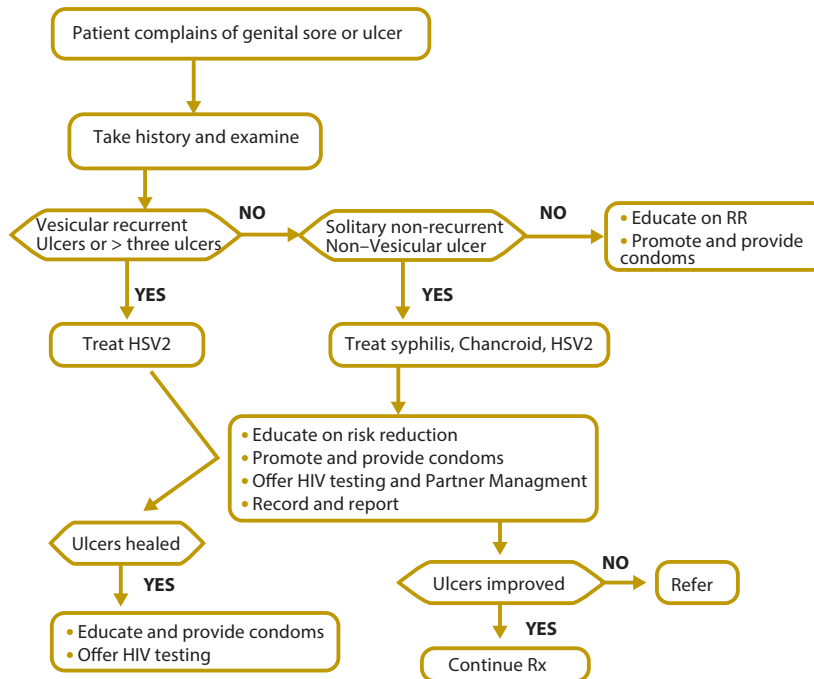
- Common sites in male are glans penis, prepuce and penile shaft
- Common sites in women are vulva, perineum, vagina and cervix and can cause occasionally severe vulvo- vaginitis and necrotizing cervicitis
- Painless indurated ulcer(Chancre)
- Regional lymph adenopathy



### COMPLICATIONS OF GENITAL ULCER SYNDROME

- Locally destructive granulomatous lesions occur (Gummas) on the skin, liver, bones, or other organs
- Tabes dorsalis and dementia, often with paranoid features
- Latent meningovascular parenchymatous
- Optic atrophy
- General paresis
- Aortic aneurysm and aortic valve insufficiency
- Asymptomatic aortitis
- Angina pectoris
- Recurrent disease
- Aseptic meningitis
- Encephalitis
- Phimosi in men
- Destruction of the penis or auto amputation
- Extra genital lesions

Figure 5. THE ALGORITHM OF SYNDROMIC CASE MANAGEMENT OF GENITAL ULCER SYNDROME



## TREATMENT OF GENITAL ULCER SYNDROME

As listed above under complication section, untreated genital ulcer can lead to many complications, some of which are life threatening. To avoid these complications the syndrome must be treated aggressively and promptly. The recommended treatment regimen for genital ulcer in Ethiopia is depicted below.

### 1. Treatment for Non- Vesicular Genital Ulcer

- Benzathine penicillin 2.4 million units IM stat /Doxycycline(in penicillin allergy) 100mg bid for 14 days

**plus**

- Ciprofloxacin 500mg bid orally for 3 days /Erythromycin 500mg tab qid for 7 days

**plus**

- Acyclovir 400mg tid orally for 10 days (or 200mg five times per day of 10 day)

### 2. Treatment for Vesicular, multiple or recurrent genital ulcer

Acyclovir 200 mg five times per day for 10 days

**Or**

Acyclovir 400 mg tid for 7 days

### 3. Treatment for recurrent infection: Acyclovir 400 mg tid for 7 days

## 4.4. VAGINAL DISCHARGE SYNDROME

Physiologically women have vaginal discharge which is white mucoid, odor less and nonirritant, thin or thick based on menstrual cycle. There is individual variation in the amount of normal vaginal discharges. Abnormal vaginal discharge which is STI related is abnormal in color, odor and amount. In another word abnormal vaginal discharge is there when a women notices a change in color, odor and amount accompanied by pruritus.

### ETIOLOGY OF VAGINAL DISCHARGE SYNDROME

The most common causes of vaginal discharge syndrome are

- Neisseria gonorrhoea
- Chlamydia trachomatis
- Trichomonas vaginalis
- Gardnerella vaginalis (Polymicrobial)
- Candida albicans

Bacterial vaginosis (Gardnerella vaginalis) is the leading cause of vaginal discharge in Ethiopia followed by candidiasis, trichomoniasis, gonococcal and chlamydia cervicitis in that order.

### CLINICAL MANIFESTATIONS

The classical manifestation of vaginal discharge is discharge from the vagina. The discharge can be

- Thin, homogenous whitish discharge with fishy odor
- Thick, profuse, malodorous, yellow-green, frothy itchy
- Purulent exudate from the cervical Os
- White, thick and curd like discharge coating the walls of the vagina

The other manifestations are vulvo-vaginal pruritus, irritation of vulva, dyspareunia, dysuria, and frequency of urination.

Physical examination may reveal dry congestion of the vulva with discharge. There can be signs of cervicitis during speculum examination which are redness and contact bleeding from the cervix, spotting and endocervical discharge.



### Risk Assessment

Major risk factor for cervicitis Using vaginal discharge as an entry point to manage cervical infection is far from ideal. While vaginal discharge is highly indicative of vaginal infection, it is poorly predictive of cervical infection with gonorrhoea and/or chlamydia.

The flowchart may become more predictive of cervical infection if a number of risk factors indicative of cervical infection are included.

The following are the common risk factors for development of vaginal discharge syndrome secondary to cervicitis:

- Multiple sexual partners in the last 3 month
- New sexual partner in the last 3 month
- Ever traded sex
- Age below 25 years

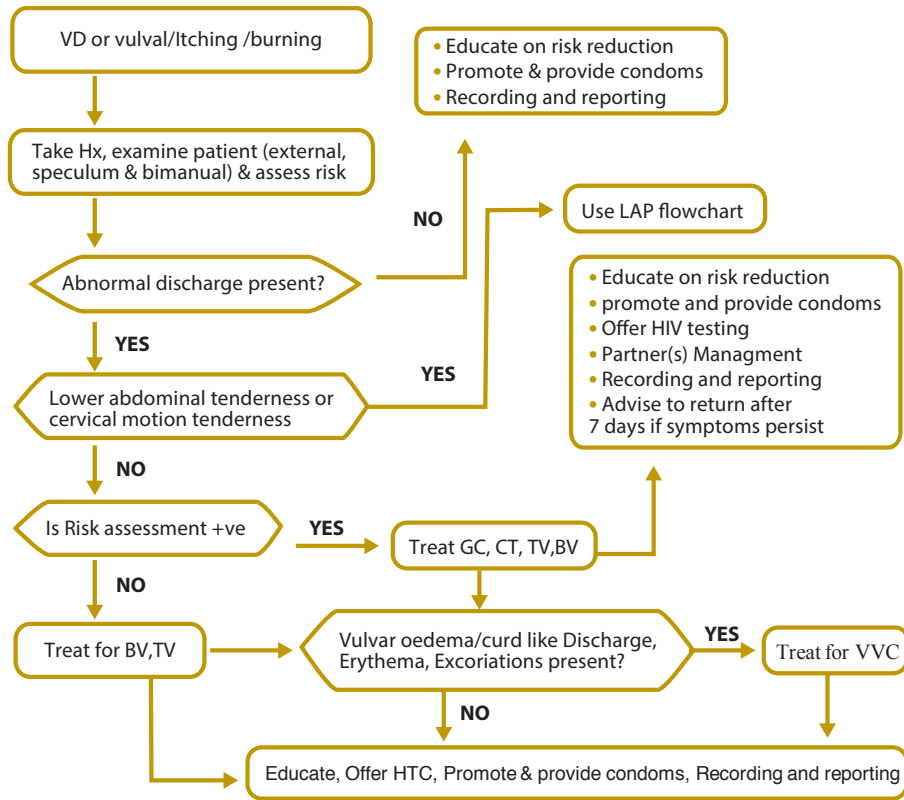
The presences of one or more risk factor suggest cervicitis.

### **COMPLICATIONS**

Untreated vaginal discharge can cause reproductive, sexual and other health complications. Some of the complications are:

- Pelvic Inflammatory Disease (PID)
- Peritonitis and intra-abdominal abscess
- Adhesions and intestinal obstruction
- Ectopic pregnancy
- Premature Rupture of Membrane (PROM) in case of pregnant women
- Chorioamnionitis
- Post-partum endometritis
- Pre-term labor in case of pregnant women
- Low birth weight
- Infertility
- Chronic pelvic pain

Figure. 6: THE ALGORITHM OF SYNDROMIC CASE MANAGEMENT OF VAGINAL DISCHARGE SYNDROME



### TREATMENT OF VAGINAL DISCHARGE SYNDROME

Vaginal discharge syndrome can cause many devastating complications if left untreated. Hence any woman with vaginal discharge syndrome must be treated promptly. The recommended treatment of vaginal discharge syndrome in Ethiopia is:

#### Risk Assessment Positive

Ceftriaxone 250mg IM stat/Spectinomycin 2 gm IM stat  
**Plus**  
 Azithromycin 1gm po stat/Doxycycline 100 mg po bid for 7 days  
**Plus**  
 Metronidazole 500 mg bid for 7 days  
 If discharge is white or curd-like **add** Clotrimazole vaginal pessary 200 mg at bed time for 3 days  
**Note:** The preferred regimen is Ceftriaxone 250mg IM stat **plus** Azithromycin 1gm po stat **plus** Metronidazole 500 mg bid for 7days

#### Risk Assessment Negative

Metronidazole 500 mg bid for 7 days  
 If discharge is white or curd-like **add**  
 Clotrimazole vaginal pessary 200 mg at bed time for 3 days

#### 4.5. LOWER ABDOMINAL PAIN/PELVIC INFLAMMATORY DISEASE (PID)

Pelvic inflammatory disease (PID) refers to a clinical syndrome resulting from ascending infection from the cervix and/or vagina. PID comprises a spectrum of inflammatory disorders of the upper female genital tract, including any combination of endometritis, salpingitis, tubo-ovarian abscess and pelvic peritonitis. The inflammation may also spread to the liver, spleen or appendix.

The vast majority of PID with or without pelvic abscess improves with antibiotics alone and the fever usually subsides in less than 72 hours. However, failure to improve within 72 hours after antibiotic treatment indicates failure of medical treatment and the patient should be referred for surgical evaluation and treatment.

##### ETIOLOGY

PID is frequently poly-microbial. The commonest pathogens associated with PID, which are transmitted sexually, are *C. trachomatis* and *N. gonorrhoea*. Other causes which may or may not be transmitted sexually include:

- *Mycoplasma genitalium*
- *Bacteroides* species
- *E. coli*
- *H. influenza*
- *Streptococcus*

##### CLINICAL MANIFESTATION

The commonest manifestations of pelvic inflammatory diseases include

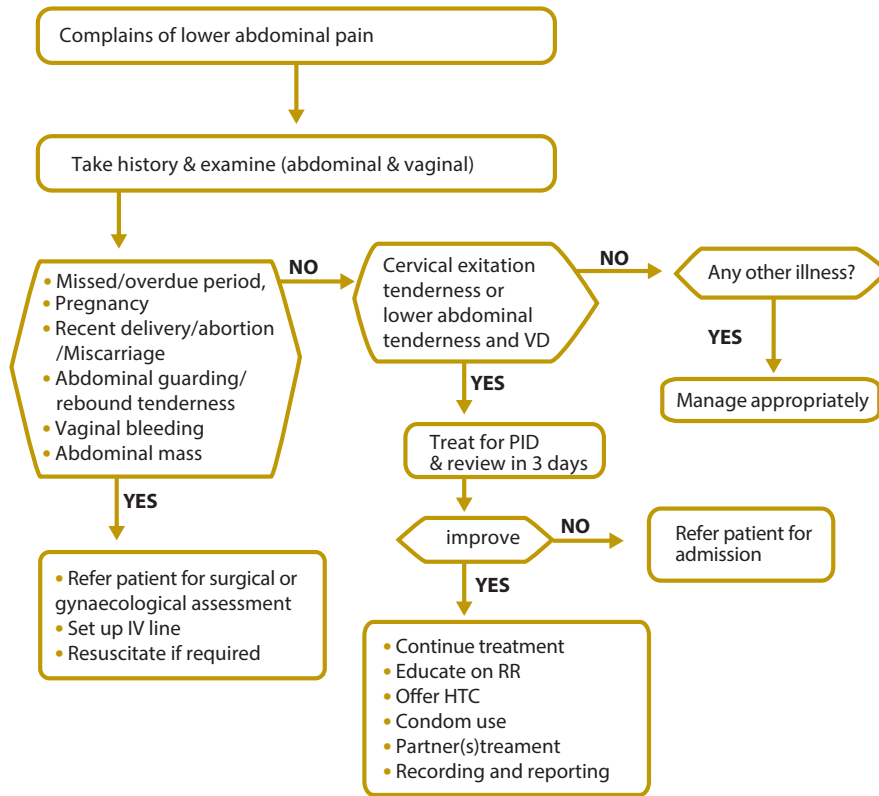
- Lower abdominal pain
- Abnormal vaginal discharge
- Inter-menstrual or post coital bleeding
- Dysuria
- Backache
- Fever, nausea and vomiting
- Cervical excitation tenderness
- Adnexal tenderness
- Rebound tenderness
- Adnexal mass

##### COMPLICATIONS OF LOWER ABDOMINAL PAIN SYNDROME

If patients with LAP syndrome are not treated appropriately and adequately the following life threatening complications may occur.

