National Training Manual on the Management of Sexually Transmitted Infections

Trainer's Manual

Government of Nepal
Ministry of Health & Population
National Centre for AIDS and STD Control
Kathmandu, Nepal
June 2011

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FOREWORD

This revised version of the National Training Manual on Management of Sexually Transmitted Infections (STIs) 2010 has been developed by the National Center for AIDS and STD Control (NCASC)/ Ministry of Health and Population. The objective of updating this training manual was to include the new recommendations for STI management. The manual is based on various STI case management guidelines including those of CDC, WHO, National Guidelines on Case management of STI (2009) and FHI. The manual is aimed at facilitating trainings for medical personnel (medical doctors, staff nurses, health assistants and paramedics) to deliver quality STI services even in areas with limited resources. The primary objective of this manual is to assist trainers to enable participants to manage STI scientifically and appropriately, making use of the best resources available.

On behalf of NCASC, I take this opportunity to acknowledge the STI technical working group (Dr. Dinesh Binod Pokharel, Dr. Bimala Lakhey, Dr. Kamala Burathoki, Professor Bhaskar Mohan Kayatha, Dr. Anil Kumar Das, Dr. Hemant Chandra Ojha, Dr. Durga Bhandari, Dr. Min Thwe, Dr. Atul Dahal, Dr. Neeta Shrestha, and Mr. Rajan Bhattaria) for their hard work to revise this guideline. I would also like to thank Dr. Graham Neilsen, Technical Advisor, FHI/Asia Pacific Regional Office for his valuable input during the process of revising this curriculum. I would also like to express my sincere thanks to Dr. Sudip Parajuli from College of Medical Sciences, Chitwan, Dr. Chintamani Chaudhary from AMDA-ASHA Project, Mr. Gopal Panta from ASHA Project, Mr. Khagendra Prakash K.C from NPHL, Mr. Jyoti Prakash KC from BDS and all the individuals who have helped to bring this manual to its final stage.

I would also like to thank United States Agency for International Development (USAID) Nepal and ASHA Project Nepal for providing technical and logistic support to the workshop for the revision of this curriculum.

We hope that this curriculum will enable health care providers to deliver high quality standard STI services in Nepal.

Dr. Ramesh Kumar Kharel
Director

Contents

Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
ART	Antiretroviral therapy
BLS	Basic life support
BV/TV	Bacterial Vaginosis/*Trichomonas Vaginalis*
CD4	Cluster of Differentiation- 4
CDC	Center for Disease Control
CPR	Cardio-pulmonary resuscitation
CT	*Chlamydia trachomatis*
ELISA	Enzyme Linked Immunosorbent Assay
FHI	Family Health International
FSW	Female sex worker
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria
GNID	Gram-negative Intracellular Diplococci
GUD	Genital Ulcer Disease
HBV	Hepatitis B Virus
HCV	Hepatitis C Virus
HIV	Human Immunodeficiency Virus
HPV	Human Papilloma Virus
HSV	Herpes Simplex Virus
IBBS	Integrated biological and behavioral surveillance survey
KOH	Potassium hydroxide
LCD	Liquid Crystal Display
LGV	Lymphogranuloma Venereum
LMP	Last Menstrual period
MoHP	Ministry of Health and Population
MSM	Men having sex with men
MSW	Male sex worker
NCASC	National Center for AIDS and STD Control
NGO	Non governmental organization
NGU	Non-gonococcal Urethritis
PEP	Post exposure prophylaxis
PHC	Primary health care
PID	Pelvic Inflammatory Disease
PIF	Process indicator form
PMNL	Polymorphonuclear Leukocytes
RPR	Rapid Plasma Reagin

RTI	Reproductive Tract Infection
SOP	Standard operating procedure
SSS	Scrotal Swelling Syndrome
STD	Sexually Transmitted Disease
STI	Sexually Transmitted Infection
TAG	Technical Advisory Group
T & C	Testing and counseling
TPHA	*Treponema Pallidum* Haemagglutination Assay
TPPA	*Treponema Pallidum* Particle Agglutination
UDS	Urethral Discharge Syndrome
VDRL	Venereal Disease Research Laboratory
VDS	Vaginal Discharge Syndrome
VCT	Voluntary counseling and testing
WHO	World Health Organization

I Introduction

a) Preface:

This manual was initially developed in 2006 by National Centre for AIDS and STD Control (NCASC) with technical and financial support from FHI Nepal under United States Agency for International Development (USAID). The manual was further revised through a workshop organized by ASHA* Project under the leadership of NCASC in 2010.

The national training manual aims to facilitate the training of medical personnel (medical doctors, staff nurses, health assistants and other paramedics) at various levels to deliver adequate and quality sexually transmitted infection (STI) services in areas with limited resources as well. The manual is based on various STIs case management guidelines including those of CDC, WHO, FHI, and the Nepal National STIs Management Guidelines.

The primary objective of this manual is to assist trainers to enable participants to manage STIs scientifically and appropriately while maximizing resource utilization.

New additions to the training manual
The following key changes were updated in the 2010 version of the training manual.

New sections
Based on interests and requests from STIs experts, training participants' responses, the following new sections have been added in this training manual:

1. National response to STIs control
2. Scabies and pubic lice
3. Anoscopic and proctoscopic examination
4. Importance of follow up and partner notification
5. Presumptive treatment of STIs among sex workers
6. Screening and treatment of asymptomatic infections for most-at-risk populations (MARPs)
7. Post-exposure prophylaxis
8. Participants' evaluation of the training

Updates
Instructions have been provided to the facilitator on training methodology which has been revised and updated. Data on the epidemiology of Nepal has been updated with reference to recent Integrated Bio-Behavioral Surveillance (IBBS) Surveys and available process data.

The WHO staging of HIV disease section has been revised. In the public health aspects of STIs section, focus has been given to the targeted approach for the most-at-risk populations of Nepal. Given the complexity of interpreting Veneral Disease Research Laboratory/Rapid Plasma Reagin (VDRL/RPR) results when managing a case of syphilis, the section on interpretation of positive VDRL/RPR has been expanded. Flow charts on RPR, urethral discharge, genital ulcer disease, and vaginal discharge syndrome in high-risk women have been revised while flow charts on low risk women have been added. The section

* Advancing Surveillance, Policies, Prevention, Care and Support to Fight HIV/AIDS

on men having sex with men (MSM) has been clarified by defining terms such as sexual identity, sexual behavior, and sexual orientation. In addition, a separate section on updated emergency management has been included given the probable need while injecting the patient with penicillin.

b) Organization of the training manual:

The manual is divided into eleven training modules:

Module 1 Basics of STIs
Module 2 Facts on HIV
Module 3 Common STIs
Module 4 Approaches to STIs Diagnosis and Management
Module 5 Management of STIs in Special Groups
Module 6 Infection Control
Module 7 Emergency Management
Module 8 Laboratory Diagnosis of STIs
Module 9 STIs Management- Practical Session
Module 10 Recording and Reporting for STIs Services
Module 11 Field Visits

The manual is concerned with the theoretical and practical aspects of STIs management, providing the necessary information regarding different STIs and their related syndromes. This will enable participants to gain basic knowledge and acquire the skills required for proper STIs management. In each chapter of the manual, the practical aspects follow the theoretical ones. It also includes sections on counseling for STIs, education on condom use and promotion, partner treatment, STIs management for special groups, infection control measures and universal precautions. The theoretical aspects of STIs management are based on a participatory approach.

The major contents covered in the theoretical aspects sections of this training manual are:

- Basics of STIs
- Facts on HIV
- Common STIs
- Public health aspects of STIs
- Steps in STIs case management
- Sexuality and sexual language
- Different STIs and their syndromes

The practical component is designed so that by the end of the training participants will have developed practical skills in STIs management. This component deals specifically with communication and history-taking skills; clinical examination; approaches to STIs diagnosis; specimen collection and laboratory test procedures; clinical management of STIs; and demonstrations and role-plays focused on problem solving and real case management; simulations, and exposure visits.

c) Preparation for training:

Selecting a suitable training venue

Location

Ideally the training should be located away from the trainees' normal workplace to avoid interruption. It will also be important to consider the transport facilities available in the area.

Venue characteristics and facilities

This is a participatory training, requiring trainees to participate in role-plays and small-group, case-based learning activities. It is therefore essential to use a room that does not resemble a lecture room. The room should be large enough to allow the anticipated number of trainees to be seated in small table groups (usually not more than five per table), and should have enough space for participants to engage in learning activities that require individuals to move around the room.

It is further recommended that training venues have an adequate number of toilet facilities, along with heating or air conditioning and lighting to ensure a comfortable atmosphere for training. A backup power supply is highly recommended. Avoid venues near construction zones.

It is highly desirable that one room be used exclusively for training throughout the duration of training. This will avoid the necessity of having to pack up equipment, materials and then reorganize the room again the next day. The room should also have adequate security so that equipment can be left and be available for use each day, thus requiring minimal daily preparation.

Consider the advantages of offering residential training. This will reduce disruption that occurs as a consequence of trainees arriving late to class each day.

When training is not residential, consider providing meals to the trainees at the training venue. The training course follows a very strict timetable. It is therefore essential that the sessions begin and end at the appointed times. The provision of morning tea, lunch, and afternoon tea at the site of the training has the advantage of ensuring that all trainees return promptly from breaks. It also creates flexibility within the program should there be a need to shorten breaks or complete work within a break. Further, it tends to contribute to the general satisfaction of trainees and allows them to focus on the material being learned.

Determining group size

Group size for classroom counseling training should not exceed 20 participants. The smaller the group, the more quality time and opportunity the trainees have to practice their skills.

Formation of a training team

Roles and responsibilities

Many people will be involved in conducting a training course for example:

- A training focal person
- Administration/finance assistant
- Trainers/facilitator
- Trainees

In training courses a trainer may assume one or more of these roles. Each role has different responsibilities:

Training focal person

Several months before the training is to be conducted a focal person should do the following:

- Obtain approval from relevant bodies for conducting the training;
- Develop a training program and timetable;
- Develop a budget for the training;
- Obtain funds for conducting the training course, e.g. obtain training grants from government bodies, nongovernmental organizations, or sponsors;
- Develop criteria for trainers, send invitations and training details (dates, venue, and contact details) to potential trainers. Identify trainers availability;
- Arrange for course materials, including session plans, hand-outs, PowerPoint™ or overhead presentations, to be forwarded to trainers so they can become familiar with the content of their sessions and practice presenting;
- Decide on an appropriate number of participants (it is recommended that you do not invite more than 20 trainees to a course to ensure that they all benefit from the discussions and practical work);
- Develop criteria for trainees, send invitations to potential trainees or send course announcements to relevant health facilities, asking them to identify suitable trainees;
- Choose the training facility, keeping in mind the number of trainees attending. Ensure all necessary equipments and resources will be available, within budget;
- Assist administration/finance assistant settling the travel allowance (TA), daily allowance (DA) bills of participants;
- Amend travel authorization if needed;
- Arrange accommodation for trainers and trainees if necessary and according to budget;
- If applicable, arrange transportation for trainers and trainees from their accommodation to the training venue and back;
- Arrange payment for trainers (if appropriate), or reimbursement for their related training expenses;
- Plan the timetable and details for trainer preparation;
- Arrange catering for the course, including morning and afternoon teas and lunch;
- Arrange the printing of trainer's and trainee manuals (and other supporting materials like compact discs), as resources within budget;
- Arrange for other training resources such as name badges, male and female condoms, pens and paper *(refer to checklist below for further supply details);*
- Develop overall evaluation form;
- Develop a training checklist to help in planning;
- Delegate some of the responsibilities to administrative assistants or trainers;
- Facilitate opening and closing ceremonies during the training course. Invite guest speakers, if appropriate, and brief them;
- At the completion of the training, collect all training evaluations, write a report or delegate someone else to do this.

Administrative assistants

If staff are available to support and assist the director, they should be able to undertake any of the above tasks as delegated by the focal person. The administrative assistant or support staff should also be available throughout the training course in case problems arise in relation to the trainers or trainees. Administrative assistants can also be responsible for trainee registration, distribution of trainee materials, documentation for auditing or report writing, maintenance of equipment, providing support to focal person for settling travel claims and amending travel authorization.

Trainers

Ideally trainers should:

- Be working in the field on which they will be asked to present to allow the trainees to establish important links to external individuals and agencies that may assist them in their future clinical work;
- Have had previous training experience;
- Be fluent in the language in which the session will be delivered;
- Be motivated and enthusiastic;
- Be willing to prepare adequately for the course and assist or work with other trainers when required;
- Be willing to attend a planning or a preparatory session, a day before the course, where trainers are briefed, details are reiterated, and presentations are practiced. Training styles, techniques and lengths of the trainings should be modified as per suggestions according to peer reviews;
- Be guided by the training coordinator;
- Be willing to attend daily debriefing sessions if required;
- Evaluate training sessions and analyze results for contribution to the final training report.

External trainers or Guest speakers

The use of external trainers or guest speakers presents both advantages and disadvantages. Some of the advantages are:

- Trainees have access to "experts" in their respective fields.
- Trainees establish important links with external individuals and agencies that will assist them in their clinical work.
- External presenters add variety to the program of regular trainers.

Some of the disadvantages of using external trainers or guest speakers are:

- When inadequately briefed, speakers may launch into their standard lecture response.
- Speakers may present non-evidence-based or erroneous information.
- Speakers may pitch their presentation inappropriately in terms of language used and in relations to the target audience.
- Some speakers may be uncomfortable with the use of more interactive learning methods.
- Speakers may not be able to keep within the specified time frame.

To maximize the use of external trainers or guest speakers:

- Ensure they are adequately briefed, orally and in writing, about what is expected of them. Provide guidelines that specify the content to be covered, the methodology to be used, the level and type of language, and the time-frame. In addition, clearly describe the type of trainees they will be working with and the overall aim of the training program.

- Choose speakers known to be effective for goal setting. Alternatively, "groom" them to attain the desired outcome.
- Ensure that the regular trainer remains present while the external speaker presents. This ensures continuity if any issues arise. In addition, regular trainers are also able to observe and provide useful feedback to the external trainer or guest speaker.
- Always ensure that external trainers or guest speakers are given feedback from both the organization and trainee evaluations in order to continue to improve their sessions.

Training team members should attend a pre-training meeting to discuss logistics, roles, and responsibilities.

Preparing the training materials

Each participant and member of the training team must be given a copy of the **National Guidelines on Case Management of STIs.** All training activities assume the availability of the national guidelines.

Each trainee will need to have the **Participants Handbook** and all members of the training team should have a copy of the **National Training Manual on Management of Sexually Transmitted Infections.**

Checklist of supplies and space requirements for training

- Timetable
- Room
- Adequate seating ("café style" seating for table group work)
- Personnel (trainers, resource persons, administrative support)
- Notebooks and pens for participants
- Colored markers (at least one box per class table)
- Enough copies of the **National Guidelines on Case management of STIs, Participants Handbook** (one per trainee)
- Markers, blue and black (other colors are not discernible from a distance)
- Newsprint
- Cellotape
- Masking tape
- Meta-card (different colors)
- Scissors
- Box for collecting written questions from trainees
- Box for collecting evaluation forms
- Condoms, male and female (allow two per trainee)
- Penis and vagina models for condom demonstrations
- Injecting equipment (needle, syringe, two small bowls, red food coloring, and water)

Providing pre-course information to potential trainees, and their employers

It is important to ensure that the participants selected for the training have the minimum skills and interest required to benefit and contribute to the learning environment. As this training using reading and writing skills, any participant that is unable will require additional trainer support. Participants must also have an interest in STI and HIV treatment or future plans to work in this area.

Trainers should therefore issue selection criteria for prospective trainees. Prospective participants should also be told in advance of the attendance, punctuality, and level of participation in learning activities expected of trainees. Often, when these expectations are spelt out in advance only participants who truly wish to be involved will attend the training.

To ensure a satisfactory learning environment:

- All trainees must be present throughout the training sessions. If a trainee is unable to complete the course due to an emergency, the trainer should negotiate with the trainee to complete the missed segments at a future time and accordingly receive a certificate. If a trainee misses any segments, the trainer should brief the trainee on his or her return regarding missed materials to maintain continuity in the training and not place the trainee at a disadvantage during ongoing activities.
- All training sessions should begin on time. All trainees should arrive on time. There is much material to be covered each day, and it can be very disruptive to have some trainees arrive at the training sessions after they have already started.
- Enforce the use of mobile phones and other communications media only during meal breaks and not during class time. Prospective trainees and their employees should be told of this requirement before the training. A copy of the training schedule, with the break times indicated, should be sent to all prospective participants ahead of the training.

d) How to be an effective trainer:

Prepare for the training

Whether you have been invited to facilitate a training session or are the focal point of a training session, you can prepare and organize yourself in advance in a number of ways to avoid obstacles during the sessions. A checklist can help trainers make sure they have the necessary materials and resources ready and that the venues and facilities meet their expectations. Trainers must know and understand the materials to be presented so they can conduct the session confidently and answer questions satisfactorily. They also need to be familiar with the educational techniques to be used and the presentation equipment, e.g., LCD projector, PowerPoint™ slides.

Know the training arrangements

Check the training timetable. Be sure you know exactly what day and time you are scheduled to facilitate the training session. Check the venue you will be training in. Take all relevant documentation with you: letters from the organization running the training that outline the training details such as the names of people coordinating the training, contact details, the names of any support or administration staff who may be available to help you, and the names of other trainers who may be attending your training session. Take all this information with you to the training; it may come in handy in case you forget certain details or need assistance at any time.

Know the materials

Trainers must be familiar with the materials they are presenting. Read over the materials before the presentation. Be prepared to answer questions about it. A reference list would be handy so you can let participants know where they can find additional information on a specific subject.

Make sure you *read the session plan* and keep it visible for ready reference throughout the session. This way you do not forget anything and the training runs according to schedule. A session plan can help guide the length of question time and when to suggest that the group move on to the next subject.

Check the order of your session plans. It can be very disconcerting to have information out of order when presenting. Try to gather training materials, in more than one format, e.g., PowerPoint™ presentations and overheads. This can be very helpful during an equipment breakdown or power failure. If you have time, run through the presentation before the participants arrive. Know approximately how long the presentation will take, allowing extra time for questions or discussion.

Know the environment

Arrive early at the training facility and find out the location of the training room. Orient yourself to the area. Trainees may ask you where the toilets are or the place for lunch. Make sure the training room is appropriate. It should be large enough for all participants and allow you to conduct the training activities e.g., for forming small groups. If you feel that the room is not adequate, inform the facility administrator and see if another room is available. Trainees can always be redirected to the new room as they arrive.

Minimize distractions. If the environment is noisy or there is a great deal of movement in the corridors, etc., close the doors before you start presenting. If the doors are closed, the ventilation and temperature inside the room must be regulated to ensure comfort. If trainees are too hot or cold, or if the room feels stuffy, they may not be able to concentrate on the training. Open windows if you need to, or check the temperature setting of the air conditioner if there is one.

If you are the first to arrive, don't be afraid to *arrange furniture* to suit the needs of the training. This can save time later.

Be familiar with the location of *light switches* and controls for blinds, curtain strings, etc. The training session may have different lighting requirements, e.g., darkness for slide presentations and natural light for group work or activities. Try out different lighting arrangements before the training; this can help save time when moving from one technique to another.

Make sure you know what is allowed / not allowed within the training room. If you are working on flipcharts and want to stick paper on the walls, find out from the owner of the facility what is acceptable.

Know the equipments

Determine in advance, *all equipments are available* for training. It will be impossible to present a PowerPoint™ session when the facility has only an overhead projector available.

When you arrive make sure all equipments needed are available. Check this off on the checklist. Practice using each piece of equipment to make sure it is working correctly. Make sure that the overhead machine or slide projector is focused adequately for your presentation. The screen should also be visible to all participants in the training room.

If the training session consists of a large group and you are to use a microphone, make sure you know how to turn it on and off. Adjust the height so you can use it comfortably. Also, if the microphone has a lead (cord), make sure you know how far you can walk about with the microphone without having the lead catching on something or tripping you. If the microphone is the small, clip-on kind, make sure you have somewhere to clip it on to and ask someone to help you check the sound. Trainees do not want to hear every breath you take but they must be able to hear your words clearly. Check that your jewelry or clothing does not interfere with the sound, e.g., by banging or rustling against the microphone.

If any equipment is not working, first check to see that it is plugged in correctly and that the outlet itself is working. If you suspect the equipment is faulty, contact the training director, primary facilitator, or administrator immediately; another piece of equipment of the same kind may be available within the facility. Preparing the support materials in more than one format, e.g., overhead transparency as well as flipchart, will widen your choice of alternative equipment.

Know the resources required

Make sure all the resources required for training are available. These may include:

- **National Guidelines on Case Management of STIs, Participants Handbook.** Make sure that there are enough copies for all trainees and trainers.
- Stationery equipments (pens, paper, etc.).

Know the audience

If possible, try to obtain a list of the trainees for the training course in advance. The list should contain their positions and place of employment. This information is important for a number of reasons:

- Knowing the number of trainees attending allows trainers to plan activities and group work adequately.
- Knowing the professions of the trainees, will give trainers an idea of the trainees' level of education.
- Knowing the trainees' place of employment helps determine the following:
  - The field each participant is working in so the various examples or case studies can be made relevant to their experiences,
  - How many of the participants come from a similar organization.
  - Knowing the trainees' positions will give trainers an idea of the range of seniority among the group. This may be important in identifying junior trainees so that they can be encouraged to contribute to the training session to the same extent as senior trainees.

Knowledge of the average trainee's level of education and degree of background knowledge allows trainers to pitch the training content and materials at the correct level. The trainees should not find the training too difficult or not challenging enough.

Knowing the audience also gives trainers an understanding of the social and cultural background of the trainees.

Presentation skills

Some people are naturally gifted and entertaining speakers, but almost anyone can learn basic skills to help them present information. These presentation skills are broken down into a series of "micro-skills" to make them easier to learn.

Getting attention
One of the functions of the introductory part of the session is to gain the attention of the trainees.

The trainer can gain attention by:
- Explaining how the session is relevant to the trainees;
- Asking the trainees what their expectations are from the sessions;
- Providing a relaxed and an open learning environment;
- Using humor or an activity as an icebreaker;
- Using novelty, variety, or a surprise in the introduction;
- Using a case study or narrating a story, relevant to the situation of the trainees;
- Using interesting pictures or seek audiovisual help at the start of the session; and
- Use quizes as a means of identifying gaps in knowledge.

Maintaining interest
For adults to focus on learning, they need to remain interested throughout the session. The trainees must recognize the relevance of the session and be able to participate in the sessions therefore every session has to be presented in an interesting way.

The trainer can help the trainees remain interested by:
- Personalizing the presentation–smiling, making eye contact, and addressing trainees by name when interacting;
- Keeping the subject relevant and emphasizing how the topic relates to their needs;
- Being enthusiastic;
- Making sure the pace is neither too fast nor too slow;
- Using a variety of presentation styles;
- Introducing a new activity or providing valid information, at intervals of 20 minutes each;
- Encouraging the trainees to participate;
- Using stories as examples;
- Having brief physical activity or game breaks;
- Using humor; and
- Using appropriate and consistent non-verbal behaviour (discussed on the following page).

Selecting appropriate presentation styles
Using more than one technique in each session will help capture and retain interest by targeting different trainees' learning styles.

The technique used will depend on the following:
- **Trainer**–knowledge of topic and group, skills, personal style;
- **Content**–whether the aim is to learn knowledge or skills or change attitudes;
- **Trainees**–number, abilities, needs, and experience; and
- **Environment**–location, room set-up, time of day, day of week.

The following activities can be used with groups of different sizes:

Type of activity	Large group	Small group	Pairs	Individual
Lecture	√			
Group discussion	√	√		
Question and answer	√	√	√	√
Case study	√	√	√	
Brainstorming	√	√		
Quiz	√	√	√	√
Game	√	√	√	
Panel game	√	√		
Hypothetical situation	√	√		
Debate	√	√		
Description of past situation	√	√	√	√
Problem solving		√	√	√
Role play		√	√	√
Demonstration		√	√	√

Non-verbal communication

While watching someone present different types of information more is learnt from his or her non-verbal communication (body language) rather than from words spoken. Non-verbal communication includes a range of signals which convey a message to the audience beyond what the speaker's words may be. Some studies indicate that around 65% of our communication is done through non-verbal signals. It can also prove to be a powerful tool, reinforcing what the trainer is saying or it can contradict the trainer's message. Trainers should try to be aware of their non-verbal communication messages.

Non-verbal communication includes:

- ***Voice.*** The trainer should speak clearly and project his or her voice. Speaking conversationally while occasionally displaying loudness and a high/ low pitch helps sustain the trainees' interest. The trainer can adjust his/ her voice to emphasize important points that the trainees need to learn.
- ***Dress.*** We tend to pass judgments about people when meeting for the first time, often commenting on the way they are dressed. The trainer must therefore dress in a way that is appropriate for the group of trainees and their culture. Some trainers may need to modify their usual style of dressing for the training. Looking good may also give the trainer an added confidence.
- ***Eye contact.*** In order to make the trainees feel involved, the trainer needs to make eye contact with them. In a large group the trainer should try and make eye contact with as many trainees as possible. However, some trainees, due to cultural constraints, may not be comfortable making eye contact with the trainer, either throughout the training or for particular topics or activities.

- ***Posture.*** Depending on the size of the group, the trainer may need to stand upright to help project his or her voice to the whole group. Even within a small group, posture is important. The trainer should attempt to look relaxed (i.e., not stiff) without slouching or looking too casual.
- ***Position.*** Where the trainer stands is also important. When using audiovisual devices such as a board or a screen, the trainer should stand back from the board or screen or to the side so that the device can be seen. If the trainer has to write on a board, he or she should finish doing that first and speak to the trainees facing them. The room should be set up to minimize barriers of any kinds. Trainees find it much easier to talk about sensitive issues if the trainer is not sitting behind a desk or table, or standing at a lectern.
- ***Movement and gestures.*** A trainer should move about the room from time to time but not too often, since this may distract the trainees. The trainer should also use gestures for emphasis or explanation, as he or she would in conversation, but these should also not be distracting. Some gestures may be inappropriate to some cultures in a mixed group of trainees.

Overcoming nerves

Many people can get nervous before and during a presentation. Practice can help settle the nerves, but even the most experienced trainers may feel nervous before a training session. Here are some ideas to help you overcome nervousness and anxiety:

- Be well rested. Have plenty of sleep the night before and allow enough time to get to the training venue early.
- Be well prepared and familiar with your session plan, and do everything on your training preparation checklist (review Session Plans).
- Do a practice run of your presentation before the training session.
- Try to greet the trainees as they arrive. If you see some friendly faces you may not feel as if you are presenting to strangers.
- Help yourself relax. Try standing up straight and breathing deeply. Tense and then relax your muscles and even do some stretching.
- Try to talk to yourself in a positive way. Tell yourself that you are well prepared,you know the subject and that everything will be all right.
- Wear comfortable clothes. If you feel constricted or are unable to move freely around the training room, you may not be able to present confidently.
- Have a glass of water handy in case you develop a dry throat or nervous cough.
- At the start of the session, once you have been introduced to the trainees, give a short summary of your experience in the field. This helps to establish credibility and serves as a reminder that you are the right person to be conducting the training.

Personal style

There is no “right” way to train. At the start of the session, when you thought about presentations you liked, you probably thought of presenters with different styles. Some of the characteristics of personal style are:

- Use of appropriate humour,
- Use of relevant anecdotes,
- Personal enthusiasm,
- Self-confidence,
- Ability to develop rapport with trainees,
- Knowledge of the subject.

Selecting appropriate audiovisual aids

All trainers should know how to use a variety of audiovisual devices to reinforce their presentation in ways that suit various styles of learning, while retaining information at the same time. When choosing audiovisual devices, make sure they are relevant, simple, and not distracting. Fancy PowerPoint™ presentations with many colors and sounds can distract the trainees from the content. The technology available at the training venue, as well as its reliability, is also an important factor to be considered. If no computers are available, PowerPoint™ is not a viable option. The following are some general tips for using audiovisual equipments.

- Do not stand in front of or obscure the screen.
- Use a pointer.
- Cover all information until you are speaking about it. Otherwise, trainees will read the information rather than concentrate on what you are saying.
- Make sure all the trainees can see the audiovisual device.
- Talk to the audience, not the board or screen.
- Check that all slides or overheads are properly focused before starting.
- If using slides or computer projection, check that the room is not too brightly lit. Ask someone to help you adjust the lighting.
- Use only one audiovisual device at a time.
- Have a backup. For example, if using PowerPoint™ slides, also have overhead transparencies just in case the equipment does not work.
- Keep the layout simple, with minimum detail.
- Use colors that can be seen clearly (not red or green for text).

Some tips for using specific audiovisual equipment are as follows:

- ***PowerPoint:***
  - Keep the slides simple.
  - Avoid placing too much text on one slide. Use two slides.
  - Avoid using many different colors and sounds.
  - Make the text large enough so it can easily be read by the trainees.
  - Use a darker background to provide a good contrast to the text.
- ***Overhead projector:*** Turn it off when not in use.
- ***Whiteboard:***
  - Write legibly.
  - Use the right type of pen.
  - Cover or keep blank when not in use.
  - Use more than one color–preferably blue or black, which can easily be read from a distance.
  - Finish writing and turn to face your audience before speaking.
- ***Flipchart:*** Cover pages that are not being used. Alternate blank and written pages.
- ***Handouts:*** Consider an appropriate time to hand these out. When distributed at the start of the presentation, the trainees may focus on reading the handouts and not listen to your presentation. On the other hand, distributing handouts early can enable the trainees to follow the discussion without taking notes.

Managing common difficulties in training

Even the most experienced trainers can face difficulties while presenting or facilitating a session with a group. It is important to be aware of common problems and to understand ways to address them. No one is a perfect trainer; we all have shortcomings which we constantly need to be aware of when managing a session. Below are common problems and practical responses that to get the session back on track.

Mixed group expertise and experience (high to low)

The trainees may have a wide range of knowledge and experience. Some of the following strategies can be effective in meeting this challenge:

- Aim the content at the lower end of the trainees' range of knowledge, while acknowledging the expertise and experience of those in the upper range and involving them by asking them to contribute, e.g., to provide examples based on their experience.
- Split the trainees into different groups on the basis of ability, knowledge, or experience. Assign specific activities to each group and ask the smaller groups to report back to the larger group.
- Provide basic information to one group. Have another group focus on problem solving or a case study. Then integrate both groups for further activities.

The trainee who doesn't want to be there

Early in the session, the trainer will become aware that one or more persons would rather not be at the training session. They may be indicated by being unwilling to participate in activities, talking to others, or just generally showing disinterest. In response, the trainer can:

- Ask the persons how they feel about being present at the training.
- Offer them the option of leaving the training: "It is OK by me if you don't want to stay." Usually they will choose to stay.
- Ask them what can be done to make the session relevant to their needs. You could perhaps clarify their objectives in attending the training and suggest how the training can meet their needs.

Late arrivals

Enforcing punctuality among trainees can be a challenge. Those who arrive late can delay the start of the session or disrupt training that has already begun. Other trainees should not be penalized for the late arrival of others.

- At the onset of training it is important to stress the necessity of arriving on time to allow the training to start at the designated hour.
- Tell the trainees that you will begin the training session at the designated time and will not wait for people to arrive.
- Set group rules. Most groups usually agree that punctuality is important. Peer group pressure can be very effective in encouraging trainees to be punctual.
- See to it that all trainees are aware of the timetable. Ask them if they are happy with the current timetable and if there is any reason that they cannot arrive on time.
- Stress the importance of punctuality in any promotion or invitation letters for the course.

Non-attendance

Attendance of the trainees for all sessions and their entire duration is important. People who leave early or skip sessions can slow down the progress of the group, as they will need time to catch up. If they

have been assigned to a particular group, the rest of their team is at a disadvantage. To help ensure full attendance at the training:

- At the start of the training, inform the trainees that those who do not attend the whole course will not receive certificates (unless they have a valid reason for being absent and miss only a small part of the training).
- A trainee who misses any segment should be briefed on his or her return about the portions missed.
- If a trainee cannot complete a course due to an emergency, negotiate with his or her trainer to complete the missed segments at a future course and obtain a certificate at that time.

Lack of time

Trainers often run out of time. It is easy to underestimate the time needed to teach a certain subject. This holds true especially with regard to group activities which generally take longer than expected. Besides, if you are passionate or knowledgeable about a subject you may lose track of time while providing case studies and examples from personal experiences to illustrate a point. Time management may also be a problem if you are teaching a particular session or conducting a training program for the first time. Use the following strategies to keep on time:

- Keep an eye on the time. If there is no clock in the room, use your watch or borrow a watch from someone in the group. Check it regularly but discreetly. Use your session plan to allocate the time needed for each topic.
- Skim topics and refer to the reading list if there are subjects that cannot be covered during the time available. Avoid skipping planned activities as these are an important part of reinforcing the learning process.
- Acknowledge the problem and negotiate with the trainees for an extension of time, e.g., through shorter meal breaks or work through part of the scheduled breaks. If you do not ask the trainees' permission they may get angry and anxious about going overtime, especially if they are due for a break or have made plans for the end of the day. It is also unfair to take time from the next presenter's session without permission.
- Provide an overview of the remaining material and ask the trainees what they consider important and relevant to their work, or what the host organization or professional body should cover.
- Offer to forward to the trainees a summary of the remaining material.

Equipment failure

Virtually every trainer faces equipment failure at some point in his or her career. The more sophisticated the technology, the more likely it is to malfunction or cause difficulties. Preparation is the best strategy for avoiding equipment failure or overcoming it.

- Check the equipment make sure it is working, although sometimes equipment failures are unavoidable. Arrive early and familiarize yourself with the equipment especially if you have not used it before. Check the source of power.
- Apologize and remain calm. Tell a joke and move on.
- Write key points from transparencies on a whiteboard.
- If you are planning on using a video, provide an outline and have a group discussion.
- If you are using a PowerPoint™ presentation, try to have transparencies as backup and printed handouts that you can speak from and give out to trainees.
- Know your subject so you can present without equipment. A good trainer who is well prepared should be able to present without the aid of sophisticated technology.

Managing the challenging trainee

Groups are made up of individuals who can be unpredictable. Certain individual and group behaviors can present challenges for the trainer in facilitating and managing the group. These group behaviors may be due to the way in which the training is being conducted or a range of other reasons outside the trainer's control. Some trainees could be inattentive because their manager forced them to attend and see no benefit in being present. Others could lack enthusiasm due to threatened cuts in funding which has brought down the morale in the workplace.

There may also be cultural and gender reasons for challenging behaviors within the group. Differences in culture and gender often mean that people behave, interact, and communicate differently. The trainer must be aware of cultural differences that might affect how a group behaves. For example, trainees may be uncomfortable asking questions in class, as it would be a sign of disrespect for the teacher or a trainer in their culture. Others may feel uncomfortable participating in group discussions with people who are assigned a higher social status in their culture (such as people who are more senior, older, or a different gender).

Many of the difficulties that arise in group presentations can be dealt through common adult education techniques. Suggested strategies for some of the more common challenging group behaviors that trainers may encounter are discussed below. However, it is important to select techniques that are culturally appropriate.

When trainees do not respond to calls for feedback or questions after a focal activity (e.g., after watching a video)

What you can try:

- ***Open and closed questions.*** Open questions are much more likely to get a response. The differences between closed and open questions are illustrated below.

  Closed: "Any questions? Any points people want to raise?"

  Open: "What are some of the key points raised by the video?" "What did you like about the video?"

  The difference between open and closed questions is quite clear. Closed questions discourage responses because they are too broad and offer no point of entry for the trainees. Closed questions usually just offer or imply one or two answers. Open questions encourage trainees to respond to a specific issue.
- ***Silence:*** What happens if you use open questions and there is silence? Silence can add pressure to an effective end! **Use silence** to create a willingness to respond. Eventually someone in the group will speak up. Answering your own questions could convey anxiety or the need to control the group.

When a group discussion gets out of control or off the subject

What you can try:

- ***Set up discussions based upon clear guidelines and parameters.*** Define clearly the issue for discussion and encourage trainees to stay on the subject. This can be difficult in a discussion of sensitive or moral issues, like HIV, AIDS and sexual health.

- ***Ask people with special experience in the group to contribute.*** If someone in the group is particularly knowledgeable about the topic, ask him or her to contribute. If time is a constraint (and especially if the person is known to be fond of talking) remind the person to be brief.
- ***Be a good gatekeeper.*** A good gatekeeper moderates the discussion to ensure a reasonable level of participation by all. A common misconception is that "I'll come across as rude if I control the group". Videotape your sessions and observe your gate-keeping skills.

Dominating trainees

What you can try:

- ***Be respectful and courteous.*** Trainees are unlikely to respond if you are angry or aggressive. Be assertive and confident in your manner.
- ***Verbal responses.*** You can try a range of verbal strategies. For example, "Thank you very much. I would now like to hear what *(use name)* has to say on this topic." Do not say "Why don't we come back to this later?" If you do not intend to return to the topic.
- ***Non-verbal responses.*** Orient your body away from the dominating trainee so you disengage from eye contact and your body language discourages him or her from continuing to speak. Combine this with a verbal response such as inviting another trainee to contribute.

Unresponsive trainees

Some groups are naturally talkative and easy to work with. Others are unresponsive and may require you to call on additional techniques to engage them.

What you can try:

- ***Use silence to pressure the group.*** Ask a question that you know someone in the group can answer and wait for an answer. Remain silent and do not answer the question yourself. Eventually (in most cases) someone will respond.
- ***Identify*** one or two people in the group whom you can ask to say something.
- ***Be controversial or challenging.*** Used carefully, this technique can get a group going. In HIV and sexual health there are usually many controversial issues, so finding something that challenges the group at some level should not be too difficult.
- ***Ask for feedback.*** Say: "I sense that there is not a lot of interest in this subject" or "I sense that you feel this subject is not relevant to you."
- ***Introduce an activity,*** something to energize the trainees and get them to respond either as a whole or in small groups.

Sleeping or inattentive trainees

What you can try:

- ***Walk near the person,*** while talking to the group. Do not single the person out by looking directly at him or her. Stand next to the person for a while without necessarily looking at or drawing any other attention to him or her.
- ***Throw a question*** at the inattentive person, but remember to allow him or her to save face. Ask a question that the person is likely to know the answer to, or provide a quick summary of the current issue and then ask the question.
- DO NOT say, "While you were asleep…" rather say, "Let me explain what we are up to."

With chatterers (people talking among themselves):

- ***Walk over to the chatterers*** while continuing to address the whole group. Your close proximity will discourage them from chatting.
- ***Direct questions at the chatterers,*** noting the above points on saving face.
- ***Be a good gatekeeper.*** Say, for example, "I'm having difficulty hearing what (use name) is saying. (Wait for silence) Could you continue please?"
- If all else fails, ***have a discreet*** *chat* with the individuals concerned, away from the other trainees, during the break.

The argumentative trainee

Some trainees may be argumentative. They may be genuinely upset or disturbed by something and choose to demonstrate this by arguing with the presenter or other members of the group.

What you can try:

- ***Don't get hooked into the power struggle.*** It is not your duty as a trainer to win the argument, even though you may strongly disagree with the person's opinion. The more you assert your opinion, the more likely it is that the person will stop listening to you.
- ***Don't use personal attacks.*** In challenging the argumentative trainee, do not use personal attacks. These tend to put people on the defensive and undermine your credibility as a facilitator.
- ***Use assertive communication:*** "I can see how you would think that. However,…"; "Some people feel that…"; "There is a range of opinions on this subject…".
- ***Redirect discussion to other trainees.*** Ask if anyone else in the group has a different opinion.
- ***Use direct and calm but assertive body language.***

Evaluating your training

Many stakeholders are involved while conducting the training sessions including the trainer, the trainees, the training institution, and the organization purchasing the training. Different stakeholders may have different expectations of the training and anticipate different outcomes. It is important to speak with different stakeholders to understand what they need to know about the training. The person in charge of training evaluations can then develop the appropriate tools and methods for finding out the extent to which the training outcomes and stakeholder expectations have been met. This information can then be transmitted to the stakeholders through the training report.

What are the benefits of evaluating the training?

Evaluating specific aspects of training can benefit all stakeholders. The possible benefits may include the following:

- ***For trainers:***
  - Information regarding ways to improve the training (contents, process, tools);
  - Information about possible improvements in training process, style and skills.
- ***For trainees:***
  - Assessment of whether they have achieved their learning goals;
  - Consideration of how the knowledge and skills learned can be applied to their work;
  - Decisions about whether training has been a worthwhile investment of time, effort, and money.

- ***For contractors and sponsors:***
  - Information about the extent to which the training was worth the time and money they invested in it.
  - Information about staff that are capable, including their limitations and readiness for new responsibilities.

What does evaluation measure?

Goals. Evaluation can tell us about the appropriateness of the goals or learning objectives of the training. Evaluation can also provide information about how well the training met the identified goals or learning objectives.

Inputs. Evaluation can give us information about:

- **Training tools:**
  - Was the course content targeted at the appropriate level for the trainees?
  - Were the handouts easy to understand?
  - Was the appropriate audiovisual equipment used?
  - Did the audiovisual device work?
- **Training environment:** Were the training facilities (e.g., room size, ventilation, temperature, refreshments, and audibility) adequate?

Processes. Evaluations can tell us about the quality of the training, including the following:

- **Training framework:**
  - Was the training too long or too short?
  - Were there enough breaks?
  - Were the sessions in logical sequence?
- **Training techniques:**
  - Was a variety of techniques (e.g., group work, role plays, games, exercises, didactic teaching used?
  - Which techniques worked best?
- **Trainer's style:**
  - Did the trainer have good teaching skills (e.g., maintained the interest of the group, used a variety of teaching techniques, facilitated discussions, and created a supportive environment for trainees)?
  - Was the trainer friendly, personable, approachable?
  - Did the trainer know the materials (e.g., could he or she answer questions about the materials confidently)?

Outputs. Evaluating outputs can tell us about the immediate benefits of training, including the following:

- **Change in trainee knowledge:** Trainers need to be sure that trainees have understood the course content.
- **Trainee satisfaction:**
  - Did the course meet the trainees' expectations?
  - What did the trainees like about the course and what didn't they like?

Outcomes. Evaluating outcomes can be difficult, as it has to occur after the completion of the course to assess what the trainees have changed or done in their practice as a result of the training. *Independent observation of trainees is the best and most impartial method of assessment.* Outcome evaluation is important, as it informs us about the conclusion of course activities. It can also help us to identify barriers to implementing what has been learned.

What do we do with the results?

On the basis of the findings of the evaluation, trainers can improve certain aspects of the training so that future courses may better meet trainee expectations or training objectives.

How do we collect the data?

Two main techniques are used in any evaluation:

- ***Qualitative techniques.*** These are concerned with the collection of descriptive data, allowing trainers to obtain more in-depth information about particular aspects of the training. Tools for qualitative data collection include the following: reflective diary (used in self-assessment), evaluation forms with open-ended questions, and notes from open discussions with peers or trainees. Qualitative techniques can help answer questions like why? and how?
  - ***Advantages:*** Qualitative data can be used to assess training processes, outputs, and outcomes They are more likely to provide an overall picture of the perceptions of training and to elicit positive responses.
  - ***Disadvantages:*** Qualitative techniques take longer to complete and require more thought on the part of the trainee. Analyzing qualitative data can be time-consuming and the results may not always be seen as rigorous or "scientific" enough by some stakeholders.
- ***Quantitative techniques.*** These are concerned with collecting measurable data, to help answer questions like how much? and to what degree? Tools for collecting quantitative data include checklists and evaluation forms using "yes" and "no" answers, or a choice among preset answers with assigned values. The scores will allow comparison over time or between trainers or training sessions.
  - ***Advantages:*** Quantitative surveys are relatively cheap to conduct; they are quick and easy to complete and to score.
  - ***Disadvantages:*** Making comparisons requires an understanding of some basic statistical techniques and, in some instances, statistical software packages. Manual analysis, by calculator, can entail a significant amount of time.

A mix of qualitative and quantitative techniques is thought to be the best way of achieving a thorough evaluation. The findings can be supported with information collected from more than one source, e.g., from trainees and peers.

Methods and tools used to evaluate trainings.

A number of methods and tools can be used to evaluate trainings. These include evaluation by the following:

Trainer:

- A checklist for pre-training evaluation to assess readiness for training, e.g., to check that the necessary equipment, materials, and tools have been prepared and are ready (quantitative);

- A reflective journal or self-assessment diary (qualitative); and
- A videotape or audiotape of the training session for self-assessment, with the help of a checklist or informal feedback (quantitative and qualitative).

Trainees:

- A training evaluation form, mostly for assessing training processes (quantitative and qualitative measures);
- Pre- and post-course knowledge tests for trainees;
- Assignments or "homework";
- Discussion questions at the end of each session to assess level of knowledge and understanding;
- Problem solving using a case study and information discussed previously; and
- Skill testing through role-play.

Peers:

- A training evaluation form (quantitative and qualitative);
- Observation of training and use of a criterion-referenced training skills checklist (quantitative and qualitative measures) or post-training discussions (qualitative) to collect data; and
- A videotape of the training, for observation and assessment, as above.

External evaluator (training consultant, to review objectives, curriculum, and evaluation documents):

- Observation of training and use of a training skills checklist to collect data (quantitative and qualitative measures);
- Post-course informal discussions with stakeholders (qualitative); and
- Short- and long-term follow-up of trainees and trainers, e.g., through interviews and mailed questionnaires.

Further information on evaluation tools

Self-assessment (reflective) diary or journal. Trainers may use journals to record their impressions or thoughts on the training sessions or regarding problems encountered during training sessions. They can thus identify where they might improve their training technique or methods. Trainees may also record information in a journal about changes they have been able to bring about in their practice as a result of the training. A reflective learning journal can be a good tool for evaluating training outcomes, although the results of self-evaluation are subjective.

Peer assessment. Other trainers can sit in on a training session to observe the trainer at work, and evaluate the trainer's skills and knowledge against set criteria. Their findings can then be scored and compared with those of other trainers or a qualitative record of information can be fed back to the trainer. Peer assessment is a valuable method for assessing training inputs, processes, and outputs. It is also a more objective method of evaluation than self-assessment.

Pre- and post-course knowledge tests. A short questionnaire about the course content is developed. It can contain qualitative (open-ended) questions or quantitative (yes-or-no, multiple-choice, etc.) questions. A variety of question types allows the collection of a range of data. The test is administered

at the start of the training and again at the end. Results are then compared to see if there has been any improvement in knowledge as a result of the training. A pre-course questionnaire can also provide information about the baseline level of knowledge of the trainees so that trainers can assess whether the content is pitched at the right level. Pre- and post-course knowledge tests are a good tool for evaluating training outputs.

Evaluation forms. Evaluation forms can be used to evaluate trainees' perceptions of all aspects of training, from an individual training session to a whole course or program. Short questionnaires using a mix of qualitative and quantitative questions can be developed so that a clear picture of trainees' views of training inputs and processes can be gained. Evaluation forms can tell us to what degree the trainees feel the course met their training needs.

Follow-up questionnaires. Short questionnaires can be developed and sent out to trainees within a period of six months after the training. Trainees may be asked about the skills and knowledge gained through the course and obstacles faced thereafter that have prevented them from applying the knowledge gained. These questionnaires are a good way of assessing training outcomes, although not many trainees may complete and return them.

Analyzing evaluation results

Qualitative analysis. For each qualitative question all the trainees' answers are collected and reviewed. Common themes and points most often mentioned are identified. The main responses are summarized and any other supporting information, contextual information, or observations that help to explain or support the findings of the analysis are added in. Qualitative analysis can be time-consuming but may provide rich and in-depth information.

Quantitative analysis. Quantitative questions are first marked and a score is assigned to each possible response, e.g., for yes-and-no questions, a score of "1" for each "yes" response and a score of "2" for each "no" response, and for multiple-choice questions, a score of "1" for each correct response and a score of "0" for each incorrect response. For Likert-type questions, which provide a range of possible responses (e.g., from "a little" to "a lot"), each possible response is allocated a score, e.g., from "1" (least positive) to "4" (most positive). All the scores from a trainee's questionnaire are added to give a total for that trainee. In some instances the trainee is given a code number, e.g., when pre- and post-course tests are marked. Group means (or averages) before and after training can also be compared. For those with access to statistical packages, a paired t-test may be used to identify areas where statistically significant changes have occurred.

Interpreting a poor evaluation result

When a training session is poorly evaluated, it is important for the trainer to analyze the results to improve the training sessions. The trainer also needs to verify whether the results are a reflection of events outside the control of the trainer that have had an impact on the training.

The trainer should not be disheartened by critical comments made during or after the evaluations. Certain evaluation forms have specific questions relating to what the trainees feel could have been done better. Even the most experienced trainers are subject to critical comments. These should not be taken personally and should be seen as an opportunity to improve the course. On the basis of the

comments in the evaluation forms, the trainer should try to identify specific areas of the training that need to be changed and develop strategies for improving these aspects. Peers can be asked to provide feedback on how the session could be improved. Training is a skill which can improve with experience, feedback, and adaptation.

The trainer should also analyze whether poor evaluation results are due to factors beyond their control which affected how people perceived the training course. For example, trainees may have not wanted to attend the course but have been forced by their manager.Trainees may be distracted by personal problems or by thoughts of the amount of work they will have to do when they return to their workplace. All these factors can contribute to a poor evaluation but do not reflect on the trainer's conduct of the course.

e) Methodology:

The training has been designed to be fully interactive on the part of the participants, and to enable them to learn at an optimum level. In order to do this, various methodologies were used including:

i. Short lectures/ presentations
ii. Group discussions/work
iii. Role plays
iv. Demonstrations
v. Brain-storming
vi. Case studies and reports
vii. Games
viii. Videos

Short lectures/presentations:
Short lectures and presentations are used to provide basic information on a particular topic. Visual aids illustrating major points are also used. Trainers/facilitators are encouraged to facilitate full participation from their audience during mini-lecture sessions by:

i. Asking questions and encouraging participants to ask questions
ii. Designating group exercises and presentations
iii. Brain-storming among the participants
iv. Problem-solving on case histories

Following group work and presentations from the participants, the facilitator, with the help of the participants, lists the major points and summarizes the topic using these presentations.

Group discussions/work:
Depending on the number of trainees, it is recommended that groups of four to six people be formed. Each group should be given a task to carry out. This helps participants become actively involved in problem-solving and more comfortable with sharing their experiences. It also makes for an interesting and a stimulating session, as each member will have to be prepared for a group presentation and be ready to answer questions from other participants. Additionally, this approach allows for the development of personal relationships. Such group work also helps the facilitator evaluate the trainees' existing knowledge on the topic, and their capacity for absorbing the material being taught. This is also useful in designing future training sessions.

Role-plays:
During a role-play session, the facilitator explains the objectives of the topic being covered (i.e. effective communication or history-taking) and asks the participants to form groups and choose individual roles. The facilitator then explains the scenario to the group and instructs each individual to play their role as convincingly as possible. Participants forming part of the audience are instructed to observe the scenarios carefully and to provide feedback or comment on what they see once it is completed. The facilitator should be prepared to help or guide the role-play session when necessary, and to encourage observers to comment on the positive and negative aspects of what they witnessed.

Demonstrations:
There are several sessions involving demonstrations in this training manual which are expected to help participants improve their practical skills in STI management, and to develop confidence. The facilitator explains what the demonstration session entails and its objectives. Participants are asked to carefully observe so that skills demonstrated can be included in their practice. After the demonstration, the facilitator interacts with the participants and asks them to provide feedback. The facilitator then provides his own comments, answers any queries the participants might have, and later emphasizes the significant aspects covered in the session.

Brain-storming:
Brain-storming sessions are used to extract knowledge from participants on specific topics. These help participants to engage, allowing them to become attentive and alert which is conducive to effective learning. During the brainstorming sessions the facilitator raises several questions on the topic being studied, and asks participants to respond to them either individually or as a group. The answers are to be written down according to their level of importance on a whiteboard or flip chart, and read aloud. The facilitator then provides his/her own comments, highlighting the positive aspects of the outcome, and does a follow-up presentation.

Case studies:
Case studies are designed to help participants acquire the management and confidence necessary for dealing with patients experiencing various conditions. The cases presented are real or imaginary, characteristic of problems indicating a particular disease or syndrome of STI. The participants are guided on how to locate these characteristics through a number of sequential steps. Case studies can be used to introduce a particular training session on clinical topics, assess participants' knowledge of the disease or syndromes, or used as a follow-up exercise after the completion of a specific session. In the latter, the facilitator provides a case history and asks participants about the correct approach for that condition.

Audio-visual aids and other equipments:
Multimedia visual aids (LCD projector, Laptop computer) will be used to facilitate lectures and oral presentations. However, illustrations with pictures, STI slides, flow charts, and videos (male and female patient examinations, specimen preparation, and condom demonstration) will be incorporated wherever feasible. Similarly white boards, large sheets of papers/newsprints, photographs, posters and other materials will also be used.

Note:
Short games can be used to energize the participants during the sessions wherever appropriate.

II Introduction of Training

Introduction:
This is a session on the introduction of the overall training program. The facilitator welcomes the participants and briefs them about the training objectives. He/she provides an overview on the roles of the participants, the facilitators, and on the activities the trainees are expected to follow during each session of the training.

Objectives:
By the end of this session, the participants will be able to:

a. Explain and prepare the training session
b. Explain the goal of the training
c. Identify the different groups of trainees and role of the facilitators

Method: Short lecture
Time: 15 minutes

Instruction to the facilitator:
As this short lecture session is the first interaction with the trainees, the facilitator should be able to gain the participants' full attention by greeting them with a warm welcome and presenting a clear message on the importance of the training, its goals and purpose, how it will be conducted, and the role of trainee. The facilitator should also provide information about the facilitators and the different categories of trainees enrolling in the program.

(See **annex 11** for ice-breaker games)

III Getting to Know Each Other

Introduction:
In this introductory session participants and facilitators are introduced to one another. The aim is to help both become acquainted while allowing for the exchange of information and ideas. In order to make the sessions interesting, the facilitator may choose to use games or other clever means of breaking-the-ice to encourage interaction.

Objectives:
By the end of the session, the participants will be able to:

a. Tell name and addresses of each individual participating in the training
b. Become familiar with one another and with the facilitators, thus developing an open and comfortable relationship with one another
c. Develop the confidence to participate in group work

Method: Getting everyone to interact and to introduce each other
Materials: Paper and pen
Time: 15 minutes

Instruction to the facilitator:
There are different ways for participants to introduce themselves to one another. The facilitator can choose any method to make it interesting and interactive. One example is the "clock game" illustrated here. The facilitator provides a large size paper and a color pen and asks the participants to draw a clock on it. He/she then instructs the participants to run around for 10 minutes and try to fix up an appointment with different friends for each hour of a day. The facilitator then selects a particular hour randomly and asks each person to introduce his/her partner with whom he/she has made an appointment with for that particular hour. Those who could not get an appointment for that particular hour should be introduced as an appointee during another hour. See **annex 11** for ice-breaker games.

IV Ground Rules for the Training Period

Introduction:
This short session is to introduce the basic rules participants will follow during the training session. It is designed to help participants gain mutual respect for one another, recognize the importance of the training, and actively participate throughout the entire training period.

Objectives:
By the end of the session, the participants will be able to:

a. Develop the basic rules of training
b. Express commitment to make the training disciplined and organized
c. Express the importance of every individual's participation
d. Demonstrate respect each other and encourage others for active participation

Method: Interactive session
Materials: Cards, Soft board, color pens
Time: 15 minutes

Instruction to the facilitator:
The facilitator distributes the color cards and pens and asks each participant to write down two common rules which he/she thinks is important to be followed by each participant. The facilitator should then collect the cards and paste them on the soft board in an appropriate order. Individual participants should be asked to read each rule. Facilitator should acknowledge the rules listed by the participants and summarize the ground rules by presenting the text slides.

Ground rules:

1. Be punctual
2. Maintain regularity, do not miss any sessions
3. Listen to the facilitator's instructions carefully
4. Follow all instructions
5. Actively participate in each step of the training
6. Always speak at your turn and do not interrupt others
7. Give time to others and respect their contribution
8. Switch off the mobile phones or keep the mobile phones in slient or vibration mode during the session

V Expectations of the Participants and Objectives of the Training

Introduction:

It is important to convey the importance of each training session to the participants, as it will help them understand how the knowledge gained will benefit them as health professionals. As a group, the participants will decide on the appropriate level of skills and knowledge suitable for them, and gradually build their abilities through constant interactions with the facilitator and each other. Participants must be aware that in order to make the most of their training experience, a high degree of participation and respect for each participant will be required when carrying out the set objectives.

Objectives:

By the end of the session, the participants will be able to:

a. Explain the main purposes and objectives of the training
b. List what they will gain from the training

Method: Interactive session
Materials: Cards, soft board, color pens, OHP/LCD slides
Time: 15 minutes

Instruction to the facilitator:

The facilitator forms small groups of three-four people and asks each group write two to three objectives/expectations which they think will be achieved during the training. This activity should be given five minutes. The facilitator then asks one participant from each group to present. The facilitator then acknowledges the group work and presents the text slides.

Resource materials for the facilitator:

Objectives of the training:
By the end of the training, the participants will be able to:

1. Acquire comprehensive knowledge and skills for managing common STI syndromes
2. Describe the global vs. national epidemiology of STI, modes of transmission of STIs, clinical features of common STIs, the syndromic approach, and the relationship between HIV and other STIs
3. Provide effective STIs case management for STI patients on their first visit to the clinic
4. Explain the key components of STIs control and prevention programs, and to assist with their efficient and effective implementation thereby reducing the burden of STIs- and HIV-related illness in the community
5. Explain the meaning and practice of infection control measures and follow steps for universal precautions during STIs clinical practice
6. Practice patient education and counseling, contact tracing and partner treatment.
7. Use STI reporting and recording forms.

VI Pre-Test

Introduction:
A pre-test is done to evaluate the existing knowledge of the participants which then helps facilitators gauge the depth of knowledge and information to be delivered during the training. The test involves multiple choice questions (MCQs) or true/false questions to assess basic general knowledge based on the content being studied. It should preferably cover all important chapters to be discussed during the session.

Objectives:
By the end of the session, the participants will be able to:

a. Assess their current knowledge on STI and its effective management
b. Give feedback to the facilitators regarding the depth of knowledge they should provide in the training.

Methods: MCQs, true or false questions, and short answer questions
Materials: Pre-formed questionnaire sheets
Time: 30 minutes

Instruction to the facilitator:
The facilitator explains the objectives of the pre-test and the time given for it. He/she asks the participants to put a symbolic code on the paper instead of their name for anonymity. The facilitator will inform participants that the test objective is to evaluate the overall knowledge group and not just of the individual. They must also be informed that by doing so, it will assist the trainers/facilitators in determining the groups' depth of knowledge or skills on each of the different topics. Therefore, there is no need for collaborative group work on the pre-test. After the completion of the test, the facilitator collects them and issues a score. The model questions for the pre-test can be found in **annex 1**.

Module 1

Basics of STIs

1.1 Introduction to STIs

Introduction:
STIs are infections, primarily transmitted through sexual contact from one individual to another. They are one of the major public health burdens on society because of their effect on morbidity, social impact and relationship with HIV and AIDS. Comprehensive management of STIs in certain countries has had a significant impact and fostered a positive role towards preventing HIV. Effective STI management has become an important tool in HIV prevention.

According to the type of infective agents involved, STIs can be classified as bacterial, viral, protozoal, fungal or parasitic. STIs may be asymptomatic or may present with significant symptoms. Clinical features of STIs may differ between males and females; some STIs may remain without symptoms and may produce significant complications. With the exception of some important viral STIs, many STIs are curable, provided they are properly diagnosed and treated.

Objectives:
By the end of the session, the participants will be able to:

a. Define the term "STIs"
b. List major etiological agents of STIs
c. Identify the routes of transmission of STIs
d. List common signs, symptoms and important complications of STIs
e. List the risk factors and explain the risk assessment in STIs
f. Explain STIs management strategy

Method: Interactive lecture
Materials: Multimedia, text slides
Time: 45 minutes

Instruction to the facilitator:
The facilitator introduces the topic and asks the participants about the definition, etiological agents, routes of transmission, common signs and symptoms of STIs, their complications, risk factors of STIs and the management strategy. He/she then presents the text slides on above topic.

Resource materials for the facilitator:

A. STIs Introduction
Definition:
STIs are group of infections, primarily transmitted through sexual contact from one individual to another. Based on their causative organism, STIs can be divided into different categories:

Etiological agents of STIs:

Bacterial	Viral	Protozoal	Parasitic
- Syphilis	- Genital warts	- Trichomoniasis	- Pubic lice
- Gonorrhea	- Genital herpes		- Scabies
- Chlamydial infection	- Molluscum contagiosum		
- Chancroid	- Hepatitis B		
- Donovanosis			

Modes of transmission:

- Sexual Contact : From one infected person to another primarily by sexual contact – anal, vaginal or oral
- From mother to child – during pregnancy and child birth
- Occasionally through contaminated fingers, blood and blood products, organ transplants, contaminated needles and fomites (such as shared towels and sex toys).

Signs and symptoms of STIs:

Male:

- Urethral discharge
- Burning & pain during urination
- Pain or itch in and around genitalia, perineum and anus/rectum
- Papules, vesicles, erosion/ulcers or fleshy growths in and around genitalia, perineum anus/ rectum, oral cavity and occasionally on other sites
- Swellings in inguinal, anal region and of scrotum

Female:

- Abnormal vaginal discharge
- Burning and/or increased frequency of urination
- Lower abdominal pain
- Pain, itch, papules, vesicles, erosions/ulcers or fleshy growths in and around genitalia and perineum, anus/rectum, oral cavity and occasionally on other sites
- Swellings in inguinal, anal, and vulval area

Complications of STIs:

Male

- Urethral stricture
- Epididymo-orchitis
- Penile and anal cancer
- Rarely disseminated infections

Female

- Pelvic inflammatory disease
- Cervical and anal cancer
- Ectopic pregnancy
- Abortion, stillbirth

Note: STI increases risk of HIV infection

Newborn (from mother)

- Congenital syphilis & Neonatal conjunctivitis in the child
- Premature and low birth weight baby
- Herpetic/HPV infections

Common to both male and female

- Infertility
- Scarring, distortion and mutilation of the genitalia
- Systemic infection
- Anxiety and depression
- Social rejection by the community and family members
- Intra-marital discord and divorce, even violent retribution and emotional problems
- Stigma and discrimination
- Economic burden

B. STIs risk factors

Risk factors for STI:

a. Healthcare related behaviors

- Lack of willingness to seek medical advice and choice of health care
- Lack of compliance with therapy
- Lack of partner's referral for treatment
- Practice of vaginal cleaning or douching, enema

b. Sexual behaviors

- Sexual contact with multiple partners
- Sexual contact without using protective barriers
- Sexual contact with casual partners
- Sexual contact with high possibilities of trauma(micro) – anal

c. Other risk factors

Age, gender, marital status, socioeconomic status and ethnicity, certain occupations, urban residence, alcohol and drug use, circumcision status in men, contraceptive methods used etc.

C. Risk assessment in STIs

The International Workshop on STIs Case Management in South Asia has recommended redefining the risk assessment as follows:

Risk assessment is a method or tool to assess whether a woman with symptoms of vaginal discharge is likely to have cervical infection (gonococcal or chlamydial).

Positive risk assessment (RA +) is defined as a woman having

(I) A symptomatic partner &/or
(II) Having more than one partner in the last month &/or
(III) Partner having multiple partners.

Note: Personal history (occupation) of the woman and her environment helps the health care provider to verify the above three questions.

D. STIs management strategy:

STIs management programs should be comprehensive.

It should be designed in such a way that:

1. they identify the maximum number of people with STIs (both symptomatic and asymptomatic individuals)
2. provide effective on-the-spot treatment
3. identify those who have increased risk behavior for contracting STIs
4. promote positive behavior change and maintenance to reduce sexual and other risks through appropriate health education and communication programs

1.2 Epidemiology of STIs (Global and National)

Introduction:
STIs are often considered one of the most common infections, occurring globally, resulting in high morbidity primarily in the developing regions of Southeast Asia and sub-Saharan Africa. Studies indicate that where STI prevalence is very high, HIV prevalence is equally high. In some sub-Saharan countries in Africa, HIV infects up to one third of the adult population.

Objectives:
By the end of this session, the participants will be able to:

a. Explain global STI estimates and global STI strategy
b. Describe the national response to STI control and STI epidemiology
c. Explain the regional occurrences of STI

Method: Interactive lecture
Materials: Multimedia
Time: 45 minutes

Instruction to the facilitator:
The facilitator introduces the topic, briefly informingt the participants of the epidemiological aspects of STI (global, regional, national levels) and the national response to STIs control. Updated versions of global, regional and national STI related data are then presented.

Resource materials for the facilitator:

Introduction
It is estimated that around 340 million new curable (bacterial and protozoal) STI cases arise every year worldwide. HIV alone is presently estimated at 33.4 million cases (December 2008, WHO). The largest numbers of STI-infected populations are found in South and Southeast Asia and in sub-Saharan Africa, where more than two thirds of the global total of STI cases is present.

(HIV infects up to one third of the adult population in some sub-Saharan countries where STI prevalence is also very high).

Global STIs situation
Estimated annual incidence (WHO, 1999):

- 340 million new cases (syphilis, gonorrhea, chlamydia and trichomoniasis primarily occurring in men and women aged 15–49 years)
- Syphilis: 12 million
- Gonorrhea: 62 million
- Chlamydial infections: 92 million
- Trichomoniasis: 173 million

Global STIs strategy 2006 – 2015, (WHO May 2006)

The strategy urges all countries to control the transmission of STIs by implementing a number of interventions, including the following:

1. Prevention by promoting safer sexual behaviors;
2. General access to quality condoms at affordable prices;
3. Promotion of early recourse to health services by people suffering from STIs and by their partners;
4. Inclusion of STIs treatment in basic health services;
5. Specific services for populations with frequent or unplanned high-risk sexual behaviors - such as sex workers, adolescents, long-distance truck-drivers, military personnel, substance users and prisoners;
6. Proper treatment of STIs, i.e. use of correct and effective medicines, treatment of sexual partners, education and advice;
7. Screening of clinically asymptomatic patients, where feasible; (e.g. syphilis, chlamydia);
8. Provision for counseling and voluntary testing for HIV infection;
9. Prevention and care of congenital syphilis and neonatal conjunctivitis; and
10. Involvement of all relevant stakeholders, including the private sector and the community, in prevention and care of STIs.

National response to STIs control and STIs epidemiology

The National HIV and AIDS strategy 2006-2011 considers STIs management to be one of the HIV prevention strategies and emphasizes strengthening management and control. The institutional approach for STIs case management began in 1993 with the support of the European Economic Community (ECC). As a result of this approach, the first National STIs Case Management Guidelines were developed in 1995. Similarly, the first National Training Manual on STI Case Management was developed in 2006 with the technical and financial support of USAID and FHI/Nepal. Since then many health care providers from both government and non government sectors have been trained using the standard curriculum. A refresher training curriculum was also developed in 2008 with the support of USAID-funded ASHA Project.

At the national level, an STIs technical working group exists which include national level experts, and makes important decisions regarding STIs program implementation. A system for STIs drug supply to STIs service facilities has been established by NCASC through the national logistics system.

Programs to strengthen the national response to STIs

- Publication of the National Guidelines for STI Case Management;
- Upgrading of the laboratory diagnostic capacity in Government and private clinics; and
- Training of healthcare providers in peripheral settings to enable them to use algorithms for the syndromic management of STIs

Components of the national strategy

a. Recognition that STIs are a global burden at the policy level
b. Awareness regarding the impact of effective STI prevention and control programs at the national level:
   i. Reduction of STI-related morbidity and mortality
   ii. Prevention of HIV infection

iii. Prevention of serious complications resulting from untreated STIs in both women and men
iv. Prevention of STI- related adverse pregnancy outcomes

c. Seeking opportunities for an accelerated response towards:
   i. Cost-effective interventions for HIV prevention
   ii. Multi-sectoral approaches and new partnerships
   iii. New technologies for a strengthened response
   iv. Strengthening STI prevention and control programs across all levels of health facilities
   v. Condom promotion to the general population, particularly to populations engaging in high risk behaviors
   vi. Remove obstacles to the provision of services for STIs control

Steps to implement the national strategy

a. Use existing and new tools and technologies to benefit the people who need them most.
b. Improve clinic environments, so these become accessible, user-friendly and client-centered in order to respond to client needs.
c. All message regarding health and well-being should be communicated in the local language for improved comprehension.
d. Develop strong media relations and recruit advocates capable of raising awareness across social networks which are often difficult to penetrate.
e. Promote a multi-sectoral response across departments other than health, such as the legal and education sectors, the tourism industry and private sectors.
f. Develop public-private partnerships for the prevention and control of STI; rally international agencies, national agencies, national government, private philanthropic organizations and commercial interests around a set of priority STI interventions and initiatives.
g. Move beyond the search for "magic bullets" to multifaceted interventions that work in concert across multiple components and levels and that are sustainable at the local level.

National STIs situation

Nepal, a landlocked country situated between India and China is one of the least developed in the world plagued by poverty, illiteracy, ignorance and youth unemployment, all of which synergize for the spread of STIs. Research by Zeeb (1996) estimated a total of 6,000–8,000 annual STIs clients in Kaski District alone.

Nationally, STI data is scarce and non-specific. The annual national RTI, STI and HIV data is collected passively from health services facilities by the Health Management Information System (HMIS) of the Department of Health Services which aggregates cases of STIs, RTIs and HIV without specific details of the types of STIs. According to the Annual Report of HMIS (2064/65 BS) a total of 28,229 STIs and 1,640 HIV cases were reported out of 12,137,059 outpatient department cases.

IBBS Surveys have been carried out in recent years through the National Center for AIDS and STD Control (NCASC) with technical support from FHI/USAID in the different MARPs. Some of the important information received from the different rounds of IBBS conducted among different groups of MARPs has revealed the following conclusions.

- Within the Kathmandu valley, 42% of female sex workers (FSWs) had had at least one STI symptom in the last one year and the prevalence of syphilis among them was one percent (IBBS, 2008).
- In Pokhara, 30% of FSWs reported at least one symptom of STIs in the last year and 1.5% had syphilis (IBBS, 2008).
- Only 4.7% of male labor migrants to India in the western and 10% in the far western districts reported having had at least one symptom of STIs in the last year (IBBS, 2008).
- The prevalence of syphilis among truckers in Terai highway districts was 0.3% (IBBS, 2009).
- Among MSM in Kathmandu, the prevalence of syphilis was 1.5%; rectal gonorrhea 12.5 percent and chlamydia five percent (IBBS 2009).
- The findings from the 2009 IBBS among FSWs in terai highway districts showed that prevalence of syphilis is currently 3.5%, gonorrhea 1.5% and chlamydia 8.3%. Among IDUs syphilis prevalence was 1.7% (East Terai), 1.7% (West Terai), 0.5% (Pokhara) and 1.5% (Kathmandu), (IBBS, 2009).

Note to the facilitator: Data need to be timely updated, provide most recent IBBS fact sheet to all participants as reference.

1.3 Public Health Aspects of STIs

Introduction:

Due to low awareness of the dangers of health threats, STIs control and prevention are integral elements of public health initiatives. STIs not only have a direct health impact on those who have contracted them, but also have long term consequences which affect maternal and infant health and assist in transmission from an HIV infected sexual partner.

Furthermore, STIs can be associated with strong social stigma that increases the tendency to hide infections. Often would-be STI patients are denied access to healthcare facilities. This leads to infections gradually progressing to complications that result in long term consequences and increased morbidity causing an enormous economic burden on the nation. To address problems relating to STIs, it is vital to know the epidemic of STIs particular to that area. Additional safety measures need to be applied to areas with actual concentration of STIs. Using a blanket approach for STIs control, as with other high prevalence diseases may not be appropriate or cost effective.

Objectives:

By the end of the session, the participants will be able to:

a. Describe the importance of STIs control and prevention from a public health perspective
b. Identify challenges and factors involved in STIs prevention and control
c. Describe the importance of STIs control and prevention in the context of the national epidemic and explain the rationale behind a targeted approach

Method: Short lecture
Materials: LCD projector, Laptop computer, previously prepared PowerPoint™ presentation
Time: 50 minutes

Instruction to the facilitator:

The facilitator introduces the topic briefly, interacts with participants on public health, importance of STI awareness, challenges in its control and prevention, importance of STI control and prevention in the context of the national epidemic. He/she then notes down the points raised by the participants emphasizing the important ones. The facilitator later presents a text slide and summarizes the key points

Resource materials for the facilitator:

Importance of STIs prevention and control from a public health perspective

a. STI is of major public health concern because of its high global prevalence and greater potential to cause serious and permanent complications in infected individuals not treated in a timely and an effective manner.
b. STIs are known to facilitate HIV transmission and progression
c. STIs can lead to the development of serious complications
d. The most serious complications and long-term consequences occur in women and newborns and include:
    i. Cervical and other forms of ano-genital cancer
    ii. Pelvic inflammatory disease (salpingitis)

iii. Chronic pelvic pain
iv. Fetal wastage
v. Ectopic pregnancy
vi. Maternal mortality
vii. Infertility
viii. Chlamydial infections which can cause pneumonia in infants
ix. Neonatal gonococcal infections of the eyes can lead to infant blindness
x. Congenital syphilis, a significant cause of infant morbidity and mortality
xi. Syphilis can cause serious cardiac and neurological problems, among others, which can ultimately be fatal

Fundamental benefits of STIs control and prevention

a. Reduction of the burden of morbidity and mortality through impact on quality of life, sexual and reproductive health, and child health, and indirectly through impact in national and individual economies
b. An important and cost-effective intervention to prevent HIV transmission and progression
c. Prevents serious complications related to STIs
d. Reduction in the rate of adverse pregnancies in women with STIs

Challenges and opportunities for the control of STIs

a. Ignorance and lack of information that perpetuate misconceptions and associated stigmatization
b. The asymptomatic nature of most STIs
c. Lack of screening programs or rapid, inexpensive diagnostic tests
d. Stigmatization, prejudice and a lack of appreciation of the disease burden of STIs at the policy level
e. Complex nature of efforts to integrate care for STIs into reproductive health with the involvement of the private sector
f. **Opportunities:** For example, offering STIs screening, treatment and family planning services to all vulnerable population groups
h. **Missed opportunities:** For example, not all VCT sites have trained personnel for STIs case management.

Operational elements of global strategy for prevention and control of STIs

a. Technical component

i. Core activities for the control of STIs include focus on:
   (1) Adolescent health
   (2) Asymptomatic infection in women
   (3) Outreach to high risk populations with poor access to health services
ii. Provision of early and effective STIs treatment
iii. Vaccines against Hepatitis B and human papillomavirus (HPV) (HPV vaccine yet to be globally implemented)
iv. Control of STIs must be included as a crucial element in national strategies for HIV prevention and care

b. Advocacy component

i. Raise awareness of STIs through global and national campaigns
ii. Generate political commitment to address the problem

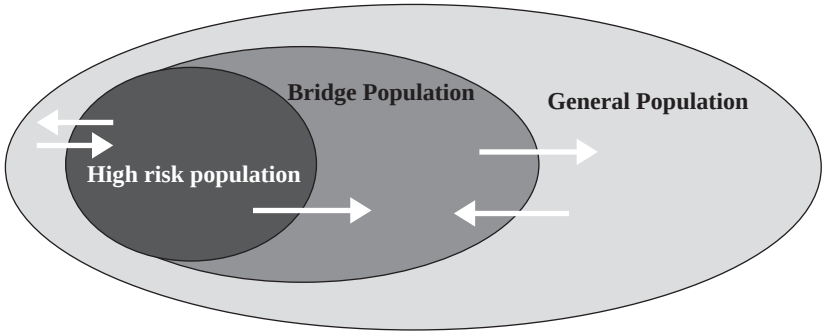
Components of an effective STIs control program

a. Timely and consistent review of the national policies, laws and regulations regarding STIs control
b. Promotion of healthy behaviors, i.e. safer sexual and health seeking behaviors, compliance with therapy and responsible notification and management of STIs in sexual partners
c. Delivery of STIs care and prevention programs to all, including pregnant mothers and their newborns
d. Ensuring a reliable supply of safe, effective, high-quality, affordable medicines and diagnosis.
e. Commodities that strengthen support components, including the adaptation of operational guidelines, trainings, information networks, commodity logistics, laboratory support, surveillance and research

STIs control and prevention in context of the national epidemic and rationale for the targeted approach

a. In a concentrated HIV epidemic, high-risk groups are vulnerable to STI while STI prevalence in the general population is low. Concentrating on the general population with a blanket approach for awareness and control will not be cost-effective.
b. Effective screening and management of STIs in vulnerable populations mitigates transmission to the general population. Vulnerable populations include:
   i. Sexually active teenage girls and boys
   ii. Sex workers (female, male and transgender)
   iii. Clients of sex workers
      • Transport workers
      • Migrant laborers visiting sex workers at their destination sites
      • Other groups who visit sex workers
   iv. Men and women with multiple sex partners
   v. Men who have sex with men
   vi. Transgender and transsexual people
   vii. Injecting drug users
c. Effective STIs management programs targeted towards bridge groups and advocacy for general awareness of STIs and prevention to the general population will reduce transmission (Figure below)

STIs transmission dynamics at the population level



This illustration of population dynamics demonstrates that if diseases are effectively managed among core population groups and if screening, treatment and awareness facilities are provided to the bridge population, then STIs control in the general population can be achieved. This targeted approach which focuses on core and bridge groups has been a successful model in many countries

1.4 Relationship between STIs and HIV

Introduction:
Both ulcerative and non-ulcerative STIs have been found to enhance HIV transmission. It appears that HIV alters the clinical features of STIs, resulting in bizarre clinical presentations and making them difficult to diagnose. Some of the STIs then do not respond to normal doses of the regular drug which may cause more frequent drug resistance and thus prolong the duration of infection.

High STI rates are found in people engaging in risky behavioral practices which can then facilitate HIV transmission. To reduce the risk of contracting HIV or STI, a number of challenges need to be met. Some of these include:

- promoting safer behavioral practices, particularly among "high-risk" groups
- educating the general population about STIs and HIV
- preventing the further spread of STIs by successfully treating curable infections

On average most women will not have multiple sexual partners and thus, HIV infection does not spread extensively to those less at risk unless it is highly endemic in a particular area.

Objectives:
By the end of this session, the participants will be able to:

a. Explain epidemiological relationship between STIs and HIV
b. Describe interactions between HIV and ulcerative vs. non-ulcerative STIs
c. Explain the effects of HIV on the clinical features of STIs
d. Describe effectiveness of STIs management to reduce the transmission of HIV

Method: Interactive lecture
Materials: LCD projector, previously prepared PowerPoint™ slides, Laptop computer
Time: 45 minutes

Instruction to the facilitator:
The facilitator introduces the topic and objectives; interacts briefly with the participants covering different aspects of STI and HIV, including the relationship between STI and HIV, their transmission and alteration of their clinical features. He/she then presents text slides stressing the relationship between STI and HIV infection.

Resource materials for the facilitator:

Introduction
Since HIV infection is one form of STIs, both feature common modes of transmission mainly through sexual contact therefore co-infection is more likely. Both STIs and HIV can impact each other by increasing susceptibility and infectivity.

Impact of STIs on HIV

Both ulcerative and non-ulcerative STIs have been found to facilitate HIV transmission either by increasing HIV susceptibility, HIV infectiousness or both. Early and correct treatment of STIs along with the effective prevention program greatly reduces the risk of sexual transmission of HIV.

- People with STI have 3-10 times greater risk of being infected with HIV
- In a single sex act, the STI can increase HIV risk from 1:1,000 to more than 1:10
- In many countries, STI are a major 'driving force' of the HIV epidemic

High STIs rates are seen in people with behavioral risks, which could also greatly facilitate HIV transmission. Risk reduction includes meeting the challenge of curbing sexual risk-taking behavior, preventing, or successfully treating curable infections in time.

Successful STIs management program has been found to be effective for the prevention and control of HIV transmission but the program needs high-level commitment on raising awareness in the general population and intervention targeting high-risk populations (sex workers, their clients, MSM and injecting drug users).

STI increases infectivity of HIV

HIV is found in the genital fluid of both HIV infected males and females and also from the exudates of genital ulcers. The shedding of HIV in genital fluids is increased by STI-related inflammatory responses and exudates from lesions, making men and women who are STI-infected and HIV-positive, more infective. Studies have shown that, treating STI reduces both infectivity and the amount of HIV in the ejaculate.

Impacts of HIV on STIs

HIV lowers the immune status and thereby increases the susceptibility to STI. It also alters the natural history of some STIs resulting in:

a. bizarre presentation
b. difficulty in making diagnosis
c. abnormal serological tests results
d. low response to the common drug in their normal doses therefore requiring prolonged treatment duration
e. increasing drug resistance and drug interactions.

Some studies cited below provide evidence regarding how effective STIs management reduces the incidence of new HIV infections:

1) The presence of an untreated inflammatory or ulcerative STIs significantly increases the risk of HIV transmission and acquisition during unprotected sex between an HIV positive and HIVnegative individual.
2) The cofactor effect of STI on HIV transmission seems to be higher with ulcerative STIs.
   a. Recent evidence suggests that genital herpes (HSV), the leading cause of genital ulcer, may be responsible for fueling a larger proportion of new HIV infections.
   b. A study in Mwanza, Tanzania showed that 74% of HIV infections in men and 22% in women could be attributed to HSV-2.
   c. Suppressive treatment of HSV-2 reduces genital shedding of HIV in women.

3) Prevention and control of STIs greatly reduces the risk of sexual HIV transmission, particularly among high risk populations especially in the early stages of HIV epidemics.
4) Services providing care and treatment are one of the key entry points for HIV prevention.
5) Patients seeking treatment for STIs are key target populations for prevention, counseling, voluntary and confidential testing for HIV. These patients may then also be in need of treatment for HIV.
6) Patients attending health clinics for STIs care may have primary HIV infection at the same time. When this happens, patients generally have a high viral load.
7) A study conducted in Malawi showed that HIV shedding in semen can increase up to six-fold in men with gonococcal urethritis.
8) A recent study in the United States was conducted among 52 HIV infected men with primary or secondary syphilis; 58% of which were receiving antiretroviral therapy. The study showed that syphilis is associated with significant increases in HIV viral load and significant decreases in the CD4+ cell count.
9) Effective prevention messages and treatment for STIs in addition to condom promotion in such populations could have a substantial impact on HIV transmission.
10) Treatment for STIs could reduce sexual transmission of HIV in a highly cost-effective manner; improved syndromic management of STIs reduced HIV incidence by 38% in a randomized community intervention trial in Mwanza although other similar studies (carried out in Rakai, Masaka and elsewhere) have failed to replicate this result.

Module 2

Facts on HIV

2.1 Introduction to HIV

***Introduction*:**
HIV lowers the body's "immune system," by infecting specific CD4 white blood cells. Over time, as CD4 cell numbers decrease, the immune system is unable to fight off infections, and the person may develop opportunistic infections (OI) or cancers, which then defines the person as having "AIDS". Some of the OIs include *Pneumocystis jiroveci* pneumonia infections, tuberculosis, esophageal candidiasis, disseminated *Mycobacterium avium intracellulare* infection. Cancers develop as a result of the loss of cancer surveillance cells; Kaposi's sarcoma (in a young patient less than 60 years) is a type of cancer developing from endothelial cells which are frequently seen in patients infected by HIV.

However, with Antiretroviral Therapy (ART) and early management of OIs, quality of life can be improved along with reduction in the incidence of OIs.

Objectives:
By the end of the session, the participants will be able to:

a. Differentiate between HIV and AIDS
b. Explain HIV epidemiology, global and national
c. List the routes of transmission, natural history and course of HIV infection
d. Describe the WHO clinical staging of HIV and AIDS in adolescents and adult
e. List the different strategies for the prevention of HIV
f. List the facilities available for testing and counseling, prevention of mother to child transmission (PMTCT), HIV care support and treatment including ART

Method: Interactive lecture
Materials: Paper, Pencils, LCD projector, Laptop computer, previously prepared PowerPoint™ presentation
Time: 60 minutes

Instruction to the facilitator:
The facilitator introduces the topic and presents the text slides summarizing the key points on HIV and AIDS.
(For information regarding sites for ARV, PMTCT and VCT see **annex 2**)

Resource materials for the facilitator:

Definitions:HIV, HIV infection, and AIDS:
HIV: stands for ***human immunodeficiency virus***, a virus that causes AIDS. Two main types of HIV infect humans: HIV-1 and HIV-2. Worldwide, HIV-1 is by far the commonest cause of AIDS. HIV-2, which differs in a number of its regulatory genes and is found predominantly in West Africa, apparently causes immune deficiency and AIDS more slowly than HIV-1, and is less infectious with lower rates of either sexual or mother-to-child transmission

HIV infection: is diagnosed by laboratory tests. An infected person may have no signs of illness but can still infect others.

AIDS: is an acronym for ***"acquired immune deficiency syndrome"*** and refers to the most advanced stage of HIV infection. Most people who are HIV-infected will develop AIDS after a variable period of time, usually 10 to 15 years. AIDS refers to the series of illnesses and OIs that develop in an immuno-compromised individual after a long period of HIV infection.

Epidemiology of HIV

Epidemiology of HIV and AIDS

The global estimate (2009 WHO/UNAIDS) for HIV infected persons is 33.3 million of which 30.8 million are adult, 2.5 million are children and 15.9 million are women. In 2009 alone a total of 2.6 million HIV infected people were diagnosed and 1.8 million deaths occurred.

Nepal is considered as a country with a concentrated epidemic of HIV. This means that the prevalence of HIV in general population is less than one percent more than five percent in specific risk groups. Prevalence of HIV in general in adults 15-49 years is 0.39% (2009 national estimate). The prevalence of HIV in specific groups called MARPs is identified through IBBS. According to recent IBBS (2009), 2.3% of FSWs in 22 Terai district (between Jhapa in the Eastern district and Kanchanpur in the Far Western region) were found to be HIV positive. Among IDU, the HIV prevalence in Kathmandu was 20.7% compared to only 3.4% in the Pokhara Valley. Among MSM, 3.8% were found to be HIV positive.

According to the NCASC, a total of 17,556 HIV positive cases have been detected till March 13, 2011. The total number of patients enrolled in ART was 4,509 as of July 2010.

Note: The data should be updated during the training

Routes of HIV transmission:

The most common route of HIV transmission is through sexual contact (especially heterosexual intercourse).

- Unprotected penetrative (vaginal or anal) or oral sex with infected person
- Transfusion of infected blood and blood products and organ transplantation
- By use of contaminated syringes, needle or other sharp instruments
- From an HIV positive mother to child during pregnancy, childbirth and breastfeeding

HIV is NOT transmitted by:

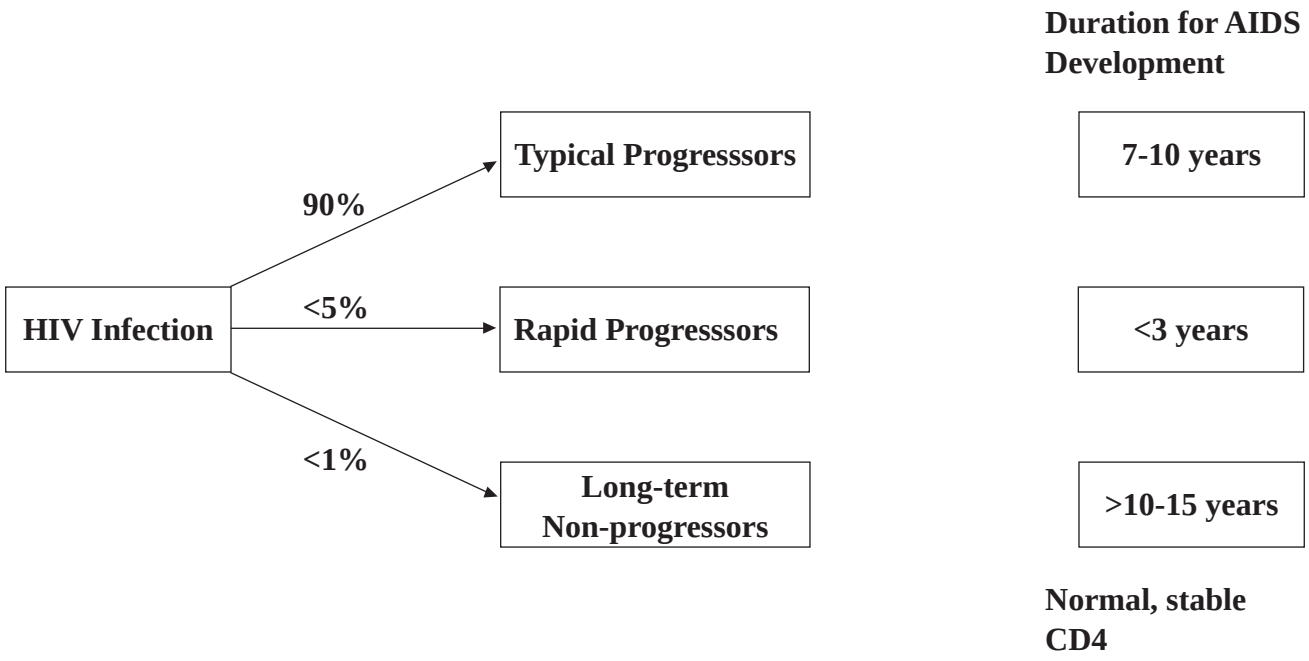
- Coughing or sneezing
- Insect bites
- Touching, hugging or shaking hands
- Kissing
- Sharing public baths/pools/public toilets
- Working or going to school with a person infected with HIVWater or food
- Sharing cups, glasses, plates, or other utensils
- Mosquito bites

Natural history of HIV in human body

There are three types of progression in HIV infections differentiated on the basis of how fast infection develops into AIDS. Rapid progressors are the less than five percent of HIV infected people who progress into AIDS in less than three years. Less than one percent are long term non- progressors who remain stable for many years with high CD4 counts and low viral loads. The remaining are typical progressors, who follow the usual course of infection.

In the first 24 hours after exposure, viruses are captured by the dendritic cells (phagocyte) in mucous membranes and skin. Within five days of exposure, infected cells travel to the lymph nodes and eventually to the blood where rapid viral replication takes place.

Pattern of HIV Disease Progression



Primary HIV infection

Within 2-4 weeks of exposure an intense viral replication takes place in the body before the onset of an immune response. It manifests in the form of acute illness lasting for 1-2 weeks and occurs in up to 93% of infected individuals. The immune response resolves as the body develops antibodies against virus. This stage is known as primary HIV infection or the sero-conversion illness. It includes flu-like symptoms including fever, muscle pain, lethargy, sore throat, headache, mouth ulcers and diarrhea. This stage is characterized by a profound reduction in CD4 lymphocyte count and very high viral load. During this stage, a person is very infective, though positive status can not be detected by using conventional HIV antibody test. The primary HIV infection then resolves itself.

Stage of disease progression

These three stages are designated according to the CD4 count.

Early immune depletion

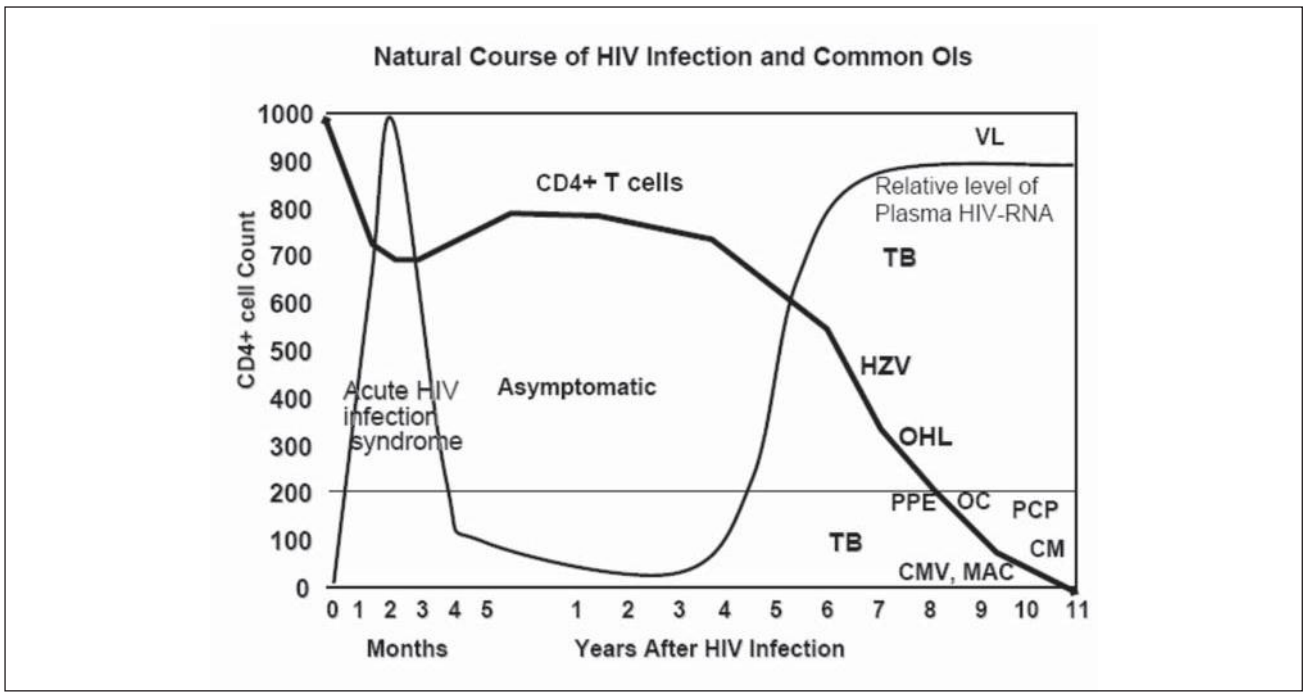
During this stage, the level of the virus in the blood is very low and the CD4 count is more than 500/ microliter. HIV replication takes place mostly within the lymph nodes. This stage can last for five years or more and is characterized by persistent generalized lymphadenopathy without other symptoms. During this stage an infected person is HIV antibody positive and remains asymptomatic.

Intermediate immune depletion

Immune deficiency gradually increases. The CD4 counts range from 500 to 200 per microliter. As the CD4 count drops more infections occurs but are usually less severe- particularly in skin and in the mucosa.

Advanced immune depletion

This is the advanced stage of HIV infection in which the CD4 count goes below 200 per microliter and defined as Acute Immunodeficiency Syndrome (AIDS)



WHO clinical staging of HIV and AIDS for adults and adolescents (2006)

Please refer to **annex 13** for WHO Clinical Staging of HIV and AIDS for adults and adolescents

Different strategies to prevent HIV infection

a. Sexual contact:

- Promote abstinence or being faithful to one uninfected partner only.
- Provide instruction on the consistent and correct use of barrier methods.
- Prevent, identify, and provide early treatment for STIs.
- Provide access to HIV testing and counseling.

Note: Condoms provide protection from HIV transmission as well as other STIs when used correctly and consistently.

b. Blood-to-blood transmission:

- Screen all blood and blood products and organs for HIV before transfusion.
- Follow universal precautions that include:
  - Use of protective measures
  - Safe use and disposal of sharps
  - Sterilization of reusable equipment
  - Safe disposal of contaminated waste products

c. Drug use:

- Raise awareness of the risks of HIV transmission from contaminated needles and syringes during injecting drug use.
- Provide referral for treatment of drug dependence.
- Provide referral for harm reduction program (Needle syringe exchange program (NSP), oral substitution therapy (OST)).