- Peritonitis and intra-abdominal abscess
- Adhesions and intestinal obstruction
- Ectopic pregnancy
- Infertility
- Chronic pelvic pain
- Recurrent PID

Figure. 7: THE ALGORITHM OF SYNDROMIC CASE MANAGEMENT OF LOWER ABDOMINAL PAIN SYNDROME



### TREATMENT OF LOWER ABDOMINAL PAIN SYNDROME

To reduce the occurrence of complications early identification and treatment should be instituted. The treatment regimen should cover all possible causative agents. The recommended treatment regimen for lower abdominal pain syndrome is:

For outpatient	For inpatient
Ceftriaxone 250 mg IM stat /Spectinomycin 2gm i.m stat	Ceftriaxone 250 mg i.m/i.v /Spectinomycin 2 gm i.m bid
<b>Plus</b> Azithromycin 1gm po stat/Doxycycline 100 mg po b.i.d for 14 days	<b>Plus</b> Azithromycin 1gm po daily /Doxycycline 100 mg po b.i.d for 14 days
<b>Plus</b> Metronidazole 500 mg po b.i.d for 14 days	<b>Plus</b> Metronidazole 500 mg po b.i.d for 14 days
Admit if there is no improvement within 72 hours	
<b>Note : The preferred regimen is Ceftriaxone 250mg IM stat plus</b> Azithromycin 1gm po stat <b>plus</b> Metronidazole 500 mg bid for 14 days	

**Note:** For inpatient PID, ceftriaxone, spectinomycin or azithromycin should continue for 24hrs after the patient remain clinically improved, after which doxycycline and metronidazole should continue for a total of 14 days



## INDICATION FOR INPATIENT TREATMENT

Hospitalization of patients with acute PID should be seriously considered when:

- The diagnosis is uncertain
- Surgical emergencies such as appendicitis and ectopic pregnancy cannot be excluded
- Pelvic abscess is suspected
- Severe illness precludes management on an outpatient basis
- The patient is pregnant
- The patient is unable to follow or tolerate an outpatient regimen
- Patient has failed to respond to outpatient therapy.
- PID in HIV patients

## 4.6. SCROTAL SWELLING SYNDROME

Scrotal swelling can be caused by trauma, tumor, and torsion of the testis or inflammation of the epididymis. Mostly the inflammation of the epididymis is caused by sexually transmitted diseases. The cause of scrotal swelling can vary depending on the age of the patient. Among patients who are younger than 35 years, the swelling is likely to be caused by sexually transmitted infections.

### ETIOLOGY SCROTAL SWELLING SYNDROME

The cause of scrotal swelling syndrome can be infectious or non-infectious. Infectious scrotal swelling caused by:

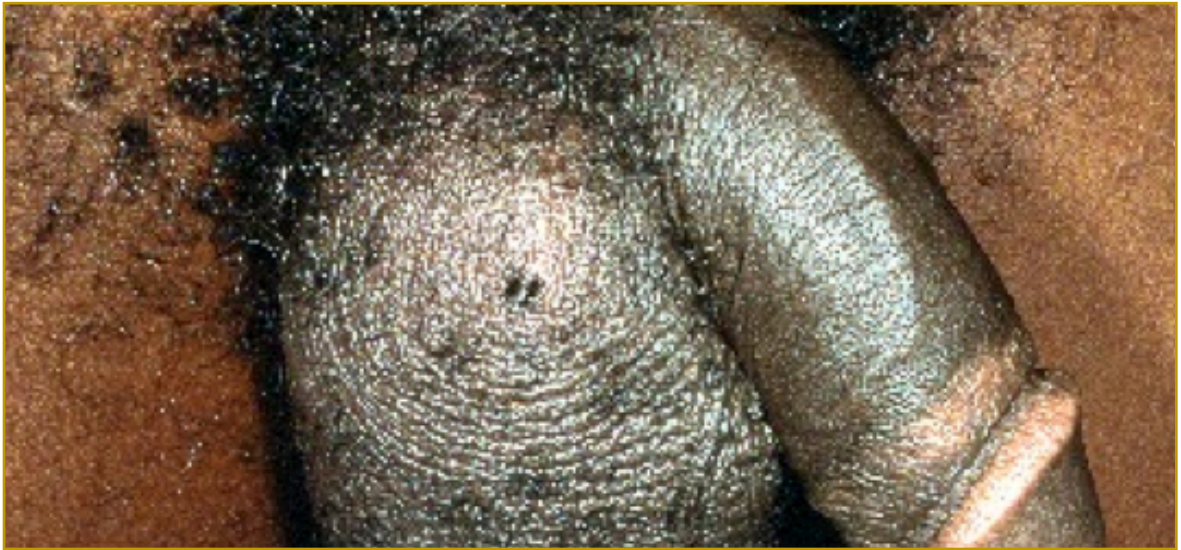
- N. gonorrhoea
- C. trachomatis
- T. pallidum
- M. tuberculosis
- Mumps virus
- Pseudomonas aeruginosa
- Filarial diseases

### CLINICAL MANIFESTATIONS OF SCROTAL SWELLING

Scrotal swelling can manifest itself with different signs and symptoms. Some of the signs and symptoms of scrotal swelling are:

- Pain and swelling of the scrotum
- Tender and hot scrotum on palpation
- Edema and erythema of the scrotum
- Dysuria
- Sometimes frequency and urethral discharge can be there

It is important to exclude other causes of scrotal swelling like testicular torsion, trauma, and incarcerated inguinal hernia as they may require urgent referral for proper surgical evaluation and management.

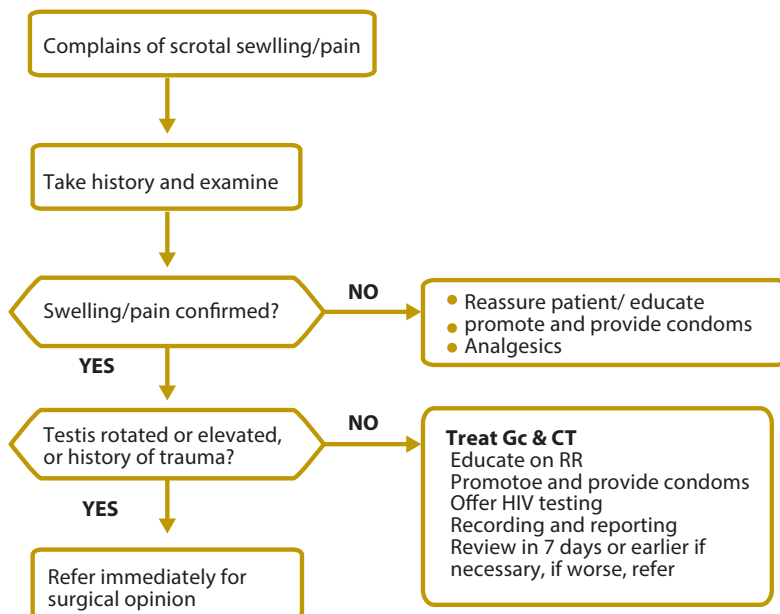


### COMPLICATIONS OF SCROTAL SWELLING SYNDROME

The common complications of scrotal swelling syndrome are:

- Destruction and scarring of testicular tissues
- Infertility
- Impotence
- Prostatitis

Figure. 8: THE ALGORITHM OF SYNDROMIC CASE MANAGEMENT OF SCROTAL SWELLING SYNDROME



## TREATMENT OF SCROTAL SWELLING SYNDROME

If quick and effective therapy is not given, the complications may occur. The treatment of scrotal swelling suspected of STI origin is similar to that of urethral discharge and thus the following drugs are recommended. In addition analgesia and scrotal support may be indicated as required.

Ceftriaxone 250mg i.m stat/ Spectinomycin 2gms i.m stat.

### Plus

Azithromycin 1gm po stat/ Doxycycline 100mg po bid for 7 days/ Tetracycline 500mg qid for 7 days

**Note :**The preferred regimen is Ceftriaxone 250mg IM stat **plus** Azithromycin 1gm po stat

## 4.7. INGUINAL BUBO SYNDROME (SWOLLEN GLANDS)

Inguinal bubo is defined as swelling of inguinal lymph nodes as a result of STIs. It should be remembered that infections on the lower extremities or in the perineum could produce swelling of the inguinal lymph nodes but strictly speaking this regional enlargement of lymph nodes should not be regarded as inguinal bubo.

### ETIOLOGY

The common causes of inguinal and femoral bubo are:

- Chlamydia trachomatis (L1, L2 and L3)
- Klebsiella granulomatis (donovanosis)
- Treponema pallidum
- Haemophilus ducreyia

### CLINICAL MANIFESTATIONS

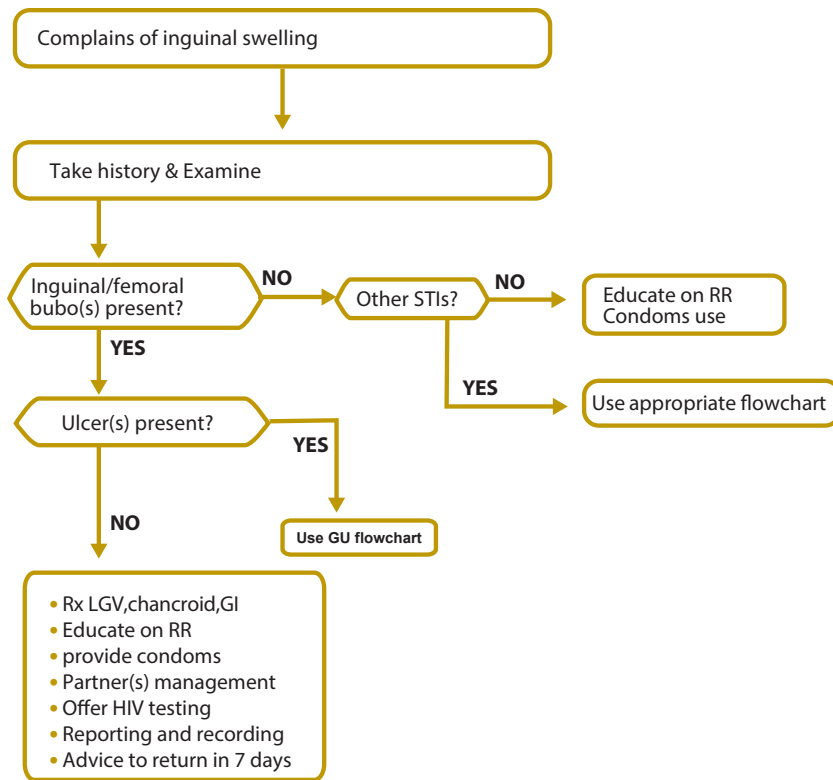
- Constitutional symptoms of fever, headache and pain
- Tender unilateral or bilateral lymphadenopathy forms a classical "groove sign" in the inguinal area
- Fluctuant abscess formation which forma coalesce mass (bubo)
- Some time concomitantly occur with genital ulcer



**COMPLICATIONS**

- Fistula or sinus formation
- Multiple draining sinus
- Extensive ulceration of genitalia
- Extensive scarring
- Proctocolitis with tenesmus and bloody purulent discharge.
- Retroperitoneal lymphadenopathy
- Chronic untreated LGV may result in lymphatic obstruction, elephantiasis of the genitalia
- Rarely hematogenous dissemination to lung, liver, spleen and bone.

Figure. 9: THE ALGORITHM OF SYNDROMIC CASE MANAGEMENT OF INGUINAL BUBO SYNDROME



**TREATMENT OF INGUINAL BUBO**

The treatment regimen for inguinal bubo syndrome in Ethiopia is:

Ciprofloxacin 500mg bid orally for 3 days

**Plus**

Doxycycline 100 mg bid orally for 14 days /Erythromycin 500mg po qid for 14 days.