Note: Drug use in any form may increase the risk of HIV infection by limiting judgment and facilitating engagement in risky behaviors.

d. Perinatal transmission from HIV-positive mothers and PMTCT:

Mother-to-child transmission of HIV can occur during pregnancy, delivery or breastfeeding, and can occur in 30-45% of cases. Strategies developed to prevent the transmission of HIV infection from a mother to her child are called PMTCT. The following are common strategies to prevent HIV transmission from an infected mother to her child.

- Provide ARV treatment to the mother when indicated and available.
- Provide ARV prophylaxis during labor or delivery.
- Provide ARV prophylaxis to the infant.
- Follow safer delivery practices including caesarian sections
- Provide linkages to treatment, care, and social support for mothers and families with HIV infection.
- Provide infant-feeding counseling.

ART

- Treatment given to HIV positive people under the recommended criteria is called “antiretroviral therapy”
- In 1986, the first antiretroviral drug Zidovudine (ZDV) was introduced. Subsequently, over the next few years; other antiretroviral drugs (NsRTIs, NNRTIs and PIs) were also introduced.
- At present, three or more ARV drugs have been recommended worldwide for the treatment of HIV. After the use of this combination therapy, the disease has been transformed into what is called “a chronic condition.”
- The delivery of effective care and antiretroviral treatment for people living with HIV and AIDS in poor countries lacking resources, is deemed an urgent priority, and should also focus on HIV prevention programs.

Goals of ART

- Maximum and durable suppression of viral load.
- Restoration and/or preservation of immunologic function.
- Reduction of HIV-related morbidity and mortality.
- Improvement in quality of life for those infected by HIV
- PMTCT.
- Post exposure prophylaxis (PEP).

Preconditions required for commencing antiretroviral therapy:

The following specific facilities and services are desirable before starting ART*

- Availability of HIV voluntary counseling and testing along with follow-up counseling services.
- Medical services capable of managing common HIV-related and OIs and STIs.
- Routine laboratory services, preferably with access to CD4+ lymphocyte count and PCR facility for viral load count. Lack of viral load testing and even CD4 testing should not preclude initiation of ART.
- Access to ARV drugs and other drugs to treat OIs and other associated diseases.

It is recommended that medical doctors, trained in the clinical management of HIV and AIDS initiate and supervise ART.

*** Refer to current national guideline for updated indications for starting ART**

ARV Drugs:

Approved ARVs are grouped into three categories:

1. a. Nucleoside analogue reverse transcriptase inhibitors (NsRTI).
   b. Nucleotide analogue reverse transcriptase inhibitors (NtRTI).
2. Non-nucleoside analogue reverse transcriptase inhibitors (NNRTIs)
3. Protease inhibitors (PIs)
4. New class of drugs: Fusion inhibitors (FI), CCR5 Antagonists, Integrase Strand Transfer Inhibitors (INST)

Important Notes:

- A high degree of adherence to ARV drugs is necessary for optimal virological suppression.
- Adherence should be assured before initiation of ART. The patient should understand fully why the therapy requires high levels of adherence and its relationship to drug resistance..

The details of different sites for VCT, ARV and PMTCT is given in **annex 2**.

Module 3

Common STIs

3.1 Syphilis

Introduction:
Syphilis is an infectious disease which in most cases is transmitted sexually and caused an organism called *Treponema pallidum*. The systemic nature of the disease, in which there are florid clinical manifestations interspersed with periods of asymptomatic latency, is also characterized by transmission to offspring and chronic late disease (late benign, neurosyphilis, cardiovascular syphilis) in 25% of those who are untreated. Infection with syphilis imparts a greater risk for acquiring HIV infection, at least in part because the genital ulceration provides an easier entry of the virus into systemic circulation.

Objectives:
By the end of the session, the participants will be able to:

a. Identify the signs and symptoms of syphilis
b. Identify different stages of syphilis
c. Explain consequences of syphilis and provide its treatment
d. Explain significance of laboratory testing
e. Describe inter-relationship between syphilis and HIV

Methods: Mini lecture, question and answer, discussion, clinical slide presentation
Materials: Previously prepared PowerPoint™ slides, LCD projector, Laptop, National Guidelines on Case Management of STIs
Time: 60 minutes

Instruction to the facilitator:
The facilitator introduces the topic and presents a patient case study with syphilis and initiates discussions (case studies given in **annex 5**). After an active brain-storming session with the participants, facilitator presents text slides encouraging questions and answers throughout.

Resource materials for the facilitator:

Types of syphilis:

1. Congenital
   a. Early (Less than two yrs duration)
   b. Late (More than two yrs duration)
2. Acquired
   a. Early (Less than two yrs duration)
      - Primary syphilis
      - Secondary syphilis
      - Early latent syphilis
   b. Late (More than two yrs duration)
      - Late latent syphilis
      - Tertiary syphilis

Primary syphilis:
Primary syphilis is characterized by an initial lesion called a primary chancre, which appears at the site of contact following an incubation period of about three weeks (9 to 90 days).

Classical chancre:
Single, typically round, non-tender, clean and indurated with a slightly elevated and well-demarcated border. Usually bilateral, non-tender inguinal lymph node develops one to two weeks after the primary chancre. Untreated chancre heals within three to eight weeks and may pass into secondary syphilis.

Secondary syphilis:
Starts from six to eight weeks of infection

Common signs are:
- Usually non-itchy generalized skin rashes including palms and soles
- Generalized lymphadenopathy
- Mucous patches
- Condylomata lata
- Patchy hair loss (moth-eaten alopecia)
- Diffuse hair loss (is more common than patchy)

Latent syphilis:
a. Early latent syphilis
This is defined as syphilis is confirmed by a positive serological test without clinical signs (duration less than two years after contracting infection).

b. Late latent syphilis
Duration of infection is greater than two years. This is the arbitrary cut-off period for being infectious to others. It is not infectious, except in the case of pregnant women.

c. Latent syphilis of unknown duration.
Many patients will not be able to give the clinician sufficient information to determine the onset of an infection. In these cases (probably representing the majority of patients who are seen in clinics), patients should be treated in the same way as patients with late latent syphilis.

Tertiary syphilis:
- Late benign: syphilitic gumma
- Cardiovascular – the most important cause of mortality
- Neurosyphilis
- Symptomatic neurosyphilis
- Asymptomatic neurosyphilis

Congenital syphilis:
It can also be of two types:
- Early congenital syphilis
- Late congenital syphilis

Congenital syphilis is characterized by:
- Depression of nasal bridge
- Hutchinson's incisors (teeth)

- Perforation of hard palate
- Exfoliation of skin, palm/sole

Consequences of untreated syphilis during pregnancy:

- Stillbirth,
- Premature delivery
- Spontaneous abortion (40%)
- Congenital syphilis through vertical transmission

Diagnosis of syphilis:

- Clinical (from classical signs and symptoms)
- Serological

Non-treponemal tests – VDRL, RPR
Treponemal tests – TPHA, TPPA

Management of syphilis:

For primary, secondary and early latent

- Benzathine penicillin, 1.2 mega units IM in each buttock (total 2.4 mega units) as a single dose, Or
- Aqueous procaine penicillin 1 mega (10 lakh) units IM daily for 10 days.

If allergic to penicillin

- Doxycycline 100 mg bid for 15 days or
- Tetracycline 500 qid for 15 days

Management of syphilis in pregnancy

- As above except in penicillin allergic patients

For penicillin allergic pregnant patients

- Early syphilis (primary, secondary or latent < two years duration)
- Erythromycin, 500 mg, four times daily for 15 days
- Late syphilis (late latent > than two years duration or of indeterminate duration, late benign syphilis, cardiovascular syphilis or neurosyphilis)
- Erythromycin, 500 mg, four times daily for 30 days

The effectiveness of erythromycin in all stages of syphilis is questionable

All infants born to mothers who are sero-reactive for syphilis should be treated with a single intramuscular injection of *benzathine penicillin,50,000 IU/kg* whether or not mother has been treated during pregnancy.

Follow-up serological screening:

Patients with early syphilis and congenital syphilis should have quantitative non-treponemal tests done at three, six, and 12 month intervals after the treatment.

Prognostic indicator:
If a patient is adequately treated for primary and secondary syphilis, the titer of non-treponemal test should decline four-fold over a period of time. In patients with latent syphilis the test may remain positive for an entire lifetime. If the above-mentioned decline in titer is not seen, treatment failure or re-infection must be suspected.

Interpretation of positive VDRL or RPR:
RPR/VDRL becomes positive within 4-6 weeks of infection. The titer rises and remains so in its early stage if not treated. If proper treatment is administered on time (primary or secondary), the titer gradually falls and often becomes negative within a year or so. If treated later (late latent and tertiary syphilis) the lower titer may remain positive for a few years. After treatment, follow-ups need to be conducted at an interval of three, six or 12 months until the titer becomes negative. If the titer rises fourfold (e.g., from 1:4 to 1:16), re-infection should be considered and treated accordingly. In some patients, however, fixed lower titer may remain positive (called serofast) and does not generally need further treatment. This can cause problems for contract workers going to countries that demand negative tests for syphilis.

Syphilis in an HIV-infected person:
- All patients with syphilis should be tested for HIV infection
- Syphilis can behave differently in HIV-positive people
- Clinical manifestation of syphilis may be altered with atypical presentation such as a painless chancre which becomes painful
- Syphilis increases HIV viral load and decreases the CD4 cell count in HIV-infected persons. Therefore, HIV infectivity may be higher and syphilis infectivity may also be higher.
- The duration of the disease may be prolonged
- Co-infection of more than one STI may exist
- Serological test is altered, therefore may be less reliable
- It may show resistance to treatment. Therefore, the treatment duration may be prolonged and treatment failure is common
- Frequent relapses may occur
- In HIV-infected people neurological symptoms are more common in secondary syphilis
- Progression to tertiary syphilis is quicker

Management of syphilis in an HIV-infected person:
Treatment of syphilis in an HIV-infected person is the same as that of an HIV-uninfected person. However, some authorities advise examining the CSF and providing more intensive treatment regardless of the clinical stage of syphilis. More careful follow-up is necessary to ensure adequate treatment and to detect treatment failure.

3.2 Common STIs (Other than Syphilis)

Introduction:

Although around 50 diseases are identified as sexually transmitted, only a few are discussed here due to their harmful effects on human health. These include some bacteria, viruses and protozoa. There are some other infections which although mentioned together with these STIs, are not strictly STIs but are endogenous reproductive tract infections (RTIs) e.g., candidiasis and bacterial vaginosis.

Objectives:

By the end of the session, the participants will be able to:

a. Name the common STIs
b. Explain the difference between STIs and RTIs
c. Name the causative agents, common clinical features, diagnosis and management of common STIs

Method: Interactive lectures

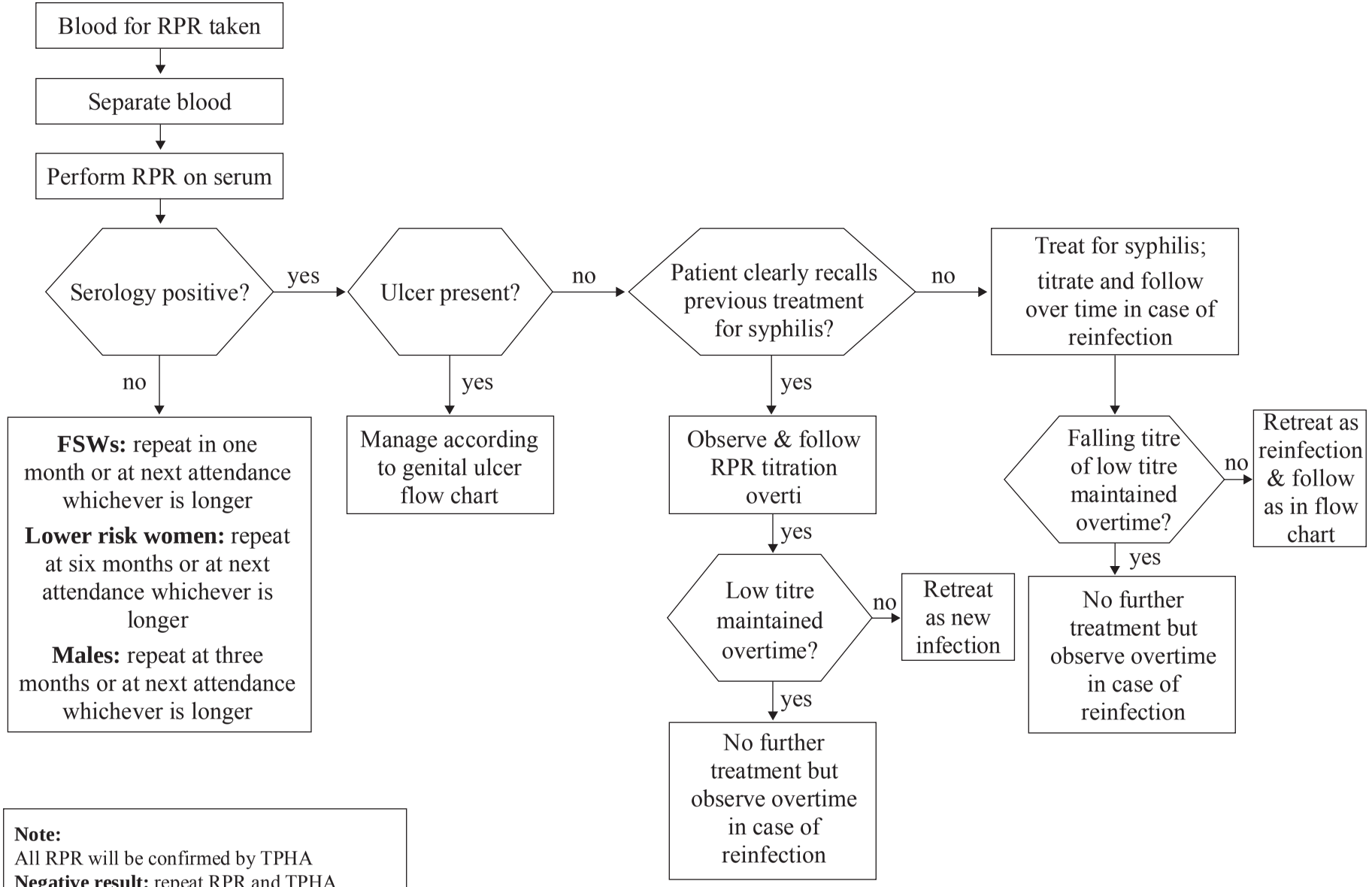
Materials: LCD projector, previously prepared PowerPoint™, Laptop computer, National Guidelines on Case Management of STIs

Time: 120 minutes

Instruction to the facilitator:

The facilitator should first review with the participants their knowledge on the definition of STIs, causative agents, main clinical features, diagnosis, and drugs used to treat one of the common bacterial, fungal or viral STIs. Then the facilitator should give a short lecture and show photos of the common STIs.

Management of RPR Test Positive



Note:
All RPR will be confirmed by TPHA
Negative result: repeat RPR and TPHA
Confirmed negative TPHA indicates false RPR

Resource materials for the facilitator:

Common STIs

STIs Definition:

Sexually Transmitted Infections are a group of infections that are primarily transmitted through sexual contact.

Bacterial	Viral	Protozoal	Parasites
- Syphilis	- Genital warts	- Trichomoniasis	- Pubic lice
- Gonorrhea	- Genital herpes		- Scabies
- Chlamydial infection	- Molluscum contagiosum		
- Chancroid	- Hepatitis B		
- Donovanosis			

Endogenous RTIs:

Some RTIs result from an overgrowth of organisms, normally present in the vagina (i.e. endogenous) and may produce some symptoms or may lead to some complications. Examples are:

- Candidiasis (fungal yeast infection)
- Bacterial vaginosis (caused by group of endogenous bacteria)

Note:

There are different types of **viral hepatitis** that are transmitted sexually and may remain either asymptomatic or manifest with characteristic features of hepatitis. While hepatitis does not produce any symptoms or signs in the genitalia, after several years some of those who have been infected may face various complications, including hepatic failure or even hepatic carcinoma. Although there is no definitive cure for this infection, a general STI prevention program can significantly help to reduce the spread of sexually transmitted hepatitis infections.

3.2.1 Gonorrhea

Introduction:
Aside from being one of the more common STIs, Gonorrhea needs to be treated in a timely manner. It is caused by *Neisseria gonorrhoeae* and diagnosed by demonstrating Gram-negative intracellular diplococci within Polymorphonuclear Leukocytes (PMNLs) (called "gonococcus") on microscopic examination on swabs of genital secretions. It is characterized clinically in males through urethral discharge and dysuria while in females it is initially asymptomatic but later manifests with complications.

Clinical features:
Male: Almost 90 percent are symptomatic and experience:

- burning micturition
- purulent discharge from urethra
- a painful scrotal swelling (in the later stages)

Female: 80 to 90 percent are asymptomatic in the early stage but can still transmit the infection to their sexual partners. The symptoms of gonococcal infection in women are vaginitis and /or cervicitis.

Laboratory diagnosis:
Gram staining of urethral swabs from males or endocervical swabs from females. Smears show many PMNLs or pus cells with intracellular gram-negative diplococci of typical morphology.

Treatment of gonorrhea, including in pregnancy:

- Cefixime 400 mg PO single dose
  Or
- Ceftriaxone 250 mg IM single dose
  Or
- Spectinomycin 2.0 g IM single dose (In case of resistance to cephalosporins)

Follow-up:
Follow-up after one week (or in next visit)

Management of partners, and counseling:
Sexual abstinence is strongly advised for at least a week after treatment has been completed.

It is recommended to trace contact partners and administer treatment if necessary.

3.2.2 Chancroid

Definition:
Chancroid is an ulcerative STI caused by a Gram-negative bacillus called *Haemophilus ducreyi*.

Clinical manifestations:

- Chancroid symptoms include non-indurated or soft, painful and friable genital ulcers with purulent base (usually multiple), with or without tender unilateral inguinal lymphadenopathy, which becomes fluctuant (bubo) in both males and females.

- Fever or other systemic symptoms are often present
- History of recent sexual exposure

Treatment:

- Azithromycin 1.0 g PO, single dose
  Or
- Ciprofloxacin 500 mg PO bid for three days
  Or
- Ceftriaxone 250 mg IM single dose
  Or
- Erythromycin 500 mg PO qid for seven days

Note: Some cases may require therapeutic or diagnostic needle aspiration of an infected fluctuant lymph node (bubo).

Management of partners and counseling:

- Advise sexual abstinence until treatment is complete. Lesions also need to be completely healed.
- Examine all partners contacted within one month prior to onset of the illness. Treat partners contacted within 10 days preceding the onset of symptoms.
- Strongly encourage partners for HIV testing.

Follow-up:
Re-examine the patient on a weekly basis until completely healed, repeat syphilis serology and HIV serology (if HIV-negative or not tested at time of diagnosis) within two to three months.

3.2.3 Chlamydial Infections

Introduction:

In developing countries, one of the most common infections of the genitalia is Chlamydial, which often coexists/appears with other STIs, especially gonococcal. Depending on the serovar of *Chlamydia trachomatis* contracted, different symptoms of genital infection will develop. Serovar A-C causes trachoma, while serovar D-K causes non-gonococcal urethritis and serovar L1, L2, L3 causes lymphogranuloma venereum (LGV). Most genital chlamydial infections produce signs and symptoms similar to mild Gonorrhea but less common serovars can cause the much less common genital ulcer disease known as LGV.

Clinical features:

Non-gonococcal Urethritis:

- Dysuria with muco-purulent urethral discharge in males

Cervicitis:

May be asymptomatic or associated with lower abdominal pain and/or vaginal discharge (originating from the cervix).

STIs caused by Chlamydia trachomatis:

Three different STIs are caused by C. *trachomatis*

1. Non-gonococcal urethritis in males or non-gonococcal cervicitis in females
2. LGV
3. Neonatal conjunctivitis (from mother to child)

Diagnosis:

Mostly done on clinical grounds after excluding gonococcal infection. Urethral or endo-cervical smear showing PMNL or pus cells >5 and 25 respectively in the presence or absence of gram negative intracellular diplococci (GNID), should be presumptively diagnosed and treated for *Chlamydia trachomatis*.

Treatment for Chlamydia:

- Azithromycin 1.0 g PO, single dose
  Or
- Doxycycline 100 mg PO bid for seven days
  Or
- Erythromycin 500 mg PO qid for seven days

Treatment for chlamydia in pregnant women:

- Azithromycin 1.0 g PO, single dose
  Or
- Erythromycin 500 mg PO qid for seven days

Management of sex partners and counseling:
Advice sexual abstinence for at least a week, until the completion of accurate treatment, until all symptoms have been resolved, and the patient's sex partner or partners have been treated. Examine, test, and treat all partners exposed within two months prior to diagnosis or the most recent partner, if contact was more than two months before.

Follow-up:
Should be done three to four weeks after initial visit.

3.2.3.1 Lymphogranuloma Venereum (LGV)

Introduction:
LGV is an STI caused by *C. trachomatis* serovars L1, L2, or L3 and characterized by transient primary genital lesion followed by multilocular suppurative regional lymphadenopathy.

Epidemiology:
LGV is endemic in East and West Africa, India, Southeast Asia, South and Central America, and some Caribbean islands. It accounts for 2%-10% of genital ulcer diseases in some areas of Africa and India.

The peak incidence occurs in people 15 to 40 years old, in urban areas, and in individuals of lower socioeconomic status.

Clinical features:
Incubation period: three days to three weeks
The most common clinical manifestation of LGV among heterosexuals is tender inguinal and/or femoral lymphadenopathy which is most commonly unilateral. Women and homosexually active men may have hemorrhagic proctocolitis or inflammatory involvement of perirectal or perianal lymphatic tissues resulting in fistulas and strictures. A self-limited genital ulcer sometimes occurs at the site of inoculation. However, by the time patients seek care, the ulcer usually has disappeared. It is also associated with systemic symptoms like fever.

The most common presenting symptom in heterosexual men is the inguinal bubo syndrome which is characterized by painful inguinal lymphadenopathy beginning 2-6 weeks after exposure.

Complications of untreated infection include anal fistula, perirectal abscess, rectovaginal, rectovesicle and ischiorectal fistula. Rectal stricture is a late complication. Lymphatic obstruction may produce elephantiasis.

Diagnosis:
The diagnosis of LGV is usually made by exclusion of other causes of inguinal lymphadenopathy or genital ulcers. Serological test involving complement fixation titers >1:64 are consistent with the diagnosis of LGV.

Treatment:
Treatment cures infection and prevents ongoing tissue damage, although tissue reaction can result in scarring. Buboes may require aspiration through intact skin or incision and drainage to prevent the formation of inguinal/femoral ulcerations and fistulas. Doxycycline is the preferred treatment.

Recommended Regimen:
- Doxycycline 100 mg orally twice a day for two to three weeks.

Alternative Regimen:
Erythromycin base 500 mg orally four times a day for two to three weeks.

Special considerations:
Pregnancy:
Pregnant and lactating women should be treated with Erythromycin.

HIV Infection:
LGV in HIV infected persons should receive the same drug regimen as those who are HIV-negative. However, prolonged therapy may be required and a delay in the resolution of symptoms may occur.

Follow-up:
Patients should be followed clinically until signs and symptoms have resolved.

Management of sex partners and counseling:
People who have had sexual contact with patients infected by LGV within 30 days before the onset of the patient's symptoms should be examined, tested for urethral or cervical chlamydial infection, and treated accordingly.

3.2.4 Molluscum Contagiosum

Introduction:
Molluscum Contagiosum is a viral infection caused by the *Molluscum Contagiosum* Virus (MCV – a pox virus) and is clinically characterized by pearly white or pink, pinhead to pea -sized papular lesions with a distinctive central depression (umbilication). Although common in childhood through direct skin transmission, it is sexually transmitted in young adults. Lesions are usually seen either on the genitals or peri-genital areas. The condition is harmless and treatment is essentially cosmetic.

Note: Large number of lesions or facial lesions in an adult may be signs of immunodeficiency related to HIV infection.

Clinical features:
The lesions are firm, small (1-5 mm), pearly papules, often umbilicated. Firm white material can be expressed from the lesion.

Treatment:
If only a few lesions are present, unroof them with a sterile needle and express the central core. Disinfect the wound with an agent such as povidone iodine. Cryotherapy with liquid nitrogen is also effective.

Management of sex partners and counseling:
- Abstinence until all lesions resolved and sites healed
- Routine STI and HIV evaluation of partners and counseling

Follow-up:
When recurrences occur

3.2.5 Trichomoniasis

Introduction:
Trichomoniasis is one of the most common STIs found in women. It is caused by a flagellated protozoan called *Trichomonas vaginalis* and is characterized by frothy or muco-purulent profuse and usually malodorous vaginal discharge.

Clinical features:
- Vaginal discharge with dyspareunia, pruritis, and vulvo-vaginal erythema. The discharge is purulent, malodorous and occasionally has bubbles or is overtly foamy. Cervical petechiae also called "strawberry cervix" are sometimes seen.
- Vaginal secretion pH is >5.0

Laboratory test:
Demonstration of motile trichomonads on saline mount (and WBCs on saline mount or Gram stain) of vaginal exudate

Treatment:
- Tinidazole 2g PO, single dose
  Or
- Metronidazole 400 mg three times daily for seven days.

Management of sex partners and counseling:
- Advise sexual abstinence for one week or until symptoms have improved and partner(s) has been treated
- Routine STIs evaluation
- Tinidazole 2 g PO single dose or Metronidazole 400 mg three times daily for seven days.

Follow-up:
- Return if symptoms persist.
- Male and female sexual partners should also be assessed and treated.

Note: Systemic treatment with metronidazole should be delayed until at least 12 hours since last ingestion of alcohol and patients should be advised to avoid alcohol until at least 24 hours following completion of therapy

3.2.6 Vulvo-vaginal Candidiasis

Introduction:
Vulvo-vaginal candidiasis (VVC) is also one of the most common genital symptoms among women of reproductive age and is caused by the yeast *Candida albicans*.

Clinical features:
The most frequent symptom is vulval pruritus or irritation with thick, curdy, white vaginal discharge with or without dyspareunia or external dysuria. Examination may show abnormal vaginal exudate, classically clumped or with adherent, exudative plaques on the vaginal mucosa. Erythema of the vaginal mucosa and vulva may be present.

Laboratory tests:
- Vaginal fluid pH is usually ≤ 4.5
- Fungal elements (budding yeast or pseudomycelia) often present in KOH mount

Treatment:
- Fluconazole 150 mg PO, single dose
  Or
- Clotrimazole PV, 100 mg daily at bed-time for six nights
  Or
- Clotrimazole PV, 200 mg daily at bed-time for three nights

Treatment of pregnant women:
- Clotrimazole 100 mg or other intravaginal imidazole, daily for at least seven days.
- Avoid fluconazole in pregnancy.

Treatment of recurrent VVC ($\geq$ 4 episodes per year):
- Fluconazole 150 mg PO, single dose; repeat in three days
  Or
- Clotrimazole or other intravaginal imidazole tablets for up to 14 days.
- Maintenance therapy may be considered for increased frequency of recurrences.

Management of sex partners and counseling:
Advise sexual abstinence as required for comfort, until symptoms have been completely cured. Examination and treatment of partners is usually unnecessary – since most infections are endogenous and are not sexually acquired, but a topical imidazole cream (e.g., miconazole, clotrimazole) is indicated for male partners with symptomatic penile candidiasis.

Follow-up:
As and when required for recurrent or persistent symptoms.

3.2.7 Bacterial Vaginosis (BV)

Introduction:
BV is a vaginal condition caused by an overgrowth of anaerobic bacteria in the vagina. The symptoms include a vaginal discharge characterized by a grey-white color, homogenous in texture and often with an offensive odor. The bacteria are normally present in the vagina but, in the absence of certain types of vaginal lactobacilli, they can grow in large numbers to cause a discharge. They may be seen as organisms of normal vaginal flora but after invasive procedures or delivery, may cause ascending infection. In this case, the woman is said to have an endogenous RTI. In most of the cases it may not necessarily be sexually transmitted.

Common causative agents:
- Gardnerella vaginalis
- Mobiluncus sp.

Clinical features:
- Abnormal vaginal discharge with a characteristic fishy odor (sometimes spontaneously noticed)
- Vaginal pH is usually more than five, whiff test is positive

Laboratory test:
Microscopy: **"clue cells"** on wet mount

Clue cells are squamous epithelial cells covered with many small cocco bacillary organisms giving granular stippled appearanceThe edge of these cells are not clearly defined because of the large number of bacilli present.

Treatment:
Symptomatic women should be treated with:
- Metronidazole 400 mg PO tid for seven days
  Or
- Tinidazole 2g PO single dose

Management of sex partners and counseling:
Advise sexual abstinence as needed for comfort, until symptoms have been completely cured. Male partners of women with BV need not be routinely evaluated or treated.

3.2.8 Granuloma Inguinale (Donovanosis)

Introduction:
Granuloma inguinale is a chronic progressive, destructive genital ulcerative disease caused by intracellular gram negative bacterium *Klebsiella granulomatis* (formerly known as *Calymmatobacterium granulomatis*)

Epidemiology:
The disease is rare in Nepal but is endemic in certain tropical and developing countries like India, Papua New-Guinea, central Australia, and southern Africa.

Clinical features:
The incubation period is 1-12 weeks.

The disease commonly manifests as a painless, progressive skin nodule that slowly becomes a round, beefy, red, moist, smooth, foul-smelling, ulcerative lesion without regional lymphadenopathy. The lesions are highly vascular ("beefy red appearance") and bleed easily on touch. Over disease progression, these may portray hypertrophic, necrotic, or sclerotic variants.

Diagnosis:
Mostly done clinically. The causative organism is difficult to culture, and diagnosis requires visualization of dark-staining Donovan bodies on tissue crush preparation or biopsy. The lesions may develop secondary bacterial infection or may be co-infected with another sexually transmitted pathogen.

Treatment:
Treatment halts progression of lesions, although prolonged therapy may be required to permit granulation and re-epithelialization of the ulcers. Relapse can occur 6-18 months after apparently effective therapy.

Recommended Regimen:
- Doxycycline 100 mg two times daily
  Or
- Azithromycin 1gm weekly or 500 mg per day
  Or
- Cotrimoxazole DS one tab twice daily

Alternate regimen:
- Chloramphenicol 500mg three times daily
  Or
- Erythromycin 500mg QID four times daily
  Or
- Tetracycline 500 mg four times daily
  Or

Consider hospitalization and adding Gentamycin on the treatment if the patient doesn't respond within a week or is HIV positive (Dose of Gentamycin at 1 mg/kg IV q8h)

Note:
Treatment should be continued until the lesion heals

Special considerations:
Pregnancy:
Pregnant and lactating women should be treated with the Erythromycin regimen, and consideration should be given to the addition of a parenteral aminoglycoside (e.g., Gentamycin). Doxycycline, Tetracycline and Cotrimoxazole are contraindicated in pregnant women.

HIV Infection:
People with granuloma inguinale and HIV co-infection should receive the same drug regimen as those that are HIV negative. However, consideration should be given to the addition of a parenteral aminoglycoside (e.g., Gentamycin).

Management of sex partners and counseling:
Persons who have had sexual contact with a patient who has granuloma inguinale within 60 days before onset of the patient's symptoms should be examined and offered therapy. However, the value of empiric therapy in the absence of clinical signs and symptoms has not been established.

Follow-up:
Patients should be checked on a weekly basis until signs and symptoms have resolved.

3.2.9 Hepatitis

Introduction:
Hepatitis is caused by different types of Hepatitis Viruses (i.e. Hepatitis A through E). Some infections caused by Hepatitis B and C are also transmitted sexually, but apparently do not produce any genital lesions. For Hepatitis C, the sexual transmission rate is very low (< 2 percent per year).

Epidemiology:
Hepatitis B and C are endemic worldwide with very high carriage rates in South and Southeast Asia, especially in the high risk groups like IDUs, MSM and FSWs.

Mode of transmission:
Transmitted through shared needles, sexual contact, from a mother to her unborn child, and transfusion of blood or blood products.

Clinical features:
Incubation period of both types ranges from six weeks to six months. Highest concentration of HBV is found in the human blood. Lower concentration of HBV is detected in other body fluids (semen, vaginal secretions and wound exudates). These may manifest as acute icteric hepatitis or may remain as an asymptomatic carrier with chronic infection. However after many years of infection some of these may manifest as features of chronic liver disease.

Laboratory tests:
Screening antibody tests for Hepatitis B (HBsAg) and C (ELISA)

Prevention:
A Hepatitis B vaccination is recommended for those at risk. For the general public, safer behavioral practices are advised.

Treatment:
The treatment of HBV is quite costly and is not easily accessible. Special consultation required with a specialist before the treatment begins. Alpha interferon, Lamivudine and Famciclovir are recommended for Hepatitis B. Hepatitis C is treated with Pegylated interferon and Ribavirin in resource abundant countries, with varying success rates.

Education and counseling on safer sexual behavior and on the transmission of hepatitis is important. Partner notification, screening and vaccination for Hepatitis B (if screening test is negative) are advised.

3.3 Genital Herpes

Introduction:
Genital herpes is one of the most common STIs caused by *Herpes Simplex* Virus type II (HSV-2) and occasionally by type I (HSV-1). It is characterized clinically by a mild burning pain or itching followed by the appearance of grouped vesicles in and around the genitalia.

Objectives:
By the end of the session, the participants will be able to:

a. Make a clinical diagnosis of genital herpes by identifying its common clinical features.
b. Distinguish between primary and secondary infections.
c. Treat primary and recurrent types of genital herpes.

Method: Interactive lecture
Materials: LCD projector, laptop computer, PowerPoint™ slides, National Guidelines on Case Management of STI
Time: 30 minutes

Instruction to the facilitator:
The facilitator discusses the ulcerative genital diseases and briefly shares the names of some common causative agents of GUD. He/she then talks with the participants regarding the clinical manifestation and treatment of Herpes and then presents the text slides and demonstrates some clinical pictures of genital herpes.

Resource materials for the facilitator:

Genital Herpes
Introduction:
Genital herpes is one of the most prevalent STIs in the world. Most cases are due to herpes simplex virus type 2 (HSV-2) and few are due to type 1 virus (HSV-1). Most cases of genital herpes are acquired from sex partners with sub-clinical infection. Genital herpes increases the risk of sexual acquisition of HIV.

Primary genital herpes:
The first clinically recognized episode of genital herpes

Recurrent genital herpes:
Patient experiencing subsequent episodes of genital herpes.

Clinical manifestations:
Grouped vesicles or vesiculo-pustules or tender ulcerative lesions of the genitals or surrounding areas are reliable diagnosis of genital herpes, but most cases lack typical appearances and many remain asymptomatic or feature only mild or atypical symptoms.

Laboratory diagnosis:

- Usually not possible to perform at the field level.
- Serological test for syphilis should be carried out to exclude syphilis.

Treatment:

Primary genital herpes:

- Systemic antiviral therapy is indicated for all patients with an initial diagnosis of genital herpes, unless healing is well underway.

The treatment for genital herpes should start antiviral therapy as early as possible after the onset of symptoms. It may be effective for initial herpes for as long as new lesions continue to appear or until lesion pain subsides.

1st clinical episode

- Acyclovir 400 mg tab oral three times a day for 7-10 days

Recurrence

- Acyclovir 400 mg oral three times a day for five days

Suppressive therapy

- Acyclovir 400 mg BD for six months to two years or more (six or more than six episodes in a year)

Pregnant women:

Women with primary HSV infection in pregnancy particularly in the second and third trimester should be treated with anti viral therapy. Caesarian section is indicated if there are any signs or symptoms of active infection during delivery.

Other supportive care:

- Keep the affected areas clean and dry
- Advise sexual abstinence until all lesions have healed. Patients should be advised to use condoms consistently during sexual activity.
- Analgesics or topical anesthetic agents may be helpful for selected patients

Management of sex partners and counseling:

- Advise patients to abstain from sex with uninfected partners from the onset of symptoms or until lesions have healed completely.
- All infected persons and their partners should be counseled regarding correct and consistent use of condoms and avoidance of sex during symptomatic stage and after treatment.

Follow-up:

For primary herpes:

- Follow-up with the patient should be arranged within 1 to 2 weeks after diagnosis (or sooner if symptoms are severe)

For recurrent herpes:

- Return as and when needed for persistent or recurrent symptoms

3.4 Ano-genital Warts

Introduction:
It is one of the most common STIs of skin and mucus membranes of the ano-genital region.

Objectives:
By the end of the session, the participants will be able to:

a. Recognize the signs and symptoms of ano-genital warts
b. Explain the consequences to the participants
c. Provide effective treatment for ano-genital warts
d. List possible methods of controlling human papilloma virus (HPV) infection in the community

Methods: Interactive lectures with clinical slides
Materials: LCD projector, PowerPoint™ slides, laptop computer, National Guidelines on Case Management of STI, participants handbook, paper, pencil
Time: 30 minutes

Instruction to the facilitator:
Start by interacting with the participants asking questions such as:
What are warts, how do they present, what is the organism responsible for causing them? What are the consequences of them? What are the main modalities of treatment for them?

Compare their answers with your presentation on PowerPoint™.

Resource materials for the facilitator:

Ano-genital warts:
Synonyms: Genital warts, venereal warts, condylomata acuminata

Introduction:

- Ano-genital warts are one of the most common sexually transmitted diseases of the skin and mucus membranes around the ano-genital region caused by several genotypes of HPV.
- HPV infection is an increasing trend occurring throughout the world.

Risk factors for genital warts:

- Unprotected sex
- Multiple sex partners
- Weak immune system

Etiology:

- Caused by different strains of HPV
- HPV types 6 and 11 cause mostly ano-genital warts.
- Oncogenic types are 16,18, 31, 33, 45

Incubation period

- One month to two years
- Commonly the incubation period is three to four months

Mode of transmission:

Sexual

- Through close skin-to-skin contact.
- Presence of erosion/ulcers facilitates the spread of infection and increases infectivity.

Non-sexual (vertical)

- Mother to unborn fetus

Clinical feature:

- The clinical feature depends on the site of the lesion and types of virus.
- Asymptomatic, soft and fleshy growth which may be pink, red or light brown in color.
- It may be resemble filiform, verrucous, flat, pedunculated or cauliflower-like growth.
- Size may vary from a tiny projection to a large size.

Diagnosis:

- Mainly on clinical findings
- In sub-clinical types, the lesion can be painted with low concentrations (3 to 5%) of acetic acid. The lesion turns white (acid wrap test or aceto-whitening test).
- Other methods are:
  - Colposcopy
  - Urethroscopy
  - Pap smear to detect early changes that might develop into malignancy
  - Biopsy

Differential diagnosis:

- Condylomata lata (secondary syphilis)
- Molluscum contagiosum
- Pearly penile papules (normal variant)
- Carcinoma (squamous cell carcinoma)
- Sebaceous cyst
- Lichen nitidus
- Angiokeratoma
- Skin tags

Complications:

- Whether warts are treated or not, infection can be transmitted to sexual partners
- May progress into cervical carcinoma
- May develop into carcinoma of the penis or anal area
- During pregnancy, lesions may grow faster and rapidly multiply

- Large size of lesions may obstruct normal delivery in pregnancy
- During delivery, infection may be transmitted to the fetus causing ano-genital warts or respiratory papillomatosis. Respiratory papillomatosis may be life-threatening and may present as hoarseness, stridor or respiratory distress.

Treatment:

- No radical treatment is available as yet.
- It is only palliative or for cosmetic purpose (i.e. treatment does not remove HPV infection and the risk of sexual transmission remains).
- Relapse rate is high.
- Spontaneous regression is possible in some cases.

Chemical cautery:

1. Podophylline 10 to 25% in compound tincture of benzoin

Mode of Application: The area should be properly cleaned with normal saline. The surrounding areas should be protected by applying Vaseline.

- Treat <10 sq cm per session. Limit the total volume of podophyllin solution applied to <0.5 ml per treatment session.
- Reapply at weekly intervals for four weeks.

Side effects: Irritation, swelling, neurotoxicity may occur in large doses.
Precaution: Large amounts should not be used due to toxicity.
Contraindication: During pregnancy and lactation.

- Should be applied under medical supervision.

Other topical preparations:

1. Trichloracetic acid (80 to 90%)
2. Podophyllotoxin (0.5%)
3. Imiquimod 5% cream
4. 5-flurouracil (5FU)

Note: No. 2, 3, 4 are not available in Nepal

Physical methods:

- Cryo-therapy with liquid nitrogen, solid CO_2 (dry ice)
- Electro-cautery
- Surgical excision
- Laser therapy

3.5 Scabies/Pediculosis

Introduction:
Scabies and pediculosis are caused by ectoparasites namely *Sarcoptes scabei* and *Pthirus pubis* and are commonly transmitted from one individual to another through close contact and are thus often transmitted sexually in adolescents and adults. Both are clinically characterized by intense itching, excoriation and often secondarily infected with pyogenic bacteria. In pediculosis the patient may either present with observing the parasites or the clinician may find the parasite or its nits on examination.

Objectives:
By the end of the session, the participants will be able to:

a. Define scabies and pediculosis
b. List the etiological agents
c. Identify common signs and symptoms
d. Diagnose and manage scabies and pediculosis

Method: Interactive Lecture with clinical slides
Materials: Multimedia, paper, pencils
Time: 30 minutes

Instruction to the facilitator:
The facilitator will start the session by asking participants to define scabies and pediculosis, causative organisms, signs/ symptoms and how to diagnose and manage them. He/she then compares participant answers with the text depicted in PowerPoint™ presentations.

Resource materials for the facilitator:

Clinical features:
Incubation period: three weeks; on repeated infection, immediate symptoms appear within one to three days.

Symptoms:

- Intense pruritis with increased intensity at night
- Rashes

Signs:

- Vesicles, papules or pustules with excoriation marks mostly located on the intertriginous and flexural areas including interdigital webs, wrists, lower abdomen and breasts.
- In fair-skinned people, burrows (a linear groove ending with a vesicle) may be observed.

In Pediculosis:

- The parasite or its mite may be observed underneath the patient's clothes, on the surface of the skin or hairs.
- HIV-infected patients may present atypically with exaggerated or with a severe skin crusting form called Norwegian/crusted scabies.

Mode of transmission:

- Non sexual contact between two individuals, sharing of clothes, bed and linen
- Occasionally sexually acquired in adults

Diagnosis:

- Mostly done clinically through proper history taking including contact history and examination
- Observing the parasites and its mites (pediculosis) directly or under microscopic examination of skin scrapings from a burrow (scabies)

Management:

Recommended treatment regimens for Scabies

- Gamma–Benzene Hexachloride, 1% lotion/cream. Apply a thin layer to all areas of the body from the neck down at night. Thoroughly wash off after 8 to 12 hours.
  Or
- Benzyl benzoate emulsion 25% (also safe in pregnancy and during lactation) applied to all areas of the body from the neck down daily for three consecutive nights.
  Or
- Permethrin (5%) applied to all areas of the body from the neck down and washed off after 8 to 12 hours
  Or
- Ivermectin 200 µg/kg orally, repeated in two weeks

Recommended treatment regimes for Pediculosis pubis

- Gamma–Benzene Hexachloride, 1% lotion/cream applied to all hairy areas excluding the scalp and thoroughly washed off after 8 to 12 hours.
  Or
- Permethrin cream 5% (safe in pregnancy-Category B) applied to all areas of the body from the neck down and washed off after 8 to 12 hours

General management:

- Clothes, bedding and fomites should be washed in hot water or dry cleaned.
- Sexual partners and all close associates within the last month should be treated accordingly
- In case of no clinical improvement with a week patients may require a second thorough treatment.
- Pruritus may be controlled by anti-histamines.
- Treat with appropriate antibiotics if evidence of secondary bacterial infections persists.

3.6 Venereophobia

Introduction:
Venereophobia is defined as the pathological fear of suffering from STIs.

It occurs frequently among youths, associated with different sexual activities. This condition should be differentiated from actual STIs. Unnecessary treatment for different types of STIs is common in this condition.

Objectives:
By the end of the session, the participants will be able to:

a. Define venereophobia
b. Explain the importance and consequences of venereophobia
c. Diagnose and differentiate venereophobia with STIs
d. Diagnose venereophobia and counsel patient with venereophobia and refer if needed

Methods: Case discussion, Mini lecture
Materials: Case study, LCD projector
Time: 30 minutes

Instruction to the facilitator:
The facilitator introduces the topic and discusses it with participants during brainstorming sessions and case study reviews (**annex 5** (VIII) Venereophobia). The facilitator later presents text slides on venereophobia.

Resource materials for the facilitator:

The common causes for venereophobia are:
The common causes for venereophobia are anxiety and guilt associated with:

a. Risky sexual behavior
b. Pre-marital and extra-marital sexual contact
c. Masturbation
d. Use of sex toys
e. Normal anatomical variations (e.g., pearly penile papules)
f. Others include, sharing the same toilet, towels, bed etc.

Symptoms:

- Pain/itch or a burning sensation on the genitalia
- Discharge per urethra
- Sore/rash (pearly penile papules), growth
- Color change
- Decreased size of the genitalia
- Decreased libido
- Bizarre symptoms

Examination findings: No STI-related clinical abnormalities will be detected

Laboratory findings: Will be within normal limits, repeated on several occasions.

Diagnosis: Should be based on examining the history of the patient with special attention to sexual history. Proper clinical examinations include ano-genital examination and available laboratory tests, all of which should be negative.

Management: Proper education and counseling, anxiolytics and refer for psychotherapy if necessary.

Note: Before diagnosing any patient as having venereophobia, all the available tests to exclude any STI should be negative.

Module 4

Approaches to STIs Diagnosis and Management

4.1 Communication Skills

Introduction:
Effective communication is an important part of patient care and plays an important role in exploring patient's history, assessing their risk behaviors and providing information on treatment, risk reduction and promotion of safer behaviors which leads to better understanding of information provided, treatment compliance/adherence and outcomes. Effective communication is also crucial for better relationship between health care providers and patients and patient's satisfaction with health care services. Effective communication also increases satisfaction of health care service providers and reduces risks to be caused by medical malpractice.

Effective communication should be meaningful two-way interaction between health care providers and patients in which patients should be engaged actively. Correct information should be provided clearly, concisely and in easily understandable way using everyday language vocabulary instead of medical/ technical terms. A health care provider should be polite, friendly, non-judgmental, knowledgeable on the local context, everyday language vocabulary and able to make patient feel comfortable.

Objectives:
By the end of the session, the participants will be able to:

a. Identify the need and importance of effective communication skills
b. Recognize the problem of poor clinician / patient communication and its effects

Methods: Role play, short lecture
Materials: LCD projector, PowerPoint™ slides, paper, pencil
Time: 45 minutes

Instructions to the facilitator:
Two participants will volunteer to play the roles of a patient and a clinician.

Scenario:
The patient comes to the clinic with a specified STI-related problem and the interaction begins. See **annex 4** for role plays on communication skills.

Observation and comment:
Other participants are asked to observe the role play and write down the communication barriers they notice during the session on effective communication. The participants are later asked to provide their comments on the role-play, while the facilitator summarizes the positive and negative aspects of the exercise, all the while emphasizing the important points on effective communication.

Resource materials for the facilitator:

Communication skills
Effective communication skills are needed for taking a patient's history and providing safer behaviour and healthy life styles related information. A clinician should be polite and friendly, know the local language, and be able to make the patient feel comfortable. Such methods help patients talk about their STI-related problems with relative ease.

Communicating "WELL"

The word **"WELL"** used here, refers to the importance of establishing a comfortable environment where both patient and health worker feel at ease when discussing sensitive matters involving STI. Good communication leads to a more natural interaction between the two and helps the patient gain confidence in the clinician's ability to help him or her. By getting the patient to reveal his or her sexual history, the clinician is able to make a more accurate diagnosis of the problem and proceed with its management.

W Welcome
E Encourage
L Look
L Listen

Welcome your clients:

- Greet clients warmly and offer them a seat
- Sit close to the client so you can talk with them comfortably and privately
- Your tone should be welcoming
- Speak to your clients as you would speak to your friends
- Inform the client that all conversations carried out in the room are between the two of you and no third party will know about it

Encourage your clients to talk:

- Look at your client when s/he is speaking
- Ask clients questions, showing your interest in what the client is saying
- Nod your head as s/he speaks or by saying "Mmm or Hmmm," or "tell me more about that"
- These "encouragements" will help your clients feel that you are listening, and that you are interested in what they are saying.
- Paraphrase regularly

Look at your clients:

Look at your client as s/he speaks. Make sure that your facial expressions and body language are warm and friendly. It will help the client to feel more comfortable and confident.

Listen to your clients:

- Listen carefully to what your clients have to say. Use encouraging words to show that you are interested in their story.

4.2 Sexuality and Sexual Language

Introduction:
This chapter is meant to help participants become familiar with common sex and sexuality relation terms and issues. The term "sexuality" generally refers to overall sex related thoughts feelings and sexual behavior including different modes of sexual practice.

Objectives:
By the end of the session, the participants will be able to:

a. Explain the meaning of different sex and sexuality related language used in the community
b. List the different modes of sexual behaviour and practices prevailing in the community
c. Express sex and sexuality related terms freely (without hesitation) to make communication more effective while interacting with STI patients

Methods: Sexual words exercise, group work, and mini-lecture
Materials: LCD slides, Papers, Pencil
Time: 45 minutes

Instruction to the facilitator:
The facilitator introduces the topic providing comments on sexuality, sexual identity, sexual orientation, sexual behavior and sexual words, their importance and objectives of the session. He/she then forms groups and starts an exercise (see **annex 3**) that asks participants to list acceptable and alternative colloquial terminology of the listed sexual terms, and to present their findings to the entire group.

The facilitator then requests some volunteers to take part in a role-play of a clinician and a patient on the use of local sexual terms. The participants are requested to give their suggestions and comment on the role-play. They are asked to provide acceptable terms that will prevent the STI infected patient from feeling insulted.

Scenario of the Role-play: (Male patient suffering from perianal warts attends an STI clinic where a young female doctor is trying to obtain information from the STI patient to properly diagnose his condition. (see **annex 4**, Role-play on sexual language)

Two participants (one male and female) are voluntarily selected to take on these roles.

Other participants are asked to observe the role-play and give their comments. The facilitator summarizes the positive and negative aspects of the role-play, and suggests uses of appropriate words for sex and sexuality.

Statements on sexuality (statements for debate):
Basic questions:

- What do you mean by sexuality?
- Do you think men having sex with men / women having sex with women is normal?
- Is it all right for men to have premarital/extramarital sex?
- Is it all right for women to have premarital/extramarital sex?
- People who get STI are bad people. What is your opinion?

Additional statements:

- A woman should not have sexual intercourse before marriage.
- A man should not have sexual intercourse before marriage.
- A woman who is prepared to have sex is “easy”.
- It is OK for men to force women to have sex with them. When they are drunk, they are not responsible for their actions.
- Men who go to sex workers are “bad” men.
- A woman in a violent relationship has no choice but to accept it.
- Men should use condoms with prostitutes only.
- Homosexuals are immoral.
- Prostitutes are “bad” women.
- Men always want to have sex.
- If a man goes without having sex it is bad for his health.

4.3 History-taking

Introduction:
This is the first important step with regards to STI case management. The health worker who is responsible for noting a patient's sexual history and performing clinical examinations should be thoroughly knowledgeable and skilled in the above mentioned tasks. He/she should posses a capacity to gain the patient's trust so that the patient feels comfortable and understands that any information revealed will be kept confidential.

Objectives:
By the end of the session, the participants will be able to:

a. List the steps of a general and sexual history-taking process appropriately
b. Identify the risk factors for STIs of an individual
c. Perform general and sexual history-taking of the patient

Methods: Interactive session, role play
Materials: Paper/Pencil/ LCD projector, previously prepared PowerPoint™, laptop computer, soft boards, anatomy of male female genital tract
Time: 30 minutes

Instruction to the facilitator:
The facilitator introduces the topic explaining its objectives. A practical session on history-taking will take place during a scenario on role-play as shown in **annex 4**. The facilitator then demonstrates and explains the appropriate method of taking history

Resource materials for the facilitator:

History-taking
Objectives of the history-taking:

- To note down a patient's sexual history appropriately
- To assess the STI risk factors for an individual
- To identify the normal anatomical structures of male and female genitalia

General details:

- Name
- Age
- Sex
- Address
- Occupation
- Travel history
- Sexual partnership history

Present illness:

- The presenting chief complaints and their duration. Any progress from the initial stage to the present stage.
- Associated symptoms if any.

Recent sexual and injecting history:

- Sexual Partner(s) – numbers, gender and other characteristics of the relationships
- Types of sexual activities
- Recent sexual activities
- Use of barrier methods
- History of injecting drug use

Information specific to women:

- Gynecological and obstetric history
  - Last menstrual period (LMP)
  - Possibility of pregnancy
  - Use of contraceptives – esp. barrier methods
- Risk assessment

Treatment history:

- Past STI history
- Syphilis and HIV testing (if any)
- Treatment for present or recent STI – or other infections
- Any other medical problems in the past or the present
- Drugs or allergies.

4.4 Physical Examination including Use of a Speculum, Anoscope or Proctoscope

Introduction:
Physical examinations of patients infected by STI require special arrangements since ano-genital examination is a sensitive issue for many patients and often disliked by the patients. The clinician should always obtain the consent of the patient before performing a physical examination. In case a male clinician has to examine a female, another female chaperone should always be present.

Objectives:
By the end of this session, the participants will be able to:

a. Identify the normal anatomical structures of the male and female genitalia
b. List steps for carrying out physical examinations on male and female patients
c. List basic requirements for the clinical examination room
d. Perform a clinical examination on male and female patients, Joy model with confidence and competence.
e. Obtain required sample from male and female genitalia for screening of STIs.

Methods: Video show, interactive lecture, practical demonstrations

Materials: LCD slides, video recordings of clinical examinations, plastic models of male, female genitalia and pelvis, patient volunteers. Anatomy of male and female genitalia (external and internal), instruments needed for practical examination.

Time: 60 minutes

Instruction to the facilitator:
Distribute photocopies on anatomy of male and female reproductive organs and ask participants to identify the different parts **(**see **annex 7** for answers**)**. Correct all participants answers with the help of Power Point presentation slides. Show videos depicting proper methods for performing patient examinations.

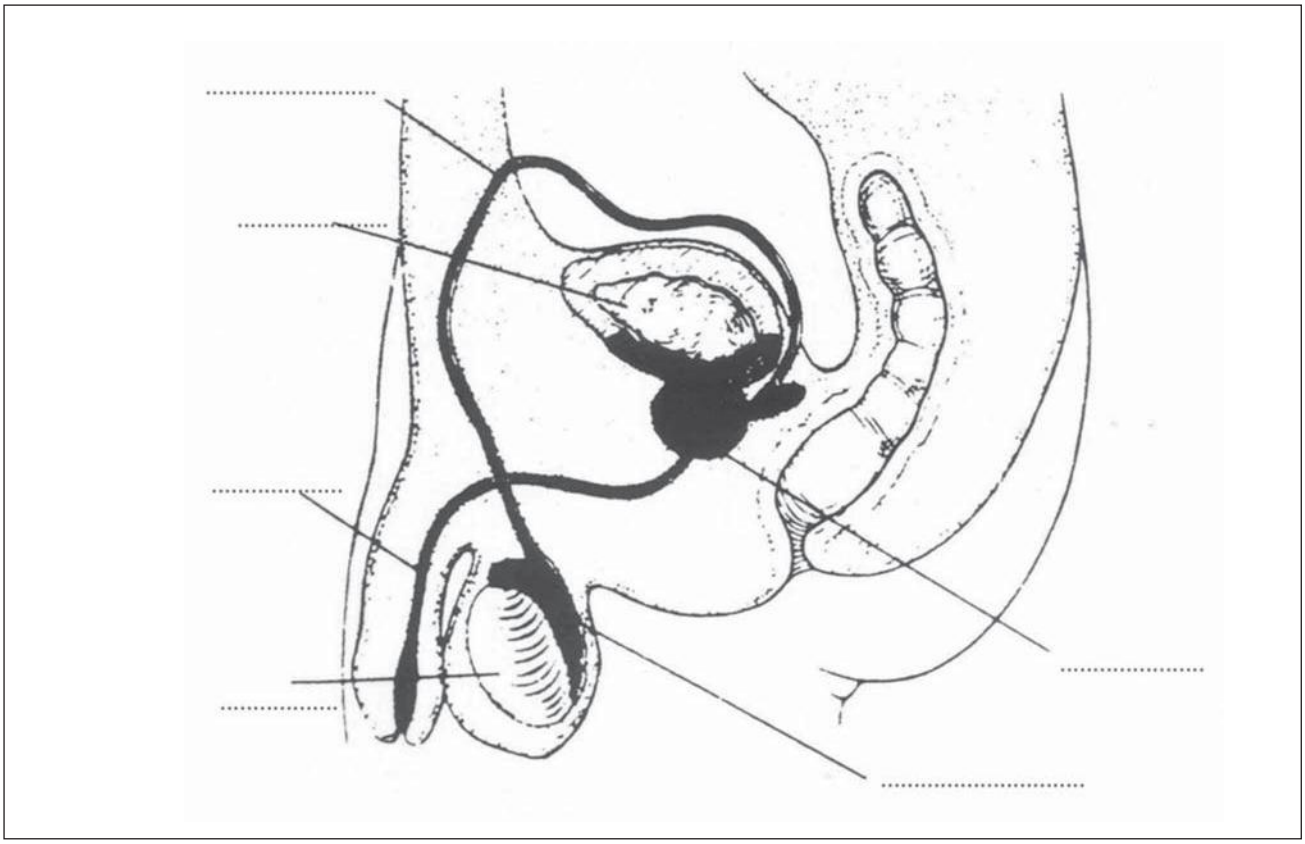
Practical on patient examination:
Divide participants into groups and ask them to take on a case. Examine and demonstrate using a model, simulation, or real client when possible **(**see **annex 6** for examination check list**)**.

Resource materials for the facilitator:

A. Examination in the male:

The clinician should display sound knowledge regarding the male genitalia, anus, rectum and their different parts (as shown in the diagram below) before starting clinical examination.

Diagram of anatomy of male genitalia and ano-rectal region:



B. Examination in the female:

The clinician should display sound knowledge regarding the female genitalia, ano-rectum and their different parts (as shown in the diagram in the next page) before performing a clinical examination.

Diagram of the anatomy of female genitalia (lateral view):

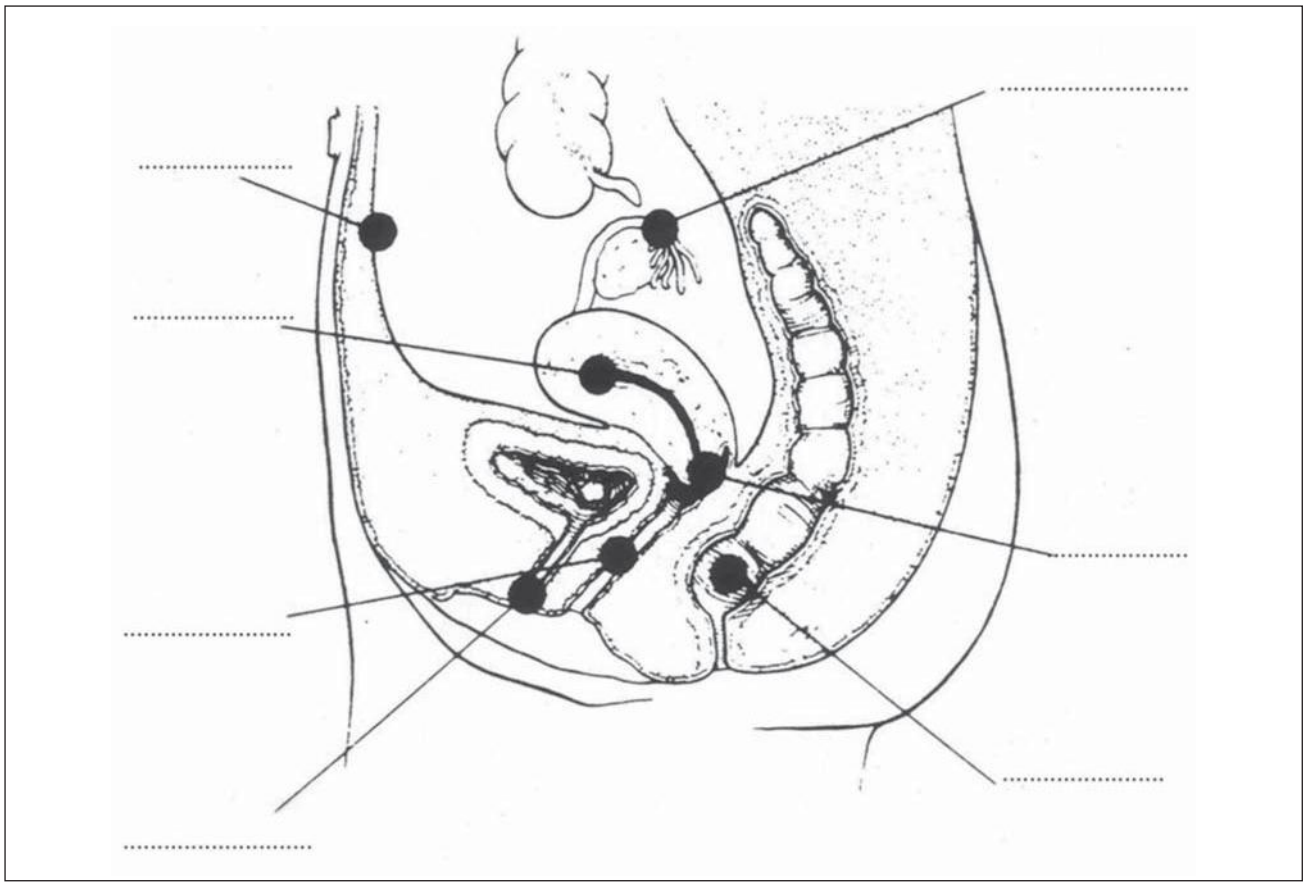
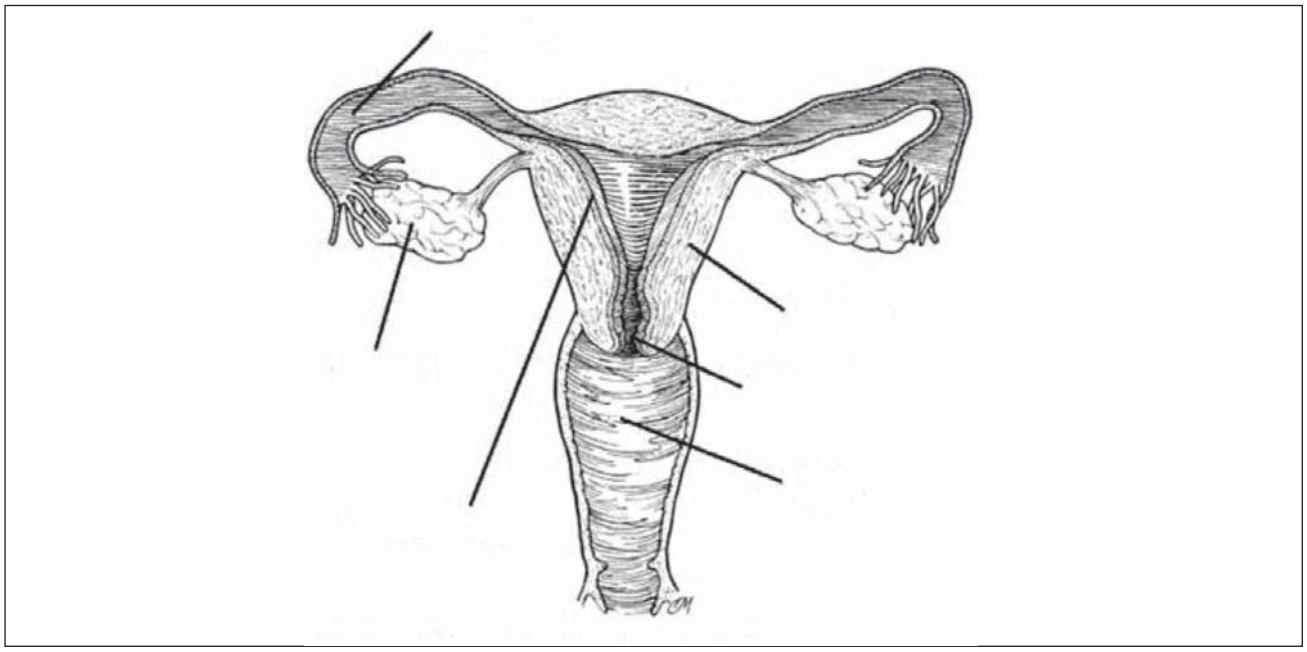


Diagram of the anatomy of female genitalia (front view):



Demonstration practical session

Examination room should be:

Private
Quiet
Well lit
Well ventilated

It should contain:

An examination bed
Good source of lighting
Necessary logistic supplies **(Annex 9)**
Quality equipment **(Annex 9)**

General examination of STI patients should also include an examination of the mouth, skin, eyes, abdomen and other body parts.

Genital examination:

Exposure: should be appropriate, generally below umbilicus.
Examination of genitalia: should include the following in sequence:
a. Inguinal folds
b. Pubic region and pubic hair
c. Skin surfaces
d. Genitalia
e. Peri-anal area

Note: Examination of oral cavity and anus should be a part of routine examination

Clinical examination steps for male:

- Obtain the consent of the patient before every examination.
- Explain all examination procedures to the patient.
- Reassure the patient about the procedure and its painless nature.
- Ask the patient to take off their clothes below the umbilicus.
- Use a drape to cover other exposed body parts
- Observe and examine the ano-genital parts as shown in the following order:
  Skin, pubic hair, groin, penis, scrotum and testes, perineum, anus and rectum

Examination of penis:

Shaft of penis, retraction of the foreskin to observe the inner prepuce, coronal sulcus and urethral meatus. Milk (or ask the patient to milk) the urethra from proximal to the distal end to detect discharge.

Examination of scrotum:

- Inspect the surface of the scrotum for any abnormalities
- Palpate it for hardness/tenderness
- Palpate epididymis and spermatic cord
- Lift the scrotum to observe the perineal skin

Specimen collection:

Specimens commonly collected include urethral swabs and venous blood. Patients reporting recent oral/anal sex (including women, MSM, heterosexual males and transgenders) will need specimens collected from pharynx, rectum and urethra – if laboratory capacity is available.

For urine tests, always ask the male patient to hold in urine for at least two hours before the urethral or urine sample is collected – this prevents false- negative results for some tests.

Perineum, anus and rectum:

An ano-rectal examination should be performed when indicated but only with patient consent.

- Observe and palpate for any suspected lesions
- Perform digital anal examination
- Perform anoscopy or proctoscopy
- Collect specimens if laboratory capacity is sufficient

Clinical examination steps for female:

- Patient approval is required before every physical examination
- Arrange for a chaperone (female attendant) if you are male
- Explain what you will be doing to the patient
- Reassure patient of the process and its painless nature
- Ask the patient to void urine (which may disturb and misinterpret the examination finding)
- Ask the patient to undress appropriately (below umbilicus)
- Put a clean drape over other exposed parts
- Help the patient settle into the lithotomy/dorsal position and feel at ease
- Adjust light for appropriate visualization

Internal examination includes:

- Per speculum examination
- Bimanual pelvic examination

Collect specimens from:

- Posterior fornix of vagina
- Cervix
- Other sites (e.g., lesions): Rectum

External examination:

Females

- Inspect pubic hair and skin of vulva and pubic region.
- Examine the vulva, palpate inguinal region (for lymph nodes) and labia (for Bartholin's glands).
- Inspect vestibule and introitus.
- Inspect, palpate and milk urethra.
- Examine the perineum and anus.

Speculum (internal) examination:

- Select an appropriate sized cuscos bivalve vaginal speculum.
- Expose the opening of the vagina with two fingers of your free hand.
- Introduce the lubricated speculum (closed) in a downward angle and rotate it as it passes in.
- Slide the speculum along the posterior vaginal wall.
- After full insertion, open the blades of the speculum to view cervical os.
- Observe the cervix for any color change, bleeding, ulcer, wound, growth and discharge from the os.
- Secure the speculum open for specimen collection.
- Partly close the speculum to remove it. While removing the speculum, observe the vaginal wall for any abnormalities

Specimen collection:

A bivalve vaginal speculum has to be inserted into the vagina and the cervix. Collect two specimens using two separate swabs one from the posterior fornix of the vagina and the other from cervical os. Mop the external os with a cotton swab in sponge-holding forceps for the following laboratory investigations.

Vaginal specimens:

Wet Mount

Mix the vaginal specimen collected with the swab into one or two drops of normal saline on a glass slide and cover with a cover slip. The slide is immediately examined under the low and high power of a microscope for motile trichomonads suggesting *Trichomonas vaginalis*, clue cells (vaginal epithelial cells coated with coccobacilli) seen in Bacterial Vaginosis.

Clue cells

In bacterial vaginosis, *Lactobacillus* species (Gram-positive slender rods) are replaced by a mixed flora of anaerobic bacterial morphotypes and *Gardnerella vaginalis*. Clue cells are squamous epithelial cells covered with many small coccobacillary organisms (Gram-variable on Gram stain), giving a stippled, granular appearance. The edges of these epithelial cells are not clearly defined, because of the large number of bacteria present. In most patients with bacterial vaginosis, a mixture of exfoliated vaginal epithelial cells and 20% or more clue cells will be seen. The adhering bacteria on the cells are predominantly *G. vaginalis*, sometimes mixed with anaerobes.

Whiff Test

During preparation of the potassium hydroxide (KOH) slide, when 1-2 drops of 10% KOH is added to vaginal specimen, a fishy or amine odor is released, suggestive of bacterial vaginosis.

KOH Mount

A specimen of vaginal discharge is placed on a slide and 1-2 drops of 10% KOH are added, covered with a cover slip and examined under low power of the microscope to detect candidal pseudohyphae, mycelial tangles and spores.

Gram Staining

A smear will be prepared on a glass slide from the vaginal specimen; the smear will be Gram-stained and observed under the microscope for detection of “clue cells”. Cocco-bacillary organisms of clue cells will appear Gram-variable on Gram stain.

Bimanual examination:

This is an important step in vaginal examination aimed at detecting cervical tenderness and checking for any masses in the pelvic cavity.

Steps:

- First and foremost explain to the patient what you intend to do.
- Insert your lubricated middle finger to retract posterior wall then insert the index finger. Slide the fingers gently till you feel the cervix.
- Evaluate cervical tenderness.
- With gentle pressure from your other hand placed on the woman's abdomen, palpate uterus, fallopian tubes and ovaries for any masses.
- After withdrawal, inspect your gloved fingers for characteristics of any discharge.

Digital and proctoscopic examination:

Steps:

- Arrange a bright light to inspect the rectal walls.
- Remember to explain to the patient each step of the procedure as it occurs.
- Ask the patient to lie in the left lateral position (if you are right-handed) with knees bent and hip flexed.
- Perform the digital examination using a lubricated and gloved right index finger (if you are right-handed)
  1. Place a pad of your finger over the anus and ask the patient to bear down.
  2. As the sphincter relaxes, insert your finger into the anal canal, in the direction of the umbilicus asking the patient to relax the anal muscles by bearing down.
  3. Palpate the prostate (in males) and lower rectum and feel for the presence of masses or lumps beneath or any opening (e.g., fissure-in-ano) of rectal mucosa, the location of painful areas and the size and contour of the prostate gland (in males).
  4. Rotate your hand to palpate all walls of the rectum.
  5. Withdraw your finger slowly after returning your hand to a neutral position. Check for the color of the stool and any abnormal findings.

Perform anoscopic/proctoscopic examination:

Before using the anoscope, points to remember:

- *The examiner should change gloves before every digital rectal examination and anoscopy.*
- *The examiner should be certain that the proctoscope/anoscope has been properly sterilized before every use.*
- *Before insertion, warm the proctoscope/anoscope with water and apply water-based lubricating jelly to both the perineal area and the tip of the proctoscope or anoscope.*

Steps:

- Rest the proctoscope/ anoscope at the anal verge until the sphincter relaxes, then insert it slowly applying gentle constant pressure
- Allow the proctoscope/anoscope to follow the line of least resistance rather than pushing it. Generally aim towards the navel. Elevation and relaxation of the buttocks aids insertion, as does asking the patient to 'bear down' as if opening the bowel
- Remove the introducer once the proctoscope/anoscope has reached its limit. With the aid of the examination light observe the color and texture of the rectal mucosa, the presence and characteristics of discharge, ulceration, bleeding or lesions.
- When the proctoscope/anoscope is inside the rectum, take a swab of rectal mucosa and make a smear on a glass slide for Gram stain if microscopy is available
- Slowly remove the proctoscope/anoscope, checking for hemorrhoids and/or other lesions on withdrawal.

4.5 The "Four Cs" and Condom Demonstration

Introduction:
The "Four Cs" are important components in managing patients infected by various kinds of STI and should be followed by every clinic dealing with the cure of STIs.

Objectives:
By the end of the session, the participants will be able to:

a. List the four words comprising the "Four Cs"
b. Explain the meaning of these four words
c. Follow the "Four Cs" while managing each STI patient

Methods: Interactive lectures, demonstration of condoms use (male and female).
Materials: LCD projector, Papers and pencils, condoms, penis model, model for female condoms
Time: 30 minutes + practical session 30 minutes

Instruction to the facilitator:
The facilitator initiates the session by asking participants the meaning of the "Four Cs." Participants are then requested to write each word of the "Four Cs" and their meaning. The facilitator then presents the text slides reiterating the importance of "Four Cs". The facilitator encourages participants to take part in the practical session on condom demonstrations.

Resource materials for the facilitator:

The "Four Cs"

1. Compliance
2. Client education (counseling)
3. Contact tracing
4. Condom promotion

Compliance:
The completion of all prescribed training. Discussion of the possible barriers towards completing the full course of treatment and possible solutions to these.

Client education:

- About the infection – its natural history, personal importance and implications for partners.
- How to avoid STI in the future.
- Knowledge regarding HIV and AIDS.

Messages of client education for STI patients are:

- The present infection, cause and possible consequences.
- The treatment and the importance of completing the full course.
- The need and importance to avoid sex until fully cured.
- The need for partners to be treated as well.
- Risk reduction
- The need to obtain early treatment with regards to all future problems.

- Risk of HIV from sexual activities.
- Follow-up (when to come back)
- Referral mechanisms.

Counseling:

- is a planned interaction between a trained person/counselor and the client
- is a process of interpersonal exchange using different communication skills.
- involves utilization of special skills to assist the individual, families or groups in achieving the objectives through:
  - rapport building
  - exploration of the problem
  - examination of attitudes and feelings
  - consideration of alternative solutions
  - decision making

Basic elements in counseling:

- Trust: Must be established between the counselor and the client before moving towards a session.
- Confidentiality: Basic respect for the client's privacy
- Respecting the client as a person
- Do not argue
- Be positive
- Focus on feelings and attitudes
- Show empathy
- Use open questions
- Provide options for decision making
- Be non judgemental

Practical Arrangements:

- **Timing:** Fixed time, should not be carried out in haste, no interruption
- **Privacy:** Suitable place, no disturbances, secure.
- **Sitting arrangements:** Distance/closer
  - Eye to eye contact
  - Comfortable position
  - Maintain a safer environment for the client and yourself.

A Good Counselor is:

- Active, and a good listener
- Emotionally mature
- Nonjudgmental
- Patient and flexible

Factors to avoid during counseling:

- To advise or give solutions
- To interpret or order/command
- To judge or criticize
- To threaten or warn

Steps of Counseling

Step I

- Information gathering
  - Gather realistic information to make valid assessments and a feasible treatment plan
  - Types of information collected
    - Client's perception of the problem
    - Motivation for seeking help
    - Duration of the problem

Step II

- Nature and severity of the present problem
- Cause of the symptoms
- Relief of the symptoms
- Client's readiness for counseling
- Client/Counselor relationship

Step III

Feedback

- Present the feedback in simple terms
- Identify client's strengths and weaknesses
- Be open to questions
- Make recommendations

Step IV

Counseling agreement

- Practical issues which set limits
- Expectations
- Goals

Step V

Changing behavior

- Problem resolution
- Technique to facilitate change (Coping mechanism)

Step VI

Termination

- Agreement between the counselor and client to end the session

Contact-tracing:

As with other infectious diseases, simply treating those individuals who present with symptoms for treatment will not control STIs at the population level. Partner notification offers an important chance of finding infected persons - often asymptomatic women – who may be unaware that they might be infected.

All partners should be provided treatment by:

- Asking patients to contact their sexual partners and encouraging them to come to an HCP for treatment
- Providing STI drugs to patients asking them to treat their partner(s)
- Tracing partners of infected personnel through outreach workers

If none of these are possible and the condition is considered important, a public health care official or HCP can, with the permission and cooperation of the original patient, keep an eye on the partner of those infected by STI. Either bring them to a health care facility or take the treatment to them. This method will often be challenging due to the shortage of resources and trained staff.

Principles for partner notification

Partner notification should:

1. Be voluntary and non-coercive
2. Maintain confidentiality
3. Observe human rights and dignity of the patient

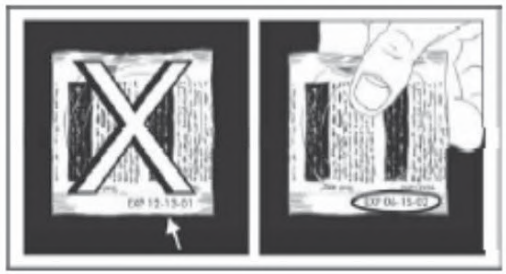
Condoms:

- Promoting correct and consistent condom use.
- Condoms should be provided at low cost, be easily accessible and sufficiently available.

Steps for correct condom use:

1. Check the expiry date on the condom before you have sex.
2. Open package with fingers. Never use teeth or fingernails as they could put a hole in the condom.
3. Find the tip of the condom with the fore finger and hold it so that the ring hangs down like a little hat.
4. Hold the tip with the forefinger and thumb as you place the condom on the penis, ring on the outside.
5. Roll the condom down to the base of the penis with the other hand.
6. Check to make sure the condom is on right.
7. After sex, hold the condom at the base and pull the hard penis away from the partner. Do not spill any liquid on the partner.
8. Slide the condom off without spilling the liquid inside.
9. Tie the condom in a knot and dispose away from human contact.

1. Check the expiry date on the condom before you have sex.



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8. Slide the condom off without spilling the liquid inside.

9. Tie the condom in a knot and dispose away from human contact.

4.6 Steps of STIs Case Management

Introduction:
This session deals with the steps of STIs case management which include history-taking, clinical examination, laboratory testing (if available), diagnosis and management of STIs.

Objectives:
By the end of the session, the participants will be able to:

a. Explain the meaning of STIs case management
b. List different steps of STIs case management
c. Explain ways for the prevention of STIs

Methods: Interactive lecture, group work
Materials: LCD projector, prepared PowerPoint™ slides, Laptop computer, paper, pencil
Time: 45 minutes

Instruction to the facilitator:
The facilitator begins with an interactive session, and later divides the participants into small groups. The facilitator then asks participants to write and present the different steps of STIs case management. The facilitator emphasizes the main points of the session, and reviews the important steps for managing STIs before continuing with a slide show.

Resource materials for the facilitator:

STIs case management
Introduction:

- STIs are a major public health problem.
- Failure to make a correct diagnosis and provide prompt treatment may result in serious complications.
- Importance of STIs diagnosis has increased since the emergence of the HIV epidemic.
- Effective STIs case management is critical, since proper management will reduce complications and HIV transmission.

What is STIs case management?
It is a combination of effective, prompt, affordable and acceptable care for an individual suffering from, or at risk of contracting STIs.

Potential providers of STIs case management

- Primary health care providers: Health assistants, staff nurses etc
- Health-related NGOs
- Pharmacists
- Dermato-venereologist
- Gynecologists
- Urologists
- Physicians

Steps of STIs case management

1. History-taking:

- Maintain privacy during each consultation
- Assure absolute confidentiality
- Obtain history regarding the reason for consultation, complaints, signs, symptoms, and their duration
- Assess risk behaviors
- Current or recent treatment, if any

2. Physical examination:

Examination of male patient:

- General and systemic examination
- Examination of genitalia, (foreskin should be retracted if the patient is uncircumcised)
- Examine inguinal region, scrotum and contents
- Examine the lymph nodes
- Milking of urethra (in absence of spontaneous discharge.)
- Examine for skin rashes, if any
- Examine anus for sores, ulcers, and warts

Examination of female patient:

- General & systemic examination
- Examination of inguinal region
- Examination of external genitalia
- Speculum examination
- Bimanual pelvic examination
- Rectal examination
- Examine skin for rashes

3. Diagnosis

- Etiological diagnosis: It gives a definitive diagnosis but is expensive and time consuming.
- Clinical diagnosis: It is not practical, even the most experienced clinicians may make mistakes.
- Syndromic diagnosis: It is reliable, cheaper and easier.

4. Effective treatment at the first visit:

- Highly effective treatment should be provided.
- Ineffective treatment may cause the patient to lose confidence in his ability to be cured and in the ability of the clinician. This may contribute to further spreading of infection and emergence of drug resistance.

Criteria for effective STIs drugs

- Highly effective (at least 95%)
- Single dose and preferably oral
- Affordable and low cost
- Readily available
- Well tolerated

- Safe in pregnancy and lactation
- Low toxicity
- Should not develop drug resistance

5. Health education:

- Awareness
- Specific information about STIs, contraception, sexual assault services etc. should be available
- Counseling
- Motivation

6. Condom promotion:

- Availability of male and female condoms and water-based lubricant
- Affordability
- Correct and consistent use of condoms
- Quality

7. Contact-tracing and treatment:

- Treatment of sexual partners
- Importance of partner notification and treatment
- Resolve how this will be done and by whom

8. Follow-up schedule:

- Explain the importance of a follow-up visit
- Make an appointment for a follow-up visit

Steps towards STIs prevention

Prevention of STIs is done through:

a) Primary prevention:

- Promotion of safer sex behavior
- Promotion of condom use.
- Vaccines (when available)

b) Secondary prevention:

- Effective treatment of STI patients
- Education
- Counseling

4.7 Approaches for STIs Diagnosis and Management

Introduction:
There are different approaches to diagnosis and management of STI patients. The approaches are based on the availability of clinical expertise and laboratory facilities. The aim of this session is to expose the participants to various approaches, their implications and limitations.

Objectives:
By the end of the session, the participants will be able to:

a. Explain various approaches towards STIs diagnosis, their advantages and disadvantages
b. Explain the importance of syndromic case management
c. Explain the importance of enhanced syndromic case management
d. Diagnose and manage STI cases appropriately in resource-poor settings

Methods: Questions, answers and mini-lecture
Materials: LCD projector, PowerPoint™ slides, Laptop computer
Time: 45 minutes

Instruction to the facilitator:
The facilitator introduces the topic, and leads a brainstorming session on different approaches to STI diagnosis and management. The facilitator then compares the participants' responses with the information on the text slides, and highlights important details being covered during the session. For examples:

Questions: What types of STI diagnoses are you familiar with?
What are the advantages and disadvantages of different diagnostic approaches?
What do you understand by syndromic case management?

Resource materials for the facilitator:

Different Approaches for STIs Diagnosis and Management
Approaches:

- Clinical
- Etiological
- Syndromic
- Enhanced Syndromic

Note: Presumptive diagnosis and management of STIs is based on positive risk assessment.

Clinical approach:
An educated guess based on clinical findings. It depends on the experience and the ability of the clinician to identify them.

Disadvantages:

1. Clinical diagnosis is accurate in only 50% of STI cases.
2. Mixed infections are not usually considered.
3. Mistreated/untreated/resistant cases can lead to complications and continued transmission.

Etiological approach:
Identifies the causative organisms or their antibodies through laboratory testing. The patient acquires proper treatment according to causative agents.

Disadvantages:
1. Skilled personnel and sophisticated equipment are needed to identify various causative agents.
2. Laboratory tests are often expensive and time-consuming.
3. Laboratory facilities are not available at the peripheral health care facilities where most of the rural population reside.
4. Treatment is delayed until the results are obtained.
5. Quality assurance of laboratory testing needs to be maintained.

Syndromic approach:
- The identification of consistent STI-related groups of symptoms and clearly recognized signs are called STI syndromes.
- The provision of clinical care which will cure the majority of organisms responsible for producing each syndrome is called syndromic case management.

Main features of the syndromic approach:
1. Grouping the main STI-related or genital conditions presented to health services.
2. Treating patients for the most common causes of a syndrome
3. Using flowcharts as tools to standardize clinical management
4. Educating/counseling patients
5. Providing condoms along with promoting awareness regarding their correct and consistent use
6. Emphasizing the importance of partner notification, treatment, follow-up and referral
7. Recording and reporting of STI cases

Advantages of the syndromic approach:
1. Accessible to majority of the population
2. Immediate diagnosis and treatment to reduce different infections
3. Effective and reliable
4. Affordable due to minimal time consumed /money/travel
5. Minimal training is required to deliver services regarding STIs
6. STI services have been integrated to general health services
7. Standard STIs case management guidelines are followed
8. Emphasis on compliance/counseling/contact tracing/condom promotion
9. Proper recording and reporting is maintained

Disadvantages:
1. Over-diagnosis
2. Over-treatment as many patients do not have concurrent infections
3. Possibility of drug resistance due to lack of etiological diagnosis
4. Special training is required for correct use of syndromic case management
5. Diagnosis is symptom-based so asymptomatic patients are not addressed; may create problems towards managing cervical infections in women and asymptomatic cases regarding syphilis.
6. Possible low compliance
8. Timely research and surveys are needed to ensure effectiveness

Enhanced syndromic approach:

Enhanced syndromic management is an approach that aims towards reducing the prevalence of STIs, through a single round of presumptive treatment of cervicitis, with subsequent monthly clinical care through an enhanced syndromic management protocol based on a risk assessment and laboratory tests.

Enhanced syndromic management of STIs is a combination of clinical and public health approaches. It is offered to males, females and third genders, including high-risk groups such as sex workers, who might have high prevalence and incidence of STI, but may remain asymptomatic. This approach improves the quality of care reaching all those asymptomatic but high-risk STI patients. It requires some basic on-site laboratory support (serological testing for syphilis and Gram staining of cervical and vaginal specimens, wet mount and KOH mount) based on STIs Case Management Guidelines.

All sex workers (or persons with regular multiple sex partners) will be encouraged to attend the clinic at least once a month even when asymptomatic. Once in the clinics, all patients will be offered detailed physical examinations. Basic laboratory tests will be conducted to augment clinical findings.

By using this method, most of the etiological agents for vaginitis can be identified or excluded, so these conditions will not require all medications for vaginal discharge syndrome at each visit.

Main STI syndromes:

- Urethral discharge syndrome
- Scrotal swelling syndrome
- Genital ulcer disease syndrome
- Inguinal bubo syndrome
- Vaginal discharge syndrome
- Lower abdominal pain syndrome
- Neonatal conjunctivitis syndrome

4.8 Use of Flow Charts

Introduction:
Flow charts are useful tools used as guidelines in syndromic STI management that are expected to make the work of clinicians easier. Flow charts guide the clinical team towards approaching STI patients through useful tips/ reminders on education, notification and follow-up. Health workers benefit from the charts because it helps them reach a proper diagnosis and provides effective solutions to a problem. Flow charts typically consist of boxes of different shapes which contain different instructions that are linked to one or more entry and exit points.

Objectives:
By the end of the session, the participants will be able to:

a. Explain the reasons for its different shaped boxes
b. Use the flow charts correctly in the management of different STI syndromes
c. Explain the importance of education, counseling, partner treatment, follow-up and referrals as stated in each flow chart.

Methods: Interactive lecture with question & answers.
Materials: PowerPoint™ slides on flow charts, Laptop computer, National Guidelines on Case Management of STIs, LCD projector
Time: 30 minutes.

Instructions to the facilitator:
The facilitator explains to the participants the importance of flow charts and how clinicians can benefit from using them in syndromic STI management. The facilitator uses PowerPoint™ slides to explain the different shapes of flow charts that will serve as a model while describing flow charts as a step-by-step guide to managing different STI syndromes.

Resource materials for the facilitator:

General guidelines on the use of flow charts:
All flow charts have the same general features, namely: an entry point, an action box, a decision making box and a treatment box. Each of these important features are contained inside differently shaped boxes, with their respective meanings.

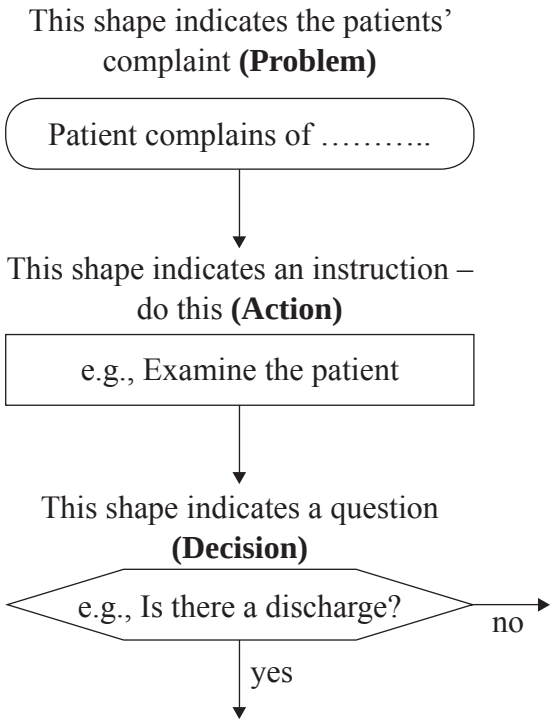
1. Problem box
The entry point of a flowchart is a problem box which refers to an STI related symptom. It is a rectangle but with rounded ends and has one exit arrow only.

2. Action boxes
It asks you to do something. It is of rectangle shape and has one entry arrow and one exit arrow.

3. Decision box
It asks you to answer a question with either a “yes” or “no”. It has two pointed ends, has one entry arrow along with two exits: a ‘yes’ and a ‘no’. It guides participants in making a decision, taking you towards a particular route.

4. Treatment box

It indicates either treatment and "Four Cs" or referral. It is also a rectangle or a square and has one entry arrow only and no exit (refer to diagram below).



Every flow chart will start with this shape – **it has one exit only**

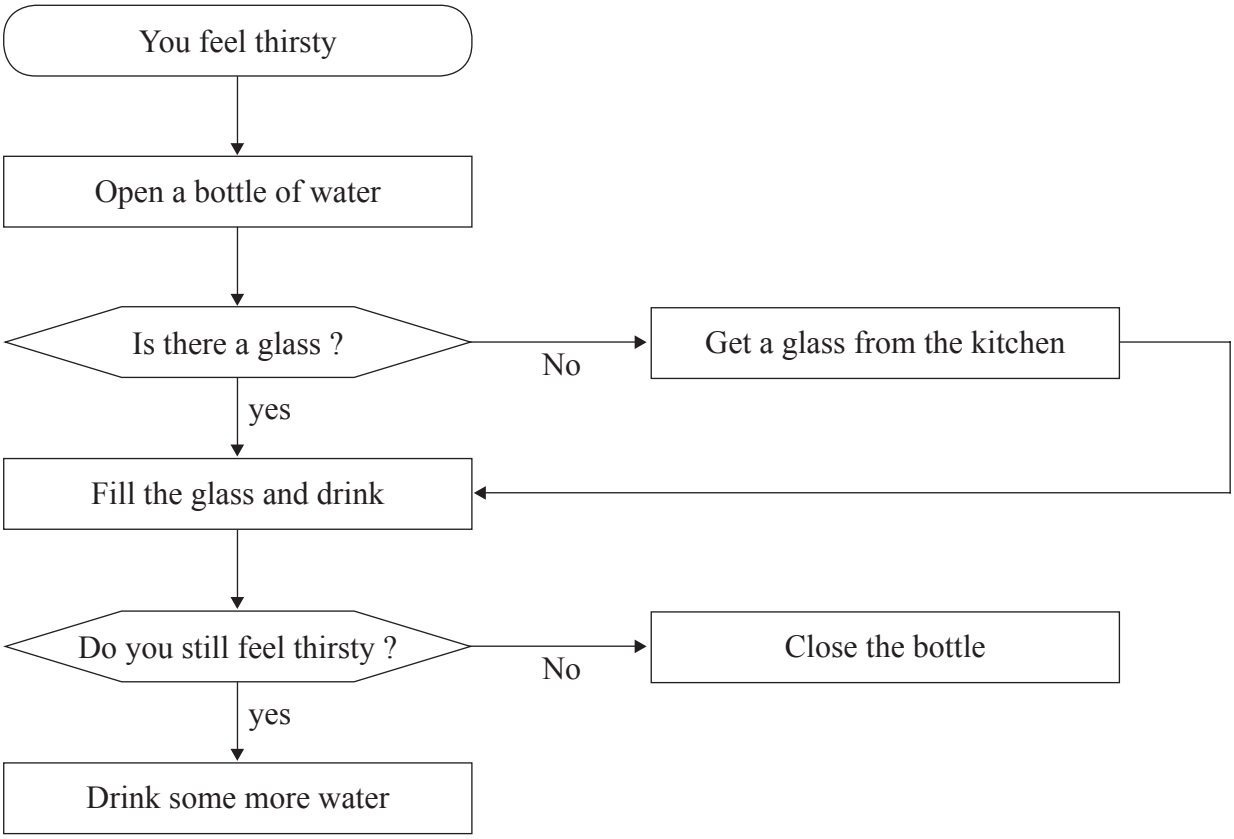
It has one entry arrow and one exit arrow

It has one entry arrow and two exits – a 'yes' and a 'no' exit

The HCP selects the flow chart headed by the patient's complaints and then follows the flow chart step by step. The flow chart will always end with treatment instructions or, in a few cases, with the instruction to refer the patient.

The facilitator should show one example of a flow-chart in PowerPoint™ presentation 'You feel thirsty'

SYNDROME OF THIRST



4.9 The STI Syndromes and their Management

4.9.1 Urethral Discharge Syndrome (UDS)

Introduction:
Urethral discharge syndrome (UDS) is one of the most common presentation of STI in men. It is often associated with dysuria and is mostly caused by *N. gonorrhoeae* or by *Chlamydia trachomatis* (serovars D to K). Occasionally, it may also be caused by *Trichomonas vaginalis, Mycoplasma genitalium, or Ureaplasma urealyticum*

Objectives:
By the end of the session, the participants will be able to:

a. Explain the meaning of urethral discharge syndrome
b. Tell the name of the causative organisms of urethral discharge syndrome
c. Make an appropriate diagnosis and treat it effectively

Method: Interactive lecture
Materials: PowerPoint™ slides, LCD projector, Laptop computer, National Guidelines on Case Management of STIs, clinical slides and case history (annex 5)
Time: 45 minutes for the case management of UDS

Instruction to the facilitator:
The facilitator starts with the case history of a patient having the symptoms of urethral discharge and asks the participants questions regarding its possible causes, other associated manifestations and their management. Compare their answers with the text slides. The facilitator then proceeds with the short exercise session on UDS (see **annex 5** for case history on UDS).