If patient have genital ulcer, **add** Acyclovir 400mg tid orally for 10 days( or 200mg five times per day for 10 days)

**Note:** surgical incisions are contraindicated; aspirate pus with hypodermic needle through the health skin

#### 4.8. NEONATAL CONJUNCTIVITIS

Neonatal conjunctivitis (ophthalmia neonatorum) is an ocular redness, swelling and drainage which can be sometimes purulent due to pathogenic agents or irritant chemicals occurring in infants less than 4 weeks of age. In cases of neonatal conjunctivitis due to pathogenic agents, the neonates get the infections from their infected mothers. Neonatal conjunctivitis can cause loss of sight if it is not managed properly and promptly. Neonatal conjunctivitis due to sterile chemical irritants can be resolved by itself within 48 hours without any intervention.

##### ETIOLOGY OF NEONATAL CONJUNCTIVITIS

The etiology of neonatal conjunctivitis can be disease causing micro-organisms or sterile chemicals which are irritant and applied for preventive purposes.

Some of the common etiologic causes of neonatal conjunctivitis are:

- N. gonorrhoea
- C. trachomatis
- S. pneumoniae
- H. influenzae
- S. aureus

The commonest irritant chemical that causes neonatal conjunctivitis is silver nitrate solution, which is applied to the eye of the neonate for prophylactic purposes.

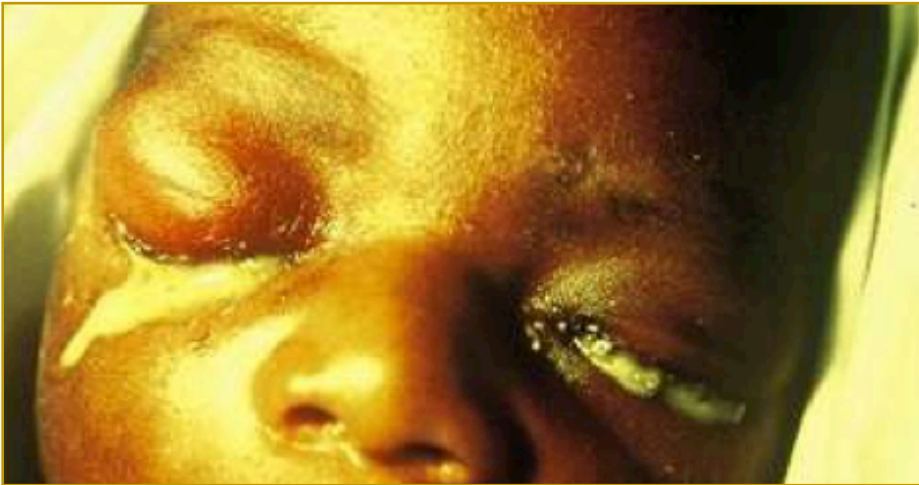
##### COMMON RISK FACTORS OF NEONATAL CONJUNCTIVITIS

- Maternal infection with STI
- Exposure of the infant to infectious organisms
- Inadequacy of ocular prophylaxis immediately after birth
- Premature rupture of membrane
- Ocular trauma during delivery
- Mechanical ventilation
- Prematurity

##### CLINICAL MANIFESTATIONS OF NEONATAL CONJUNCTIVITIS

The common clinical presentations of neonatal conjunctivitis (ophthalmia neonatorum) are:

- Red and edematous conjunctiva
- Edematous eye lid
- Discharge which may be purulent
- Orbital cellulitis in more serious cases



### **COMPLICATIONS OF NEONATAL CONJUNCTIVITIS**

Neonatal conjunctivitis can lead to some serious ophthalmic complications if it is not managed promptly. Some of the complications of neonatal conjunctivitis (ophthalmia neonatorum) are:

- Pseudo membrane formation
- Corneal edema
- Thickened palpebral conjunctiva
- Corneal opacification
- Corneal perforation
- Endophthalmitis
- Blindness

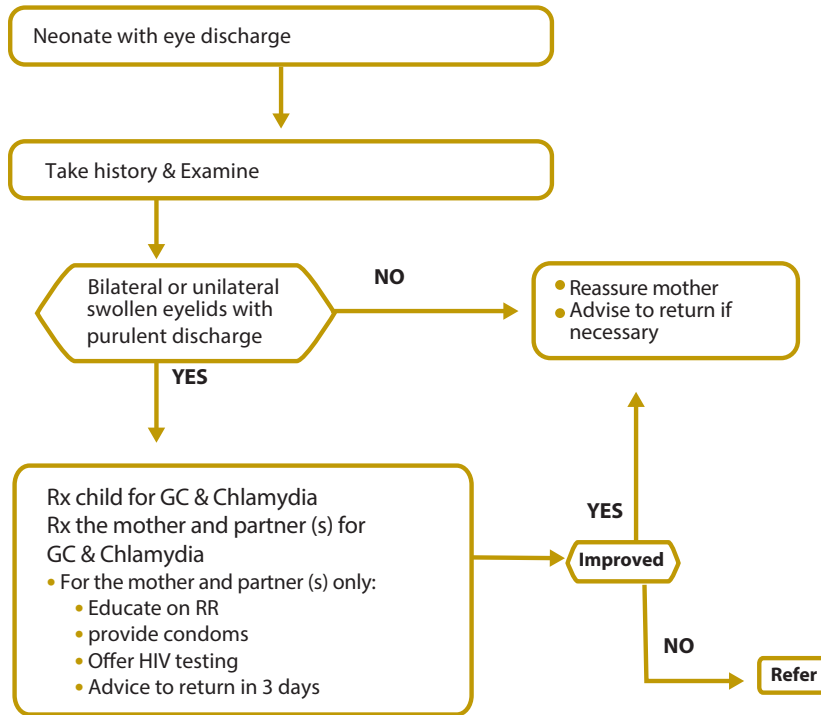
### **PREVENTION OF NEONATAL CONJUNCTIVITIS (OPHTHALMIA NEONATORUM)**

The best way of managing neonatal conjunctivitis is preventing it from happening. It can be prevented if effective preventive actions are taken by healthcare providers.

**Prevent neonatal conjunctivitis by:**

- Wiping the baby's both eyes with dry and clean cotton cloth as soon as the baby is born.
- Apply 1% tetracycline eye ointment into the eyes of the newborn infant.
- Properly open the eye of the infant and place the ointment on the lower conjunctival sacs and avoid placing on the eye leads.

Figure. 10: THE ALGORITHM OF SYNDROMIC CASE MANAGEMENT OF NEONATAL CONJUNCTIVITIS SYNDROME



### TREATMENT OF NEONATAL CONJUNCTIVITIS (OPHTHALMIA NEONATORUM)

To avoid serious complications healthcare providers must promptly treat neonatal conjunctivitis as soon as it is diagnosed. Relevant examinations must be done and history (especially of the mother) must be taken.

The recommended treatment of neonatal conjunctivitis :

- *Ceftriaxone 50mg/kg IM stat maximum dose 125/ Spectinomycin 25 mg/kg IM stat maximum dose 75mg plus*  
Erythromycin 50mg/kg orally in four divided doses for 14 days

**Note:** TTC is used as prophylaxis for neonatal conjunctivitis but note for treatment



**5**

**STIs IN CHILDREN AND  
ADOLESCENTS**



## 5. STIs IN CHILDREN AND ADOLESCENTS

The occurrence of STIs in children with the exception of neonatal infections and congenital syphilis invariably indicates sexual abuse. Health workers therefore, should arrange for emotional as well as legal support for the child as part of the comprehensive management.

Management of children who have STIs requires close cooperation between clinicians, laboratory personnel, and child-protection authorities. Legal investigations, when indicated, should be initiated promptly. Some infections (e.g., *gonorrhea*, *syphilis*, and *chlamydia*) if acquired after the neonatal period, are virtually 100% indicative of sexual contact. For other infections (e.g., HPV and vaginitis), the association with sexual contact is not as clear.

The rates of many STIs are highest among adolescents especially in sexually active younger adolescents. Adolescents are at higher risk for STIs because they frequently have unprotected intercourse, are biologically more susceptible to infection, are engaged in sexual partnerships frequently of limited duration, and face multiple obstacles to using health care. Several of these issues can be addressed by health care providers who provide services to adolescents. Health care providers can address adolescents' lack of knowledge and awareness regarding the risks and consequences of STIs by offering guidance concerning healthy sexual behavior. Health care providers should ensure privacy and confidentiality when providing services for adolescents.

Despite the prevalence of STIs among adolescents, providers frequently fail to inquire about sexual behavior, assess risk for STIs, provide counseling on risk reduction, and screen for asymptomatic infection during clinical encounters. Discussions should be appropriate for the patient's developmental level and should be aimed at identifying risky behaviors (e.g., sex and drug-use behaviors). Careful, nonjudgmental and thorough counseling are particularly vital for adolescents who might not acknowledge that they engaged in high-risk behaviors.

### FACTORS INCREASING VULNERABILITY TO STI / HIV INFECTIONS

#### Biological Factors

- Mucosal tear during sexual act
- Underdeveloped vaginal epithelium, which could be easily infected by etiologies of STIs

#### Social Factors

- Multiple sexual partnership
- Commercial sex
- Poor health seeking behavior
- Poor self-esteem
- Lack of youth friendly services
- Substance Abuse
- Peer pressure

### Management of STIs in Adolescents

The following key issues are useful to remember during management of STI in adolescents.

- Adolescents may have limited access to health care and may not seek care adequately. Therefore, arrangements should be made to ensure compliance and future follow up.
- Partner notification and management is often difficult, thus risk of reinfection is high.
- Pregnancy should be considered and screening is pertinent in adolescent females.
- STI syndromes in children and adolescents are caused by similar pathogens as in adults and thus follow similar management principles.
- However, some medications used in adults may not be used for children.

The following table shows the management of STIs in children or adolescents.

Table 5.1 management of STIs in children or adolescents

Syndrome	Infectious agent	Regimen
<b>Urethral Discharge</b>	N. gonorrhoea C. trachomatis M.genitalium	<b>Adolescents:</b> • Ceftriaxone 125 mg IM stat <b>Plus</b> • Azithromycin 1gm po stat/Doxycycline 100mg bid for 7 days <b>Children:</b> • Ceftriaxone 125mg IM stat <b>Plus</b> • Erythromycin 10mg/kg qid for 7 days <b>Note:</b> Use metronidazole 10 mg/kg bid for 7 days for persistent symptoms and 500mg bid for 7days in Adolescents:
<b>Vaginal Discharge</b>	N. gonorrhoeae C. Trachomatis T. vaginalis Bacterial vaginosis(BV) Vulvovaginal candidiasis (VVC)	<b>Adolescents:</b> • Ceftriaxone 125 mg IM stat <b>Plus</b> • Azithromycin 1gm po stat/Doxycycline 100mg bid for 7 days <b>Plus</b> • metronidazole 500mg bid for 7 days <b>Children:</b> • Ceftriaxone 125mg IM stat <b>Plus</b> • Erythromycin 10mg/kg qid for 7 days <b>plus</b> • metronidazole 10 mg/kg bid for 7 days
<b>Genital Ulcer</b>	H SV type 2 T. pallidum H. ducreyia	<b>Adolescents:</b> • Acyclovir 400mg tid for 10 days <b>Plus</b> • Benzathine penicillin 2.4 million units IM stat <b>Plus</b> • Erythromycin 500mg qid for 7 days <b>Children:</b> • Acyclovir 10 mg/kg tid for 7 days <b>Plus</b> • B. penicillin G 100,000 units/kg IM single dose <b>Plus</b> • Erythromycin 10mg/kg qid for 7 days
<b>Syndrome</b>	<b>Infectious agent</b>	<b>Regimen</b>
<b>PID</b>	N. gonorrhoeae C. Trachomatis Anaerobics	<b>Adolescents:</b> • Ceftriaxone 125mg stat <b>Plus</b> • Azithromycin 1gm po stat/Doxycycline 100mg bid for 14 days/ Erythromycin 500mg qid for 14 days <b>Plus</b> • Metronidazole 500mg bid for 14 days

**Note:**

- The dose of ceftriaxone for children and adolescent weight less than 45 kg is 125 mg IM stat.
- For those who are greater than 45 kg, use adult dose which is 250mg IM stat

**COMPREHENSIVE CARE PACKAGE FOR CHILDREN AND ADOLESCENTS WITH STIs SHOULD INCLUDE**

1. Effective medical treatment
2. Education on risk reduction
3. HIV testing and counseling
4. Contact tracing and management
5. Promotion and provision of condoms
6. Ensure follow up management
7. Legal and emotional support

Routine prophylaxis for victim of rape with antibiotics is not recommended however do the following:

- Baseline assessment including taking specimen for gram stain and or culture for identification N. gonorrhoea if possible
- Reassess after 7 days for incubating infections that would cause vaginal discharge syndrome
- Offer testing and counseling at baseline and re-test at 6 weeks, 3 months and 6 months to rule out HIV infection
- Refer immediately for HIV post exposure prophylaxis if the assailant is suspected to have HIV infection



# 6

## **MANAGEMENT OF STIs NOT PRESENTING WITH TYPICAL SYNDROMES**

## 6.1. SYPHILIS IN PREGNANCY

In Ethiopia, the estimated syphilis prevalence among ANC attendees in 2012 was 1%, indicating a low prevalence of syphilis in pregnant women (RPR >5% indicates high prevalence). Adverse pregnancy outcomes such as miscarriage or stillbirth, congenital syphilis in the new born and progression of latent syphilis in the mother are anticipated complications if the mother is left untreated. Thus RPR test should be routinely done on pregnant mothers in their first trimester and treatment should be instituted if the RPR test is reactive.