Resource materials for the facilitator:

Symptoms:

- Urethral discharge
- Dysuria and urethral irritation

Signs:

- Obvious urethral discharge or discharge within the preputial fold
- UD seen after urethral milking
- Erythema of the urethral meatus, the inner covering of the prepuce and or glans penis
- May later develop painful scrotal swelling

Diagnosis:
Based on the symptoms and signs (i.e. syndromic)

Syndromic management:

Treatment of both *N. gonorrhoeae* and *Chlamydia trachomatis*

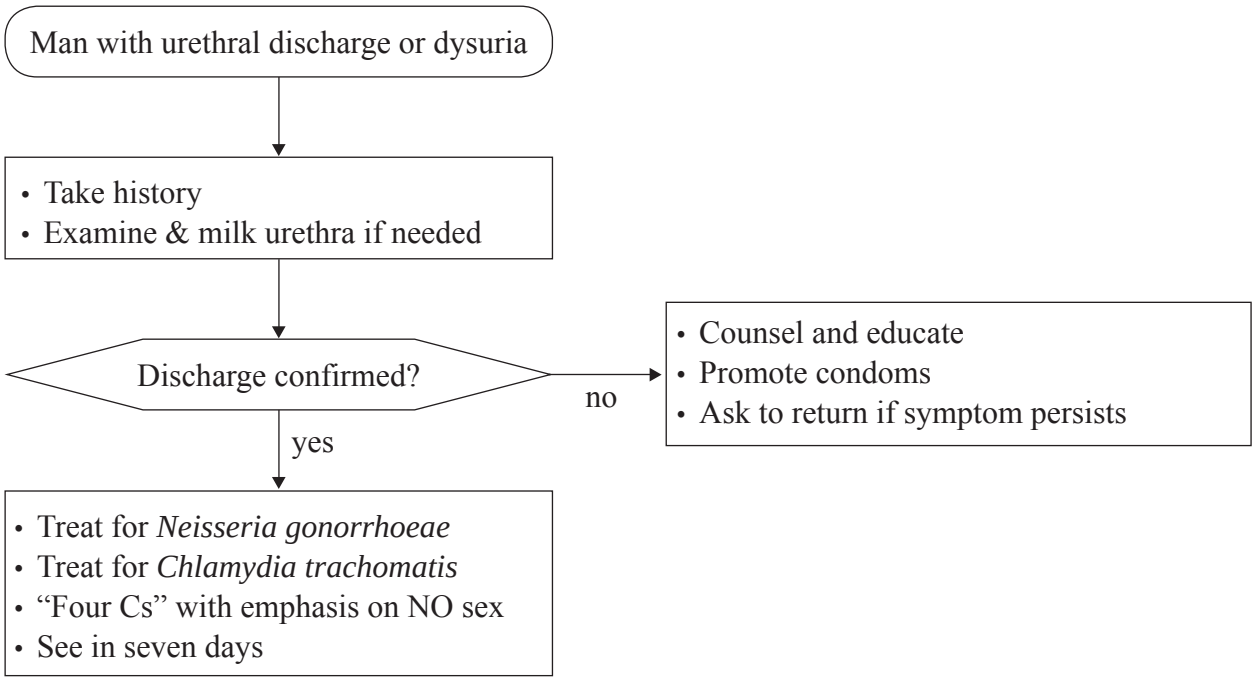
1. Cefixime 400 mg oral single dose
   Or
   Ceftriaxone 250 mg IM single dose
   Or
   Spectinomycin 2 gm IM single dose
   Plus
2. Azithromycin 1 gm oral single dose
   Or
   Doxycycline 100 mg oral twice daily for seven days
   Single dose treatment regimens are preferred in all cases for better compliance

Recurrent Urethral Discharge:

Persistent or recurrent symptoms of urethritis may result from drug resistance, poor compliance or re-infection. If there is history of unprotected sexual exposure even with regular but untreated sexual partners, re-treatment for both gonococcal and chlamydial infection is indicated. In some cases, there may be infection with *Trichomonas vaginalis* that should be treated with tinidazole 2 gm stat dose or metronidazole 400 mg three times daily for seven days, if the prior treatment fails.

Remember the "Four Cs".

FLOW CHART FOR THE SYNDROMIC MANAGEMENT OF URETHRAL DISCHARGE WHERE MICROSCOPE IS NOT AVAILABLE



4.9.2 Scrotal Swelling Syndrome (SSS)

Introduction:
Scrotal swelling syndrome (SSS) is one of the STI syndromes seen in males and is characterized by pain and swelling of one or both sides of the scrotum with or without the preceding history of urethral discharge and burning on micturition.

Objectives:
By the end of the session, the participants will be able to:

1. Define SSS
2. Name the common causative agents for SSS
3. Differentiate between SSS due to STI and non-STI causes
4. Make the syndromic diagnosis of SSS
5. Provide appropriate management of SSS

Method: Interactive lectures
Materials: LCD projector, Laptop computer, PowerPoint™ slides, National Guidelines on Case Management of STI, clinical slides and a case history (**annex 5**)
Time: 15 + 30 minutes for short exercise session of case management of SSS.

Instruction to the facilitator:
The facilitator starts the session with the participants by introducing and asking questions on SSS. He/she then presents the text slides on SSS, then initiates a short exercise session on the management of SSS by showing clinical slides and a case history (see **annex 5** for case history)

Resource materials for the facilitator:

Introduction:
Inflammation of testis (orchitis) and epididymis (epididymitis) or both (epididymo-orchitis) causing swelling and pain in testis and/or epididymis which ismostly unilateral.

Caused in most cases by *Neisseria gonorrhoeae* or by *Chlamydia trachomatis.*

Symptoms:

- Painful swelling in the scrotal region usually unilaterally
- Sometimes associated with dysuria/discharge

Signs:

- Swelling and tenderness of testis and epididymis
- Occasional urethral discharge

Causative organisms:

- *Neisseria gonorrhoeae*
- *Chlamydia trachomatis*

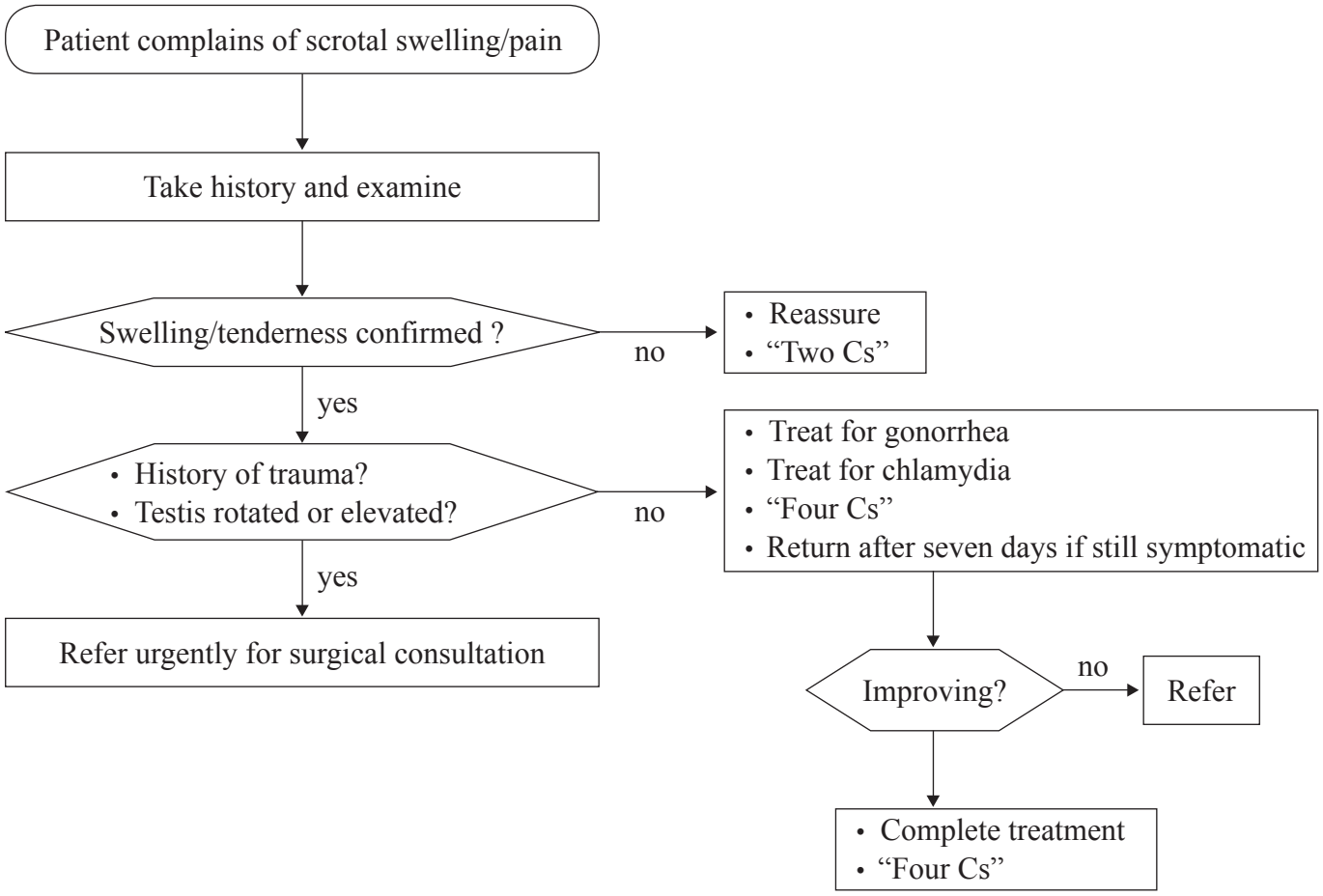
Note: Surgical causes like trauma, torsion and other infections (e.g., tuberculosis) should always be ruled out.

Recommended treatment:

Treatment of both *N. gonorrhoeae* and *Chlamydia trachomatis* (i.e. two medications are routinely required).

1. Cefixime 400mg oral single dose
   Or
   Ceftriaxone 250 mg IM single dose
   Plus
2. Azithromycin 1 gm oral single dose
   Or
   Doxycycline 100 mg oral twice daily for seven days
3. Bed rest and scrotal support until local inflammation subsides

FLOW CHART FOR THE CASE MANAGEMENT- SCROTAL SWELLING SYNDROME



4.9.3 Genital Ulcer Disease (GUD) Syndrome

Introduction:
Genital ulcer disease (GUD) syndrome is characterized by ulcerative lesions in the genitalia and can be caused by several different organisms. More than one venereal disease is detected in 3 to 10 percent of patients with GUD. Laboratory diagnosis is of low sensitivity and specificity for diagnosis of different types of GUD. Syphilis and HIV screening should be done at the time of ulcer presentation and again after three months (at the end of the window period of both diseases).

Objectives:
By the end of this session, the participants will be able to:

a. List the common causes of GUD
b. Do the differential diagnosis of GUD
c. Manage GUD at the district or primary health centre (PHC) level

Methods: Questions and answers/clinical slides/case presentation if possible
Materials: LCD projector, laptop computer, PowerPoint™ slides, clinical slides and case history. National Guidelines on Case Management of STIs
Time: 20 + 30 minutes for practical session on case management of GUD.

Instruction to the facilitator:
The facilitator starts with a case history of a patient with the symptoms of GUD and asks participants questions regarding its possible causes, other associated manifestations and their management. Compare their answers with the text slides. The facilitator then proceeds with the short exercise session on GUD case management (see **annex 5** for case history on GUD).

Resource materials for the facilitator:

Definition:
GUD syndrome is a common STI syndrome presenting with genital ulcers with or without inguinal lymphadenitis and can be caused by several organisms.

Causative agents:

- *Treponema pallidum*
- Herpes simplex virus (HSV)
- *Haemophilus ducreyi*
- *Klebsiella granulomatis* (previously *Calymmatobacterium granulomatis*) – causative organism of granuloma inguinale (Donovanosis)

Clinical features:
Symptoms:

- Soreness or pain
- Ulcers – single or multiple in the genitalia
- Unilateral or bilateral inguinal lymphadenopathy

Signs:

- Ulcers may be single or multiple, superficial or deep, clean or dirty looking.
- May be associated with enlarged, tender or non-tender, unilateral or bilateral, soft or rubbery lymph nodes.
- Occasionally, there may be non-itchy maculo-papular rashes all over the body including palms and soles.

Where to look for ulcers:

In men:

External genitalia including the inner surface of the foreskin and the part it normally covers.

In women:

Examine the skin of the external genitalia and at the mucus surfaces by separating the labia.

In both sexes:

Ulcers may be present at perineum, peri-anal region, anus or oral cavity.

Recommended treatment:

1. For Syphilis

Inj. Benzathine Penicillin 2.4 mega units IM
Plus

2. For Chancroid

Azithromycin 1 gm oral single dose
Or
Erythromycin 500 mg six hourly orally for seven days
Or
Ciprofloxacin 500 mg twice daily for three days
Or
Inj. Ceftriaxone 250 mg IM single dose

For suspected HSV (genital herpes):

First Clinical episode:

Acyclovir 400 mg tab oral three times a day for 7 – 10 days

Recurrences:

Recurrent episodes are common. If these are observed, refer to a specialist.

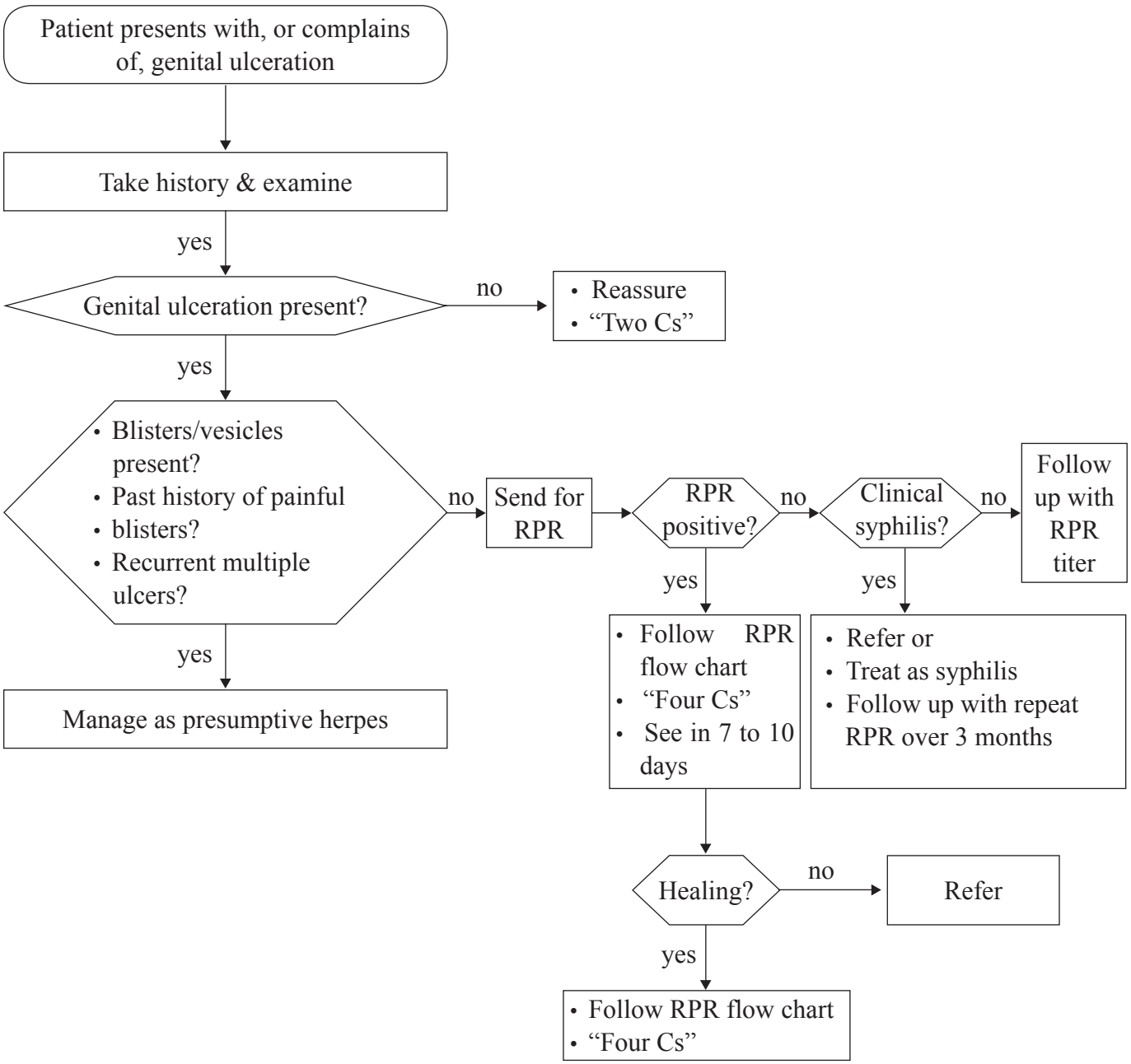
For suspected Granuloma Inguinale (Donovanosis):

Since granuloma inguinale is not common in Nepal, routine treatment is not recommended in the management of GUD syndrome (unless there is strong clinical suspicion of this disease).

The treatments recommended are:
Doxycycline 100 mg two times daily
Or
Azithromycin 1gm weekly or 500 mg per day

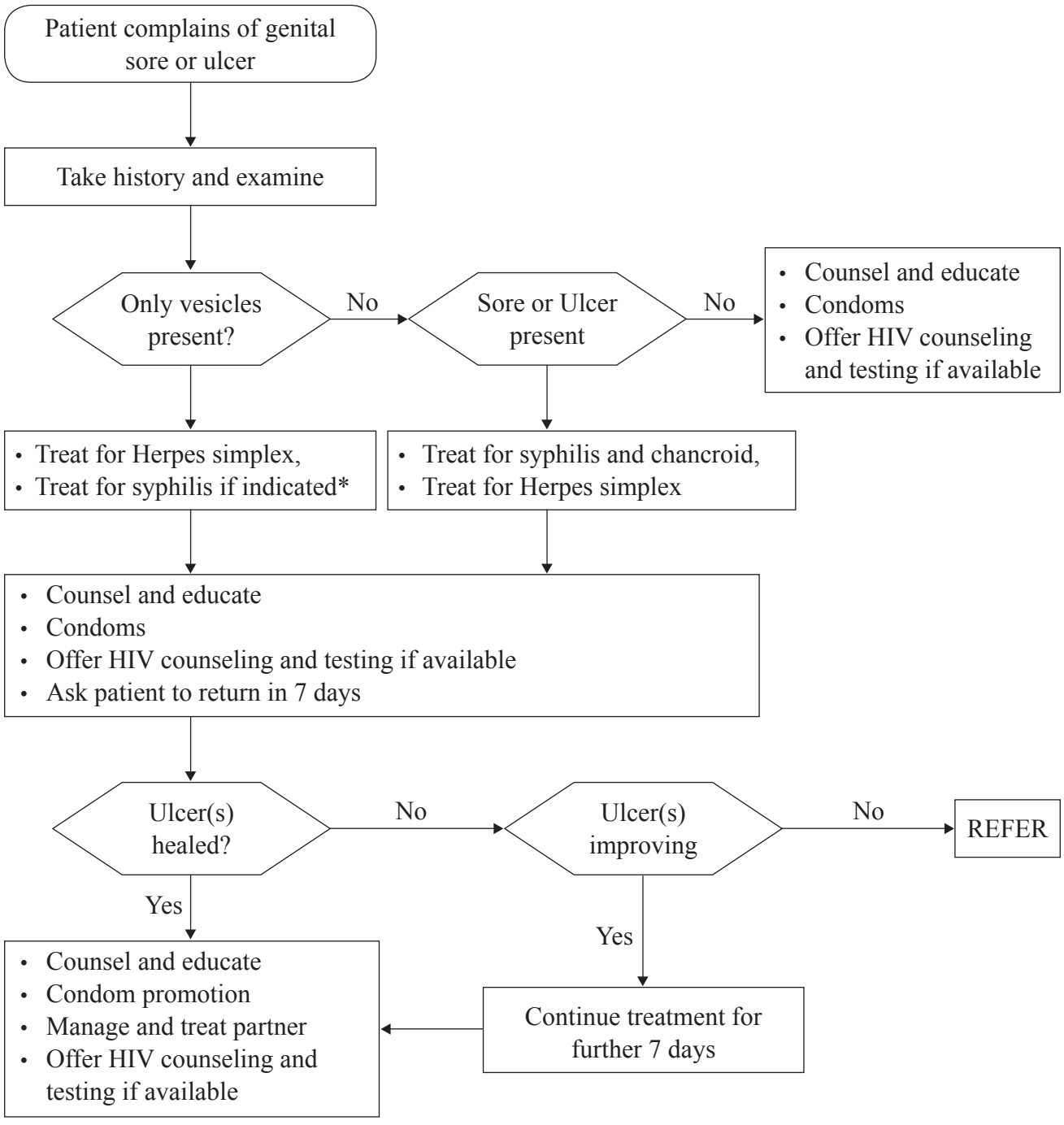
Note: Treatment should be continued until the lesion heals

FLOW CHART FOR THE MANAGEMENT OF GUD WHERE RPR SEROLOGY IS POSSIBLE



If RPR is reactive (neat or higher) even without any clinical symptoms or signs of GUD in a high risk population, treatment of syphilis is recommended. If RPR is reactive then mention the titer.

FLOW CHART FOR THE TREATMENT OF GUD WHERE RPR IS NOT POSSIBLE



*** Indications for syphilis treatment:**

- RPR positive; and
- Patient has not been treated for syphilis recently

4.9.4 Inguinal Bubo Syndrome

Introduction:
Inguinal bubo syndrome is characterized by painful swelling in the groin. This is also caused by different groups of organisms responsible for causing STIs.

Objectives:
By the end of the session, the participants will be able to:

a. Define and explain signs and symptoms of inguinal bubo
b. Name its main causative agents
c. Manage inguinal bubo syndrome

Methods: Questions and answers/clinical slides/mini lecture
Materials: LCD projector, PowerPoint™ slides, Laptop computer, National Guidelines on Case Management of STIs, clinical slides and case history of inguinal bubo (see **annex 5** for case history)
Time: 45 minutes.

Instruction to the facilitator:
The facilitator starts with a case history of a patient having symptoms of Inguinal bubo and asks participants questions regarding its possible causes, other associated manifestations and their management. Compare the participants' answers with the text slides. The facilitator then proceeds with the practical session on the management of inguinal bubo syndrome. (See **annex 5** for case history of inguinal bubo).

Resource materials for the facilitator:

Definition:
Inguinal bubo syndrome is characterized by painful or fluctuant lymph nodes in the inguinal region with or without obvious genital ulcers.

Clinical features:
Symptoms:

- Pain/swelling in the inguinal region with or without ulcers in the genitalia.

Signs:

- Unilateral/bilateral, tender/non-tender, single/multiple, solid/fluctuant lymph node swell in the inguinal region.
- Discharging sinus may be present.
- Ulcer in the genitalia may be present.

Note: Infections of the lower limb and other non-STI causes can also cause swelling of the lymph nodes and these causes should be ruled out.

Common infectious agents:
Haemophilus ducreyi
Chlamydia trachomatis (serovars L1-L3)

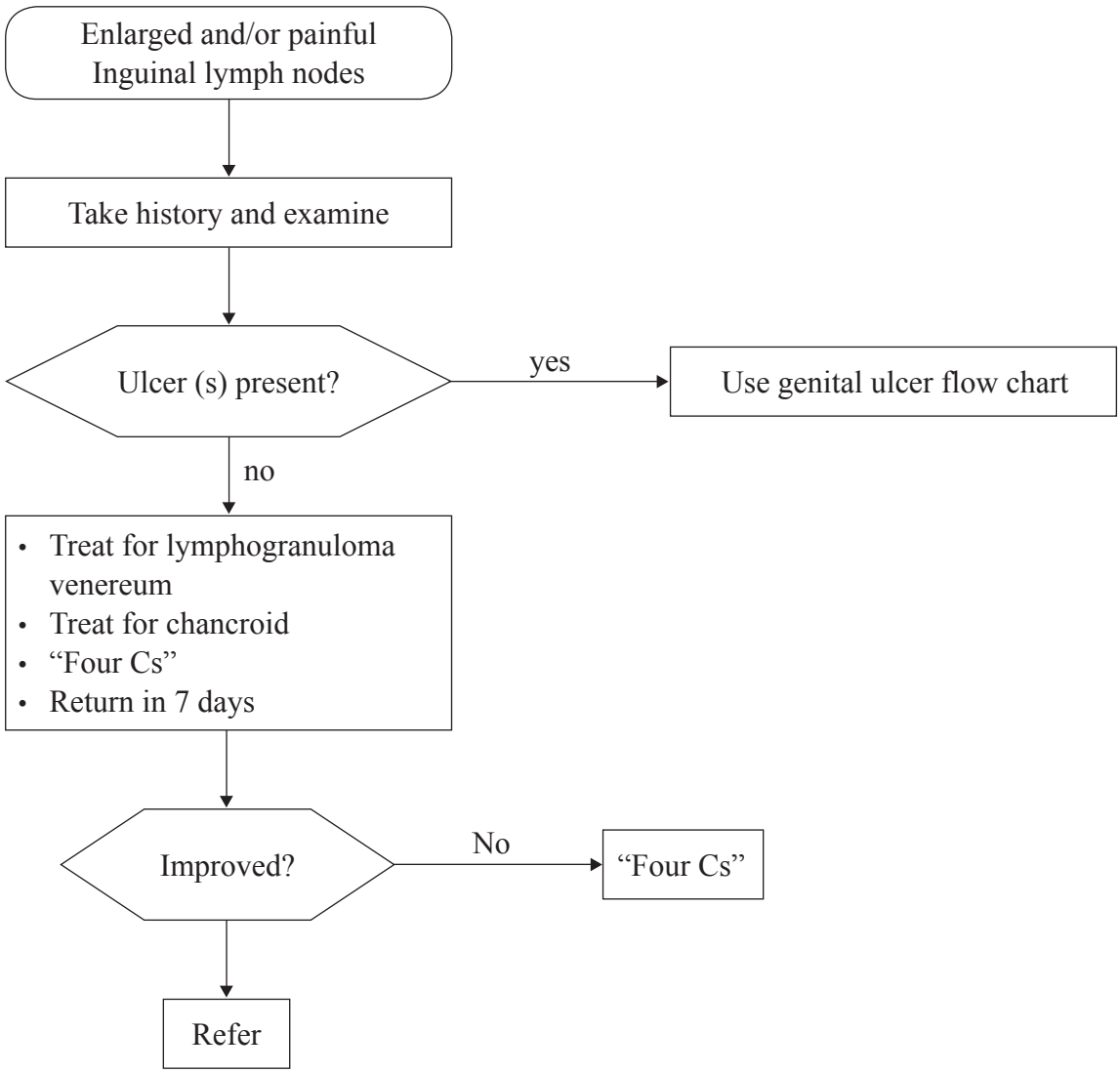
Recommended treatment:

- Azithromycin 1 gm orally in a single dose
  plus
- Doxycycline*, 100mg, two times daily for 14 days
  Or
- Erythromicin, 500mg, four times daily for 14 days

* Contraindicated in pregnancy

Note: Suspected or diagnosed syphilis or granuloma inguinale (Donovanosis) should be treated accordingly.

FLOW CHART FOR THE CASE MANAGEMENT OF THE INGUINAL SWELLING (BUBO) SYNDROME



Note: Fluctuant lymph nodes should be aspired by a large bore needle through skin-never incise.

4.9.5 Vaginal Discharge Syndrome (VDS)

Introduction:
Vaginal discharge is one of the most common genital symptoms a woman presents with at any primary health care facility or gynecology outpatient department. Health workers need to remember that not all vaginal discharge is pathological. It is normal for a woman to have some vaginal discharge. Vaginal discharge may increase during ovulation, before and after sexual activity or during pregnancy and lactation.

An abnormal or unusual vaginal discharge is due to an infection of the vagina or cervix. Vaginal discharge can be due to vaginal infections such as trichomoniasis, candidiasis or bacterial vaginosis. It can also be due to cervical infection. Cervical infection is most often caused by gonorrhea and/or *Chlamydia trachomatis*. It is important to distinguish vaginitis from cervicitis since cervicitis can lead to serious complications such as infertility, pelvic inflammatory disease and ectopic pregnancy. In addition to the above, sexual partners of cervicitis patients must also be treated to avoid re-infection.

Objectives:
By the end of the session, the participants will be able to:

a. Explain the signs and symptoms of VDS
b. List causative organisms
c. Explain the concept of risk assessment
d. Manage VDS by using flow charts in different settings within a health facility

Methods: Presentations questions answers and discussions
Materials: News print, multimedia, handouts of flowcharts, National Guidelines on Case Management of STIs
Time: 45 minutes

Instruction to the facilitator:
The facilitator starts the session by asking participants the following questions, and writes down their responses on the white board. The facilitator then compares their answers with the presentation on VDS.

Question: What are the symptoms and signs of VDS?
What are the most common causes of vaginitis and cervicitis?
What is the recommended treatment regimen?

Resource materials for the facilitator:

Introduction:
One of the most common gynecological complaints.
Has to be differentiated from physiological increases in normal vaginal discharge (e.g., mid-cycle and in pregnancy)

Symptoms:

- Discharge
- Itching

- Vaginal soreness
- Smelly discharge
- Burning while passing urine
- Pain during intercourse

Signs:

- Discharge from the vaginal opening (discharge coming either from vagina or cervix)
- Discharge can be:
  - Thin to thick
  - Clear to pus-like
  - Scanty to profuse
  - Odorless to malodorous

Causative organisms:

Vaginal infection is most often caused by:

- *Trichomonas vaginalis*
- *Candida albicans*
- *Gardnerella vaginalis and Mobiluncus sp*

Cervical infection is most often caused by:

- *Neisseria gonorrhoeae*
- *Chlamydia trachomatis*

Treatment of VDS:

A. Vaginitis treatment

- Tinidazole 2gm oral single dose
  Or
- Metronidazole 400mg oral three times daily seven days
  Plus
- Fluconazole 150 mg oral single dose
  Or
- Clotrimazole 200 mg vaginal pessary each night for three nights

B. Cervicitis treatment

Treatment of both *N. gonorrhoeae* and *Chlamydia trachomatis* (i.e. two medications are routinely required).

- Azithromycin 1 gm oral single dose
  Plus
- Cefixime 400 mg oral single dose
  Or
  Inj. Ceftriaxone 250 mg IM single dose
  Plus
  Treatment of vaginitis (as of above)

Note: Remember "Four Cs" with every patient

Risk assessment for VDS:

Definition:

Risk assessment means assessing the probability of the woman having sexually acquired cervicitis.

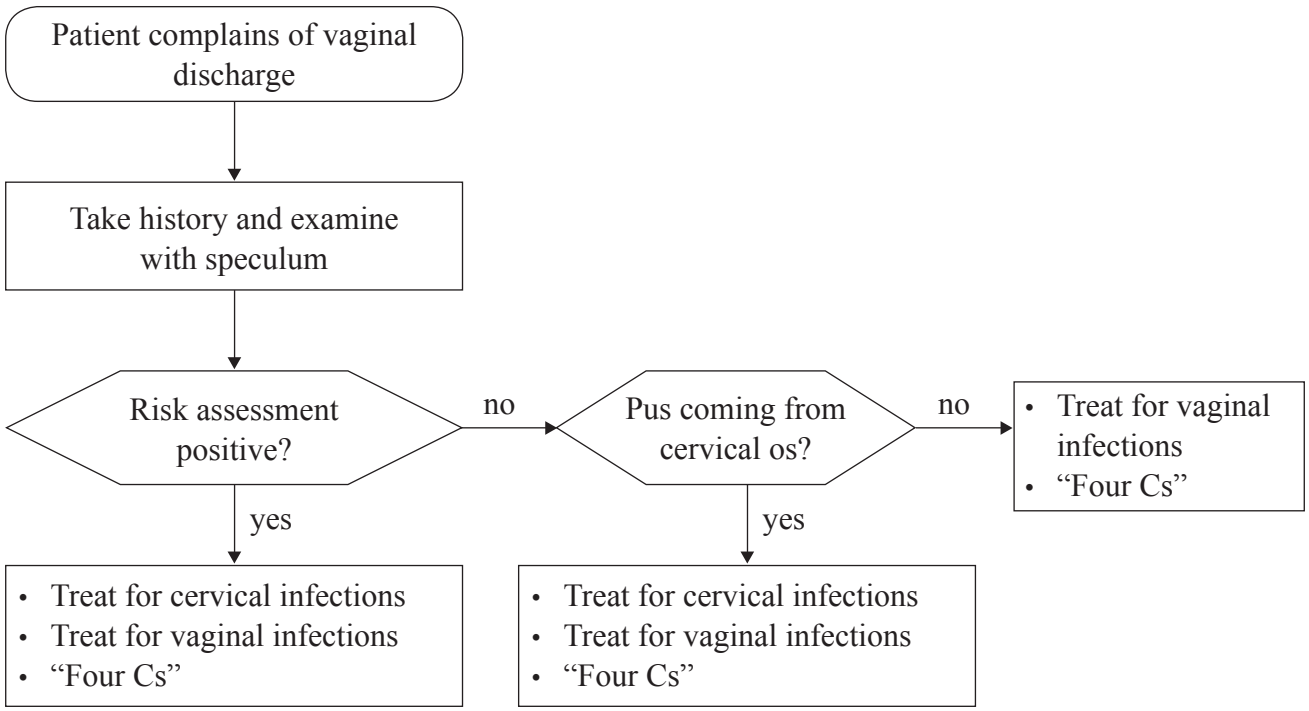
Risk assessment is positive if the woman has/had:

- Symptomatic sexual partner
- More than one sexual partner in the last month
- Partner who have had multiple sexual partners
- Personal knowledge of the woman and her environment keeping her at risk

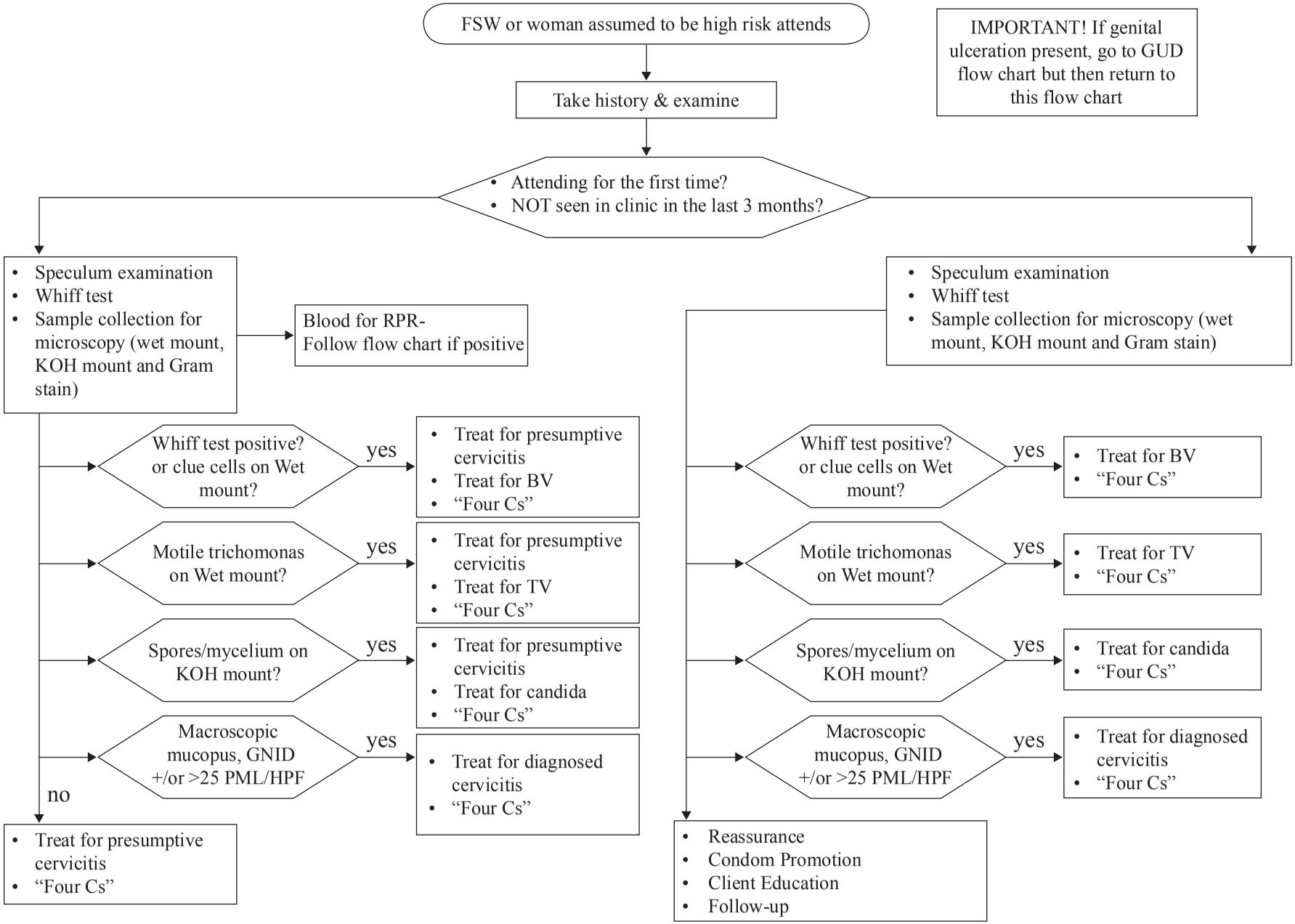
Management of vaginal discharge after risk assessment:

1. If risk assessment is negative and there is no clinical or lab evidence of cervicitis, treat the patient for vaginitis only.
2. If risk assessment is positive or there is no clinical or lab evidence of cervicitis, treat the patient for vaginitis and cervicitis
3. If risk assessment is negative but there is clinical and/or lab evidence of cervicitis, treat the patient for vaginitis and cervicitis.

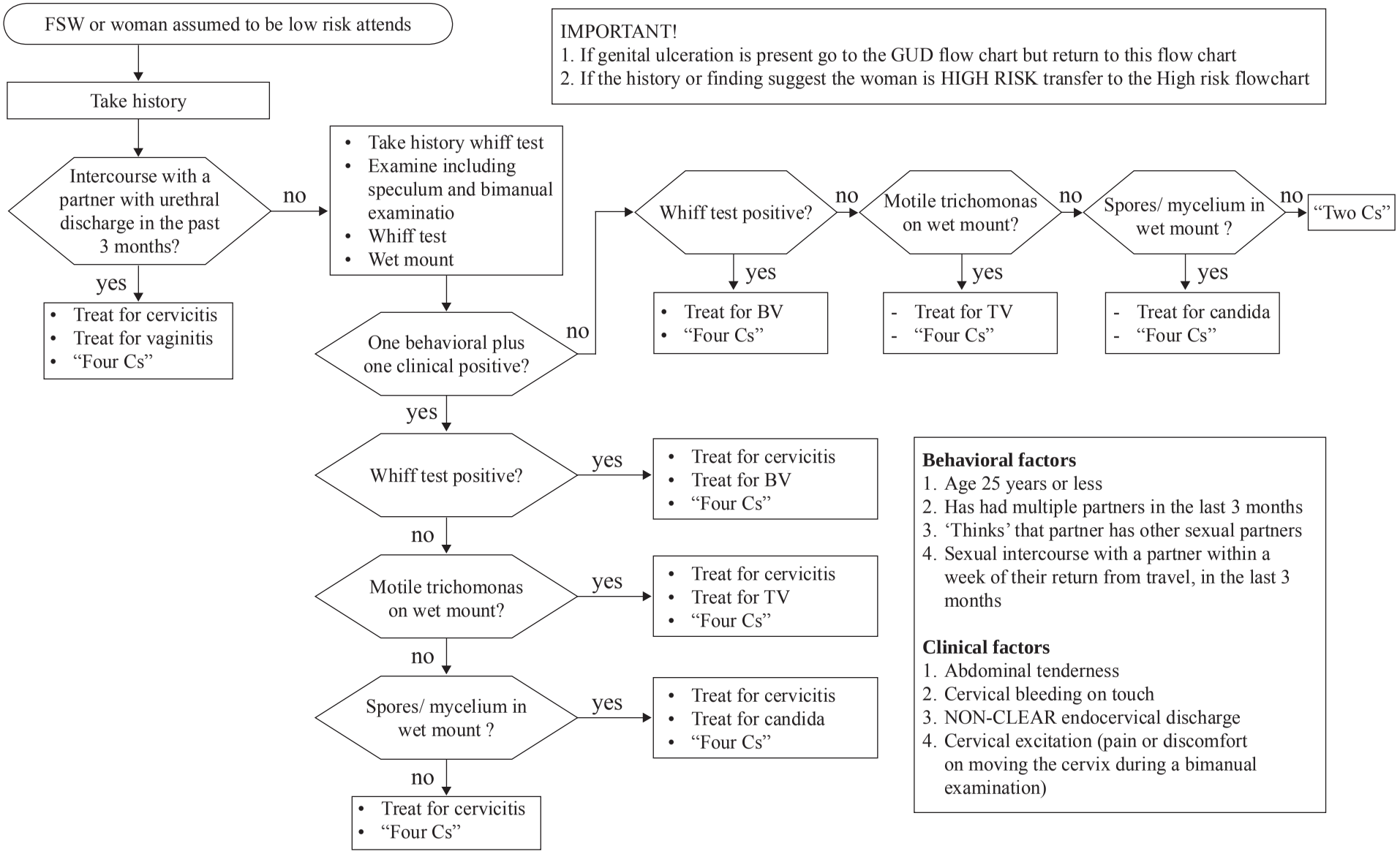
FLOW CHART FOR THE CASE MANAGEMENT OF THE VDS WHERE SPECULUM EXAMINATION IS POSSIBLE



MANAGEMENT OF STIS IN SEX WORKER OR WOMAN ASSUMED TO BE HIGH RIGK



MANAGEMENT OF WOMEN ASSUMED TO BE AT LOWER RISK



4.9.6 Lower Abdominal Pain Syndrome

Introduction:
The lower abdominal pain syndrome refers to pelvic inflammatory disease (PID), which is an infection of the female upper genital tract: uterus, fallopian tubes, ovaries or pelvic cavity. It is a complication of STI in women. PID is a common cause of abdominal pain in women. Infection occurs as organisms ascend through the cervix. Hence the organisms causing it may be *Neisseria gonorrhoeae, Chlamydia trachomatis* and/or anaerobic bacteria. Early diagnosis and treatment is very important as delay may cause serious consequences such as infertility, ectopic pregnancy and chronic pelvic pain. PID needs to be differentiated from other causes of lower abdominal pain. For this, use of flowchart, examination of abdomen with bimanual pelvic examination and speculum examination is essential to rule out other differential diagnosis.

Objectives:
By the end of the session, the participants will be able to:

a. List the symptoms and signs of PID
b. Name common causative organisms of PID
c. Diagnose and treat PID

Methods: Question and answers, presentations
Materials: LCD, paper, pencil, PowerPoint™ presentations
Time: 45 minutes

Instruction to the facilitator:
The facilitator starts the session with a case study on PID and asks participants about lower abdominal pain. He/she outlines the main points raised by the participants and compares it with text slides. (see **annex 5** for case study on PID)

Resource materials for the facilitator:

Introduction:
The Lower Abdominal Pain Syndrome also called pelvic inflammatory disease (PID), is an infection of the female upper genital tract (uterus, fallopian tubes, ovaries or pelvic cavities). It is a common complication of STI in women that occurs as an ascending infection through the cervix. However, other surgical emergencies for lower abdominal pain such as appendicitis or ectopic pregnancies should be ruled out.

If PID is not diagnosed and treated on time, it may lead to ectopic pregnancy (with the possible risk of sudden death from internal bleeding), infertility, and chronic pelvic pain. PID can be differentiated from other causes of lower abdominal pain through an abdominal or pelvic examination (bimanual and speculum) and can be managed with the help of flow charts.

Clinical features:
Symptoms:

- Pain in the lower abdomen (episodic or continuous)
- Low or high grade fever depending on severity

- Vaginal discharge
- Abnormal vaginal bleeding, pain during intercourse, pain during menstruation or pain during urination.

Signs:

- High temperature (above 38.5^{o}C)
- Tenderness in lower abdomen
- Vaginal discharge

Internal examination:

Speculum examination

- Cervical erosion/ulcer
- Abnormal (mucopurulent) discharge from the cervix

Bimanual pelvic examination

- Cervical excitation (pain on moving the cervix) may be present

Causative organisms:

- *Neisseria gonorrhoeae*
- *Chlamydia trachomatis*
- Anaerobic bacteria

Treatment:

Treatment of both *N. gonorrhoeae* and *Chlamydia trachomatis* PLUS anaerobes (i.e. three medications are routinely required).

Outpatient treatment (mild to moderate)

- Cefixime 400 mg oral single dose
  Or
  Inj. Ceftriaxone 250 mg IM single dose
  Plus
- Doxycycline 100 mg twice daily for 14 day
  Plus
- Metronidazole 400 mg three times daily orally for 14 days

Note: Patient taking Metronidazole should be cautioned to avoid alcohol.

Note: Seriously consider referring for hospitalization when:

a. The diagnosis is uncertain
b. Appendicitis or ectopic pregnancy cannot be ruled out
c. Pelvic abscess is suspected
d. The patient is pregnant
e. The patient cannot tolerate or follow outpatient treatment

Follow-up:

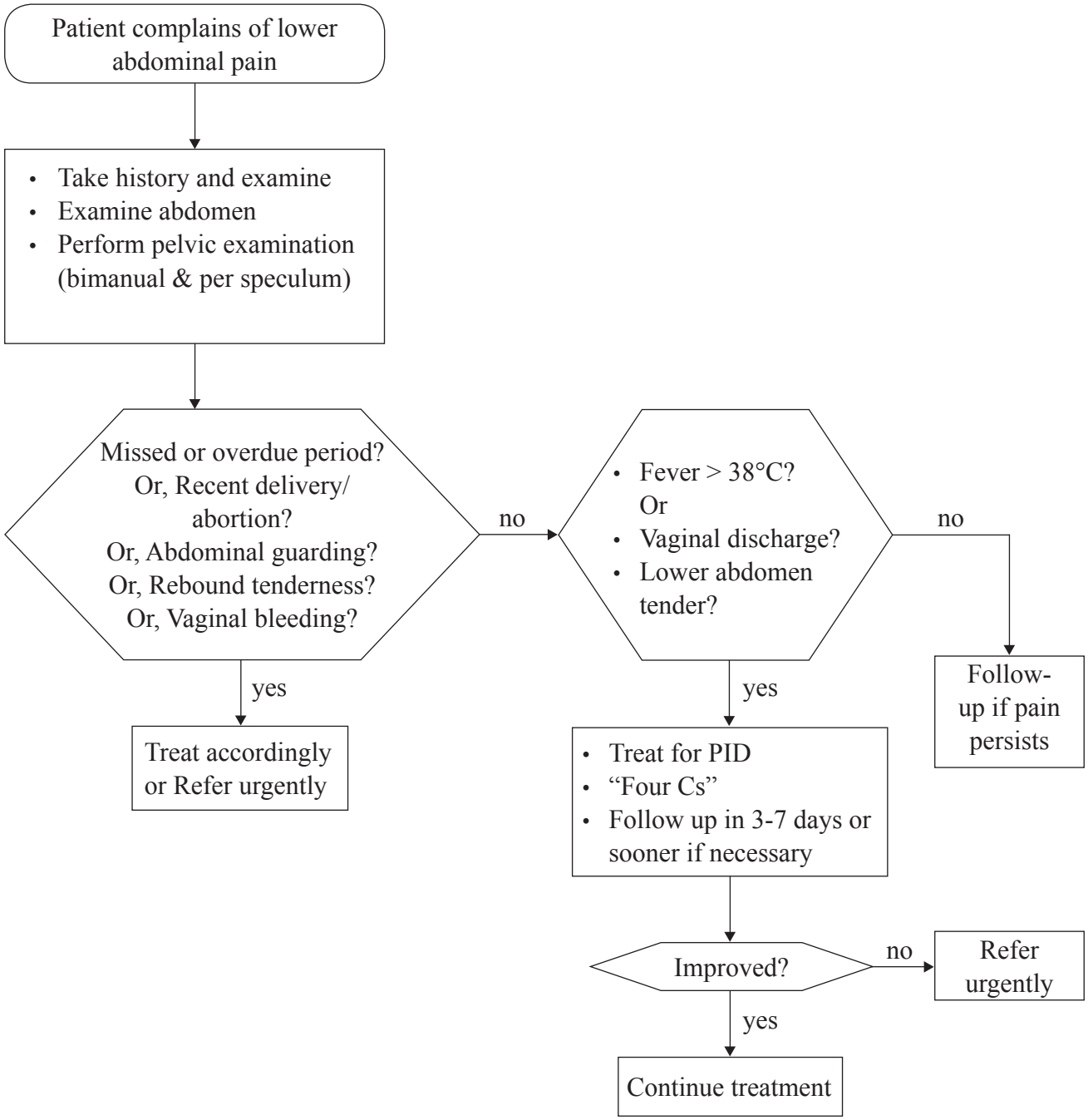
Outpatients with PID should be followed up at 3-7 days or sooner if necessary, and should be referred to a nearby hospital for admission if condition does not improve.