The treatment regimen recommended for syphilis in pregnancy is:

### 1. If primary syphilis, secondary syphilis or history of non-reactive RPR test within the past 2 years

Benzathine penicillin G 2.4 million units i.m stat

**Or**

Ceftriaxone 1gm i.m daily for 8-10 days in case of penicillin allergy

### 2. If infected more than two years ago or no prior history of non-reactive RPR test( unknown duration)

Benzathine penicillin G 2.4 million units i.m weekly for 3 weeks

**Or**

Erythromycin 500 mg po q.i.d for 30 days

**N,B:** Partner should be treated in both scenario.

## 6.2. CONGENITAL SYPHILIS

Children contract congenital syphilis from their mothers who are not properly treated for syphilis during pregnancy, i.e. it is transplacental infection of the fetus. Congenital syphilis can cause spontaneous abortion, still birth, infant with active or latent syphilis.

In about 70% of women with untreated maternal syphilis there is an occurrence of adverse effects to the fetus. To minimize these adverse effects pregnant mothers should be screened for syphilis at ANC clinic and if they are serological reactive they should get treatment immediately.

### CLINICAL MANIFESTATIONS

Early manifestations of congenital syphilis ( less than 2 years)

- Jaundice
- Hepatosplenomegaly
- Pseudo paralysis
- Bullous skin lesions and mucous membrane lesions, such as generalized rash
- Lymph node enlargement
- Nasal discharge (serosanguinous)
- Hoarse voice,
- Chorioretinitis
- Nephrotic syndrome

Late manifestations of congenital syphilis (greater than 2 years)

- The scars of healed early infection which include collapse of the nasal bridge
- Perforated palate
- Sabre tibiae
- Deformity of long bones and nasal bridge

- Hutchinson's triad (deafness, keratitis, and peg shaped incisor teeth)
- Hydrocephalous with evidence of mental retardation
- Interstitial keratitis
- Deafness and abnormalities of the teeth.
- Children may also present with syphilitic gumma affecting mucous membranes, skin and viscera;
- Central nervous system involvement from syphilis.
- Cardiovascular syphilis rarely occurs as a result of congenital syphilis

### COMPLICATIONS

- Abortion
- Late still birth
- Low birth weight babies.
- Failure to thrive.
- Neurological damage

### TREATMENT OF CONGENITAL SYPHILIS

To avoid complications of congenital syphilis treatment must be instituted as fast as possible after diagnosis of the disease. The recommended regimen for congenital syphilis is:

#### 1. Treatment for early congenital syphilis

Aqueous crystalline penicillin G 50, 000 units/kg IV tid for 10 days

**Or**

Procaine penicillin G 50,000 units/kg IM daily for 10 days

#### 2. Treatment of late congenital syphilis

Aqueous crystalline penicillin G 50,000 units/kg IV or IM qid for 10 days

**Or**

Erythromycin 7.5 – 12.5 mg/ka orally qid for 30 days ( for penicillin allergy)

### 6.3. GENITAL WARTS

Genital warts affect both men and women and can occur at any age. Most patients with genital warts are between the ages of 17-33 years. Genital warts are highly contagious. There is around a 60% risk of getting the infection from a single sexual contact with someone who has genital warts.

In children younger than three years of age, genital warts are thought to be transmitted by nonsexual methods such as direct manual contact. Nevertheless, the presence of genital warts in children should raise the suspicion for sexual abuse.

The peak time for acquiring infection for both women and men is shortly after becoming sexually active. HPV is sexually transmitted, but penetrative sex is not required for transmission. Skin-to-skin genital contact is a well-recognized mode of transmission.

### ETIOLOGY

Genital warts are caused by the human papilloma virus (HPV). About 90% of genital warts are caused by two specific types of the Human Papilloma virus with a low cancer causing potential. The viruses are:

- Human papilloma virus (HPV-6)
- Human papilloma virus (HPV-11)
- HPV type 16, 18, 31 and 45 (high risk of oncogenicity)

### CLINICAL MANIFESTATIONS

In men, genital warts can infect the urethra, penis, and scrotum. The warts can appear as soft, raised masses with a surface that can be smooth or rough with many fingerlike projections. Others may appear pearly, cauliflower-like, or rough with a slightly dark surface. Most lesions are raised, but some may be flat or papillary with only slight elevation above the skin surface. Sometimes lesions may be hidden by hair or in the inner aspect of the uncircumcised foreskin in males. In women the warts usually first appear on the fauchete and extend to the labia, vaginal wall and perineum. Papapillomatous warts also can be seen on the cervix.



### COMPLICATIONS

Common complications of genital warts are:

- Extensive anogenital warts
- Laryngeal papilloma in the infant (passage of HPV from the mother to infant at birth)
- Squamous cell carcinoma
- Carcinoma of the cervix

### TREATMENT OF EXTERNAL GENITAL WARTS

The primary goal of treatment of genital wart is to eliminate the symptoms caused by the visible warts. Eradication of the virus and elimination of infectivity is difficult to achieve.

The recommended treatment regimen for genital warts in Ethiopia is:

**1. Patient applied:**

- 1<sup>st</sup> line
- Imiquimod 5% cream to be applied directly on the warts 3 times per week for up to 16 weeks if available . The treatment area should be washed with soap and water 6-10 hours after application.
- Alternative
- Topical application of Podophylotoxin 0.5% bid for 3 days followed by 4 days of no treatment the cycle continued up to 4 times if available.
- Hands should be washed immediately after application.

**2. Provider administered:**

- Trichloroacetic acid (TCA) (30-90%) weekly base, applied carefully to the warts avoiding normal tissue. TCA should be applied to genital wart after applying vasline to surrounding normal skin.
- Podophylin resin 10-25% to be applied on the warts, avoiding normal tissue. Wash thoroughly 1-4 hours after application. Treatment should be repeated at weekly intervals until wart resolve.
- Cryotherapy
- Surgical removal  
Surgical removal should be spared for giant warts(surgical intervention for small warts might cause dissemination)

**Note:**

- a. Referral of patients with meatal or cervical warts is necessary for cryotherapy or surgical removal.
- b. Do not use podophylin toxin and resin during pregnancy.

**6.4. GENITAL SCABIES**

Scabies is a condition of very itchy skin caused by tiny mites *Sarcoptes scabiei* that burrow into the skin. *Sarcoptes scabiei* is transmitted by close skin to skin contact with an infested case. This includes sexual, non-sexual or social transmission within families, at schools and with workmates. The sites commonly affected are the pubis, lower abdomen, scrotum, vulva and perianal region. The mites may, however spread to other hairy parts of the body such as chest, armpits, eyelashes and eye brows, but not to the scalp.

**CLINICAL MANIFESTATIONS**

Itching is the main complaint. Erythematous papules and burrows tunneled by the female mite can be seen using a hand lens. Some patients may be completely unaware and lice are spotted on routine clinical examination; therefore, careful examination under a good light is necessary.



## TREATMENT OF GENITAL SCABIES

### Non pharmacologic

- Washing clothes in hot water or ironing clothes after normal washing.

### Pharmacologic

#### First line

**Permethrin 5%**, Thin films of cream applied to all areas of body from the neck down for 8-14 hrs. then washed off. Repeat the same dose after a week.

#### Alternative

**Benzyl Benzoate 25%**, applied to the entire body, neck to toe for 3 to 5 consecutive evenings. Bath should be taken before the first and after the last application. Give 12.5% for children

**Sulphur ointment** : Children 5%, Adult 10%: thinly applied to the entire body for 3 consecutive nights. The patient should wash thoroughly before each new application and 24 hours after the last treatment.

## 6.5. PEDICULOSIS PUBIS

The pubic louse (*Phthirus pubis*) is transmitted by sexual contact and can produce itching around the pubic area. The parasite can spread to the thighs, chest, and axillae and even to the eye lids. The diagnosis is established by clinical examination, as the parasite is visible by the naked eyes.

### TREATMENT OF PEDICULOSIS PUBIS

#### Treatment

#### Objectives

- Completely delouse the patient to prevent recurrence and transmission to fellow individuals.

#### Non pharmacologic

- Launder all clothes, sheets, blankets in hot water
- Iron all clothing
- Shave the pubic area

#### Pharmacologic

#### First line

**Permethrin**, thin films of 1% or 5 % cream, applied for 10 minutes then washed

- Should be applied below the neck
- Vaseline can be applied if it involves the eye brows and eyelash (suffocation method).

#### Alternatives

**Benzyl benzoate**, 25% emulsion applied once.

## 6.6. NEONATAL HERPES

Neonatal herpes is an infection to neonates by viruses called herpes simplex. Herpes infection can be vertical from infected mothers or horizontal from infected people after the delivery of the neonates. In vertical transmission it can be in the womb, during labor or immediately after delivery.

Neonatal herpes can be localized or systemic and can affect different parts of the body. It can be the one which involves skin, eye and mouth; it can also involve central nervous systems. In disseminated infection cases it can involve more organ systems like liver, lungs, kidneys and the others. If it is left untreated or the treatment is delayed it can cause grave sequels and even death. So to avoid these grave consequences neonatal herpes must be diagnosed and treated promptly without delay. Prevention interventions also must be applied to avoid both vertical and horizontal infections.

### ETIOLOGY OF NEONATAL HERPES

The etiologies of neonatal herpes are Herpes Simplex Virus 1 and 2 (HSV1 and HSV2).

### CLINICAL MANIFESTATIONS OF NEONATAL HERPES

The clinical manifestation of neonatal herpes infection varies depending on the extent of the organs involved and time of infection. The common clinical features observed on neonates infected with herpes simplex viruses are

- Vesicular mucocutaneous skin lesions
- Fever
- Seizures
- Lethargy
- Irritability
- Bulged fontanel
- Growth retardation
- Prematurity
- Microcephalus
- Hydrocephalus

### TREATMENT OF NEONATAL HERPES

Grave consequences of herpes infections to neonates must be avoided by early diagnosis and treatment. Through maternal and neonatal history must be sought with relevant physical examinations.

The recommended drug with doses in Ethiopia to treat neonatal herpes is

**For localized mucosal or dermal infections: Acyclovir 10 mg/kg IV TID for 14 days**

**For disseminated infections: Acyclovir 20 mg/kg IV TID for 21 days**

# SCREENING OF STIs

7

A significant proportion of women and men with STIs do not have symptoms, or have minimal symptoms and do not realize that anything is wrong. Silent asymptomatic infections can be more serious than symptomatic ones. Identifying and treating such patients prevent the development of complications for the individual patient and help reduce transmission in the community.

Table .7.1: Types of STI Screening Method

Type	Method
<b>Clinical screening</b>	Assessing about the presence of any of the STI syndrome General examination including speculum and bimanual examination to look for signs of STI not noticed by the client.
<b>Laboratory screening</b>	Serological screening for syphilis.
	VIA for early detection of cervical cancer.
	Testing and counseling for HIV.

Table .7.2: Sensitivity of STI Screening method

Infection/condition	Screening method	In 100 cases, Number that will be detected	Remark
<b>Syphilis</b>	Non-treponemal serological screening tests	80–86 (primary infection)	Positive test indicates a high likelihood of syphilis infection, although not necessarily current active disease. Patients who test positive should receive treatment.
		100 (secondary)	
		80 (latent infection)	
		71–73 (late stage)	
<b>Cervical infection (gonorrhoea and or chlamydia)</b>	<ul style="list-style-type: none"> <li>Clinical examination(Speculum examination)</li> <li>Gram stain</li> </ul>	30-40	Inexpensive; misses many cases (false negatives).
<b>Cervical dysplasia</b>	VIA	77	Effective for early detection and prevention of cervical Cancer

### 7.1. SYPHILIS

Syphilis in both men and women is associated with serious complications. More importantly, syphilis remains a leading cause of perinatal mortality and morbidity in many parts of the world despite widely available and affordable technology for diagnosing and treating infection in pregnant women. Among pregnant women in the early stages of syphilis who are not treated, an estimated two-thirds of pregnancies end in abortion, stillbirth, or neonatal infection.

#### INDICATIONS AND OPPORTUNITIES FOR SCREENING

- Screening for syphilis during pregnancy should be done at the first antenatal visit, or as early as possible.
- Women who do not attend antenatal clinic should be tested at delivery. Although this will not prevent congenital syphilis, it permits early diagnosis and treatment of newborns.
- Because of the serious complications of syphilis in pregnancy, the first priority should be to ensure universal antenatal screening.

- Women who have had a spontaneous abortion (miscarriage) or stillbirth should also be screened for syphilis; in many areas, identification and treatment of syphilis remove a major cause of adverse pregnancy outcome.
- Men and women with STI syndromes other than genital ulcer should be screened for syphilis. However Screening is unnecessary for patients with ulcers who should be treated syndromically for both syphilis and chancroid without testing.