In-patient (hospitalized patient) treatment (for severe PID)

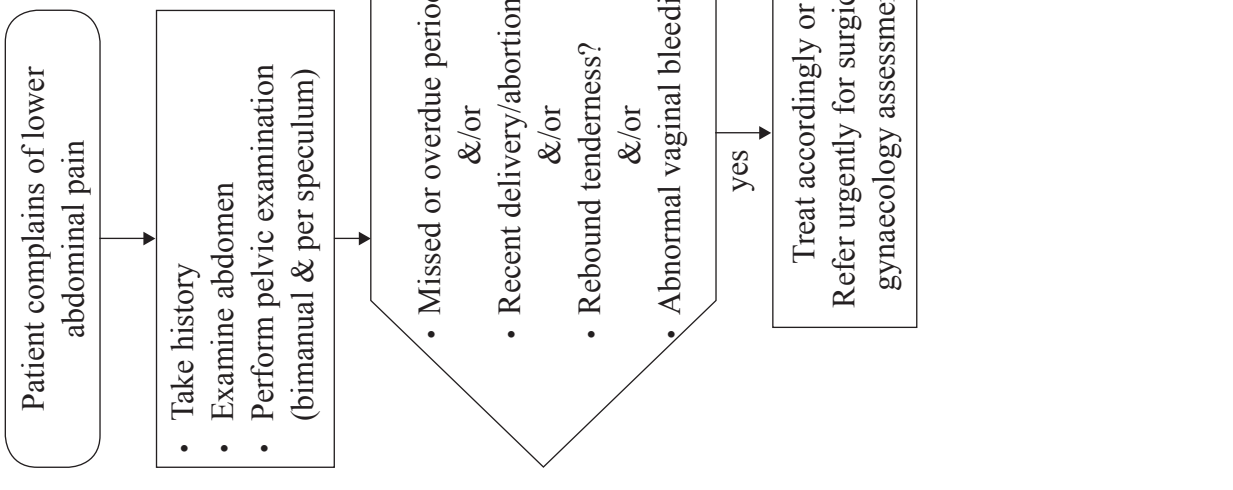
- Ceftriaxone or other third generation Cephalosporin IV daily*
  Plus
- Doxycycline100 mg oral twice a day for 14 days
  Plus
- Metronidazole 400 mg thrice a day for 14 days

* (Dose and duration to be determined on the basis of severity and clinical judgment)

FLOW CHART FOR CASE MANAGEMENT OF LOWER ABDOMINAL PAIN SYNDROME IN WOMEN (NO SPECULUM EXAMINATION POSSIBLE)



LOWER ABDOMINAL PAIN IN WOMEN SPECULUM EXAM POSSIBLE



4.9.7 Neonatal Conjunctivitis Syndrome

Introduction:
Neonatal conjunctivitis syndrome is a common sequel to cervicitis in pregnant women. If this condition is not treated early, it may lead to blindness in the child. Hence, it is extremely important that all pregnant women be properly screened by assessing risk factors and by laboratory tests for possible STIs. Preventive measures must be taken immediately after the birth of a child.

Also called ophthalmia neonatorum, is mostly caused by the two organisms responsible for cervicitis in women. They are *N. gonorrhoeae* and *Chlamydia trachomatis* and are characterized clinically by erythema, swelling and discharge from one or both eyes within 21 days of birth.

Objectives:
By the end of the session, the participants will be able to:

a. Use the possible causes of neonatal conjunctivitis
b. Identify the signs of neonatal conjunctivitis
c. Prevent and manage neonatal conjunctivitis syndrome

Method: Interactive lecture
Materials: Brown paper, marker pens, LCD slides with pictures, OHP slides
Time: 20 minutes

Instruction to the facilitator:
Start introducing the topic by showing a picture of neonatal conjunctivitis and asking participants what they know about it. Give opportunities to as many participants as possible to participate in the ongoing discussions. Note down points stated by the participants on the newsprint paper. Highlight main important points and present your slides.

Resource materials for the facilitator:

Clinical features:

- Clinical features may start from the first day for up to 21 days.
- Swelling of the lids
- Conjunctival congestion
- Discharge from the eye
- Difficulty in opening the lids
- Crusting and ulceration around the lid margin

Causative organisms:

- *N. gonorrhoeae*
- *Chlamydia trachomatis*
- Rarely – other bacterial or viral infections

Diagnosis:
Diagnosis is based on the history of STI in the mother – or her partners, risk assessment for STI and clinical findings based on the eyes of the baby.

Management:

Prevention

Babies born to mothers infected with STIs or possible risk of contraction should:

1. Have their eyes cleaned with normal saline
2. Tetracycline 1% eye ointment in both eyes at birth

Treatment of neonatal conjunctivitis syndrome:

Treat mother and her partner/s for:

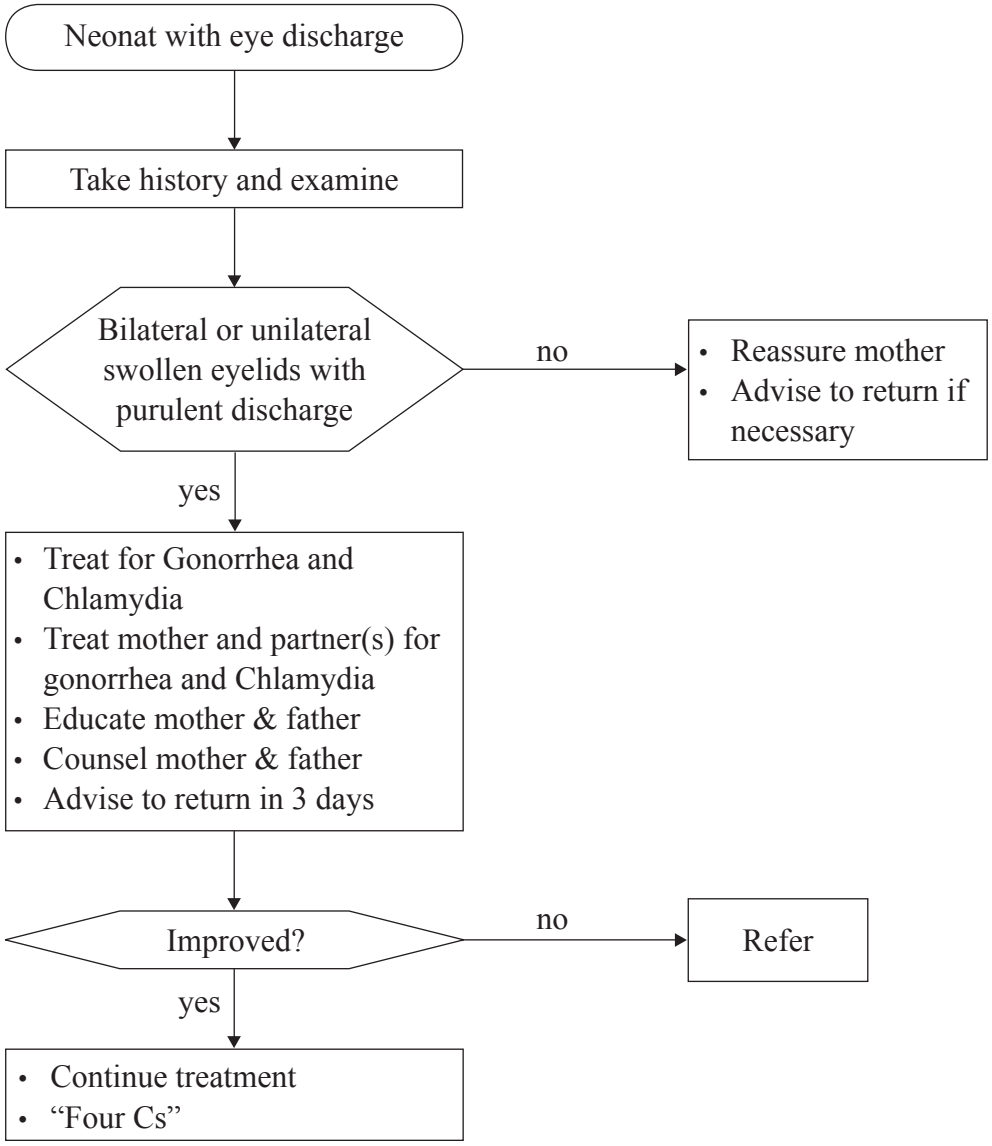
Gonorrhea and chlamydial infection

Treat the child for:

Gonorrhea with

- Ceftriaxone 50 mg /kg (not exceeding 125 mg) IM single dose and
  plus
- *Chlamydial infection with*
  Erythromycin syrup 50 mg/kg oral in four divided doses for 14 days
  plus
- Frequent cleaning of both eyes with normal saline

FLOW CHART FOR THE CASE MANAGEMENT OF NEONATAL CONJUNCTIVITIS SYNDROME



4.10 Importance of Follow-up and Partner Notification

Introduction:
Follow-up treatment and partner treatment of STI patients is an essential step of good STIs case management. The above step is critical for a successful STIs control program and should be followed at each STIs clinic. Follow-up and partner treatment provides not only the opportunity to treat a patient's STIs, but to provide education and counseling which will assist in preventing future infections, break the chain of STI transmission, reduce the risk of re-infection and reduce the risk of HIV acquisition and transmission.

Objectives:
By the end of this session, the participants will be able to:

a) Explain the importance of follow-up and partner treatment

Method: Interactive lecture
Materials: LCD Projector, laptop computer, PowerPoint™ presentation
Time: 30 minutes

Instruction to the Facilitator:
The facilitator should begin this session by asking participants to share their experiences pertaining to partner treatment and follow-up. These experiences should be used to generate discussions; the challenges faced, and ways to overcome these challenges. Facilitator should then exhibit the PowerPoint™ presentation on the importance of follow-up and sexual partner treatment. It should contain the following information:

1) Follow-up, contact tracing, partner treatment and referrals are considered essential components of STI case management and STI control programs

2) "Four Cs" of syndromic management

a. Compliance with treatment
b. Counseling
c. Contact tracing
d. Correct and consistent condom use

3) Follow-up is required to:

a. Assess the effectiveness of the treatment provided by the facility
b. Check to see whether STI educational advice given to clients is being followed correctly.
c. Assess if clients need additional services such as family planning, VCT counseling or referrals.
d. Promote a comfortable, caring and confidential atmosphere to encourage members of most-at-risk populations to access the services
e. To encourage safe behaviors and provide ongoing education and counseling

4) Contact tracing and partner treatment are important to:

a. Ensure that all partners of STI infected personnel complete treatment
b. Provide an opportunity to treat asymptomatic STIs
c. Break the chain of STI transmission, reduce the risk of re-infection and the risk of HIV acquisition and transmission.
d. Encourage all partner to access VCT services.
e. Provide STI education and counseling to partners and encourage safer sex practices

5) Referral for higher services if needed.

Principles of Partner Notification

Partner notification should always:

- Be voluntary and non-coercive
- Preserve confidentiality
- Observe the human rights and the dignity of the patient.

Module 5

Management of STIs in Special Groups

5.1 Management of STIs in Pregnancy

Introduction:
Intrauterine or perinatally transmitted STIs can have severely debilitating effects on pregnant women, their partners, and their fetuses. All pregnant women and their sex partners should be asked about STI, counseled about the possibility of perinatal infections, and advised to get access to treatment, if needed.

Objectives:
By the end of the session, the participants will be able to:

a. List the common STIs and their consequences during pregnancy
b. List the effects of STIs in newborns
c. Diagnose and treat common STIs during pregnancy
d. List all the drugs which are contraindicated in pregnancy

Method: Lecture with participatory session
Materials: LCD projector, PowerPoint™ slides, Laptop computer, papers and pencil, National Guidelines on Case Management of STI
Time: 45 minutes

Instructions to the facilitator:
All participants will be divided into four different groups depending on the total number of participants. Each group will be provided with one topic to brainstorm for 15 minutes and asked to present for five minutes each.

The topics provided are:

1. Common STI and their symptoms in pregnancy
2. Consequences of STIs during pregnancy
3. Diagnostic tests for STIs in pregnancy
4. Recommended and contraindicated drugs for the treatment of STIs during pregnancy

He/she then outlines the main points raised by the participants and compares it with the text slides.

Resource materials for the facilitator:

STIs during Pregnancy
Effects of STIs in pregnant women:

- Early onset of labor, spontaneous abortion, premature rupture of the membranes and uterine infection after delivery may be additional negative outcomes in pregnant women.
- Pregnant women can have many of the same consequences of STIs as women who are not pregnant such as cervical and other cancers, chronic hepatitis, cirrhosis, and other complications.

Harmful effects on babies:

- Stillbirth, low birth weight, conjunctivitis (eye infection), pneumonia, and neurological damage.
- Congenital abnormalities (including blindness, deafness, or other organ damage), acute hepatitis, meningitis, chronic liver disease, and cirrhosis. These may be apparent at birth or may be detected after several months or even years later.

How STIs can affect babies?

- STIs can be transmitted from a pregnant woman to the fetus, a newborn, or an infant before, during, or after birth.
- Some STIs (such as syphilis, hepatitis B virus and HIV) can cross the placenta and infect the fetus during its intrauterine life.
- Other STIs (such as gonorrhea, chlamydia and herpes simplex virus – HSV and also syphilis, HBV and HIV) can be transmitted from the mother to an infant as it passes through the birth canal.
- HIV infection can cross the placenta during pregnancy, infect during the process of birth, and, unlike most STIs, an infant can be affected during the process of breast feeding.

STIs prevention in pregnant high-risk women:

Although a woman may be monogamous during her pregnancy, she can remain at risk of STI, if her partner is not monogamous. For this reason, she should be advised to consider sexual abstinence. She should also be consistent regarding condom use and follow correct procedures for wearing one.

Protection is critical throughout a woman's pregnancy, including the last trimester when active infection can present a threat to the health of a woman and her baby.

Treatment of STIs in pregnancy:

Bacterial STIs (e.g., chlamydia, gonorrhea, and syphilis) can be treated and cured with antibiotics during pregnancy. There is no cure for viral STIs such as genital herpes and HIV, but antiviral medications for herpes and HIV can reduce symptoms in a pregnant woman. In addition, the risk of passing HIV infection from a mother to her baby is dramatically reduced with treatment. For women who have active genital herpes lesions at the time of delivery, a cesarean section may be indicated to protect the newborn against infection. Common STI syndromes and recommended medications for STIs in pregnency is shown in tables below

STIs to be screened during pregnancy:

- Syphilis
- Hepatitis B
- HIV
- Gonorrhea (if facilities exist)

Common STIs syndromes and recommended medications for STIs in Pregnancy:

Syndrome	Common Causes	Recommended Drug
Vaginal discharge	Candida, TV, BV	Cotrimazole vaginal pessary + Metronidazole
Genital ulcer diseases	Herpes, Syphilis	Acyclovir + Benzathine Penicillin
Lower abdominal pain	Chlamydia, Gonorrhea	Injection Cetriaxone + Metronidazole, Azithromycin
Neonatal conjunctivitis	Chlamydia, Gonorrhea	Injection Cetriaxone + Erythromycin

Drugs recommended for treatment of individual STIs:

Syphilis	Benzathine penicillin and Erythromycin (in Penicillin allergy) (retreat with Doxycycline after delivery if Penicillin was not used because of allergy) and treat baby with penicillin
Gonorrhea	Oral Cefixime or injectable Ceftriaxone
Chlamydial infection	Ceftriaxone or Azithromycin
BV/TV	Oral Metronidazole (single dose is not recommended for BV)
Candidal Vaginosis	Cotrimazole vaginal pessary
Herpes genitalis	Mild infection: no treatment Severe infection: Acyclovir
Genital wart	TCA or surgical ablation
Drugs contraindicated:	Doxycycline, Podophyllin, Ciprofloxacin, Ofloxacin

5.2 STIs Management in MSM, Transgender and MSWs:

Introduction:
Men who have sex with men (MSM), including male sex workers (MSWs), and third gender/ transgender (TGs) can become infected with similar STIs to those seen in the rest of the community. However, because of diverse sexual activities, practices and sexual networking among these groups, the presentation and prevalence of STIs may vary and require special consideration.

Objectives:
By the end of the session, the participants will be able to:

a. Define the terms MSM, TGs, transvestite, transsexual and MSW
b. Describe the special sexual health needs of MSM, TGs and MSWs.
c. Demonstrate awareness of special manifestations and complications of STIs in these groups
d. Manage common STIs among these groups by using flow chart in different settings of health facility

Methods: Interactive lectures and group work
Materials: LCD projector, PowerPoint™ slides, paper, pencils, laptop computer
Time: 55 minutes

Instruction to the facilitator:
Participants will be divided into 3-4 groups depending on the total number of participants. Each group will be provided with one topic to brainstorm for 15 minutes, and one person from each group will present for five minutes each.

The topics provided are:

1. General understandings of terms such as MSM, TGs and MSWs
2. Common sexual practices in these groups
3. Common STIs symptoms
4. Specimen collection and diagnostic tests for STIs

He/she then outlines the main points raised by the participants and compares it with text slides.

Resource materials for the facilitator:

STIs and MSM
Men who have sex with men (MSM)
The term "men who have sex with men" (MSM) is meant to address all biological males who have sex with men regardless of their own sexual identity. This term is used to describe minority of men involved in same sex behavior, who define themselves as gay, bisexual, or homosexual but may aptly self-identify using local social and sexual identities. Many, if not most, do not consider their sexual encounters with other men in terms of sexual identity or orientation. Many men who have sex with other men consider themselves to be heterosexuals rather than homosexual or bisexual, especially if they are having simultaneous sex with women, are married, take the penetrative role only in anal sex, or have sex with men for money and convenience.

Broadly all people can be categorized into different forms according to their sexual orientation, sexual identities and sexual behavior.

Sexual orientation: the sexual orientation of an individual is determined by whom the individual is sexually attracted to. It may be 100% towards a member of the opposite sex or 100% to member of the same sex or more or less to both sexes.

Sexual identity: sexual identity is determined by how a person identifies himself or herself; the person may identify himself or herself as a homosexual, heterosexual or bisexual.

Sexual behavior: sexual behavior answers the question about who the person has sexual contact with and sexual practices. It may be 100% with the opposite sex or 100% with same sex or they may have sexual contact with both sexes.

A person, sexually attracted to the opposite sex may have sexual contact with a person of the same sex due to certain circumstances. A person identifying himself as a homosexual may display sexual traits of a homosexual person.

Sex workers:
Sex workers are women, men or TGs who exchange sex for money or material gain. Female and male sex workers are abbreviated as such: FSWs/ MSWs

Transgender/third gender:
The terms "transgender/third gender" (TG) broadly describe all people who feel that their anatomical sex does not match their gender identities assigned at birth, and/or whose appearance and behaviors do not conform to societal roles expected from their gender.

Transsexual:
Transsexuals are people who wish to live as the gender other than that assigned to them at birth, based on the appearance of their sex organs at birth. This includes male-to-female transsexuals & female-to-male transsexuals. Transsexuals are further described in terms of whether they are "pre-operative" ("pre-op") or "post-operative" ("post-op"). Some describe themselves as "no-operative"("no-op"). Many transsexuals alter their primary or secondary sex characteristics with hormone treatments, surgery, or both.

Transvestite (Cross-dresser):
Cross-dressing refers to the act of dressing in attire typically worn by members of the opposite gender and may be used in reference to both transsexuals and cross-dressers. "Cross-dresser" (also known as transvestite) is a term usually reserved for individuals who like to cross-dress but who do not experience any discord between their physiological appearance and their gender identity. Most cross-dressers are heterosexual men who cross-dress for amusement, role-playing, stress relief, or sexual gratification. Usually biological women are not called cross-dressers, as society allows women a broader range of dressing behaviour (women can wear pants, have short hair, etc.).

Important notes:

- MSM, TGs and sex workers are not accepted by many people within our society and are hence very reluctant to seek medical help due to fear of real or perceived stigma and discrimination
- All men should be explored for same-sex sexual activity regardless of their sexual identity
- They have special needs in terms of privacy and confidentiality in health care.
- An empathetic approach with regard to their identity and sexual behavior should be used.
- Sexual history-taking and clinical examination should be done without judgment of any kind. They should not be made to feel uncomfortable or insulted.
- Partner tracing and treatments are important aspects of STI management within this group.
- Consistent and correct condom use and regular follow-ups should be encouraged.

History-taking should include:

i. Single vs. multiple partners and their respective genders.
ii. Sexual practices.
iii. STI-related symptoms if any – A sore throat or ulcer on the oral mucosa are common presentations of STIs in the oral cavity. Ulcers, sores, growths or discharges are common anal manifestations. Genital ulcers, urethral discharge, fleshy growths, scrotal swellings or inguinal swellings are symptoms of STIs in the genitalia.
iv. STI symptoms in partner/s.
v. Consistency regarding the use of condoms and lubricants.

Examination should include:

- Genitalia
- Anal and perianal region (anoscope/proctoscope) and
- Oral cavity

Treatment of STIs in MSM/MSWs:

The duration of treatment for STIs along with the drugs used are the same for MSM and MSWs as compared to other people infected with STIs. Regular follow-up, partner tracing, treatment and motivation on the consistent use of condoms along with lubricant are important aspects of management so that the risk of contracting and transmitting STIs can be reduced. Remember that most rectal STIs are asymptomatic and that rectal infections with gonorrhea and chlamydia are common among MSM and TGs in Nepal.

On anoscopy, if there is microscopic pus or if there are >1 polymorphs/HPF on Gram stain of rectal swabs, treat MSM for both gonorrhea and chlamydia:

- Tab. Cefixime 400 mg oral– one dose stat
  Plus
- Tab. Azithromycin – 1 gm oral one dose stat
  Plus
- Metronidazole 400mg oral three times a day for seven days, if diarrhea, blood and or history of abdominal cramping
- Emphasize “Four Cs” for each STI patient
- Emphasize the need to use condoms with lubricant during sex
- Offer or refer for HIV testing and counseling

If the patient has pharyngeal gonococcal/chlamydial infections (diagnosed from the history, clinical findings (and laboratory support if available), treat both for gonococcal and chlamydial infections with two dose of the same drugs.

Laboratory tests:

The following screening recommendations are based on preliminary data. These tests should be performed at least annually for sexually active MSM, including men with or without established HIV infection:

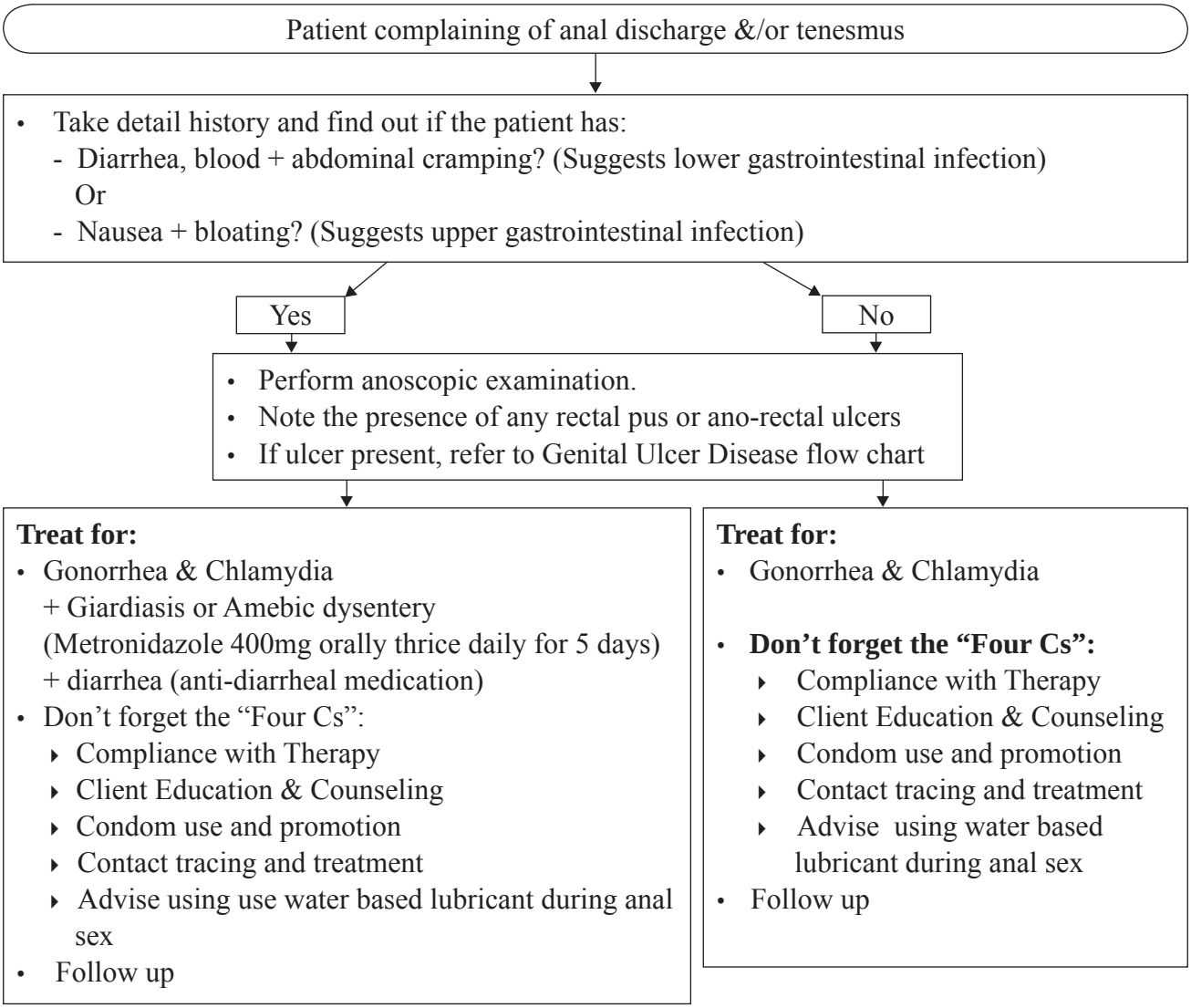
- HIV serology, if HIV negative or not tested within the previous year;
- Syphilis serology;
- A test for urethral infection with *N. gonorrhoeae* and *C. trachomatis* in men who have had insertive intercourse* during the preceding year;
- A test for rectal infection† with *N. gonorrhoeae* and *C. trachomatis* in men who have had receptive anal intercourse* during the preceding year;
- A test for pharyngeal infection† with *N. gonorrhoeae* in men who have acknowledged participation in receptive oral intercourse* during the preceding year; testing for *C. trachomatis* pharyngeal infection is not recommended.

* Regardless of the history of condom use during exposure

† Providers should use a culture or test that has been cleared by the FDA or locally verified in accordance with applicable statutes.

In addition, some specialists would consider type-specific serologic tests for HSV-2, if infection status is unknown. Routine testing for anal cytological abnormalities or anal HPV infection is not recommended until more data is available on the reliability of screening methods, the safety of and response to treatment, and programmatic considerations. More frequent STIs screening (i.e., at 3–6 month intervals) is indicated for MSM who have multiple or anonymous partners, have sex in conjunction with illicit drug use, use metamphetamines, or whose sex partners participate in these activities.

FLOW CHART ON MANAGEMENT OF ANORECTAL SYMPTOMS (DISCHARGE &/OR TENESMUS) IN MSM



5.3 Presumptive Treatment of STIs among Sex Workers

Introduction:

Presumptive treatment is a one-time treatment for presumed infection in a person, or group of people, known to be at very high risk. Presumptive treatment for STIs are given at regular, repeated intervals, in which case it is known as periodic presumptive treatment (PPT). Male, female and TG sex workers constitute groups with high prevalence of STIs including HIV when compared to rest of the population. STIs and HIV acts as co-facilitators for each another, and since most commonly occurring STIs are easily treatable; an early diagnosis accompanied by appropriate treatment will assist in preventing morbidity and associated complications as well as HIV transmission. When diagnosis of asymptomatic infections are not feasible, PPT offers a strategy to reduce prevalence rapidly while services are being strengthened. It is advisable not to be used indefinitely – especially since rapid decline in STI prevalence among those using it regularly means that justification for using it (i.e. high prevalence of STIs) rapidly diminishes.

Objectives:

By the end of the session, the participants will be able to:

a) Define presumptive treatment
b) Explain the necessity and benefits of presumptive treatment or usefulness of presumptive treatment
c) Explain about screening and treatment amongst most-at-risk populations (MARPs)

Method: Interactive lecture
Materials: LCD Projector, laptop computer, PowerPoint™ presentation
Time: 30 minutes.

Instruction to the facilitator:

The participants will be divided into two groups. Each group will be provided with the topic below to brainstorm for 10 minutes, and five minutes each for presentation. He/she then outlines the main points raised by the participants and compares it to the text slides. The topics to be brain stormed are

1) What is presumptive treatment of STI ?
2) How screening and treatment of asymptomatic infections for MARPs is done ?

Resource materials for the facilitator:

What is presumptive treatment?

Presumptive treatment or PPT is given to treat gonococcal or chlamydial infection to any sex worker who attends the STI clinic for the first time, or after a gap of three months or more in clinic attendance.

It involves the administration of two antibiotics for gonorrhea and chlamydia respectively (i.e. usually a single, oral dose of both Cefixime 400 mg and Azithromycin 1 gram) to a population or core target group not based on symptoms, signs or laboratory tests, but based on the group's known prevalence of STIs.

Due to their profession, sex workers are exposed to many sexual partners and various sexual practices and can experience high levels of violence including sexual violence. In addition, FSWs might not have sufficiently high rates of consistent condom use; this increases their susceptibility to acquiring STIs which are generally asymptomatic in their early stages. Thus, STIs prevalence can rise to very high levels among sex workers and it is the high rates that justify the use of presumptive treatment – even though a significant proportion of them will not be infected.

A majority of infected women, >80%, are asymptomatic in the early stages of STI infection; that leaves most of them untreated. The same is true for rectal infections among MSM and TGs. Sex workers are likely to have multiple STIs at a time, including HIV, which can be easily transmitted to their clients through unprotected sex.

Studies have shown that PPT administered to sex workers can assist in the reduction of morbidity and STIs transmission to partners.

Presumptive treatment is an intervention used to reduce the prevalence of infections only when STI prevalence in the population is high. Significant reduction in prevalence was not seen in instances where Presumptive treatment was used in a population with already low STI prevalence. Presumptive treatment is also not a long-term intervention, but rather a short-term intervention to reduce prevalence rapidly in a population.

A PPT for STIs is not a stand-alone intervention, but should be embedded in a package of services – including syndromic case management, regular screening for syphilis, and the promotion of condom use.

Study results have also shown that PPT in MARPs including sex workers can help reduce the prevalence of STIs in the general population as well.

Syndromic management (based on nation-wide or WHO standards) among sex workers alone was found by most studies to have low positive predictive value (PPV) and sensitivity, indicating that many asymptomatic cases will go undiagnosed using this method alone. A combination of syndromic management and PPT may be the best approach towards reducing prevalence of STIs among sex workers.

The rationale for presumptive treatment of FSWs is based on the assumptions that (1) they are frequently exposed to STIs and re-infected given the nature of their work and working conditions. (2) STIs are often asymptomatic and difficult to diagnose without the use of laboratory tests.

Additional common factors to rationalize using PPT include:

a. High vulnerability to STIs
b. Poor health seeking behavior
c. Lack of access to health facilities
d. Lack of reliable, low-cost, rapid tests for gonorrhea and chlamydia
e. Poverty
f. Ignorance

Screening and Treatment of Asymptomatic Infections for MARPs

Introduction:

MARPs in Nepal include FSWs, MSWs, injecting drug users (IDUs), MSM, migrant populations (those who work abroad and visit FSWs) and their partners. These populations are at high risk of acquiring STIs due to the nature of their work and sexual networks. The above mentioned reasons make it necessary for these MARPs to be screened and treated for asymptomatic STIs.

Screening and treatment of MARPs:

- Monthly history taking, physical examination, syndromic or enhanced syndromic management.
- Serologic screening of syphilis & HIV every three months as required according to risk factors.
- Presumptive treatment for gonococcal and chlamydial infections when indicated. Because of the high prevalence of infections and high rates of re-infection, presumptive treatment for gonococcal and chlamydial infections is recommended even if there is no evidence of infection:
  - If the client is visiting for the first time;
  - If time lapse is more than three months since the last STI screening visit.

Rationale for presumptive treatment of STI in asymptomatic MARPs is that:

i. MARPs are frequently exposed to STIs considering their inconsistent condom use and have high prevalence and incidence of gonococcal and chlamydial infections.
ii. STIs such as cervical, rectal, gonococcal and chlamydial infections are asymptomatic in the majority of those infected and have serious consequences including increasing the risk of HIV acquisition and transmission.

Subsequent and follow-up visits:

- After their first visit, FSWs should be encouraged to visit the clinic for monthly routine check-ups (fixing appointment dates for next visits).
- All FSWs on monthly visits undergo physical examinations and laboratory tests as needed. Treatment is provided on the basis of syndromes and/or on the basis of laboratory tests.
- Frequent visits are encouraged if new STI symptoms appear or previous symptoms get worse
- Monthly follow-up visits for routine examination and counseling should be promoted to all FSWs.
- Outreach educators and peer educators should remind clients about their clinical visits and help them keep their appointments.
- FSWs should be counseled by outreach educators, peer educators and clinic staff at every opportunity (in the clinic and in the community) about the importance of correct and consistent use of condoms to reinforce the message.

Refer to flow chart for management STI in high risk women with vaginal discharge.

Module 6

Infection Control

6.1 Universal Precautions and Infection Control Measures

Introduction:

All blood and blood containing secretions or other bodily fluids are assumed to be potentially infective for pathogens like HIV, HBV and other blood-borne infections. The precautionary measures applied to prevent the transmission of infection from the blood and bodily fluids of an infected client, to a health care worker, or vice versa, is called universal precautions. However, in practice, universal precautions are primarily intended to prevent parenteral, mucous membrane, and non-intact skin exposures of health-care workers to blood-borne pathogens.

Objectives:

By the end of the session, the participants will be able to:

a. Define the meaning of universal precautions
b. Explain how and where to apply them
c. Practice measures of universal precautions
d. Define post exposure prophylaxis and explain when and how to use it
e. Define steps of and implement post exposure prophylaxis
f. Dispose of waste (infectious or non infectious) properly
g. Apply infection prevention measures in laboratory

Method: Interactive short lecture

Materials: White board, marker pens, LCD projector, PowerPoint™ presentations, Laptop computer.

Time: 60 minutes (30 minutes for universal precautions and waste disposal, 30 minutes for post exposure prophylaxis)

Instruction to the facilitator:

The facilitator introduces the topic, explains the objectives and interacts with participants by asking the following questions.

1. What do you understand about the term “universal precautions”?
2. Where is it applicable?
3. How can you practice it?

After a brief period of interaction, the facilitator writes participants’ answers on the white board and asks one of them to present it. The facilitator later emphasizes important points from these answers, and proceeds with presenting the text slides.

The facilitator starts the session with a case history on occupational exposure. He/she then discusses the steps of post exposure prophylaxis with the participants. He/she then outlines the main points raised by the participants and compares them to the text slides.

Resource materials for the facilitator:

6.1.1 Universal Precautions

Introduction:

Universal precautions for infection prevention:

- Provide a safe working environment
- Prevent injury to lab staff and other HCWs
- Primary danger consists of a cut from
  - contaminated equipment
  - a needle stick or prick

Also of particular danger is the exposure of an open wound or scratches to infectious clinical materials.

Body fluids to which universal precautions should be applied:

- Universal precautions should apply to all blood, blood products and body fluids containing blood, semen or vaginal secretions.
- They should also be applied to the following fluids:
  - Cerebrospinal fluid (CSF), synovial fluid, pleural fluid, peritoneal fluid, pericardial fluid, amniotic fluid.

Precaution with other body secretions:

Although, feces, nasal secretions, sputum, sweat, tears, urine, and vomit, are potentially harmful, they do not require the application of universal precautions unless these consist of visible blood. Some of these represent a potential source for nosocomial and community-acquired infections with other pathogens. To prevent transmission of non-blood-borne pathogens, or when examining mucous membranes and other potentially infectious lesions, steps such as hand washing and using protective gloves must be adhered to.

Human breast milk:

Although it has been implicated in perinatal transmission of HIV and HBV has been found in the milk of mothers infected with HBV. Occupational exposure to human breast milk has not been implicated in the transmission of HIV nor HBV infection to health-care workers.

Saliva:

Universal precautions do not apply to saliva. General infection control practices already in existence including the use of gloves for digital examination of mucous membranes and endotracheal suctioning, and hand-washing after exposure to saliva should further minimize the minute risk (if any) for salivary transmission of HIV and HBV.

Special precautions however are recommended for dentistry. During dental procedures, contamination of saliva with blood is predictable; trauma to health-care workers' hands is common; and blood spattering may occur.

Major principles of universal precautions

a. Use protective barriers:

Universal precautions are intended to supplement rather than replace recommendations for routine infection control. Protective barriers reduce the risk of exposure to the health-care worker's skin or mucous membranes, from potentially infective materials (i.e., blood, bodily fluids). Protective barriers include gloves, gowns, masks, and protective eyewear.

b. Apply safety measures:

- Understand aseptic precautions
- Decontaminations
- Disinfection
- Practice: Preparation of 0.5 percent hypochlorite

c. Follow sterilization/disinfection procedures:

- Sterilize all reusable instruments/ equipment
- Disinfection of unsterilizeable instruments/equipment

Sterilization: The process of making equipment free of all microorganisms including their spores.
Disinfection: The process of making all microorganisms non-pathogenic (this process does not eliminate all the microorganisms and their spores.)

Components of universal precautions:

- Assure proper cleanliness and hygiene in workplace
- Use barrier/protective clothing, e.g., gloves
- Handle sharps with care
- Handle specimens of blood, discharge and bodily fluids with care
- Eliminate/dispose of contaminated materials/body specimens properly
- Hand washing / alcoholic hand-rub

Ensure safety in the workplace – COPE

C = Create a barrier between the health worker and infections, not between the health worker and the patient
O = Observe safety precautions
P = Take Precaution with every step/procedure
E = Education of all health workers

General guidelines for infection prevention

- Never recap used needles.
- Used needles should never be removed from disposable syringes.
- Never bend, break, or otherwise manipulate used needles by hand.
- Place used disposable syringes and needles, scalpel blades, and other sharp items in puncture-resistant containers for safe disposal. Place the puncture-resistant containers as close to the clinical area as possible. Do not use plastic bags.
- Wash hands properly before and after examining each patient.
- Take care to prevent injuries when using, handling, cleaning or disposing of used needles, scalpels and other sharp instruments or devices.
- Use protective barriers to prevent exposure to blood, bodily fluids containing visible blood, and other fluids to which universal precautions apply.
- Immediately and thoroughly wash hands and other skin surfaces that are contaminated with blood, bodily fluids containing visible blood, or other bodily fluids.
- Use gloves for performing phlebotomy on any person.
- Do not touch blood or any bodily fluids with naked hands especially when the health care worker has cuts, scratches, or other breaks in his/her skin integrity.
- Use gloves in situations where the health care worker determines that the hand could be contaminated by blood or where there is a chance of coming into contact with blood.
- Use gloves for performing finger and/or heel pricks.
- Use gloves when persons are receiving training in phlebotomy.
- Use utility gloves while handling (collecting, washing and disposing of) contaminated materials.
- Use sterile equipment for intervention or open wound procedures.
- Decontaminate and/or sterilize all re-usable items.
- Decontaminate laboratory waste before disposal.
- Keep a first aid kit on standby.
- If needlestick injuries occur, remove glove and wash with soap and water. Do not suck blood or express blood from wound.

6.1.2 Post-exposure Prophylaxis (PEP)

Introduction:

When exposure occurs, there is a risk of infection from blood-borne pathogens namely HIV, HBV, and HCV. Risk of HIV transmission after a percutaneous exposure to HIV infected blood is 0.3% and after a mucous membrane exposure to infected blood is 0.09%. With the proper care and appropriate medication, the risk of contracting HIV can be reduced to almost zero.

Post-exposure prophylaxis:

All injuries caused by an infected instrument or any exposure to bodily fluids with the possibility of HIV infection during client care or while handling waste material are considered to be occupational exposures.

All healthcare providers should be made aware of the management of such exposures using the PEP flow chart.

PEP is provided to staff members when infection control measures fail and staff are considered to be at high risk of infection with HIV. The most common injury is a needle stick injury.

The injured staff should:

1. Not panic.
2. Wash the site with running water and mild soap.
3. Not squeeze the wound.
4. Not apply any antiseptic or spirit to the wound.
5. Immediately inform the person in charge of the clinic.
6. Follow the instructions provided by the doctor/clinician and the clinic person in charge as stated below.

The clinic person in charge:

1. Asks the doctor/ clinician for risk assessment.
2. Arranges for consensual HIV testing of the suspected person, and injured staff following a standard procedure of voluntary HIV counseling and testing.
3. Arrange for PEP drugs as soon as possible preferably within 2 hours
4. Contact the nearest hospital or ART centre

The doctor or clinician will:

1. Do risk assessment following the PEP flow chart
2. Prescribe PEP drugs if indicated (if the source is HIV-positive and the injured staff is HIV-negative)

Risk assessment

High risk	Lower risk
• Exposure to large quantity of blood (device with visible blood on it) • Exposure to bodily fluids: pleural, pericardial, and ascetic fluid, semen and vaginal secretions, amniotic fluid, CSF, synovial fluids and body secretions contaminated with blood • Exposure to a needle that had been placed in a vein or artery • Deep injury • Hollow-bore needle stick injury • Source-terminally ill with late-stage HIV disease or AIDS	• Blood on mucous membrane: eye, nose, mouth • Splash of blood on abraded skin • Solid needle superficial injury **No risk** • Exposure to intact skin • Exposure with urine, saliva, feces, tears, sweat with no blood contamination

ARV drugs used

Low-risk exposure Duovir (ZDV 300 mg + 3TC 150 mg), 1 tablet twice daily for 28 days
High-risk exposure Duovir (ZDV 300 mg + 3TC 150 mg), 1 tablet twice daily + One of the following protease inhibitors Lopinavir/ritonavir(200/50 mg), 2 tablets twice daily for 28 days

Side effects of ARV drugs

- Zidovudine
  - Nausea
  - Anemia
- Lamivudine
  - Almost no side-effects
- Lopinavir
  - Nausea, diarrhea
- Ritonavir
  - Nausea, vomiting, dysgeusia (altered taste sensation), biochemical hepatitis, hyperesthesia

The counselor will:

- Counsel the source and injured person regarding standard HIV counseling and testing.
- Counseling session can be shortened to meet the goal to start PEP as soon as possible (preferably within 2 hours)
- Provide counseling regarding prevention of HIV transmission, safe sex, no blood donation, and no breast feeding for about 12 weeks.
- Offer continued counseling even after the administration of HIV PEP drugs. The healthcare worker may have anxieties about telling his/her sexual partner about the accidental exposure. Offer to provide counseling to the partner as well.
- While PEP is highly effective and the risk of transmission post exposure is low, the HCP may still acquire HIV. Be prepared to provide long term counseling and support services, including treatment for HIV.
- Drugs for PEP for HIV should be available in the clinics, at all times. These should be checked for shelf-life and expiry dates on a regular basis.
- Keep stock of PEP drugs

Exposure report:

- All the data below must be collected with respect to the HCP's confidentiality and that of the source patient.
- Record the circumstances of occupational exposure and post-exposure management.
- Include relevant information such as the date and time of exposure.
- Details on the procedure performed, including where and how the exposure occurred.
- If the exposure involved a sharp object, include details of the object along with all additional information. E.g. when and how the exposure occurred while handling the instrument along with the degree of exposure that occurred.
- Details on the type and the amount of fluids or materials involved along with the severity of the exposure.
- For a percutaneous exposure, record the depth of injury and whether fluid was injected.
- For a skin or mucous-membrane exposure, record the estimated volume of material, duration of contact, and the condition of the skin (e.g., chapped, abraded or intact).
- Details of all action taken, such as first aid provided.
- Details about the exposure source, including whether the source material contained HIV or other blood-borne pathogen. If the source is an HIV-infected person record the stage of disease, history of anti-retroviral therapy, and viral load, if known.
- Details about counseling, post-exposure management including drug choices, and follow-up.

Follow-up tests:

- Follow-up HIV tests are recommended at six weeks, three months and six months after exposure.
- Negative results at six months verify that HIV was not transmitted from this incident.
- Baseline labs required per National guidelines include CBC, liver function and renal function tests. These should be repeated two weeks after first starting PEP.