#### Recommended screening tool

- Rapid plasma reagin (RPR) is the preferred tests for syphilis screening. RPR can be performed without a microscope . These tests detect almost all cases of early syphilis but false positives are possible .

**Note:** all patients who are reactive to RPR should be treated.

#### RECOMMENDATIONS

- Patients should receive their test results the same day before leaving the clinic.
- Patients with reactive (positive) results should be treated immediately (see treatment of syphilis in pregnancy in section 6.1).
- All patients must be asked for a history of allergy to penicillin. Sex partners of those found with positive results should also be treated without prior testing.

### 7.2. CERVICAL INFECTIONS

Cervical infections are much less common than vaginal infections, especially among women who use reproductive health services, and are usually asymptomatic. The cervix is the most common site of infection for gonorrhoea and chlamydia. Even if a woman is asymptomatic, it may be possible to detect signs of infection on careful speculum examination. Speculum examination may also reveal signs of other infections, including cervical ulcers and genital warts.

#### Indications and opportunities for screening

Screening may be done:

- Any time a speculum examination is performed for other reasons.
- People with frequent exposure to STIs, such as sex workers, should be screened regularly .
- For ART clients in ART clinics.
- For clients seeking FP services.

#### Available screening tools

- Syndromic screening through history and physical examination
- Careful speculum examination may detect many (but not all) cervical infections.

#### Recommended approach

- Assess for any symptomatic abnormal vaginal discharge and genital ulcer
- A careful speculum examination should be done to look for signs of cervical infection. some asymptomatic internal ulcers and genital warts may also be detected on speculum examination.

Table .7.3: Clinical criteria for cervical infection

Screening method	Signs	Management
Speculum examination <ul style="list-style-type: none"> <li>detects some cases of cervical infection.</li> </ul>	<ul style="list-style-type: none"> <li>Mucopurulent discharge (non-clear, yellowish discharge from endocervix).</li> <li>Friability (easy bleeding) when the cervix is touched with a swab.</li> </ul>	When any of these signs are present, patient should be treated for both gonorrhoea and chlamydia. <b>Note:</b> at least half the women with cervicitis do not have these signs.

Cervical infection is usually asymptomatic and women without vaginal discharge are as likely to have gonorrhoea and/or chlamydial infections. Despite lack of symptoms, consequences can be severe if infection reaches the upper genital tract for the case of gonorrhoea or chlamydia and cervical cancer in case of HPV.

### 7.3. CERVICAL CANCER SCREENING

Cervical cancer is a recognized complication of STI, related to infection with a few specific strains of human papilloma virus. Screening and treatment of early stages (cervical dysplasia) can reduce cervical cancer mortality by 80 per cent or more among screened women. In resource-poor settings like Ethiopia, 30 to 49 year old women comprise the target audience for screening because cervical cancer is rare in women under 30. Screening younger women will detect many lesions that are not likely to develop into cancer, will lead to considerable overtreatment, and are not cost-effective. In Ethiopia visual inspection with acetic acid (VIA) screening of cervical cancer is recommended. For HIV negative women, the target age groups for VIA are of women age 30 – 49 years while in case of HIV positive women the age is lowered to 25 years.

#### Screening Frequency

The FMOH recommends screening every five years following normal results irrespective of HIV status. Following abnormal results and/or treatment, repeat screening in one year. If follow-up screening is normal, return to screening every five years.

For more information you can refer the national cervical cancer guideline.

# STIs MANAGEMENT IN MARPs

8

The Ethiopia HIV investment case identifies female sex workers and their clients like, long distance drivers and daily laborers, as Most At Risk Population (MARPS) for HIV and sexually transmitted infections. According to 2013 national MARPS survey, the HIV prevalence among FSW is 24.7% and 4.9% in truck drivers and the prevalence of syphilis is four times higher than the general population. The reported vaginal discharge and genital ulcer in the last 12 months among the FSWs was 11.5 % and 7.9 % respectively and 9-12% prevalence of STI among daily laborers.

These group acts as a core or bridging population in the transmission of HIV and STI for the general population. Thus, reaching these groups with high-quality preventive and curative services is essential for community control of STI.

### **8.1. Service Delivery Guiding Principle for MARPs**

Most of the health facilities which are equipped and oriented to serve the general public are not friendly to carry out management of STIs among MARPS specially, female sex workers. As a result, Female Sex workers find it difficult to access clinical services in public, private, NGO and faith based health facilities. Moreover, Female sex workers are often reluctant to attend regular clinics because they are often badly treated, stigmatized or rejected. Therefore, the following guiding principles are worth considering ensuring increased uptake and friendly HIV/STI services to female sex workers and their clients. The services needs to be guided by the principle of four A's, which is Accessible, Acceptable, Affordable and Appropriate.

#### **Accessible Services**

The service delivery outlet health facilities are expected to be conveniently located to MARPS (e.g. near the identified "hotspots" and transport routes) and open at hours that are acceptable to the targeted population. In addition STI prevention and control activities should be integrated with other routine health care in major developmental corridors to address labors. Accessible interventions limit the number of logistical barriers, thereby increasing the number of individuals seeking health services.

#### **Acceptable Services**

The health facilities should not only be accessible but also be acceptable to female sex workers. Health facilities should be friendly for MARPS.

#### **Affordable services**

The services at the health facilities need to be at affordable cost. A large barrier to accessing services by female sex workers is the cost of services and transportation to and from service delivery sites. Since most female sex workers engage in sex work due to economic needs, health facilities are advised to offer affordable service to ensure all female sex worker have access to the HIV/STI package of services.

#### **Appropriate Services**

Health Services must be culturally appropriate and based on the needs of the local MARPS. Service providers should be trained on the specific health needs of MARPS.

In summary, Health care providers at all service delivery points should take into consideration the following principles which contribute to effectiveness and sustainability of HIV/STI/ interventions when dealing with MARPs:

- Respect female sex workers' human rights and accord them basic dignity (e.g. services are voluntary)
- Respect female sex workers' and their clients views, knowledge and life experiences
- Ensure interventions do no harm
- Recognize that female sex workers' and their clients are part of the solution, as they are usually highly motivated to improve their health and well-being
- Include clients/partners/controllers/gatekeepers
- Adapt to the diversity of female sex workers' and their clients settings and people involved



### Service delivery outlets for female sex workers and their clients

All public, private, NGO and faith based health facilities are expected to provide MARPS friendly STI/HIV services as per the guideline.

### 8.2. Management of STI for Female Sex Workers and their clients

Management of FSWs and their clients attending health facilities encompasses:

- Making a diagnosis through syndromic approach or asymptomatic screening;
- Providing appropriate antimicrobial agents for the infection
- Providing education on treatment compliance;
- Providing information on the nature of the infection and the ways of preventing infection;
- Demonstrating the correct use of condoms;
- Providing condoms and emphasizing consistent condom use; counselling to improve condom-negotiating skills;
- Arranging for treatment of regular partners (whenever possible); and
- Arranging for follow-up examinations and regular attendances for medical check-ups.

The management of FSWs and their clients present with symptomatic STIs is the same with the general population which is, syndromic STI management.

### Special Consideration for STI Screening and Treatment

Female Sex workers should be screened for symptomatic STI syndrome and provided treatment for STIs based on national syndromic management guidelines on regular basis.

Regular screening provides an opportunity to detect and treat STIs early as well as provide risk reduction counseling and access to condoms.



# 9

## **PRACTICAL CONSIDERATION IN MANAGING STIs**

### 9.1. Health Education and Counseling for STI patients Definitions

Health education is the provision of accurate and truthful information so that a person can become knowledgeable about the subject and make an informed choice.

Counseling is a two-way interaction between a client and a provider. It is an interpersonal, dynamic communication process that involves a kind of contractual agreement between a client and a counselor who is trained to an acceptable standard and who is bound by a code of ethics and practice.

Health education and counseling are closely linked. Both activities may take place at the same time. In health education, the aim is to make the patient better informed, so that he/she can make an informed choice of sexual behavior and practices. Counseling relates more to issues of anxiety and coping with the infection or its biomedical as well as social consequences.

#### The Importance of Education and Counseling

The aim of risk reduction counseling and education for STI patients include:

- Help patients re-examine long-standing habits and situation that are putting them at risk
- Prevent further transmission to others
- Remain free of infection in the future
- Promote partner notification, treatment and education
- Promote treatment adherence
- Enhance coping with the STI and its social consequences

##### 9.1.1. Contents of health education for STI patients

The health education should include providing information on the nature of the infection, its consequences, the importance of complying with treatment regimens, how to reduce risk through condom use (including demonstrating the correct way to use a condom and promoting condom use), and contact treatment/partner management. In case of sex workers, partner referral and treatment refers to regular partners and boyfriends.

##### Issues needed to be addressed on educating patients about STIs

- Explain STI and its complication
- Explain which STI the patient has and what treatment will be necessary
- Discuss common side-effects, drug interaction (if any)
- Encourage the patient to comply with treatment
- The risk for acquiring and transmitting HIV/Infection, and how to prevent it.
- The need to change sexual behavior like limiting sexual partners to one faithful partner, using condoms consistently and correctly and abstinence from sexual intercourse
- Importance of prompt care seeking for symptoms at appropriate medical sites
- Explain about the importance of partner notification
- Check patient understands
- Elicit questions and concerns

##### 9.1.2. Contents of counseling for STI patients

- Assessing the patient's risk level
- Personal sexual behavior
- Other personal risk factors
- Partners Sexual Behavior
- Patient's Protective Behavior
- Any barriers the patient perceives to changing behavior( gender ,culture ,religion and socioeconomic)

A counseling session should include more than just health education information; it should also help the patient cope with anxiety and stress caused by the diagnosis. The counseling process should evaluate the patient's risk of STI transmission, address complex issues (e.g., prevention of HIV infection, unintended pregnancy, partner referral and treatment), and promote adoption and maintenance of preventive behavior in the future.

Counseling should be conducted by a health care provider, peer educators, trained community counselor, who speaks and understands the dialect of the local community.

### **9.2. Health Workers Attitudes**

Many service providers are uncomfortable discussing sexuality with clients, or may not even perceive the need to do so, or are judgmental about certain sexual behaviours that are different from their own. As service providers have been faced with the realities of the HIV epidemic and the critical role of sexual risk reduction behaviour, it has become clear that STIs and HIV cannot be addressed effectively without a frank and direct dialogue about sexual practices. Health care providers should be aware that the following issues can make sexual practices difficult to discuss:

- Cultural taboos: to discuss explicit sexual practices
- Discomfort: in both service provider and client
- Biases: perceptions about “the sort of clients who are infected with a STI”
- Personal values: allowing personal views and attitudes to interfere with their professional obligation to provide non-judgmental and respectful services to clients
- Lack of Knowledge: unfamiliarity with local preferences and customs

Service providers can improve their interaction with clients by becoming aware of their own personal biases, values and attitudes, and working to prevent them from interfering with the ability to provide non-judgmental services. Service providers should be trained to feel more comfortable addressing sexuality with clients and become aware of their own biases and judgments.

Improving the interaction between the service providers and the clients will ultimately help clients to reduce their risk of infection and will result in better quality services.

### **9.3. Condom Promotion and Supply**

All patients should understand that STIs are preventable and that prevention may be achieved by abstaining from sexual activity, by having sex with an uninfected lifelong mutually faithful partner or by using condoms correctly and consistently during every sex act. Hence, condom promotion and distribution is a critical component of effective STI case management. The STI consultation provides an opportunity to promote and supply condoms, as patients should be more receptive to understanding their usefulness in decreasing their future exposure to STI/HIV.

Condom promotion to STI patients should include:

- 1.** Advice about using condoms (i.e., providing basic information about condoms as well as a dialogue with each client to identify and address potential barriers to condom use)
- 2.** Demonstration of correct use including partner negotiation skills for condom use and
- 3.** Provision of condoms to the patient and advice on further condom supply.

Condoms should be always given directly to each STI patient at the time of education and counseling. Clinic staff should explain and demonstrate the correct use of both male and female condoms with the help of a penile and vaginal model.

## 9.4. Demand Creation

### IEC/BCC materials

Targeted social behavioral change materials will contribute to increase knowledge on the different services and also contribute to the change in the health seeking behavior and adherence to treatment of clients. IEC/BCC materials can play a major role by providing information to the public to improve health seeking behavior. Therefore tailored Information, education, communication /Behavioral Change Communication (IEC/BCC) materials should always be available in the health facilities, particularly at the time of counseling and outreach activities.

IEC/BCC materials will be provided to the clients by health care providers, peer educators, outreach workers, etc. IEC/BCC materials should be translated into local languages, if required.

All stakeholders working on the STI program needs to do a demand creation activity so as to improve uptake of STI treatment services i.e health seeking behavior.