रगत तथा शरीरबाट निस्कने तरल पदार्थसँग सम्पर्क व्यवस्थापन तालिका

(MANAGEMENT OF POST EXPOSER PROPHYLAXIS)

रगत वा शरीरबाट निस्कने तरल पदार्थसँग सम्पर्क/ सुईको सियो/औजारले घोचेको घाउ

तत्कालै गर्नु पर्ने कार्य

गर्नैपर्ने
१. संसर्ग भएको भागलाई साबुन र बगिरहेको पानीले रामरी धुने
२. 'म्युकस' झिल्ली (आँखा, नाक, मुख मित्र) लाई पानीले धुने

गर्नै नहुने
१. घाउ निचोरेर रगत निकाल्ने
२. घाउमा एन्टिसेप्टिक, कस्टिक एजेन्ट (ब्लिच तथा डिसइन्फेक्टेन्ट लगाउने)

स्रोत व्यक्तिको एच.आई.भी. स्थिति
- एच.आई.भी. स्थिति पत्ता लगाउने
- स्थिति थाहा नभएमा एच.आई.भी. (Rapid) परीक्षण गर्न भी.सी.टी.मा पठाउने

पोजिटिभ

नेगेटिभ

थाहा छैन
- परिक्षण गर्न नमाने
- परिणाम यकिन नभए
- स्रोत व्यक्ति हराए
- स्रोत व्यक्ति थाहा नभए

जोखिमपूर्ण व्यवहार र इयाली अवस्थाको पहिचान गर्ने

जोखिम छैन

जोखिम छ

संक्रमित वस्तुसँग भएको सम्पर्कको जोखिम मूल्यांकन
HIV उपचारमा तालिम प्राप्त स्वास्थ्यकर्मी (आवश्यक परेमा HIV उपचारमा तालिम प्राप्त डाक्टरलाई सम्पर्क गर्ने)

पी.इ.पी. चाहिदैन

कम जोखिम
- (म्युकस झिल्ली) आँखा, नाक, मुखमा रगत लागेमा
- खोस्रिएको छालामा रगत परेमा
- बोधो औजार वा मित्र प्वाल नभएको सियोले सतही घाउ बनाएमा
- कुनै पनि लक्षण नदेखिएको एच.आई.भी. संक्रमित स्रोत व्यक्ति भएमा

बढी जोखिम
- धेरै मात्रामा रगतसँग सम्पर्क आएमा वा रगत लागेको औजारले चोट लागेमा
- Pleural, pericardial, ascitic, cerebrospinal / synovial fluids शरीरबाट निकाल्न प्रयोग गरिएको सियोद्वारा छालामा गहिरो चोट लागेमा
- छालामा भएको घाउ/खटिरामा वीर्य, योनिरस वा amniotic fluid परेमा
- रक्तनलीमा राखिएको सिया (IV Needle) ले घोचेमा
- गहिरो चोट लागेमा
- खोक्रो प्वाल भएको सियोले घोचेमा
- स्रोतव्यक्ति - एड्स अवस्थाको बिरामी भएमा (भाइरल लोड ५५०० कपी/मि.लि. भन्दाबढी)
- एच.आई.भी. इयाली अवस्थाको स्रोत व्यक्ति

जोखिम छैन
- घाउ चोट नभएको छालामा सम्पर्क भएमा
- रगत नमिसिएको आँशु, च्याल र दिसापिसावसँग सम्पर्क भएमा

स्वास्थ्य कार्यकर्ताको एच.आई.भी. स्थिति छोटो परामर्शपछि स्वेच्छिक परीक्षणद्वारा पहिचान गर्ने यदि परिणाम चाँडै उपलब्ध भएन भने पोजिटिभ परिणाम आएमा बन्द गर्ने योजनाका साथ पी.ई.पी. शुरू गर्ने ।

पोजिटिभ

पी.ई.पी. दिन नपर्ने
तर एच.आई.भी. सम्बन्धी सेवा दिने ठाउँमा

नेगेटिभ

पी.ई.पी. दिने

सम्बन्धित संस्थाको सम्पर्क व्यक्तिसँग सम्पर्क राख्ने

सकेसम्म चाँडो औषधि शुरू गर्ने (सम्पर्क/संसर्ग भएको २ घण्टा भित्रमा भए उत्तम) स्टार्टर प्याक ३६ घण्टा भित्र प्रयोग गर्ने

नजिकैको अस्पतालमा वा ए.आर.टी. केन्द्रमा सम्पर्क राख्ने ।

कम जोखिमपूर्ण सम्पर्कमा
ZDV 300 mg + 3TC 150 mg, एक एक चक्की दिनको २ पटक २८ दिनसम्म

बढी जोखिमपूर्ण सम्पर्कमा
ZDV 300 mg + 3TC 150 mg, एक एक चक्की दिनको २ पटक र (+)

Indinavir (400 mg tab) दुई दुई क्यापसुल दिनको ३ पटक, अथवा

Lopinavir/Ritonavir (200/50 mg) दुई दुई चक्की दिनको २ पटक २८ दिनसम्म

अनिवार्य फलो-अप परीक्षण निम्न समयमा गर्ने
- ६ हप्ता
- ३ महिना
- ६ महिना

नेपाल सरकार
स्वास्थ्य तथा जनसंख्या मन्त्रालय
राष्ट्रिय एड्स तथा यौन रोग नियन्त्रण केन्द्र, टेकु, काठमाडौं

6.1.3 Waste Disposal

Introduction:

Types of waste

- **Infectious solids:** used test kits, pipette tips, infected dressing materials.
- **Non-infectious solids:** paper, plastic covers of syringes, other uncontaminated materials.
- **Infectious liquids:** serum, other contaminated liquid wastes.
- **Sharp materials:** needles, lancets, broken glass.

Some wastes at STI/VCT clinics are potentially hazardous. Wastes from such clinics need proper disposal.

Collection of different types of wastes

There should be different types of containers for waste collection depending upon the types of waste materials generated in the health care setting. The person who generates the waste is responsible for putting it in the appropriate containers. Containers for collecting wastes should be designated using defined color-codings.

1. Red color: For collecting of contaminated hazardous wastes other than sharps. Used test kits, pipette tips, infected dressing material etc. are solid wastes and collected separately from liquid wastes.

2. Yellow color: For syringes and other sharp devices generated in the facility. Sharps can be kept in a puncture-proof container with a small hole on the top which allows personnel to put all materials, mainly syringes, into the container.

3. Blue color: For hazard free wastes like paper, plastic syringe covers and other uninfected materials.

4. Liquid wastes are collected in a container with 0.5% hypochlorite solution. There must be enough solution in the container so that even when liquid waste is added, the concentration of the solution remains approximately the same.

Disposal of wastes:

1. Wear utility gloves and personal protection equipment before handling waste of any kind.
2. Decontaminate all contaminated waste in the clinic before disposal. If an extra autoclave is available, infectious waste can be autoclaved before disposal
3. Place materials that are to be decontaminated or disposed of outside into a strong leak proof, covered container prior to transporting them outside.
4. Transport sharp items in puncture - resistant containers.
5. Carefully pour decontaminated liquid waste down a utility drain or flushable toilet
6. When the container containing all sharp devices is 3/4 full; cap, plug or tape it tightly, and send for incineration or burying. Needles and other sharp objects may not be destroyed by burning, and may later cause injuries, which can lead to a serious infection.
7. Decontaminate sharps by dipping in 0.5% hypochlorite solution and then bury.
8. If medical waste cannot be burned, dispose of waste by onsite burial.
9. Tubes used for the collection of blood should be decontaminated in 0.5% hypochlorite solution first and then disposed of by burial (for glass tubes) or by incineration (for plastic tubes).
10. Use the needle destroyer for destruction of used syringe needles.
11. Wash hands, gloves and containers after disposal of infectious waste.

6.1.4 Infection Prevention in the Laboratory

Infection prevention practices 1:

- Avoid accidental inoculation by contaminated needles.
- Avoid cuts or scratches from contaminated glassware or instruments.
- Avoid spillage or splattering of specimens on floors, benches, and table tops.

Infection prevention practices 2:

- Maintain cleanliness in the laboratory
- Sufficient lighting in the laboratory.
- No food or drink – eating or storage in the laboratory
- Wear laboratory coat when working with infectious materials.
- All protective clothing should be removed before leaving the laboratory
- After finishing laboratory work, decontaminate the work surface.
- Laboratory waste should be safely disposed of.

Autoclave - the most frequently used method:

- 15 lbs/sq. in. (106 kPa pressure)
- 121^{o} C (250^{o} F)
- 20 minutes for unwrapped materials
- 30 minutes for wrapped materials
- Allow steam penetration of all items
- Allow all items to dry before removal

Safety begins with you:

Know the sources of infection

Follow *General Infection Control Procedures:*

- Hand wash and alcohol rub
- Proper disposal of infectious wastes
- Decontamination and disinfection

Suggestion for quality work and infection prevention practices in the laboratory:

- Wet mopping with decontaminant
- Proper disposal of infectious wastes
- Decontamination and holding time for reusables
- Use of puncture-proof container
- Incinerator- locally made / hospital incinerator

Orientation to laboratory helper:

- Laboratory site training on *infection prevention procedures*
- To avoid tissue injury caused by prick of sharp materials or broken cover slips
- Decontamination – surfaces
- Waste disposal procedures
- Use of incinerator: unpleasant smell and neighbor complaints.

General infection prevention procedures in the laboratory:

- Always use disposable gloves during specimen collection
- Use alcoholic hand rub (75% isopropanol with 2% glycerine)
- Proper hand wash and single use of towel in between the procedure.
- The holding time for disinfection before cleaning must be followed correctly.

Module 7

Emergency Management

7.1 Basic Life Support and Cardiopulmonary Resuscitation (CPR)

Introduction:
CPR is the artificial method of circulating blood and oxygen through the body and attempting to keep the brain alive. It consists of mouth-to-mouth respirations and chest compressions. CPR allows oxygenated blood to circulate to vital organs such as the brain and the heart. CPR can keep a person alive until more advanced procedures are available. If you see a person who is unresponsive or not breathing normally, you should begin CPR.

Objectives:
By the end of the session, the participants will be able to:

a. Define basic life support (BLS) and CPR
b. Explain its importance
c. Provide BLS

Methods: Lecture with participatory session, practical session
Materials: LCD projector, slides, handouts, paper and pencils, flannel board with thumb pins, dummy or volunteers for practical session
Time: 60 + 30 minutes (practical session)

Instructions to the facilitator:
All participants will be divided into 3-4 different groups depending on the total number. Each group will be provided with a topic to brainstorm for 15 minutes. One person from each group will then present their answers for five minutes.

The topics provided are:

1. Definition of BLS and CPR
2. Precipitating causes of cardiac arrest
3. Importance of CPR
4. Steps of CPR

Resource materials for the facilitator:

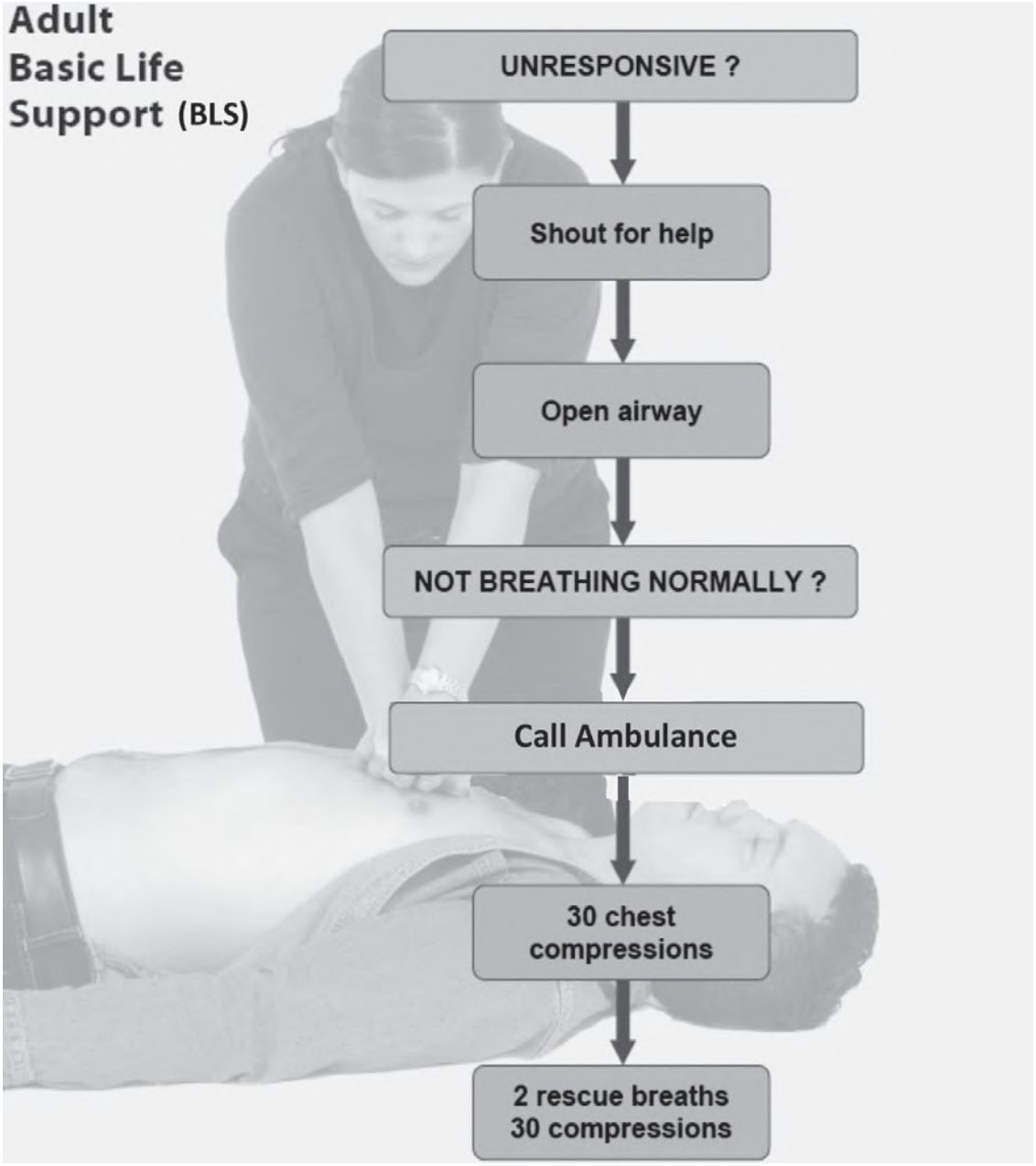
Definition:
CPR is an emergency method combining rescue breathing and chest compressions to start breathing and circulation in the event of cardiac arrest. It is also called BLS and should be performed by anyone who knows how to perform it in the emergency management of cardiac arrest.

Facts about CPR:

- Cardiac arrest is the leading cause of sudden death in adults. Most arrests occur in persons with an underlying heart disease.
- Injectable penicillin used to treat syphilis can cause anaphylactic reaction; if not managed on time and can lead to cardiac arrest
- 75 percent of all cardiac arrests occur outside the hospital.
- HIV transmitted by mouth-to-mouth breathing during CPR has never been reported.
- CPR provides oxygenated blood to the brain, heart and keeps these organs alive until advanced cardiac life support is started (e.g., defibrillation, use of adrenaline)

Why CPR is important to learn:

One in seven people will have an opportunity to use CPR in their lifetime. When the brain doesn't get oxygen for 3-8 minutes, irreversible brain damage occurs. Early CPR (within four minutes) increases a person's chance of survival from sudden cardiac arrest.



Steps:

- Victim and rescuer should be in a safe place (e.g. A drowned victim should be rescued before starting CPR)
- Check the victim for a response
- If the victim does not respond:
  - Shout for help
  - Turn the victim supine
- Open the airway (head tilt and chin lift):
  - Place the hand on the victim's forehead and gently tilt his head back
  - Place the fingertips under the victim's chin and lift the chin.

- Keeping the airways open, **look, listen, and feel** for normal breathing.
- Look for chest movement.
- Listen to the victim's mouth for breathing sounds.
- Feel for air on your cheeks.
  - If the victim is **not breathing normally** ask someone to **call the ambulance**

Start chest compression:

- Kneel by the side of the victim.
- Place the heel of one hand in the centre of the victim's chest.
- Place the heel of other hand on top of the first hand.
- Interlock the fingers of hands and ensure that pressure is not applied over the victim's ribs.
- Position vertically above the victim's chest and, with the arms straight, press down on the sternum 4-5 cm.
- After each compression, release all the pressure on the chest without losing contact between hands and the sternum.
- Repeat at a rate of about 100 times a minute
- Compression and release should take an equal amount of time.

Combine chest compression with rescue breaths (30:2)

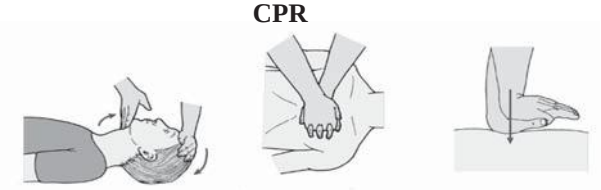
- After 30 compressions open the airway using head tilt and chin lift.
- Pinch the soft part of the victim's nose closed, using the index finger and thumb of hand on his forehead.
- Allow his mouth to open, but maintain chin lift.
- Take a normal breath and place your lips around his mouth, making sure that you have a good seal.
- Blow steadily into his mouth whilst watching for his chest to rise
- Maintaining head tilt and chin lift, take your mouth away from the victim and watch for his chest to fall as air comes out.
- Stop to recheck the victim only if he starts breathing normally; otherwise do not interrupt resuscitation.
- If there is more than one rescuer present, another should take over CPR about every two minutes to prevent fatigue.

Continue resuscitation until:

1. qualified help arrives and takes over,
2. the victim starts breathing normally, or

Steps of Adult BLS

CPR



1) Head tilt and chin lift 2) 30 chest compression

3) Two rescue breaths

Head tilt and chin lift.

Look, listen and feel for breathing

Look, listen and feel.

Fingers of hands interlocked

Position of victim and rescuer

Rescue breaths.

7.2 Management of Anaphylaxis

Introduction:
Anaphylaxis is a life-threatening reaction resulting from exposure to sensitizing agents like penicillin, food, insect stings, other medications, or physical factors. Prompt treatment of anaphylaxis is crucial to save the life of an individual with such reactions.

Objectives:
By the end of the session, the participants will be able to:

a. Define anaphylaxis
b. Identify its signs and symptoms
c. Manage anaphylaxis

Methods: Lecture with group work
Materials: LCD projector, Paper and Pencil, flannel board with thumb pins, PowerPoint™ slides, Laptop computer
Time: 30 minutes

Instruction to the facilitator:
All participants will be divided into four different groups depending on the total number. Each group will be provided with one topic to brain storm for 10 minutes and will have to present for 2.5 minutes each.

The topics provided are:

1. Important signs and symptoms of anaphylaxis
2. Causes and pathogenesis of anaphylaxis
3. Steps towards management of anaphylaxis
4. Skin testing for penicillin injection

After their presentation the facilitator summarizes and discusses the importance of effective anaphylaxis management.

Resource materials for the facilitator:

What is anaphylaxis?
Anaphylaxis is a life-threatening, generalized or systemic hypersensitivity reaction.

What is most important in anaphylaxis?

- Prompt treatment of anaphylaxis is critical - Intramuscular Epinephrine (Adrenaline) and intravenous fluids remain the mainstay of immediate management.
- Adjunctive measures include airways protection, antihistamines, and steroids.

Symptoms and signs of anaphylaxis:

Anaphylaxis quickly occurs with the following features:

- An itchy rash (urticaria or hives)
- Dizziness and unconsciousness due to very low blood pressure
- Swelling (angioedema)
- Swelling in the throat, causing difficulty in swallowing or breathing
- Asthma-like symptoms (dyspnea, wheezing or stridor)
- Vomiting
- Cramping abdominal pains
- Diarrhea
- A tingling feeling in the lips or mouth
- Death occurs due to obstruction to breathing or extremely low blood pressure (anaphylactic shock)

Pathogenesis of anaphylaxis:

Anaphylaxis occurs when the body makes antibodies called immunoglobulin E (IgE) to a foreign protein or drug. IgE sticks to cells in our bodies (mast cells and basophils) and can release substances such as histamine which have a powerful effect on the blood vessels and air passages.

On subsequent exposure to the same protein or drug, these substances are released, causing the blood vessels to relax, which makes them leaky and can cause swelling and a fall in blood pressure. At the same time, they can make the breathing passages become narrow (bronchospasm).

Anaphylaxis is likely when all of the following three criteria are met:

1. Sudden onset and rapid progression of symptoms
2. Life-threatening airway and/or breathing and/or circulation problems
3. Skin and/or mucosal changes (flushing, urticaria, angiodema)

Steps of anaphylaxis management:

1. Call for help
2. Maintain airway
3. Place patient in recumbent position and elevate lower extremities
4. Administer Oxygen, usually 8 to 10 L per minute; lower concentrations may be appropriate for patients with chronic obstructive pulmonary disease.
5. Administer Adrenaline (1:1,000) 0.5 mL intramuscularly (preferably lateral aspect of thigh). Repeat Adrenaline after 5 minutes if there is no response.
6. If anaphylaxis is caused by an injection, administer aqueous Epinephrine (Adrenaline), 1:1,000 – 0.15 to 0.3 mL, into injection site to inhibit further absorption of the injected substance.
7. Treat hypotension with IV fluids (Normal saline 500-1000ml) rapidly.
   Frequently monitor all vital signs (every two to five minutes) and stay with the patient.
8. Administer an antihistamine like Chlorpheniramine or Diphenhydramine (Avil™ or Benadryl™), for adults 25 to 50 mg intravenously or intramuscularly.
9. Give Hydrocortisone, 5 mg per kg, or approximately 200 mg intravenously to reduce the risk of recurring or protracted anaphylaxis. The above mentioned can be repeated every six hours, as required.

10. If hypotension is present, or bronchospasm persists in an ambulatory setting, transfer to hospital emergency department immediately. .
11. Treat bronchospasm, preferably with Aminophylline, 5-6 mg per kg, as an IV loading dose, given slowly over 20 minutes.
13. All patients with anaphylaxis should be monitored preferably in a hospital setup for the possibility of recurrent symptoms after initial resolution. An observation period, of two to six hours after mild episodes and 24 hours after more severe episodes, is prudent.

Facts on Epinephrine (Adrenaline):

- Adrenaline works against the effects of those substances released in anaphylaxis and is a life-saving treatment for anaphylaxis.
- Adrenaline is a quick-acting hormone. Our body produces it from the adrenal glands located just above each kidney. Adrenaline makes the heart pump faster, widens air passages in the lungs, and constricts the blood vessels.
- Although trembling, palpitations (feeling your heart beating fast), and a feeling of tension or anxiety are normal effects of the adrenaline and soon wear off, higher doses of it cause an extremely unpleasant feeling and may be dangerous to the heart.

Points to note:

- Skin test for Penicillin allergy is not indicated in STI clinics because even a single test dose can cause anaphylaxis
- Before administration of Penicillin, be aware (of anaphylactic reaction) and be prepared to treat anaphylaxis with Adrenaline
- Take a detailed history of drug allergy or anaphylaxis in past
- Be aware and prepared

Module 8

Laboratory Diagnosis of STIs

8.1 Laboratory Procedures

Introduction:
This session aims to discuss the role of the laboratory in the diagnosis and management of STIs, HIV, and the facilities that are or can be made available at static STI clinics and health care facilities.

Objectives:
By the end of the session, the participants will be able to:

a. Explain the role of microscopy for diagnosis of STIs
b. Explain the sero-diagnosis of STIs
c. Explain the importance of quality assutance of laboratory testing

Methods: Interactive lectures, discussions and laboratory demonstrations
Materials: LCD projector, PowerPoint™ slides, Pencils and papers, Laptop computer, National Guidelines on Case management of STIs
Time: 45 minutes

Instruction to the facilitator:
The facilitator introduces common types of STI and their etiological agents and discusses the laboratory diagnosis of these agents, the laboratory procedures including the quality assurance of laboratory testing.

Resource materials for the facilitator:

The laboratory procedures includes the following:

- Specimen collection
- Microscopy
- Serological testing
- Laboratory quality assurance (QA)
- Safe disposal of clinical materials and contaminated tools after work

STIs clinic laboratory:
Laboratory staff responsibilities:

- Collects all specimens
- Stores the specimens (including cold chain storage)
- Transports the specimens with all necessary precautions
- Performs laboratory investigations
- Runs quality control in all serological tests
- Cares and maintains all laboratory equipment for day-to-day use
- Maintains the cleanliness and discipline of the laboratory
- Follows universal precautions to avoid possible infection
- Disposes of laboratory waste properly
- Manages the logistics of the laboratory reagents and other consumables materials
- Maintains the confidentiality of the patient's clinical details
- When the laboratory procedures are over, decontaminates the surface of the work table
- Maintains the laboratory records and reports according to standard formats

8.1.1 Collection of Samples

Collection of specimens:

- **Health care provider**

  Male: Urethral swab

  - Collect pus directly on the swab
  - If no discharge is evident, collect specimen by milking of urethra.
  - If no exudate is obtained, insert a thin swab two cm to the urethra and gently scrap the mucosa by rotating the swab

  Female: Cervical swab

  - After inserting speculum, clean the cervical os to remove mucus using forceps with a sterile cotton wool ball
  - Insert swab two cm into the cervical canal
  - Rotate and move the swab gently from side to side for 5-10 seconds to allow absorption of the exudate.

  Vaginal swab

  - With a speculum in place, a vaginal specimen is collected with a swab from the posterior fornix.

  Rectal swab in both male and female

  - If recent anal intercourse is admitted, a proctoscope is inserted, followed by a swab stick inserted three cm into the anal canal, rotating it for 10 seconds to collect the exudates / mucus / muco-pus from the crypts just inside the anal ring.
  - If fecal contamination occurs, discard and collect a fresh specimen.

- **Laboratory personnel**

  Blood drawing: Laboratory staff will collect blood specimen by venipuncture following all the required safety precautions.

  Serum separation: The blood specimen collectedby venipuncture will be allowed to clot and is then centrifuged to get the serum specimen.

Wet mount microscopy:

For detection of:

- *Trichomonas vaginalis*
- Clue cells

Procedure for wet mount microscopy:

Requirements:

- Sterile normal saline
- Vaginal swab
- Rectal swab
- Microscope
- New and grease-free glass slide and cover slip

Procedure:

- Code number is written to identify each patient.
- Place a drop of normal saline (0.9% NaCl) on a slide and mix the specimen collected on the swab.
- Cover with a coverslip and send to the laboratory immediately.
- Examine under the low power and high power objectives of the microscope (in the laboratory). Slides need to be examined within 15 minutes of preparation of the mount.

KOH mount microscopy:

For detection of:

- *Candida albicans (yeast cells or pseudohyphae)*

Procedure for KOH mount microscopy:

Requirements:

- 10% freshly prepared KOH solution
- Vaginal swab
- Microscope
- New and grease-free glass slide and cover slip

Procedure:

- Code number is written to identify the patient.
- Add a drop of freshly prepared 10% KOH (potassium hydroxide) to the vaginal specimen on a slide and sniff for a "fishy" odor (Whiff test).
- Send the slide to the laboratory.
- Examine under the low power and high power objectives of the microscope.

Essential for Gram staining:

- The slide must be completely new and clean
- A used slide is not recommended for re-use
- Discolored or scratched slides are not used
- Code number is written to identify the patient
- Gram staining reagents
- Smear for Gram staining
- Oil microscopy

Note: For making a smear for Gram staining, roll the swab on a slide. Do not rub swab on the slide because rubbing may damage the pus cells.

Interpretation – Gram-stained smear:

- Presence of > 25 PMNLs/ oil immersion field (endocervical smear) indicates cervicitis in female.
- Presence of pus cells (polymorphonuclear neutrophils – PMNLs) if more than five per field (X1000), indicates urethritis in males.
- Presence of any PMNLs in an HPF of a rectal smear indicates proctitis
- Detection of Gram-negative intracellular diplococci (GNID) indicates gonorrhea

Microscopy:
Error occurs if:

- The smear was fixed before it was dry.
- The smear was too thick.
- There was sediment in the bottle of crystal violet.
- The Gram iodine solution was not thoroughly drained off.
- The time for differentiation is less than as recommended in the procedure.
- A false Gram-negative reaction may occur if:
  - The Gram iodine solution was not left on for the full time as recommended in the procedure.
  - The decolorizer (acetone-ethanol) was left on too long and not washed off properly.

Serological testing: Demonstration of antibodies or antigens

- Blood drawing
- Transfer of blood
- Serum separation
- Detection of antibodies

Syphilis Serology

Rapid Plasma Reagin (RPR) Test

- Screening test for Syphilis
- Non-treponemal serological test for the diagnosis of syphilis.
- Can be performed quickly because it requires unheated serum or plasma and allows for the macroscopic interpretation of results.
- Can be quantified with serial dilution and results can be used to monitor the response to treatment and detect re-infection.
- However, for accurate results, controls must be concurrently observed.

TPHA/TPPA Test

- Confirmatory test for syphilis diagnosis
- Treponemal serological test
- Antibodies become detectable after 3-4 weeks of infection and may remain detectable for long periods.

Hemolyzed blood is not suitable for serological testing:
Hemolysis often occurs in:

- blood taking through a very small bore needle
- expelling blood quickly from the syringe
- forced suction of blood by the syringe
- vigorous shaking of the blood
- centrifuging the blood sample at a high speed before clotting
- freezing and thawing of the blood
- unclean tubes with residual detergents
- water in the tube

8.1.2 Quality Assurance of Laboratory Testing

Quality assurance (QA)

QA is the total process which guarantees that the final results reported by the laboratory are as accurate as possible. This involves inspecting specimens, reviewing transcriptional measures, using the most reliable assays and verifying the final reports. QA is applied throughout the testing process at all testing sites and is not a one time event. This is a continual process encompassing three phases: pre-analytical, analytical and post-analytical and there are multiple activities associated with each phase of testing.

The following procedures need to be followed to prevent errors that may occur during the three phases of Quality Assurance Cycle:

1. **Pre-analytical phase**

- Monitor storage temperature for test kits and specimens
- Select an appropriate testing workspace
- Check inventory and expiration dates
- Review the testing procedures
- Record the pertinent information, and label the test device
- Collect the appropriate specimen

2. **Analytical phase**

- Perform and review Quality Control (QC)
- Follow safety precautions
- Conduct the test according to the written procedures
- Correctly interpret the test results

3. **Post-analytical phase**

- Re-check patient/client identifier
- Write legibly
- Clean up and dispose of contaminated waste
- Package EQA specimens for re-testing, if needed

Internal Quality Control (IQC)

IQC denotes a set of procedures undertaken by the staff of a health facility, medical as well as laboratory, to continuously and concurrently assess laboratory work so that the laboratory, supporting quality health care for patients produces quality results.

Sites will test RPR quality control samples in a frequency as recommended by the manufacturer of the test kit. Quality control results will be recorded and reviewed regularly.

General procedure for IQC

1. Strictly follow the kit leaflet (or Standard Operating Procedure) for each test
2. All specimens should be inspected before the actual procedure to ensure suitability.
3. Do not use hemolysed and contaminated samples.
4. Ensure that all specimens are properly labeled.

5. Bring all reagents and samples to room temperature and mix thoroughly before use.
6. Each batch of tests must include positive and negative controls.
7. Do not interchange reagents between different lots.
8. Reagents must be protected from any type of contamination.
9. All test kits must be stored at the required temperature.
10. Do not use expired kits.
11. Interpret test result carefully using test kit inserts.
12. Record the results with utmost care.

External Quality Assessment (EQA)

EQA is a system of objectively assessing laboratory performance by an outside agency. This assessment can be retrospective and periodic but is aimed at improving the quality of laboratory services.

All RPR-reactive sera and randomly selected 10% of all RPR non-reactive sera will be retained in the clinic and stored at -20°C in appropriate cryo-vials labeled with a patient number and the date of collection. This retained and stored sera will be transported to National Public Health Laboratory (NPHL) at the end of each month for re-testing. The transportation of sera will be according to NPHL requirements.

NPHL will

- re-test the sera received from the sites;
- compare the test results of NPHL and sites;
- prepare the EQA report
- send the EQA reports to the participating sites.

If discrepancies occur between the site's test results and NPHL's test results; NPHL, jointly with the participating site, will try to find the root causes of the errors and solve the problem.

For Gram-stained slides of cervical and urethral specimens, sites will retain all the slides showing Gram-negative intracellular diplococci (GNID). These slides will be kept in slide boxes and stored at room temperature for up to three months in a dry, cool and dark area so as not to be exposed to direct sunlight. Similarly, equal number of Gram stained slides of cervical or urethral specimens not showing GNID will also be retained and stored properly. Laboratory experts will be examine these slides during monitoring visit to the STI clinics and will provide feedback to the clinic.

Laboratory staff

Laboratory personnel who have undergone STI laboratory training approved by NPHL can work as a laboratory staff in a STI clinic.

Note: All laboratory staff should strictly follow universal safety precautions while handling specimens.

Module 9

STIs Management-Problem Solving on Case Studies

9.1 STIs Management-Problem Solving on Case Studies

Introduction:
This session on problem solving is expected to provide participants with the practical knowledge for management of different STIs and their effects. The common problems encountered are discussed as case studies to make it more interesting, and to simulate reality. Several questions are asked at each step, and their answers will be found using flow charts.

Objectives:
By the end of the session, the participants will be able to:

a. List and Explain common problems and syndromes of STI
b. Identify and correctly manage them
c. List and explain the common complications and refer them at appropriate places

Methods: Question answers, group work/presentation
Materials: LCD, laptop computer, case studies and problems
Time: 1 hr 45 minutes

Instruction to the facilitator:
The facilitator explains the importance of this session and initiates a brainstorming exercise for solving an interesting problem on STI. After receiving their group responses, the facilitator corrects the responses, and explains the best practice for managing the problem. After dividing participants into small groups, facilitator distributes the case study, and problems on different STIs along with syndromes for them to solve. After the group presentations, the facilitator corrects their presentations and summarizes the solutions regarding major problems. Refer **annex 5** for case studies.

Module 10

Recording and Reporting for STI Services

10.1 Record Keeping and Documentation

Introduction:
This session is designed to enable participants keep an updated record of STI data, and to apply their skills and knowledge towards developing plans for STI management. It will also help them to integrate the reporting of STI syndromes into the surveillance system.

Objective:
By the end of the session, the participants will be able to:

a. Explain the importance of record keeping, and its use in the surveillance system
b. List the STI reporting forms
c. Keep record in the register and fill out monthly reporting formats from the record
d. Apply STI records for STI management

Methods: Question answers, group work on data recording format
Materials: Project indicator forms and other recording formats, whiteboard, paper, pencils
Time: 45 minutes

Instruction to the facilitator:
Begin the exericise with participants in regards to recording systems by distributing the standard recording formats (see **annex 8**). Form groups of 4-5 people, with not more than 4 groups in total. Ask groups to prepare reports with the given data and to present them. Also, ask them about any difficulties or confusion they may have experienced. Present some examples (forms) of correct and incorrect ways for record keeping. Finally, discuss the importance of the recording system and its role in program monitoring, evaluation and surveillance.

Module 11

Field Visits

11.1 Field Visits

Introduction:
This field visit session will enable participants to become acquainted with real life setting of an established STI clinic. Participants will visit selected STI clinic sites and acquire practical knowledge on the overall management of an STI clinic. The field visit session will allow participants to interact freely with the staff and other persons working in the clinic. Theoretical knowledge will thus be acquired from the training.

Objectives:
By the end of the session, the participants will be able to:

a. Explain set up of a standard STI clinic
b. Set up STI clinic
c. Explain different steps of STI management in such setups
d. Perform record-keeping and logistics management of an STI clinic

Methods: Observation, discussion and question answers
Materials: Hand outs, observation sheets
Time: Half a day

Instruction to the facilitator:
The facilitator introduces the objectives of the field visit and coordinates the visit in advance so as to prepare the staff at the clinic to be mindful of the participants' needs and interests. While at the clinic, the facilitator should ensure that all participants gain specific and practical knowledge on STI management, and conduct a thorough assessment of the set up using the check list provided in **annex 9**.

After the completion of the field visit, the facilitator holds a debriefing session to discuss the various findings and provide his/her own assessment.

Annexes

Annex 1: Pre/Post Test Questionnaire

PRE/POST TEST QUESTIONNAIRE
Code no:
MO/HA/SN (Tick the appropriate one)

Please read each item carefully and choose (circle) one most appropriate answer:

1. STI in Nepal are prevalent:
   a. Only in female sex workers and their clients
   b. In all community groups
   c. Usually in foreigners
   d. Only when condoms break

2. Among sex workers in the Terai (IBBS, NCASC/FHI, 2009), active syphilis prevalence is:
   a. 3.5%
   b. 11.1%
   c. 18.5%
   d. 25.3%

3. A reproductive tract infection is:
   a. Always caused by a sexually transmitted organism
   b. Usually caused by a sexually transmitted organism
   c. Sometimes caused by a sexually transmitted organism
   d. Never caused by a sexually transmitted organism

4. STI are most commonly found in:
   a. Women who exchange sex for money
   b. School children over 15 years
   c. Tourists
   d. Factory workers

5. Vaginal candidiasis in women in the reproductive age group mostly occurs as:
   a. An endogenous reproductive tract infection
   b. A sexually transmitted infection
   c. A complication of STI treatment
   d. A consequence of poor personal hygiene

6. Curable STIs include:
   a. Genital chlamydial infection
   b. Genital warts
   c. Genital herpes
   d. HIV infection

7. Which one of the following is a bacterial STI?
   a. Candidiasis
   b. Trichomonas Vaginalis
   c. Genital scabies
   d. Gonorrhea

8. The STI most likely to facilitate transmission of HIV is:
   a. Genital ulcer disease
   b. Genital warts
   c. Vaginal discharge
   d. Pelvic inflammatory disease

9. The percentage of men with urethral gonococcal infection who are asymptomatic is:
   a. More than in women who have gonorrhea
   b. About 10 %
   c. About 90 %
   d. Equal to women who have gonorrhea

10. STI are now being considered a serious problem because:
    a. They are all untreatable and a serious cause of ill health in women and children
    b. More resources are now available for STI management
    c. STI facilitate HIV transmission
    d. STI occur only in the productive age group

11. STI control will be achieved by providing:
    a. Access to acceptable and effective STI management services
    b. Adequate supplies of low cost condoms
    c. Education on risk reduction
    d. All of the above

12. Condoms:
    a. Should be put on the penis just before ejaculation
    b. Are 100% effective in preventing STI transmission
    c. Do not reduce the risk of transmission of viral STI
    d. If properly used greatly reduce transmission of all STI

13. Treatment of scabies involves
    a. Application of Gamma Benzene Hexachloride 1%
    b. Treatment of all close contacts/family members
    c. None of the above
    d. All of the above

14. When examining a man for an STI in an ideal situation, the health worker:
    a. Should examine the tip of the penis only
    b. Should have a female nurse to help him examine the patient
    c. Should ask him to expose from lower abdomen to the mid-thigh
    d. Should examine the patient standing up

15. When examining a woman for STI in an ideal situation, the health worker:
    a. Should only examine the genital region
    b. Does not need to wear gloves
    c. Will use a speculum to see the vagina and cervix
    d. Should take a urethral smear for gram staining

16. Risk assessment helps the health worker to decide whether to treat:
    a. A man with dysuria
    b. A woman for cervicitis
    c. A man or woman with positive RPR
    d. A partner of a woman with vaginal warts

17. A positive RPR indicates:
    a. A syphilitic infection at some time
    b. A syphilitic infection at some time if confirmed by TPHA
    c. The patient should be treatment with injected penicillin.
    d. Failure of treatment or syphilis re-infection

18. A patient with primary herpes simplex infection of the genital area:
    a. Never has a positive RPR
    b. Usually has multiple painful ulcers
    c. Usually does not have vesicles
    d. Should be treated as soon as possible with broad spectrum antibiotics

19. Bacterial vaginosis:
    a. Is the most common STI
    b. Can usually be diagnosed by a whiff test
    c. Is usually found in a woman with candidal vaginitis
    d. Is best treated with Doxycycline

20. Presumptive treatment:
    a. Is a part of the flow chart for every high-risk man
    b. In high risk women is based on her risk assessment
    c. Will ensure that only women with gonorrhea/chlamydia are treated
    d. Will ensure that all women with gonorrhea/chlamydia are treated

21. Universal precautions are necessary:
    a. To protect HCW, patients and community from getting accidental infections
    b. To protect the HCW from accidental infection
    c. To protect the patient from accidental infection
    d. To prevent HIV infection to the HCW

22. PMNL > 15 /HPF on a male urethral smear without Gram-negative diplococci indicates:
    a. Non-gonococcal urethritis
    b. Gonococcal urethritis
    c. Bacterial vaginosis
    d. Pelvic inflammatory disease

23. Post exposure prophylaxis
    a. Should be initiated preferably within two hours
    b. Should be initiated preferably within five days
    c. Should be initiated preferably within seven days
    d. Should be delayed till the HIV status of the patient is known

24. The quality of syndromic case management depends on:
    a. The availability of laboratory support
    b. The help from a specialist venereologist
    c. Trained health worker in syndromic case management of STI
    d. Careful follow-up of the patient

25. Neonatal conjunctival infection:
    a. Should be prevented by giving antibiotics to the infant at birth
    b. Is caused by gonorrhea or chlamydial infection in the mother
    c. Should be treated with saline eye drops
    d. Should always be Gram-stained to confirm the diagnosis

26. Syndromic diagnosis:
    a. Does not require the HCW to take a history
    b. Should only be done if there is a microscope to confirm the disease
    c. Allows for treatment on the first visit
    d. Is suitable only for doctors and the qualified nurses

27. “Four Cs” do not include:
    a. Coming back regularly for follow-up
    b. Counseling/education
    c. Contact tracing
    d. Condom promotion

28. The symptom of the urethral discharge syndrome include:
    a. Dysuria
    b. Dyspareunia
    c. Pain in one or both testicles

29. Vaginal discharge syndrome may be caused by:
    a. Urethritis
    b. Urethritis and cystitis
    c. Vaginitis and cervicitis
    d. None of the above

30. The proportion of women with untreated gonorrhea who develop pelvic inflammatory disease is estimated to be:
    a. 1 to 5 %
    b. 5 to 10 %
    c. 8 to 20%
    d. 50 to 60%

****

Answers:

1) b	2) a	3) c	4) a	5) a	6) a
7) d	8) a	9) b	10) c	11) d	12) d
13) d	14) c	15) c	16) b	17) b	18) b
19) b	20) b	21) a	22) a	23) a	24) c
25) b	26) c	27) a	28) a	29) c	30) c

Annex 2: VCT, ART and PMTCT sites

A: HIV Testing and Counseling Sites in Nepal

Government (GFATM/DFID)	76
ASHA Project/USAID	38
UNDP/UNODC	21
Family Planning Association of Nepal (FPAN)	49
Save the Children	10
Self (private)	2
Total	**196**

B. HIV Treatment and Care (ART) Centres, 2010

SN	ART Centres	Launch date	District
1	Sukra Raj Tropical and Infections Disease Control Hospital, Teku	February 12, 2004	Kathmandu
2	Bheri Zonal Hospital, Nepalgunj	December 29, 2004	Banke
3	Sparsha Nepal, Sanepa	December, 2005	Lalitpur
4	Tribhuwan University Teaching Hospital (TUTH), Maharajgunj	January 12, 2006	Kathmandu
5	BP Koirala Institue of Health Sciences BPKIHS), Dharan	January 17, 2006	Sunsari
6	Western Regional Hospital, Pokhara	January 28, 2006	Kaski
7	Narayani Sub-Regional Hospital, Birgunj	February 28, 2006	Parsa
8	Mahakali Zonal Hospital, Mahendranagar	May 9, 2006	Kanchanpur
9	Seti Zonal Hospital, Dhangadi	December 23, 2006	Kailali
10	Doti District Hospital, Silgudhi	February 13, 2007	Doti
11	Lumbini Zonal Hospital, Butwal	May 23, 2007	Rupandehi
12	Achham District Hospital, Achham	June 7, 2007	Achham
13	Baglung Hospital, Baglung	June 21, 2007	Baglung
14	Koshi Zonal Hospital, Biratnagar	June 26, 2007	Morang
15	Bharatpur Hospital, Chitwan	September 18,2007	Chitawan
16	Mechi Zonal Hospital, Jhapa	September 26,2007	Jhapa
17	Kanti Children's Hospital, Maharajgunj	December 8, 2007	Kathmandu
18	Janakpur Zonal Hospital, Janakpur	March 17, 2008	Dhanusha
19	United Mission Hospital, Tansen	March 28, 2008	Palpa
20	Mid Western Regional Hospital, Surkhet	May 4, 2008	Surkhet
21	Rapti Sub Regional Hospital	May 12, 2008	Dang
22	Sagarmatha Zonal Hospital	June 29, 2008	Saptari
23	Maiti Nepal, Kathmandu	May, 2008	Kathmandu
24	Damauli Hospital, Damauli	January 7, 2010	Tanahun
25	Dailekh District Hospital, Dailekh	January 18, 2010	Dailekh
	ART Sub-centres		
1	Tikapur Hospital, Kailali	November 1, 2009	Kailali
2	Baitadi District Hospital, Baitadi	November 1, 2009	Baitadi
3	Syanja District Hospital, Syanja	March 24, 2010	Syanja
4	Gulmi District Hospital, Tamghas	March 25, 2010	Gulmi
5	Bardiya District Hospital Bardiya	March 15 2010	Bardiya
6	Dhulikhel Community Hospital, Kavre	March 22, 2010	Kavre

7	Gorkha District Hospital, Gorkha	June 28, 2010	Gorkha
8	Lamjung District Community Hospital , Lamjung	June 29, 2010	Lamjung
9	Bayalpata Hospital, Accham	July, 2010	Achham
10	Kapilvastu District Hospital, Taulihawa	July, 2010	Kapilvastu

C. PMTCT Service Sites, 2010

SN	PMTCT Centers	Lunch Date	District
1	Maternity Hospital, Thapathali	February 28, 2005	Kathmandu
2	Bheri Zonal Hospital, Nepalgung	February 2005	Banke
3	BP Koirala Institute of Health Sciences, Dharan	3 February 2005	Sunsari
4	Tribhuwan University Teaching Hospital, Maharajgunj	January 15, 2006	Kathmandu
5	Narayani Sub Regional Hospital, Birgunj	February 2006	Parsa
6	Western Regional Hospital, Pokhara	February 2006	Kaski
7	Mahakali Zonal Hospital, Mahendranagar	March, 2006	Kanchanpur
8	Seti Zonal Hospital, Dhangadi	December 23, 2006	Kailali
9	Achham District Hospital, Achham	June 7, 2007	Achham
10	Koshi Zonal Hospital, Biratnagar	June 26, 2007	Morang
11	Bharatpur Hospital, Bharatpur	September 18, 2007	Chitawan
12	Mechi Zonal Hospital, Jhapa	September 26, 2007	Jhapa
13	Doti District Hospital, Doti	February 13, 2007	Doti
14	Janakpur Zonal Hospital, Janakpur	March 17, 2008	Dhanusha
15	United Mission Hospital, Tansen	March 28, 2008	Palpa
16	Mid Western Regional Hospital, Surkhet	May 4, 2008	Surkhet
17	Baglung Hospital, Baglung	June 21, 2008	Baglung
18	District Hospital (DHO), Sunsari	November 15, 2009	Sunsari
19	Rapti Sub Regional Hospital, Dang	July, 2010	Dang
20	Sagarmantha Zonal Hospital, Rajbiraj	July, 2010	Saptari
21	Lumbini Zonal Hospital, Butwal	July, 2010	Rupandehi

Annex 3: Sexual Words Exercise

Technical English	Acceptable/ Local language	Slang/Colloquial
• Sexual intercourse		
• Semen		
• Ejaculation		
• Penis		
• Vagina		
• Masturbation		
• Orgasm		
• Anal intercourse		
• Kissing		
• Oral sex – on a man and on a woman		
• Erection		
• Buttocks		
• Condom		
• Homosexual		
• Clitoris		
• MSM/MSW		
• Sex worker		
• Libido		
• Lesbian		
• Bestiality		
• Sodomy		
• Bisexual		
• Transgender		
• Transvestite		
• Meta		
• Meti		
• Ta		

Annex 4: Role Plays

Role Play on Sexual Language

Role 1
You are a male college student and a very shy person. You suffer from anal warts.

Since there are no doctors around, you are compelled to visit the only female doctor present in the clinic on your campus. You are unfamiliar with the use of sexual words and unable to name body parts correctly.

When you talk to her you look around shyly to make sure no one is listening. You talk about your "back" or backside instead of anus. When she asks about your sexual life, you do not understand and you don't know what "sexual intercourse" means.

When she insists, you tell her that you've had a very close boyfriend for several months with whom you have had "physical" contact.

Role 2
You are a female doctor and the only doctor on this college campus. You are very uncomfortable about seeing a male patient. His shyness and stubbornness embarrasses you. You use medical terms to talk about sex because you are neither willing nor accustomed to other words. Once you discover that your patient has anal warts due to his homosexual relationship, you are even more embarrassed. You prescribe a drug and send him away.

Role Play on History Taking

Role play -1
Ravina, age 16, went to a clinic. She complained about constant watery discharge. (Pani Bageko) since the last four days. The doctor, who was in a hurry, gave her a prescription for vaginal discharge and some condoms. Ravina was surprised to see condoms as she was suffering from a nasal discharge and not vaginal discharge.

Role play -2
The second role-play will deal with taking down accurate history of a patient. Participants will be careful not to miss any aspects of this role play. The facilitator will supervise this.