#### Core communication methods:

- Public service announcement(TV and Radio)
- Advertisement and creative service promotion
- Peer education by coordinated by HEWs/HDAs
- Brochures, posters, banners
- Websites, and Social medias
- Features stories
- Dramas (short or series)
- Mediating knowledge sharing workshops and meetings
- Guest column on national newspaper.

## 9.5. Notification and Management of sexual partner

Notification and management of sexual partner(s) is one of the most important components of STI case management. It helps to break the cycle of transmission and prevent the development of potential STI complications. Both men and women with STI may be symptom-free, but women more so than men; thus, partner notification and management offers an opportunity to identify and treat people who otherwise would not receive treatment. It also offers an opportunity to provide focused STI/HIV education to individuals who are by definition at high risk of infection. There is good evidence that partner notification is an effective means of detecting untreated STIs. Effective management cannot be achieved without partner notification and treatment.

Partners may not be treated for many reasons, including:

- The patient feels uncomfortable or unable to inform their sexual partner(s) about an STI
- Sexual partner(s) do not accept treatment or are unwilling to go to the health facility for treatment
- Tracing sexual partner(s) is not always easy and
- The patient cannot identify their sexual partner(s) for instance, if the contact was with commercial sex worker who lives in another area.

### Two approaches to partner management

- Passive contact tracing (patient referral)
- Active contact tracing (provider referral)

### 9.5.1. Passive contact tracing (also known as patient referral)

In passive contact tracing, it is the patient who takes responsibility for contacting partners and asking them to come for treatment. An infected patient is encouraged to notify partner(s) of their possible infection without the direct involvement of health care providers. The patient referral system is the most commonly used method because of its low cost and practicability.

News of STI can be especially damaging when a patient or partner hears of their partner's for the first time. Such events might lead to marital breakdown, divorce, verbal or physical abuse, loss of home or livelihood, or even ostracism from the social group. Because of these and other reasons, many patients might feel unwilling or unable to discuss STI with partners, so the service provider's aim is to help the patient decide what to do. An index patient might approach partner(s) in several ways:

- By directly explaining about the STI infection and the need for treatment
- By accompanying a partner to the health facility
- By giving each partner a notification card and asking him or her to attend the centre.

The success of patient referral is absolutely dependent on index patient and partner motivation and the quality and appropriateness of counseling received by the index patient. Moreover, its success depends on the skills of the service provider: what you say to the patient, how you say it and, equally important, how you listen to the patient and respond to what he or she says. The service provider needs to:

- Explain that all the patient's partners need to be treated so that the patient is not reinfected and his/her partners don't suffer the consequences of untreated STI
- Remind the patient how to avoid re-infection (abstain, be monogamous, use condoms, get all partners treated)
- Help the patient learn how to communicate with partners

### 9.5.2. Active contact tracing (also known as provider referral)

This is where a member of the health team contacts the partners of a patient with STI. Provider referral can be expensive and can be perceived as a threat to patient confidentiality. If the patient is not informed in advance that this might occur.

#### Principles of partner management

Partner notification should be conducted in such a way that all information remains confidential. The process should be voluntary and non-coercive. The health care provider is also required to show respect and a non-judgmental attitude. Management of sexual partners is based on knowledge of the index patient's diagnosis.

## 9.6. Offering HIV testing and counseling

Testing for HIV is recommended and should be offered to all persons who seek assessment and treatment for STIs. Encouraging patients with STI cases to receive HIV testing and counseling is an effective way to help control the further spread of HIV. The conditions for testing must respect the client's human rights and pay respect to confidentiality and ethical principles.

During Provider initiated HIV testing and counseling, provide pre test information for consent and post test counseling based on test result.

### 9.6.1. Pre-test Information

The relevant information that should be provided includes:

- The reasons why HIV testing and counseling is being recommended for STI patients.
- The clinical and prevention benefits of HIV testing

- The available services in the case of either -negative or -positive test result, including availability of ART.
- The confidentiality of result other than health care providers directly involved in providing services to the patient.
- The right to decline the offered test and declining an HIV test will not affect the patient's access to other medical services.
- The right of the client to ask the health care provider any concern or questions.

### 9.6.2. Post-test counseling

All clients undergoing HIV testing should be provided with post-test counseling in person (as individual or couple): The form of the post-test counseling session depends on the test result;

#### For positives, sessions will focus on

- Meaning of HIV positive result
- Coping with the test result
- Importance of medical care and treatment
- Disclosure and partner testing
- Prevention messages and positive living
- Referral and linking for care for care and treatment.

#### The post-test counseling session for negatives should include

- Meaning of test result. Patient should be retested after 3 month if they have STIs
- Prevention message (risk-reduction plan to remain negative).

## 9.7. Follow up Visit for Patients with STI

The importance of follow up visit is

- To assess treatment adherence, response and ensure cure,
- To exclude incubating STIs particularly syphilis,
- To offer HIV testing and counseling if not done during the initial visit,
- To assess for safer sexual behavior.
- To further counsel patient to bring partners if not yet treated

If patient didn't respond to the initial treatment it is good to rule out possible re-infection, treatment incompliance, treatment failure and misdiagnosis.

Once re-infection, treatment incompliance are ruled out then patient should be work up in line with treatment failure using etiologic approach especially for Neisseria gonorrhoea resistance using culture and sensitivity.

For other STI causing microorganisms since there is no culture and sensitivity, only etiological identification is enough.

Table 9.1: Etiological diagnostic modalities

Organism	Golden standard	Confirmatory
N. gonorrhoea	Culture	PCR
C. trachomatis	PCR	PCR
T. Vaginalis	Wet mount	PCR
Syphilis	TPHA	

Culture and sensitivity tests are available only at regional laboratories (Adama, Nekemt, Jimma University Hospital, Hawassa, Arbaminch, Harar, Bahrdar, Dessie, Mekele, Gondar University hospital, Black lion, Yekatit 12 Hospital, Zewditu memorial hospital and Ethiopian Public Health Institute (EPHI)). All treatment failure patients of Urethral discharge, and vaginal discharge should be referred to these laboratories. The advantage of culture technique is to have live organism and doing antimicrobial susceptibility tests.

Nucleic acid amplification and testing method (Polymerase chain reaction) is done for etiological identification. If the patient is diagnosed for urethral or vaginal discharge syndromes and become culture negative for *Neisseria gonorrhoea*, PCR will be done to rule out other etiologies that cannot be identified by culture method. PCR is currently available at EPHI and some private facilities and in the near future in the above mentioned regional laboratories. The appropriate sample for such could be urine or discharge. All STI causing etiologies could be diagnosed using this method.

All facilities are expected to refer patients to their nearby facility or regional laboratory where this facilities can be given.

**Note:** Sometimes other gynecological, dermatological, surgical and medical disorder can be misdiagnosed as STI syndromes and it will be wise to consider if patients fails to syndromic management. Therefore, patient should be workup/referred for non STI cause in parallel with treatment failure workup.

### 9.8. Recording and reporting

Recording and reporting of STI cases is one of the important components of comprehensive syndromic management of STI. Detail is addressed on monitoring and evaluation section.





**PREVENTION  
AND CONTROL  
OF SEXUALLY  
TRANSMITTED  
INFECTIONS**

**10**

Effective prevention and care can be achieved by use of a combination of responses. Services for prevention and care of people with sexually transmitted infections should be expanded and embrace a public health package that includes the following elements.

### 10.1. Primary Preventive measures:

Some of the measures one can employ to avoid STIs includes:

- Abstinence: This might be total abstinence from sex or for groups such as students and youths not yet married, one should encourage, delaying sexual activity till one is ready for marriage.
- Mutually faithful sexual relationship or “Mutual monogamy”. This is what is usually termed as “Zero grazing”. It is useful if both partners are not already infected.
- Correct and consistent use of condoms. This intervention is especially recommended for those who cannot abstain and yet cannot have mutually faithful relationship.
- Safer Sex practices. Educating patients (and the general public) on the dangers of unsafe sex and persuading them to use condoms consistently and correctly, limit sexual partners to one monogamous relationship.

### 10.2. Secondary prevention measures:

- Promoting STI care-seeking behavior through:
  - ≡ Public education through mass media and HDA/HEW
  - ≡ Providing non-stigmatizing and non-discriminatory health services
  - ≡ Providing quality STIs care
  - ≡ Ensuring a continuous supply of highly effective drugs
  - ≡ Ensuring a continuous supply of condoms and promotion of consistent and correct use
- Early diagnosis & prompt and correct treatment
  - ≡ Providing comprehensive syndromic STI case management through:
    - ≡ Making correct diagnosis
    - ≡ Providing correct antimicrobial therapy for the STIs syndrome
    - ≡ Educate on the nature of the infection, safer sexual behavior, safe sex acts and risk reduction in order to prevent or reduce future risk-taking behavior
    - ≡ Educate on treatment compliance
    - ≡ Demonstrate the correct use of condoms and provision of condoms
    - ≡ Advise on how the patient’s partners may be treated and to issue a partner referral card for the patient to pass on to his/her partner(s).
    - ≡ Offer voluntary HIV testing and counseling service
    - ≡ Training of service providers on syndromic management of STIs.
    - ≡ Integration of STI services within primary health care.

STIs treatment should be available at all health facilities throughout the country by integrating STIs care within primary health care at - primary care clinics, maternal, child health , family planning clinics and ART clinics - through the syndromic management of STIs. This means that service providers are trained to recognize STIs syndromically and then to offer their patients comprehensive care.

- Case finding and screening:
  - ≡ Screening women attending maternal, child health , family planning services and ART clinics
  - ≡ Partner notification and treatment
  - ≡ Education, screening and treatment of key population groups who may have placed themselves at risk of infection, such as sex workers, long distance truck drivers and mobile workers

### 10.3. CHALLENGES OF STIs PREVENTION AND CONTROL

The challenges are related to three major factors:

- Health system factors
- Biological factors
- Socio-cultural and behavioral factors.

#### 10.3.1. HEALTH SYSTEM FACTORS

These may include several factors:

- Health services may be:
  - ≡ Unavailable or too far away (geographic inaccessibility)
  - ≡ Too expensive (not affordable)
  - ≡ Considered to stigmatize those who visit (negative attitude)
  - ≡ Ill equipped in terms of staff , equipment and drugs.
  - ≡ Not user friendly (particularly for adolescents) (lack of skill, judgmental attitude, opening hour and cost)
- There may be too little emphasis on educational and other efforts to prevent infection
- Skill gap on comprehensive syndromic STIs management.
- Difficulty of partner management

#### 10.3.2. SOCIO-CULTURAL AND BEHAVIORAL FACTORS

The social factors include:

- Reluctance to seek health care
- Ignorance or misinformation
- Preference for alternative health sources
- The social stigma so often attached to STIs
- Failure to take the full, prescribed course of treatment for STIs
- The difficulty of notifying and bringing sexual partners because of fear, embarrassment or unawareness of consequences.

#### 10.3.3. BIOLOGICAL FACTORS

As many as 70%-80% of infected women may be asymptomatic and so will not seek treatment. This also applies to a significant number of men. Such people will continue to be infected, risking complications and perhaps infecting others.



# **PROGRAM MANAGEMENT AND COORDINATION IN STI**

The program management of STI has been challenging in Ethiopia. Even though STI program has been integrated in to the routine health care system, the coordination and leadership has remained problematic. Many factors have contributed to the weakness of STI program that include:

- Inadequate attention to prevention and control of STI program at all level
- Poor health seeking behavior and partner notification rate
- Under reporting
- Absence of STI surveillance system
- Erratic supply chain and management
- Lack of STI focal points.

### **Essential components of STI program**

- Clinical care
- Leadership and coordination
- Advocacy and social mobilization
- Procurement and supply management
- STI surveillance
- M&E

#### **11.1. Clinical care**

The Standard mode of STI clinical care service in Ethiopia is Syndromic management. All health centers, hospitals, private facilities are expected to implement syndromic management modality at all levels. As the main reason for adopting Syndromic management is not skill gradient across different levels of health professionals, all health cadres are expected to practice syndromic management as per the national guidelines. STI service should be integrated with the routine care. Integration of STI prevention and care into primary health care facilities, hospitals and private clinics is one of the key elements in the public health package of STI prevention and treatment. It makes STI services available and accessible to far more people than are usually served, and especially to sexually active females. It also has great advantage that people seeking care can avoid the potential stigma of going a dedicated STI clinic.

All health facilities are expected to offer STI services in their major OPDs like adult OPD, Obstetrics and Gynecology OPD, ART clinic, ANC, FP, Neonatology/Immunization units. All the above service delivery point should capacitated with trained staff, job aids and necessary equipments to ensure provision of quality STI services

#### **11.2. Leadership and Coordination of STI activities**

Program coordination of STI is very much similar to program coordination in other programs structurally. Currently Ethiopia has three tier health delivery system and STI service is provided at primary secondary and tertiary facilities.

Therefore, program management and coordination involves a chain of communication and decision making. Primary level facilities are accountable to woreda health offices. Woreda health offices are responsible to oversee the overall STI prevention and treatment activities in health centers. Program management at private facilities shall be performed according to the structure put in place for monitoring and evaluation of private facilities in the respective regions. Recording and reporting of STI prevention and treatment activities in primary level facilities is towards woreda health offices like other programs.

Woreda health offices will report to RHBs and RHBs to FMOH. Woreda health offices are expected to examine routine reports and reports from integrated supportive supervision (ISS) to identify best practices and possible

challenges. This will help program managers to design appropriate strategies for improving the STI prevention and control within the district. Woreda health offices are also expected to work with partners and RHB to continuously support capacity building of health professionals working on the STI program.

Hospitals are under the direct supervision by regional health bureau in most regions. Hospitals shall report STI prevention and treatment activity report to the RHB through monthly bases. Besides all the possible challenges regarding STI service delivery are expected to be communicated with RHB primarily. On the other hand RHB should look out the services in hospitals via integrated supportive supervision as per the recommendation for other programs in the health system. In addition to supervising hospitals directly, RHB is also expected to oversee the overall program coordination, guideline availability, quality of cadre of the program in all districts and make corrective actions timely.

The FMOH is responsible to lead the national STI program. This includes, revision technical guidelines timely, designing/strengthening the national STI surveillance system in close collaboration with EPHI, Support PFSA through quantification and procurement of STI drugs. The FMOH is the only responsible body to publish national status report to represent the country in international reports like other programs. Thus it is imperative that facilities follow the existing structures in the health system to report their activities so that FMOH will have realistic representation of the national status. FMOH will also make an overall assessment of training needs and facilitate national TOTs to help regions to have sufficient pool of trainers to cascade meaningful capacity building activities.

### **11.3. Procurement and distribution of STI drugs and supplies**

Procurement and distribution of drugs, reagents and supplies including STI drugs is the primary responsibility of PFSA. However, FMOH uses the national facility level reports and other studies to estimate disease burden and hence help PFSA make a realistic quantification drug demand. Also PFSA uses its hubs in the respective regions to distribute drugs and supplies along with drugs for other programs. Woreda health offices and RHBs can directly communicate with issues related to Drugs with PFSA Hubs.

### **11.4. Advocacy and Social mobilization**

FMOH and RHBs are expected to coordinate advocacy for STI prevention and treatment through various health educations tools. This includes preparing posters, IEC materials using mass media HDA and health extension program. The national technical working group on STI can guide the content, focus, and variety of such communication materials.

District health offices shall coordinate community mobilization for the prevention of STI. This will be implemented through the use of simple but basic guidelines tailored for use by HEW and HDA. Job aids for use by HEW and HDA can be prepared by FMOH in collaboration with partners.

### **11.5. STI Surveillance**

EPHI in collaboration with FMOH will lead regular drug sensitivity and etiologic surveys to guide the syndromic management modality. Moreover, operational research regarding STI will also be conducted by EPHI in close collaboration with FMOH and other partners.



**STI LOGISTICS AND  
SUPPLY CHAIN  
MANAGEMENT**

**12**

**Definition**

Supply Chain is linkages of organizations, people, procedures and systems involved in getting products to customers. It can also be defined as the management of the entire set of business processes that produces and delivers products/services to the final customer (World Bank).

**Rationale**

STI logistics and Supply Chain Management is one of the critical components for the successful implementation of STI program. National STI Supply Chain Management shall include proper selection, quantification, procurement, storage, distribution, rational use and reporting system for STI drugs and other related essential medical supplies. Availability of STI medicines and medical supplies should be ensured at all levels including public, private and NGO service delivery points.

**12.1. Selection**

General selection criteria of STI medicines and medical supplies include:

- National Guideline for STI Treatment
- STI screening protocol
- National Medicines Formulary
- Safety and efficacy
- Cost and Affordability
- Product availability
- Route of administration

**12.2. Quantification and Forecasting**

The quantification and forecasting of STI drugs and related medical supplies at national level shall be based on the following assumptions:

- Consumption data/report of STI medicines and medical supplies from health facilities
- HMIS Data
- National STI case surveillance data
- EDHS data
- National MARPs survey and other surveillances data

Based on the above assumptions Procurement, Logistics and Management Unit (PLMU) of FMOH, PFSA and Partners shall forecast STI medicines and medical supplies and submit annual requirements, based on the forecast result, to PFSA so that procurement can be executed accordingly.

**12.3. Procurement**

PFSA and PLMU of FMOH shall work with partners to ensure coordinated annual procurement of STI medicines and medical supplies based on the national forecast. Procurement coordination is required to avoid duplication of effort and resource wastage. STI medicines and medical supplies shall be sourced from a licensed supplier to ensure the requirements of safety, quality and efficacy are upheld and to avoid the risk of counterfeit and substandard products entering the supply chain.

**12.4. Kiting of STI medicines**

STI management through pre-packed treatment kits has been an approach to strengthen the syndromic approach of STI treatment. In addition to the recommended drugs for the specific syndrome, the package comprises condoms, partner referral card, information sheet on adherence and illustrative pictures. Currently, three types of Pre Packed STI treatment kits (PPST), namely AddisCure, AddisCure Plus and Ulcure are in use in



Ethiopia for the treatment of urethral discharge, vaginal discharge and genital ulcer syndromes, respectively.

Kitting eases prescription, dispensing, storage, distribution and uses of STI medicines. Kitting of STI medicines shall be done as per the repacking guidelines in Ethiopia. This will encompass appropriate premise, professionals, products and practice.

### **12.5. Others STI related Medical Supplies/equipments and Materials**

Besides the required drugs for STI management, the system also needs to respond to job aids need of health facilities to ensure provision of quality STI treatment services. Among the most important job aids required to support the STI program need includes;

- Examination Couch
- Speculum
- Vaginal swaps applicator
- Bed side lamp/torch
- Penile model
- Pelvic model
- National guideline
- STI treatment algorithm wall chart
- Flip chart
- Sample STI drug kit for counseling
- VDRL/RPR kit
- Condom supply for the promotion of correct and consistent condom use
- Emergency kit for treatment of anaphylaxis
- Consumable items including disinfectant (e.g., dettol or jik), water for injection, syringes and needles, bucket, gloves and cotton wool.

### **12.6. Distribution and storage**

Distribution of STI medicines and medical supplies to health facilities will be integrated with other pharmaceuticals and be managed by Integrated Pharmaceutical Logistics System (IPLS). Hospitals, health centers and clinics will quantify their need every two months and submit to PFSA hubs using a combined order and consumption report form, named Report and Requisition Form (RRF), for resupply of the STI medicines and medical supplies. A copy of consumption report from health facilities is shared with Woreda Health Office (WoHO) and Regional Health Bureau (RHB). In addition to receiving and compiling reports and orders of health facilities, WoHOs and RHBs should supervise health facilities on quarterly bases to provide technical support and ensure appropriate stock management, ordering and reporting functions.

Many of STI patients will go to private health facilities for STI diagnosis and treatment. Hence, social marketing of pre packed STI kits shall be available at the private retail outlets which are closely working with private health facilities/clinics. PFSA will be responsible to kit and distribute STI medicines to private health facilities and pharmacies.

Stock rotation shall be done on the "FIRST EXPIRY- FIRST OUT" (FEFO) basis. Every product in the storage room shall be stored according to the manufacturer label or recommendation.

### 12.7. Rational use of STI medicines

The Drugs and Therapeutics Committee (DTC) at various levels shall be working in supervising, monitoring and STI medicines use evaluation at facility level to ensure rational use. Regular continuing in-service education or training for doctors, pharmacists, druggists and nurses both at private and government dispensaries and health facilities are mandatory for the effective implementation of STI program.

### 12.8. List of medicines for STI management

Table 1: List of STI Medicines

STI Syndrome	Preferred STI medicines	Alternative STI medicines
Urethral discharge in men	<ul style="list-style-type: none"> <li>Ceftriaxone</li> <li>Azithromycin</li> <li>Metronidazole (capsule or tablet)</li> </ul>	<ul style="list-style-type: none"> <li>Cefoxitin</li> <li>Doxycycline Caps</li> <li>Erythromycin</li> <li>Spectinomycin</li> <li>Tetracycline</li> <li>Tinidazole</li> </ul>
Vaginal discharge (with or without STI risk)	<ul style="list-style-type: none"> <li>Ceftriaxone</li> <li>Azithromycin</li> <li>Metronidazole</li> <li>Clotrimazole</li> </ul>	<ul style="list-style-type: none"> <li>Doxycycline</li> <li>Cefoxitin</li> <li>Erythromycin</li> <li>Fluconazole</li> <li>Spectinomycin</li> <li>Tinidazole</li> </ul>
Genital Ulcer	<ul style="list-style-type: none"> <li>Benz Penicillin</li> <li>Acyclovir</li> <li>Ciprofloxacin</li> </ul>	<ul style="list-style-type: none"> <li>Erythromycin</li> <li>Doxycycline</li> <li>Azithromycin</li> </ul>
Scrotal swelling	<ul style="list-style-type: none"> <li>Ceftriaxone</li> <li>Azithromycin</li> </ul>	<ul style="list-style-type: none"> <li>Cefoxitin</li> <li>Erythromycin</li> <li>Spectinomycin</li> <li>Tetracycline</li> <li>Doxycycline</li> </ul>
PID with or without sever presentation	<ul style="list-style-type: none"> <li>Ceftriaxone</li> <li>Azithromycin</li> <li>Metronidazole</li> </ul>	<ul style="list-style-type: none"> <li>Spectinomycin</li> <li>Cefoxitin</li> <li>Chloramphenicol</li> <li>Tetracycline</li> <li>Tinidazole</li> <li>Doxycycline</li> </ul>
Inguinal bubo	<ul style="list-style-type: none"> <li>Ciprofloxacin</li> <li>Doxycycline</li> </ul>	<ul style="list-style-type: none"> <li>Erythromycin</li> <li>Tetracycline</li> </ul>
Neonatal conjunctivitis	<ul style="list-style-type: none"> <li>Ceftriaxone</li> <li>Erythromycin</li> </ul>	<ul style="list-style-type: none"> <li>Spectinomycin</li> </ul>
All Syndromes	<ul style="list-style-type: none"> <li>Condoms (male and female)</li> </ul>	

**Capacity building on STI Drugs and medical supplies Supply Chain Management**

Supply chain management of STI drugs and related supplies has to be strengthened by building the capacity of health care workers at national, regional and facility level. Hence, health managers and health care workers at all levels require SCM orientation and training. The training shall include STI drugs and related supplies quantification, distribution, storage, rational uses and consumption reporting and report flow.

The Objective of capacity building on SCM is to:

- Create, enhance and promote uninterrupted supply of high-quality, low cost STI drugs and medical supplies that flow through an accountable system.
- Develop capacity of health care workers for sustainable procurement, consumption reporting, distribution and storage.
- Plan for STI drugs and supplies resource needs.
- Ensure rational use of STI drugs which includes good prescribing and dispensing practice, proper counseling of STI drugs use and adherence

# 13

## MONITORING AND EVALUATION OF STI PROGRAM

Monitoring and evaluation are critical to the success of any program. Any program needs to have a defined goal and objectives in order to design an efficient monitoring and evaluation system. The purpose of monitoring is to ensure that work is progressing as planned and to anticipate or detect problems in implementation. Monitoring provides managers with information about the level of achievement measured according to standards of performance and allows them to assess implementation by comparing actual progress to expenditure. Monitoring focuses on implementation (adequate supplies, appropriate training, and performance of service providers) rather than on immediate outcomes (such as changes in knowledge or behavior, changes in the health system) or impact (such as decrease in morbidity or improvement in health).

Program monitoring can be made through periodic supportive supervision, regular review meetings, analysis of various administrative reports and STI surveillance. Lowering trend of STIs rates may reflect improvements in the quality and coverage of treatment as well as changes in risk behavior.

### **13.1. Supportive supervision and Review meeting**

Supervision is a two-way process by which the supervisor observes and keeps in touch with the events, which enables the service provider to give feedback, discuss and be reassured and supported. Supervision is the most important aspect of monitoring in that it assesses performance and outputs in the light of the situation and the resources available. Effective supervision narrows the margin between what exists and what potentially can be achieved on the basis of the needs of the individual facilities and service providers.

STI program implementation should be well address and integrated with HIV program during supportive supervision and review meeting at all level and feedbacks should be given to further strengthen the program.

### **13.2. Surveillance of sexually transmitted infections**

The five components of STI surveillance that are necessary for effective control programs are the following:

- 1.** Case reporting
- 2.** Prevalence assessment and monitoring
- 3.** Assessment of STI syndrome etiologies
- 4.** Antimicrobial resistance monitoring
- 5.** Special studies

#### **13.2.1. CASE REPORTING**

Case reporting has several purposes and uses:

- Assess disease burden, by providing an indicator of minimum incidence of recently acquired infections
- Monitor trends in incidence of recently acquired infections
- Provide information required for management of patients and their sex partners
- Provide information on which providers in the health care system are diagnosing
- Reporting the major STIs, to assist in planning and managing program efforts
- Provide other data necessary for managing health services (e.g. pharmaceutical distribution)

The case definition for syndromic case reporting is as follows:

Selected STI syndromic case definitions

**Genital ulcer syndrome - non-vesicular**

Ulcer on penis, scrotum in men and on labia, vagina, or anal in women, with or without inguinal adenopathy.

**Genital ulcer syndrome - vesicular**

Vesicles on penis, scrotum in men and on labia, vagina, or anal in women.

**Urethral discharge syndrome**

Urethral discharge in men with or without dysuria.

**Vaginal discharge syndrome**

Abnormal vaginal discharge (indicated by amount, color and odor) with or without lower abdominal pain or specific symptoms or specific risk factors

**Lower abdominal pain in women**

Symptoms of lower abdominal pain and pain during sexual intercourse with examination showing Vaginal discharge, lower abdominal tenderness on palpation, or temperature >38 C.

**Inguinal and femoral buboes**

Localized enlargements of the lymph nodes in the groin area, which are painful and may be fluctuant.

**Ophthalmia neonatorum**

Conjunctivitis in a new-born who has not received ocular prophylaxis, occurring within one month after birth.

**Scrotal swelling**

Inflammation of the epididymis (epididymitis) usually manifests itself by acute onset of unilateral testicular pain and swelling, often with tenderness of the epididymis and vas deferens, and occasionally with erythema and edema of the overlying skin.

**NB:**

- Only urethral discharge and genital ulcer disease (non-vesicular) are potentially useful for monitoring trends in STI incidence. These syndromes usually represent recently acquired sexually transmitted infections. In contrast, usually a high proportion of vaginal discharge cases are not caused by STIs nor are substantial proportion of cases of lower abdominal pain in women, or of clinically apparent cervicitis. Vesicular ulcers, an indication of genital HSV infection, are usually a recurrence of a herpes infection that was acquired years before. Many cases of genital warts also represent a symptomatic recurrence of a persistent infection.
- Use of syndromic reports provides a poor assessment of disease burden trends in women compared with men. This is because a high proportion of STI infections in women cause no symptoms.
- These syndromes are not pathogen-specific. Studies of syndrome etiology also must be periodically performed to guide therapy.

It will only be possible to use case reports of STI syndromes (i.e. genital ulcer disease and urethral discharge) for monitoring trends in incidence when the structure and functioning of health services are stable and when reporting practices are consistent over time. Proper recording and reporting is the cornerstone for effective

program monitoring. Proper recording helps:

- To record and review overall progress of the program
- To report the status and progress of the program.
- To celebrate the achievements as well as make plans for sustaining high performance or improving low performance.

The information collected should be analyzed and utilized to make decisions at the point of collection of information and at higher levels.

**Note:**

**You should be the first user of your data. So, use data at the local level to track progress and making improvements. Do not wait for feedback from others.**

**Data elements**

Core data elements that are essential to reporting a case should routinely be collected on registers and reporting forms. Additional data elements may be collected at some sites, which can provide more detail on patient demographics, risk characteristics and treatment. The selection of additional data elements will depend on the specific purposes for which the data will be used.

The core data elements essential for case reporting are:

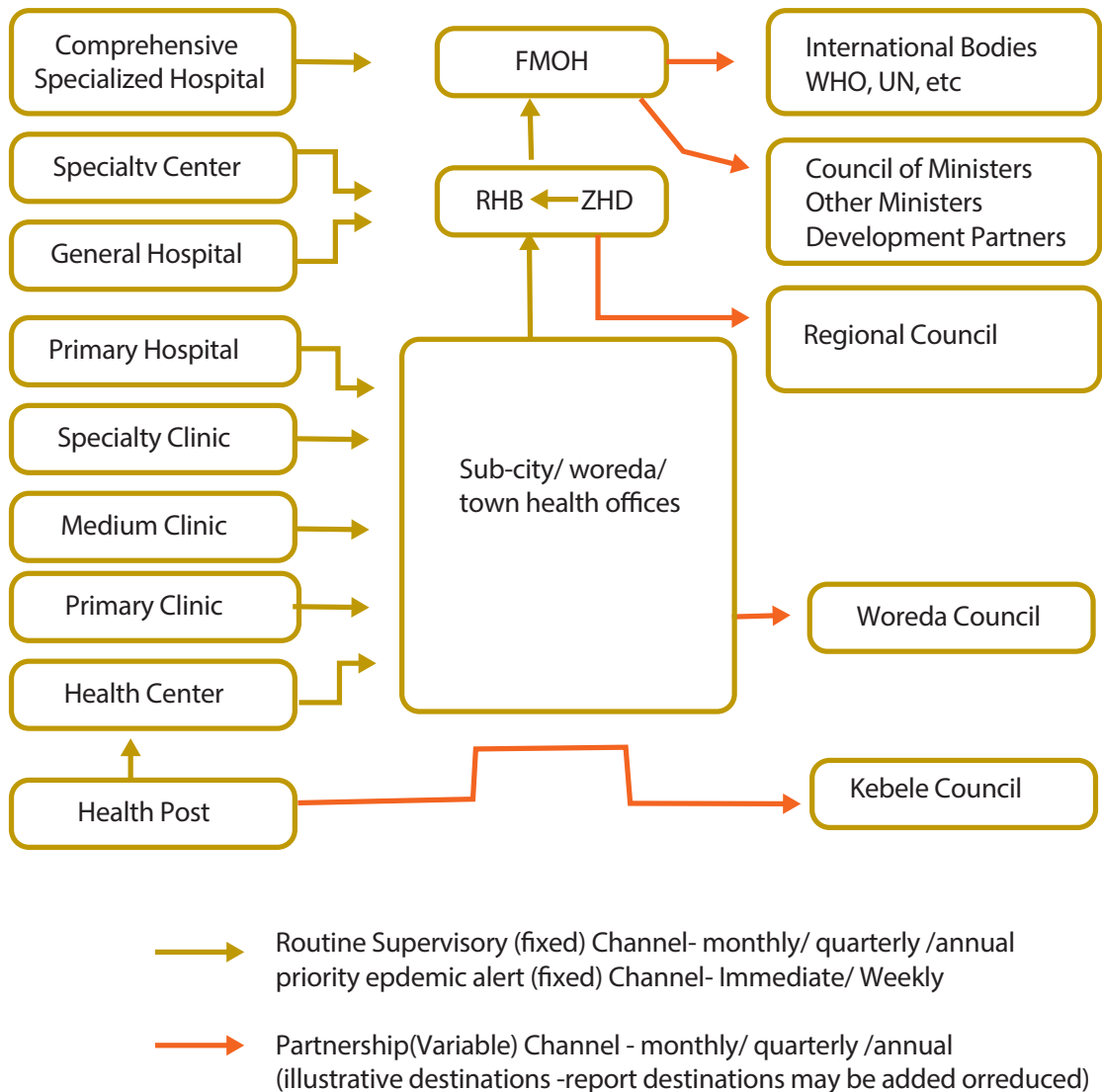
**Reporting period (MM/YY)** \_\_\_\_\_  
**SNO.** \_\_\_\_\_  
**Diagnosis** \_\_\_\_\_  
**Reporting site** \_\_\_\_\_  
**Sex** \_\_\_\_\_  
**Age group** \_\_\_\_\_

The National HMIS includes these key variables in the reporting format

**Reporting formats**

For case reporting, hand-tabulated aggregate reports are used to transfer data from OPD register into HMIS reporting format. Most HMIS data are generated at facilities. Facilities check and review data, then forward it to their designated administrative office. The administrative office aggregates the data it receives, adds its own administrative data, monitors its own performance based on these reported and self-generated data, and forwards the HMIS report to the next level through email, CD or Flash disk.

The administrative level that receives data from facilities aggregates the data by facility type and ownership. This aggregation methodology is maintained throughout the reporting chain so that even at the federal level it is possible to disaggregate data by facility type and ownership.



A standardized reporting form is used by all public and private facilities in the country

### Data quality

The three critical components of data quality are completeness (the proportion of reported cases with complete information), validity (among reported cases, the proportion of each data element that is reported correctly), and timeliness (the time intervals between the steps in surveillance). These minimum criteria should always guide activities related to monitoring data quality. Supportive supervision by woreda health offices, RHBs and MOH, periodic examination of reporting formats at all levels and routine examination of recording and reporting forms the facilities are some of the techniques used for monitoring data quality. The HMIS focal person and performance monitoring team at all levels are responsible for monitoring data quality.



## Confidentiality

Patient privacy and data integrity must be maintained. Patient data should only be disclosed to individuals authorized to conduct public health surveillance or other special surveys.

## Analysis and interpretation of case reports

STI case reporting data should be analyzed at quarterly and annual intervals. Quarterly analysis will consist of the following:

- Comparison of the most recent quarterly number of case reports with the same quarter during the previous year.
- Examination of quarterly trends in the number of reported cases and prevalence for the past 1-2 years, overall, and by the following categories:
  - ≡ Regions/districts
  - ≡ Sex
  - ≡ Age group
  - ≡ Reporting site

Additionally, annual analysis may include the following:

- Case reports annually, stratified by the five categories listed above
- Annual trend in overall population-based rates of reported cases, using available census data or population estimates, and stratified by basic demographic categories (geographic area, gender, and age group), depending on availability of population-level data.

### 13.2.2. PREVALENCE ASSESSMENT AND MONITORING

A second major component of STI surveillance is prevalence assessment and monitoring. The primary purposes of STI prevalence assessment and monitoring are the following:

- Identify population subgroups with high prevalence of STIs
- Monitor trends in STI prevalence among defined populations

Prevalence data are of great use in STI program planning, management, and evaluation because they can be used to:

- Identify population subgroups at high risk for HIV infection (as evidenced by high rates of STIs)
- Guide funding and resource allocation for STI and HIV prevention programs
- Monitor effectiveness of STI and HIV prevention programs
- Develop national estimates of STIs

An important limitation of STI prevalence data is that it has no role in the management of individual patients or their sex partners. For those purposes case reports are required.

### 13.2.3. ASSESSMENT OF SYNDROME ETIOLOGIES

The primary purposes of assessing syndrome etiologies are to:

- Provide data for guiding STI syndromic management
- Assist in the interpretation of syndromic case reports, and the assessment of disease burden due to specific pathogens.

Assessment of syndrome etiologies should be performed every three years.

#### 13.2.4. MONITORING ANTIMICROBIAL RESISTANCE

In view of the substantial use of drugs for treatment of gonococcal infections and increasing rates of resistance world-wide, it is important for the country to monitor antimicrobial resistance in *Neisseria gonorrhoea* as a core component of STI surveillance. Appropriate therapy of gonococcal infection is necessary to achieve microbiologic cure, relieve signs and symptoms of infection, prevent complications (which include pelvic inflammatory disease, chronic pelvic pain, and infertility in women) and interrupt transmission.

The principal objective of monitoring antimicrobial resistance in *N. gonorrhoeae* is to obtain data necessary for developing guidelines for treatment. A second objective is to detect newly emerging resistance.

Demographic and risk information obtained through a sentinel system for monitoring antimicrobial resistance in *N. gonorrhoeae* may also be used to further characterize risk factors for resistance and the local epidemiology of this disease.

Antimicrobial resistance should be performed at least every 3-5 years.

#### 13.2.5. SPECIAL STUDIES AS A COMPONENT OF STI SURVEILLANCE

Periodically, public health personnel or university collaborators may perform special studies to address important STI surveillance issues that are not part of routine case reporting or prevalence assessments. Surveillance-related studies that have been found to be useful in many countries are listed below.

- Evaluation of STI syndromic management algorithms.
- Rapid assessment of STI prevalence in defined populations using new diagnostic tests (e.g. urine PCR and ligase chain reaction (LCR) tests for chlamydia and gonorrhoea; PCR testing of genital ulcer specimens for chancroid, syphilis, and herpes).
- Assessment of antimicrobial resistance in *Haemophilus ducreyia*.
- Incidence and prevalence of STI-related complications (PID, Ectopic pregnancy, Cervical cancer).
- Prevalence of viral STIs (e.g., HSV-2, human papilloma virus [HPV], and hepatitis viruses).
- Prevalence of bacterial vaginosis and associated sequels in defined populations
- Assessment of STI incidence and prevalence among persons who are HIV-positive.
- HIV prevalence among persons with STIs.
- Assessment of health care-seeking behavior and its relationship to under detection and underreporting of STIs
- Public and private sector STI screening and reporting practices.
- Country-specific estimates of incidence and prevalence of STIs.
- Estimation of economic costs of STIs.

#### EVALUATION OF STI SURVEILLANCE SYSTEMS

The purpose of evaluation is to assess progress towards the program objectives at any given point in time. It assembles information from surveillance, monitoring and supervision to determine whether planned outcomes are being achieved. The evaluation process will include epidemiological surveillance (trends, prevalence and incidence) in order to estimate the degree of achievement of the STI prevention and control program. Ideally, evaluation of STI surveillance systems should be performed every two years





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