Case Scenario on communication skills
Three volunteers are needed to play the roles:

1. A 21 year-old girl who works in a massage parlor
2. A male medical officer who works in the STI clinic
3. A staff nurse who assists the medical officer in the clinic

Role 1. (A patient). You are a beautiful 21 year-old girl, working at a massage parlor in Kathmandu, who goes to the mobile STI clinic set up at DIC of STEP Nepal in Mitranagar. You are experiencing problems in your reproductive tract but the fear of being recognized by others at the Teku Hospital and private clinics have compelled you to visit this mobile clinic, the information for which you got from your friend.

Role 2. (A male doctor) You are the only doctor working in the clinic, responsible for noting down the personal history of the 21 year old girl (including sexual history). You are also responsible for conducting a clinical examination and collection of specimen.

Role 3. (Staff Nurse) You are a nurse in the clinic helping the medical officer responsible for providing STI services. You are in charge of patient counseling regarding disease and advice on the importance of timely completion of all STI treatments along with consistent condom use.

The role play will be about 15 minutes long. The other participants will observe the roles played by each actor and provide suggestions (both positive and negative) once it's over.

Annex 5: Case Studies

I. Case Studies on Urethral Discharge Syndrome

Case One

Part A

Mr. Dinanath Yadav is a resident of Birgunj. He had gone to India as a mason worker and returned three days earlier. He comes to you with a history of urethral discharge and burning pain on micturition. He has been suffering since last week. How will you proceed next?

- Detailed history taking (including sexual history) and clinical examination (including genital examination)
- Advise RPR test and Gram staining from his urethral swab

Part B

He gives a history of sexual contact in Patna when he returned home from Delhi a week ago. What is your syndromic diagnosis and how do you manage the case?

- Syndromic diagnosis: UDS
- Manage for UDS (to cover both chlamydia and gonorrhea)

Case Two

Part A

Mr. Babar Singh Rana comes to the clinic with a one week history of dysuria and urethral discharge. Upon interrogation he admits that he had unprotected casual sex five days ago. What are the possible causes for this problem? How will you manage it?

- The possible cause is UDS caused by infection from either Chlamydia or N. Gonorrhoeae
- Treatment should cover both organisms.
- Counsel for safe sex
- Contact tracing and treatment

Part B

He comes again two weeks later with severe symptoms but denies all sexual contact except with his wife.

- What do you think must be the cause for his current problem and how do you manage his case?
- Possible re-infection from his wife. She was already infected but was not brought for partner treatment since she did not have any symptoms.
- Manage him again for UDS and counsel for partner treatment
- Follow-up after one week

Part C

One month later he brings his wife to the clinic as she has a vaginal discharge accompanied by pain in the lower abdomen. These symptoms have persisted for the last two weeks. What do you think has happened and how will you manage this case?

- Since she was not treated in the past, she remained infected but asymptomatic until she developed PID.
- Treat her as a case of PID.

II. Case Studies on Scrotal Swelling Syndrome

Case One

Part A

Mr. Diwaker is a resident of Pokhara. He went to Malaysia as a laborer six months ago. He came back three weeks ago after his factory collapsed. Diwakar comes to you with a history of right scrotal swelling which has been tender for the last three days. How will you proceed next?

- Note down all details of Diwakar's personal history (including sexual) and perform a physical examination. (Including milking urethra)
- Rule out surgical causes for scrotal swelling
- Perform RPR test and Gram stain of urethral swab if there is an obvious discharge

Part B

He does not provide any history of sexual contact while in Malaysia but has a history of discharge per urethra about ten days ago which disappeared by itself after a few days. What is your syndromic diagnosis and treatment?

- Scrotal swelling syndrome
- Treatment of scrotal swelling syndrome to cover both organisms *N. Gonorrhoeae* and *C. trachomatis*
- Follow-up after three days (if possible)
- Counsel on STIs and safe sex practice
- Contact tracing and partner treatment

Part C

During his follow-up visit, he brings his wife along since she has had excessive vaginal discharge for the last four weeks. What is your syndromic diagnosis and treatment? How do you think Mr. Diwaker got the infection?

- VDS
- Treat for both vaginitis and cervicitis
- Perform RPR test
- He most likely got the infection from his wife

Case Two

Part A

Mr. Babulal comes to the clinic with a history of bilateral scrotal swelling for the last two weeks. What are the possible causes for his scrotal swelling and how will you reach a diagnosis?

The possible causes for scrotal swelling are:

- STIs such as gonococcal, chlamydial infection
- Non-STI infections: mumps, tuberculosis, filariasis
- Surgical: tumor, trauma, and torsion

Part B

He gives a history of sexual contact four weeks ago and took some kind of treatment from a local pharmacy for a penile discharge. This reduced the discharge but he developed swelling after a few days. What is your syndromic diagnosis and treatment now?

Scrotal swelling syndrome

- Treatment for scrotal swelling syndrome

Part C

After one month, he comes back to the clinic with multiple ulcers in the glans penis.

- What is your diagnosis now and what could be the reason for it? How will you manage this case?
- GUD, the possible causes for it are: Herpes genitalis, syphilis, chancroid & donovanosis (The last two are not common in Nepal).

III. Case Studies on GUD.

Case One

Part A

Mrs. Sangita is 25 years old and comes to your clinic with a non-itchy growth in the vulva. She also mentions of having noticed it only a month ago however it had not been painful. Her husband is working in India. How should you proceed?

- Take a detail history and conduct a clinical examination
- Perform RPR test

Part B

She admits to having a single painless ulcer over the labia majora two months ago, which healed by itself without any treatment. What is your diagnosis? And how will you manage her case?

- Diagnosis Secondary syphilis
- Do RPR and TPHA if available
- Management according to the guidelines
- "Four Cs"
- Refer for VCT

Part C

Three months later she comes back to the clinic with her husband for a follow-up examination. She wants to know whether her husband has a similar type of problem. What should they do to avoid getting this type of problem?

- Take history and conduct detailed examination of the partner
- Provide treatment as per guidelines
- Provide counseling for safe sex
- RPR test and VCT

Case Two

Part A

Mrs. Mira of Palpa comes to your clinic with her one year old daughter. The skin on her daughter's palms and soles has been peeling for the past month. She was taken to a pediatrician where she was given some treatment that did not improve her condition, and therefore was referred to you. How will you proceed with this case?

- Detail history taking and examination, including that of the parents
- RPR test of the child and of the parents

Part B

Mrs. Mira mentions that her child is very precious, since she has already had one abortion and one stillbirth. She has had no genital problems. Her husband is working in Kathmandu. Laboratory reports show RPR-reactive. What will be your diagnosis and treatment?

Diagnosis: Congenital syphilis

- Treatment of congenital syphilis (with Inj. Benzathine Penicillin 50, 000 IU/Kg deep IM single dose)
- Treat parents for acquired syphilis
- Provide counseling for safe sex practice and regular follow-up
- Refer to VCT

Part C

She seems to be worried about her child and wants to know what she should do to help.
Is it advisable to get pregnant again?

- Regular follow-up of RPR titer
- Ask for the child's HIV status and if the mother has tested positive
- She can become pregnant, only if followed properly after treatment

Case Three

Part A

Mr. Kalika Prasad is a businessman. He frequently travels around Nepal as well as outside it. Although married, he has maintained sexual contact with many women. He comes to the clinic complaining of painful sores on the penis for one week.

How will you approach him?

1. Take a detail history including sexual contact and consistency of condom use
2. Conduct a general and genital examination

Part B

He admits that he has had the same types of problems several times before in the same place. Upon examination he has about half a dozen small ulcers.

What is probable diagnosis and how you will manage his case?

1. Probable diagnosis is Herpes genitalis (Genital ulcer disease)
2. Manage as herpes genitalis ask for RPR test if available and
3. Advice “Four Cs”
4. Follow-up in seven days

Two months later Kalika Prasad comes back again. This time he has a single sore for the last two weeks, which is rather large and painful. During that time he had sexual contact with his girlfriends as well as his wife.

How will you manage his case this time?

1. Manage as GUD and genital herpes
2. Repeat RPR if previous was negative, if available
3. Advice "Four Cs"
4. Follow-up in seven days

Part C

Kalika Prasad is worried about his wife and one of his girlfriends. He wants to make sure they are all right but he does not want to inform them about his infection. How will you advise him and deal with the situation?

1. Proper counseling
2. Contact tracing and partner treatment

IV. Case Study on Positive RPR/VDRL

Case One

Part A

Mr. Lekh Bahadur has come from Gulmi to go to Malaysia as a laborer. In a medical check up he was found to be VDRL/RPR positive and so he was rejected from going abroad. He has now come to your clinic. How will you proceed with his case?

- Take detailed history (including sexual) and conduct a thorough physical examination.
- Repeat RPR with its titer
- Advise TPHA testing

Part B

He admits to having been administered weekly injections for three weeks, six months ago. He had VDRL done again and it is still positive. He has come here to get further treatment. What will be your advice?

- Regular follow-up of RPR titer
- Contact tracing and partner treatment
- Counseling

Part C

He still wants to go to Malaysia. What should he do to make his VDRL non-reactive?

He should have regular follow-up with RPR titer after 3, 6 and 12 months until it becomes negative.

V. Case studies on Inguinal Bubo Syndrome

Case One

Part A

Mr. Ram Bahadur comes to the clinic with one week of painful swelling in his right inguinal region. He has taken some treatment from the medical shop but has not experienced any improvement. How will you diagnose his case?

- Detailed history taking including that of sexual contacts.
- Detailed examination including the ano-genital/perineal regions
- RPR test

Part B
He admits to having had sexual contact, a few days back with a woman he had had sex with previously. A small ulcer had developed and healed by itself. What is your syndromic diagnosis and treatment?

Syndromic Diagnosis: Inguinal bubo syndrome
Treatment: As per the syndromic management of IBS

Part C
Two weeks later he comes back to you as the swelling is still painful and has started discharging pus. What could be the possible reasons for this problem?

The bubo has ruptured and either the treatment given previously was inappropriate or the inguinal swelling was already fluctuant at his last visit and needed aspiration.

Case Two
Part A
Mr. Sanjay comes to the clinic with swelling in the inguinal region on both sides for the past three days. He repeatedly denies having sexual contact and is not married. What is your syndromic diagnosis and treatment?

- Inguinal bubo syndrome
- Follow flow chart for inguinal bubo syndrome management guideline

Part B
Ten days later he comes back to the clinic. He says his swollen glands have disappeared, but he has developed multiple ulcers over the glans penis which have been very painful for the past two days. What is your syndromic diagnosis and treatment now?

- Syndromic diagnosis is GUD
- The line of management is that of GUD flow chart

Part C
He finally admits that to having sexual contact with his girlfriend. However he does not want his girlfriend to get infected. What should be done now?

- Treatment for his girlfriend
- RPR test
- Counseling on safe sex practices
- Advise follow-up visits

VI. Case Studies on Vaginal Discharge Syndrome:

Case One
Part A
Mrs. Radhika visits a Gynecology OPD with a history of vaginal discharge for the past two weeks. Married for a year she does not have any children. She complains about her discharge having a foul odor not accompanied by any kind of itching.

- What other questions would you like to ask her?
- Detailed history including her socioeconomic status and potentially risky sexual behavior.

Part B

Radhika informs you that she has had only one partner and he does not have any symptoms. She refuses to be examined.

- How will you manage this case?
- She should be treated for vaginitis.

Part C

Before you give her medicines, Radhika changes her mind and agrees to be examined.

- What examinations will you carry out? What will you look for?
- Per speculum examination by using Cusco's bivalve speculum. Look out for discharge of any kind coming out of the cervical os and ulcers or sores within the vagina or cervix.
- Conduct a bimanual pelvic examination to assess cervical tenderness.

Part D

While putting the speculum in the vagina there is a greenish, offensive discharge. When cleaning the cervical os with a cotton swab, clear mucus comes out of cervical os. There are no ulcers or sores on the outside or inside of the vagina and cervix.

- There is no abdominal tenderness and on bimanual pelvic examination there is no tenderness upon moving the cervix.
- How will you manage Radhika?

Manage her for vaginitis
"Two C's"

What specific treatment will you prescribe her?

Tinidazole	2gm in a single dose
Or	
Metronidazole	400mgs, three times a day for seven days
Plus	
Fluconazole	150 mgs, oral single dose
Or	
Clotrimazole	200 mg, vaginal pessary each night for three nights

Case Two:

Part A

Ram Maya age 16 years attends your clinic with a history of offensive white discharge for the past three weeks. She has never been married and has come to Kathmandu in search of a job and escape from a family conflict.

- How will you approach this case?
- Detailed history taking including risky sexual behavior.

Part B

Ram Maya admits to having worked at a dance bar to earn her living and has had sexual contact with some clients without any means of protection. However she refuses to be examined.

How will you manage her?

- Treat for cervicitis and vaginitis.
- "Four Cs"

Part C

Ram Maya changes her mind and agrees to be examined after being convinced by her friend.

What examination will you carry out?

- Speculum examination and bimanual pelvic examination.
- Examine the vagina and cervix for any discharge coming out of the cervix. See if there are any ulcers or sores inside or outside the vagina and cervix.

Part D

On speculum examination there is frothy discharge in the vagina but no obvious discharge seen coming out of the cervix.

- How will you manage her case?
- Treat for both vaginitis and cervicitis.
- "Four Cs"

What treatment will you prescribe?

Azythromycin	1gm oral single dose
Plus	
Cefixime	400 mg oral single dose
Or,	
Ceftriaxone	250 mg IM single dose
Plus	
Tinidazole	2gm in a single dose
Or,	
Metronidazole	400mgs, three times a day for seven days
Plus	
Fluconazole	150 mgs, oral single
Or,	
Clotrimazole	200 mgs, vaginal pessary each night for three nights

REMEMBER THE "Four Cs" WITH EVERY PATIENT

VII. Case Studies on Pelvic Inflammatory Disease Syndrome

Case One:

Part A

Suntali attends an STI clinic with a history of pain in the abdomen for last three weeks. She also complains of having had a fever for the past few days.

How will you manage this case?

1. History taking in detail with risk assessment
2. Examination (general, abdominal, and pelvic)

Suntali says her periods are regular. Her vitals are stable and she has had a fever of 39^{o} C.

Upon abdominal examination she has no undue tenderness or guarding.
Upon speculum examination there is an obvious discharge from the cervical os and cervical excitation test is positive (cervical tenderness).

How will you proceed?

1. Treatment for PID
2. Follow-up after three days.
3. In case of any pain or if the symptoms worsen, immediately contact a health care professional.

As advised, Suntali comes back after three days. She feels much better now.

What will you advise her now?
Treatment should be continued for 14 days.
"Four Cs"

Case Two:
Part A
Sita Tamang visits the Gynecology OPD complaining of vaginal discharge for the last three weeks. She is 30 years old and has three children. After being abandoned by her husband she has moved to Kathmandu and is living with her relative.

She denies having sexual contact with anybody.

Upon examination there is no abdominal tenderness or mass. Upon speculum examination there is copious pus like discharge coming out of cervical os. Upon bimanual pelvic examination, there is no tenderness in the fornices and cervical excitation test is negative.

How will you treat this case?

1. Treatment for vaginitis and cervicitis.
2. "Four Cs"

Sita informs you that she does not have enough money for treatment. Could she try a cheaper medicine or take smaller doses to see if it works?

How will you counsel her?
There should not be any compromise regarding cheaper treatment and smaller doses.

Two months later Sita comes in again with a pain in the abdomen for the past week. What questions would you ask? What examinations will you carry out?

Find out whether she has taken the complete treatment as prescribed. Confirm the date of the last menstrual period and ask for any history of induced abortion. Abdominal and bimanual pelvic examination has to be done to find out cervical tenderness to confirm PID.

Part B

Sita says she is not pregnant, has not had a miscarriage or an abortion, and her periods are regular. She has a fever of 38.5^{o} C. Upon examination of her abdomen there is no tenderness, guarding or rebound tenderness. On using vaginal speculum there is discharge from the cervix and on bimanual examination there is cervical excitation but no mass.

How will you manage Sita now?

- Treatment for PID
- Follow-up after three days.

Sita comes back after three days as advised. Her symptoms have not improved. Upon examination there is a tender mass in the right iliac fossa.

How will you manage this case now?

- Refer to a specialist. Explain the situation to the patient and her companion.

VIII. Case Study on Venereophobia

Case One

Part A

Mr. Sanjay Kumar Thakur, a 23 year-old from Rautahat, comes to you with a history of deep seated pain and multiple rashes on his penis for more than 3 years. He has recently been married but does not have a sexual desire. He strongly believes that he has some incurable type of STI.

How will you approach him?

- Take detailed history. Perform physical and a genital examination.
- Ask for laboratory investigations including RPR and urethral smear for Gram stain

He admits to having had a single sexual contact with his girlfriend before the start of this problem. However since then he has not had any abnormal urethral discharges, ulcers or swelling in the genitalia.

Upon examination, there are multiple tiny papules of same size around the corona of the penis.
All of his lab findings are negative
What is your diagnosis and how will you manage this case?

Diagnosis: Pearly penile papules
Management: Counseling and psychotherapy
May need some anxiolytics

He refuses to take your medicine and shows you the lists of prescriptions which he has already taken from different health facilities. He has repeatedly been tested negative for all the possible causes of STIs and has taken almost all the routine medicines used to treat different STIs.

How would you proceed further and what will be your advice?

- Reassurance and counseling on the benign nature of his problem.
- May need to consult with a psychiatrist.

Annex 6: Examination Checklist

Male Patient Examination Checklist

No.	Male Patient	Yes	No	Remarks
1.	**Clinical examination steps:** • Obtain consent for examination • Explain all procedures to the client. • Ask the patient to take off all clothes below the umbilicus. • Put a drape to cover the other parts • Observe and examine the ano-genital parts as shown in the following order: skin, pubic hair, groin, penis, scrotum and testes, perineum, anus and rectum sequentially.			
2.	**Examination of penis should include:** Shaft of penis, retraction of the foreskin to observe the inner prepuce, coronal sulcus and urethral meatus. Milk the urethra from proximal to the distal end to detect discharge.			
3.	**Examination of scrotum** • Inspect the surface of the scrotum for any abnormalities • Palpate it for hardness/tenderness • Palpate epididymis and spermatic cord • Lift the scrotum to observe the perineal skin			
4.	**Specimen collection:** Specimens commonly collected include urethral swabs and venous blood. Those having oral/anal sex (including women, MSM, males and transgenders) will need for specimens to be collected from pharynx, rectum and urethra – if laboratory capacity is available. For urine test and urethral swab Always ask the male patient to hold urine for at least 2 hours before the urethral or urine sample is collected – this prevents false negative results for some tests.			
5.	**Perineum, anus and rectum:** Ano-rectal examination should be performed when it is indicated and consented to by the patient • Observe and palpate for any suspected lesions • Perform digital anal examination • Perform anoscopy or proctoscopy • Collect specimens if laboratory capacity is sufficient			

Female Patient Examination Checklist

No.	Female Patient	Yes	No	Remarks

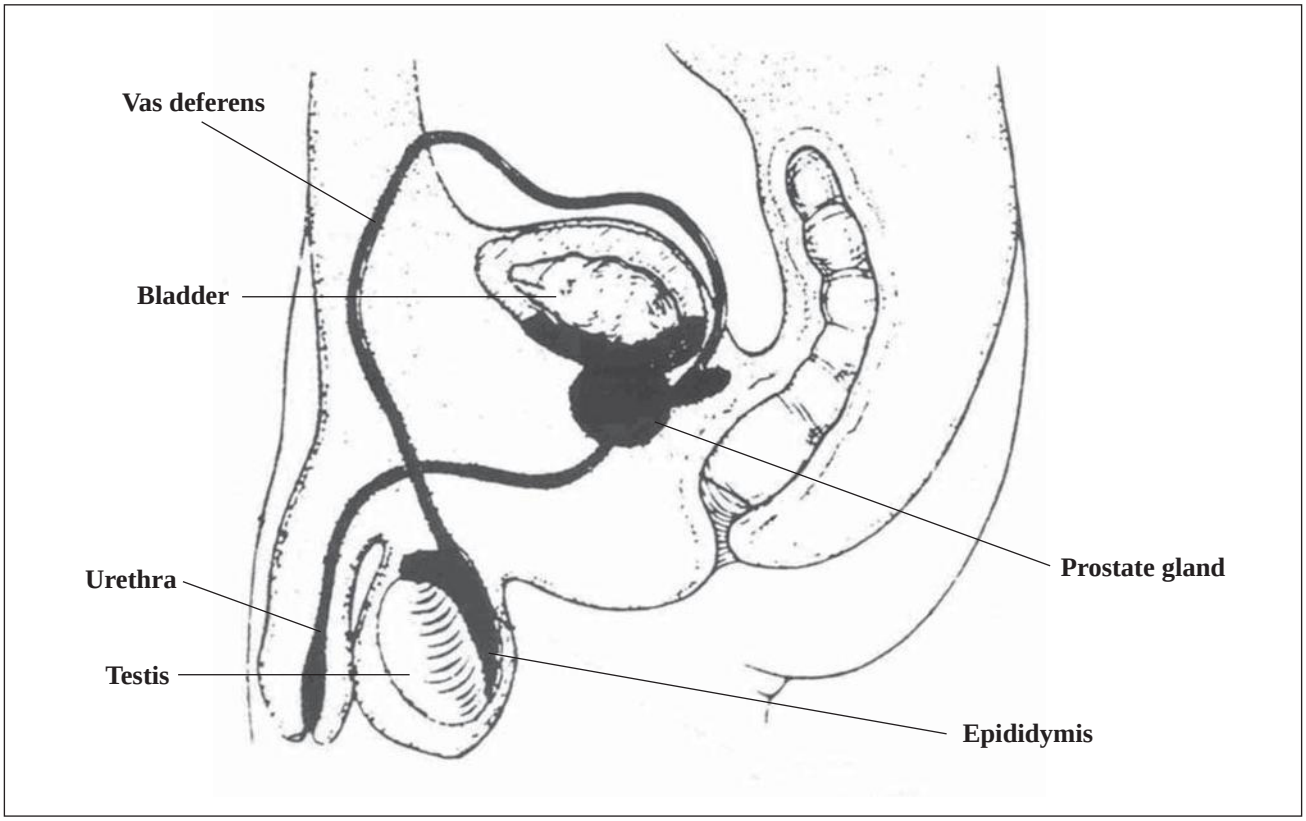
1.	**Clinical examination steps:**
	• Obtain consent for examination
	• Arrange for a chaperone (female attendant) if you are male
	• Explain what you will be doing to the patient
	• Reassure the patient about the process and its painless nature
	• Ask the patient to avoid urinating (which may disturb and lead to inaccuracies in the finding of the examination)
	• Ask the patient to undress appropriately (below umbilicus)
	• Put a clean drape to cover all other body parts
	• Help the patient to an easy position.
	• Adjust light for appropriate visualization
	• Carry out:
	  • External examination of ano-genital areas
	  • Internal examination includes:
	  - Per vaginal examination by speculum
	  - Bimanual pelvic examination
	• Collect specimen from: Posterior fornix of vagina; cervix; rectum; other sites (e.g., lesions); blood; urine			

2.	**External examination:** • Inspect pubic hair and skin of vulva and pubic region • Examine the vulva, palpate inguinal region (for lymph nodes) and labia (for Bartholin's glands) • Inspect vestibule and introitus • Inspect, palpate and milk urethra • Examine the perineum and anus			
3.	**Speculum (Internal) examination:** • Select appropriate sized speculum • Expose vaginal opening with the two fingers of your free hand • Introduce the lubricated & warm (if cold) speculum (closed) in a downward angle and rotate it as it passes in. • Slide the speculum along the posterior vaginal wall • After full insertion, open the blades of the speculum to view cervical os. • Observe the cervix for any color change, bleeding, ulcers, wound, growth and discharge from the os. • Secure the speculum open for specimen collection • Partly close the speculum to remove it. While removing the speculum, observe the vaginal wall for any abnormalities.			

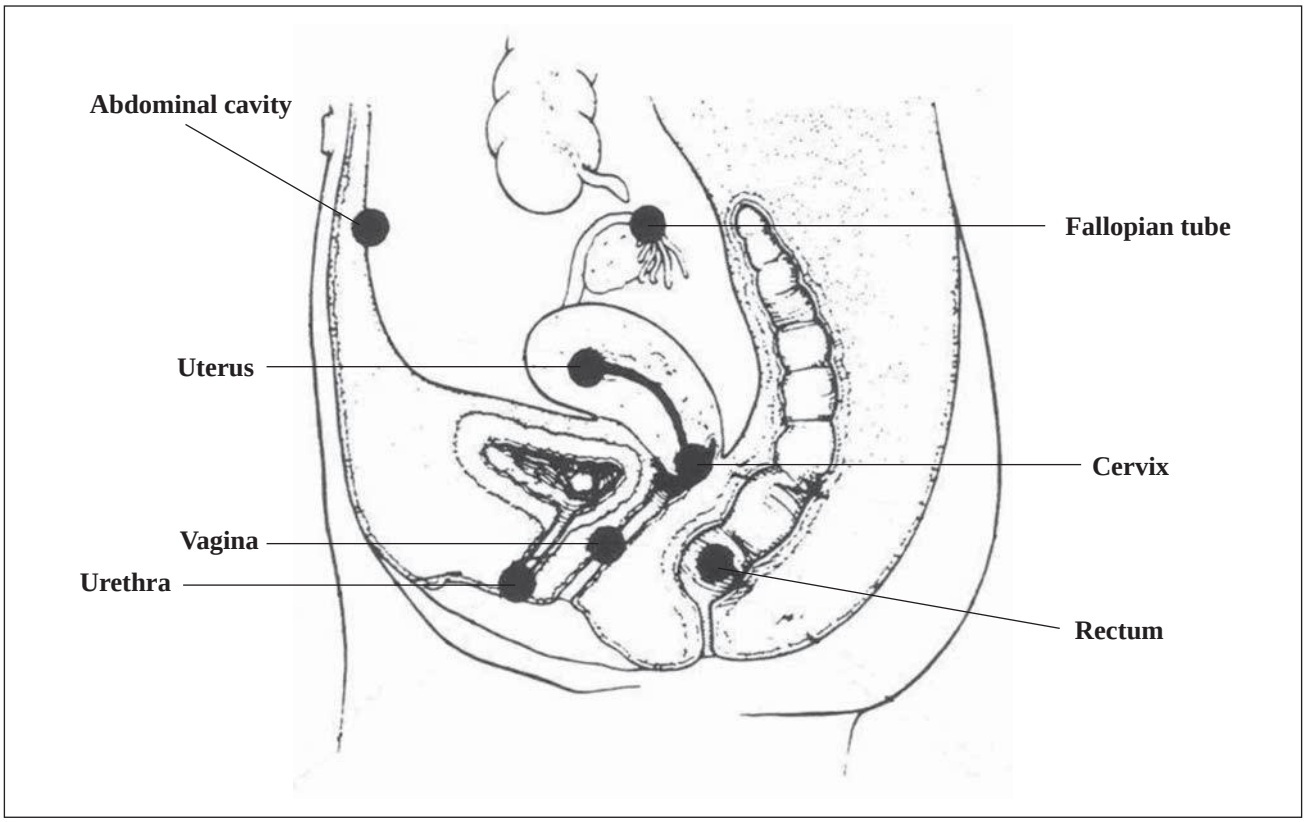
No.	Female Patient	Yes	No	Remarks
4.	**Bimanual examination:** This is an important step in vaginal examination aimed at detecting cervical tenderness and checking for any masses in the pelvic cavity. ***Steps:*** • Explain what you are going to do • Insert your lubricated middle finger to retract posterior wall and then the index finger. Slide the fingers gently till you feel the cervix. • Evaluate cervical tenderness • Palpate uterus, Fallopian tubes and ovaries for any masses • After withdrawal, inspect your gloved fingers for characteristics of discharge			
5.	**Rectal examination** • If recent anal intercourse is admitted, a proctoscope is inserted, followed by a swab stick inserted three cm into the anal canal, rotating it for 10 seconds to collect the exudates / mucus / muco-pus from the crypts just inside the anal ring. • If fecal contamination occurs, discard and collect a fresh specimen.			

Annex 7: Male and Female Anatomy

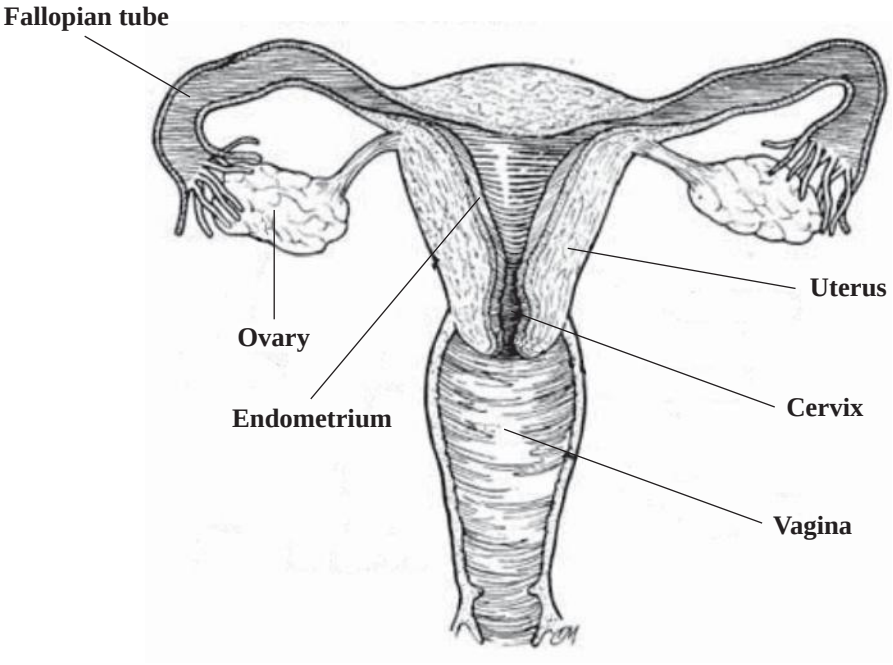
Picture of Male Anatomy



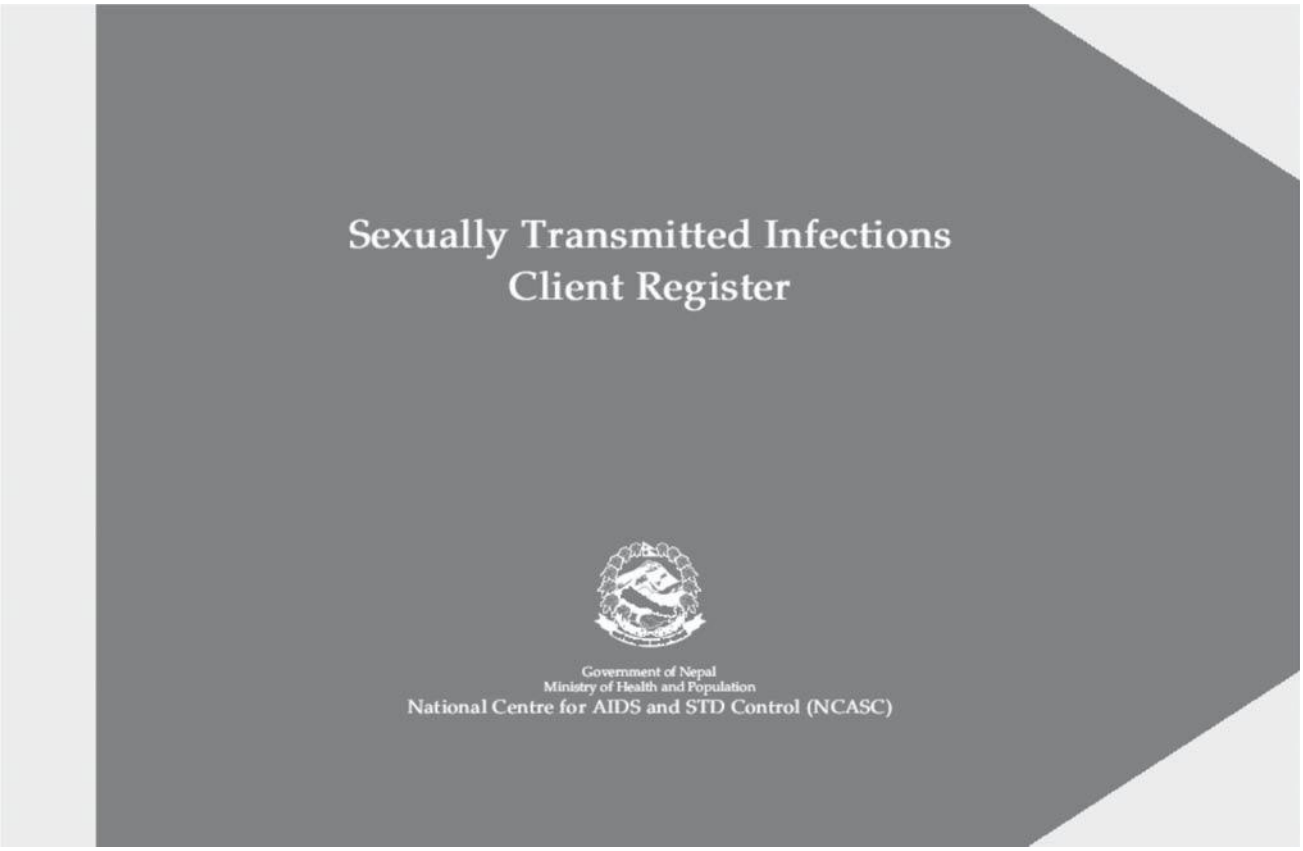
Picture of Female Anatomy (Lateral View)



Picture of Female Anatomy (Front View)



Annex 8: STI Case Report Form



Instruction Note

General Instructions		
• This form should be kept at STI client and to be filled by STI service in charge • The main purposes of the STI register are to record (1) key socio-demographic information (2) record clients. STI diagnosis and treatment • Use one line per client. • Please write the legibly and avoid the over writing.		
Information to be Recorded	**Type of Information**	**Guideline for Recording**
1. Registration date	(dd/mm/yy)	Using Nepali calendar and write the reporting duration clearly mentioning date, month and year
2. Registration number	Number	Write the registration number allocated to a new client according to SDPs rule procedure. This number should be unique, i.e. the same number cannot be attributed to more than one client in the health facility.
3. Patient name	First and last name of client	Write full name of client. First name is optional while last name is compulsory.
4. Sex	Male (M); Female (F); Third Gender (TG)	Write M for male, F for female and TG for third gender
5. Age	Age in completed years	Fill in the age of the client in completed years.
6. Marital status	Unmarried (U); Married/Partner (M); Divorced/Separated (D); Widowed (W); Not applicable (NA)	Ask the client about his/her marital status and write accordingly Note: Widowed represent spousal death for both male and female
7. Full address (District of residence)	Name of district and full address	Write current district of residence with full address.

Information to be Recorded	Type of Information	Guideline for Recording
8. Clients code (CC)	CC = Last name (First 2 characters)+ Date of birth (last 2 digits -YY) + sex (1 digit . 1= M, 2= F, 3 = TG)+Auto number	CC is to be generated by the system (HIV AIDS database) at the service delivery point. Where database is not operational, CC is to be assigned to each client by service site worker using the above mentioned CC formula. e.g SH-32-2-123 for the client whose last name is Sharma born in 2032 BS, male and registration or auto number is 123.
9. Type of case	New (N); Old(O)	• If client visit the site first time then write N in column 9 • If client visit next time for follow up visit for treatment then write O in column 9
10. STI counseling	Yes (Y); No (N)	• If client is counseled for STI then write Y in column no 10 • If client does not counseled for STI then write N in column no 10
11. Syndromic diagnosis	STI syndromes	Please mention multiple code if multiple STI and specify if others Circle the appropriate code in column 11 Urethral Discharge Syndrome (UDS) (1); Neonatal Conjunctivitis Syndrome (NCS) (5); Scrotal Swelling Syndrome (SSS) (2); Genital Ulcer Disease Syndrome (GUDS)(6); Vaginal Discharge Syndrome (VDS) (3); Inguinal Bubo Syndrome (IBS) (7); Lower Abdominal Pain Syndrome (LAPS) (4); Others (specify) (8)
12. Risk group / Assessment	Risk group/ assessment	Please mention risk group with appropriate code in column 12 - FSW (1); MSW (2); IDU (3); MSM (4); Client of FSW (5); Migrant (6); Spouse of migrant (7); Other Specify (8)
13. Syndromic treatment	Yes (Y) No (N)	• If client got syndromic treatment for STI then write Y in column 13 • If client did not get syndromic treatment for STI then write N in column 13
14. Etiological treatment	Yes (Y) No (N)	• If client got etiological treatment for STI then write Y in column 14 • If client did not get etiological treatment for STI then write N in column 14
15. Presumptive treatment for sex worker	Yes (Y) No (N)	• If sex worker received Presumptive treatment for STI then write Y in column 15 • If sex worker did not receive Presumptive treatment for STI then write N in column 15
16. Asymptomatic treatment for partner	Yes (Y) No (N)	• If client has had any syndrome of STI and his/her partner was treated asymptomatically then write Y in column 16 • If client has had any syndrome of STI and his/her partner was not treated asymptomatically then write N in column 16
17. In referred from	Name of institution	Write the name of referral center from where client is referred to this center
18. Out referred to	Name of institution	Write the name of referral center where client is referred out from this center
19. Remarks	If any	

National Centre for AIDS and STD Control

STI Client Register

Month _____ Year_____

Registration Date	Registration Number	Socio Demographic Information					Client Code		
		Patient's Name	Sex	Age (completed years)	Marital Status	Full Address		Type of Case	STI Counseling
(dd/mm/yy)	(#)	Last Name (Compulsory)	(M/F/TG)	(#)	(U/M/D/W/NA)	District of Residence (compulsory)	Code	(N/O)	(Y/N)
1	2	3	4	5	6	7	8	9	10

Socio-Demographic Information

1 Registration date: (dd / mm / yy) Nepali calendar
2 Registration number: Write the number
3 Patient's name: Last name is compulsory
4 Sex: Male (M); Female (F); Third Gender (TG)
5 Age: Age is completed years
6 Marital Status: Unmarried (U); Married/ Partner (M); Divorced / separated (D); Widowed (W); Not applicable (NA)
7 Address: Write current district of residence (Compulsory)
8 Client codes: Write first two letters of the last name+ last two digit of year of birth + sex code (male=1, female=2, third gender=3) + auto number

Counseling and diagnosis:

9. Type of case: New (N); Old (O)
10. STI counseling: Yes (Y); No (N)

11. Syndromic diagnosis: Urethral Discharge Syndrome (UDS) (1); Scrotal Swelling Syndrome (SSS) (2); Vaginal Discharge Syndrome (VDS) (3); Lower Abdominal Pain Syndrome (LAPS) (4); Neonatal Conjunctivitis Syndrome (NCS) (5); Genital User Disease Syndrome (GUDS) (6); Inguinal Bubo Syndrome (IBS) (7); Others (specify) (8)

STI Client Register

STI Counseling & Diagnosis									Treatment		Other Information			
STI Diagnosis (Please find the code as below)								Risk Group/ Assessment	Syndromic Treatment	Etiological Treatment	Presumptive Treatment to Sex Worker	In-Referred from	Out-Referred to	Remarks
Circle the appropriate code. In case multiple STI please circle the multiple codes. Specify the STI in code no. 8 if it is not listed								(#)	(Y/N)	(Y/N)	(Y/N)	Name	Name	
11								12	13	14	15	16		
1	2	3	4	5	6	7	8		18	19				
1	2	3	4	5	6	7	8							
1	2	3	4	5	6	7	8							
1	2	3	4	5	6	7	8							
1	2	3	4	5	6	7	8							
1	2	3	4	5	6	7	8							
1	2	3	4	5	6	7	8							
1	2	3	4	5	6	7	8							
1	2	3	4	5	6	7	8							
1	2	3	4	5	6	7	8							
1	2	3	4	5	6	7	8							
1	2	3	4	5	6	7	8							
1	2	3	4	5	6	7	8							
1	2	3	4	5	6	7	8							
1	2	3	4	5	6	7	8							

12. Risk Assessment: Sex worker (1); Injecting drug user (IDU) (2); Men who have sex with men (MSM) (3); Client of sex worker (4); Migrant (M); Spouse of migrant (6); Others-Specify (7)

Treatment:

13. Syndromic Treatment: Yes (Y); No (N)

14. Etiological Treatment: Yes (Y); No (N)

User Information:

15. Presumptive treatment for sex worker: Yes (Y); No (N)

16. Asymtomatic treatment for partner: Yes (Y); No (NO)

17. In-Referred from: Write the name of service site from where client is referred to this center

18. Out-referred to: Write the name of service site where client is referred from this center

Ministry of Health and Population
National Centre for AIDS and STD Control
Monthly STI Report

Name of the Reporting Institution:				
Facility Code:				
District:				
Municipality/VDC:				
Name of the Facility In Charge:				
Month and Year of Reporting:	Month		Year	

S.N.	Syndromic Diagnosis and Treated	STI Cases by MARPs (Number)							Total
		Sex Workers	IDUs	MSM	Clients of sex worker	Migrants	Spouse of Migrants	others	
1	Urethral Discharge Syndrome (UDS)								
2	Scrotal Swelling Syndrome (SSS)								
3	Vaginal Discharge Syndrome (VDS)								
4	Lower Abdominal Pain Syndrome (LAPS)								
5	Neonatal Conjunctivitis Syndrome (NCS)								
6	Genital Ulcer Disease Syndrome (GUDS)								
7	Inguinal Bubo Syndrome (IBS)								
8	Others								
	Total								

S.N.	Indicators (New client in this month)	By Sex			By Age				
		Male	Female	Third Gender	0-14 yrs	15-19 yrs	20-24 yrs	25-49 yrs	50 yrs and above
1	**Syndromic Management of STI**								
1.1	Number of new STI client counseled								
1.2	Number of new STI client diagnosed								
1.3	Number of new STI client treated								
1.4	Number of new STI client diagnosed and treated								
2	**Presumptive Treatment to Sex Workers**								
3	**Number of Asymptomatic Partners Treated**								

Report Prepared By:	**Report Approved By:**
Name:	Name:
Designation:	Designation:
Signature:	Signature:
Date (dd/mm/yyyy):	Date (dd/mm/yyyy):

Annex 9: Suggested STI Clinic Equipments List

Suggested STI Clinic Equipments List
Clinical Services for Managing Sexually Transmitted Infections

Physical Structure

1. Private, soundproof room
2. Screens for privacy
3. Access to a male and female toilet -as required
4. A sink with running water for washing hands, cleaning equipment etc
5. Electricity supply
6. A separate counseling area
7. A separate reception area

Supplies related to the Examination Table

1. An examination couch -ideally with steps, a 'cut-away' recess for speculum examination
2. Examining chair
3. Sheets for examination couch
4. Pillow for examination couch
5. A good examination light -preferably wall-mounted
6. A torch with a fresh and backup supplies of batteries
7. Goose neck lamp -halogen bulb preferred
8. Kelly pad or other waterproof sheeting
9. Hand mirror for patient education

Basic Medical Outlay

1. Sphygmomanometer
2. Stethoscope
3. Thermometer
4. Adult weighing scales
5. A sterilizer -or access to sterilization facilities
6. Refrigerator
7. Scissors
8. Instrument tray with cover
9. Movable instrument holder
10. Cotton ball holder
11. Cotton tip holder
12. Medicine cabinet
13. Waste basket (laboratory)
14. Waste basket (ordinary)
15. Mops, brooms and other equipment to clean the clinic

Medical Outlay for Ano-genital Examination

1. Water-based lubricant
2. Vaginal specula -various sizes

3. Speculum holder
4. Proctoscopes or anoscopes depending on availability
5. Ovum forceps
6. Uterine forceps

Medical Supplies Consumables

1. Needles and syringes
2. Cotton wool
3. Gauze swabs
4. Examination gloves.
5. Sterile cotton-tipped applicators -small and large for cleaning the cervix
6. Microscope slides and cover slips
7. Water soluble lubricant for clinical examination
8. Spatula, cytobrush, slide holder and fixative for Papanicolaou smears (if service available)
9. Disposable tissues
10. Tongue depressors -disposable
11. pH paper (4-7 range)
12. 10% potassium hydroxide solution
13. Physiological saline solution
14. Disinfectant (Sodium hypochlorite)
15. 70% Isopropyl Alcohol
16. Distilled water
17. Male latex condoms
18. Male polyurethane condoms (for latex allergy patients -if available)
19. Female condoms (if available)
20. Demonstrators for male condom use (e.g., wooden dildos)

Administrative Support

1. Clinic record system - including data summary sheets for attendance and surveillance purposes
2. Filing cabinet -lockable
3. Desks
4. Chairs
5. Telephone
6. Chairs for waiting room
7. Fan
8. Manual of STI case management guidelines

Optional (funds and staff permitting)

IEC

1. Flip chart with stand
2. TV set plus video cassette recorder
3. Overhead projector with tripod
4. Whiteboard

Administrative Support

1. Computer
2. Printer
3. Modem
4. Fax
5. Potted plants for waiting room

Equipment, Reagents and Consumables for specific STI

1. Binocular Microscope –Olympus®
2. Spare bulbs for microscope
3. Spare fuses for microscope

Neisseria gonorrhoeae

- Gram stain
- Alcohol lamp
- Staining rack
- Glass slide
- Cotton tipped swab Gram stain kit

Candida albicans

- KOH
- Potassium hydroxide pellet, AR (bot/500g) or 10% solution
- Sterile distilled water
- Cotton tipped swab (sterile, individually wrapped)
- Glass slide, frosted end (bx/72)
- Cover slip (22x22mm)

Trichomonas vaginalis

- Wet mount
- Sodium chloride powder, AR (bot/500g) or bottled normal saline solution
- Sterile distilled water
- Cotton tipped swab
- Glass slide
- Cover slip

Bacterial vaginosis

- Gram stain
- Glass slide
- Cotton tipped swab Gram stain kit

Rotator, Centrifuge required for the infections below

Syphilis

RPR

- Rotator
- RPR kit and controls
- RPR cards
- Micropipette (200 ul, 1000 ul - adjustable volume)
- Yellow pipette tips
- Test tube (l2x75mm)

TPPA/TPHA

- TPPA or TPHA kits and controls
- Micropipette (200 ul, adjustable volume)
- Yellow pipette tips
- Blue pipette tips

Annex 10: Training Schedule

Date	**Day 1**	
Time	**Subject**	**Facilitator**
9:00 to 9:30	Registration	
9: 30 to 9:45	Introduction of Training	
9:45 to 10:00	Getting to know each other	
10:00 to 10:15	Ground rules for the training period	
10:15 to 10:30	Expectations of participants and objectives of the training	
10:30 to 10:45	Tea break	
10:45 to 11: 15	Pre-test	
11:15 to 12:00	Introduction to STI	
12:00 to 1:00	lunch break	
1:00 to 1:45	Epidemiology of STI (Global and National)	
1:45 to 2:35	Public Health Aspects of STI	
2:35 to 2:45	Tea Break	
2:45 to 3:30	Relationship between STI and HIV	
3:30 to 4:30	Introduction to HIV	
4:30 to 5:00	End day evaluation	

Date	**Day 2**	
Time	**Subject**	**Facilitator**
9:00 to 9:30	Recap of previous days sessions	
9:30 to 10:30	Common STIs Syphilis	
10:30 to 10:45	Tea break	
10:45 to 11:45	Common STIs (Other than syphilis)	
11:45 to 12:45	Lunch	
12:45 to 1:45	Common STIs (Other than syphilis)	
1: 45 to 2:15	Genital herpes	
2:15 to 2:30	Tea break	
2: 30 to 3:00	Ano-genital warts	
3:00 to 3:30	Scabies and pubic lice	
3:30 to 4:00	Venereophobia	
4:00 to 4:45	Communication skills	
4:45 to 5:00	End day evaluation	

Date	Day 3	
Time	**Subject**	**Facilitator**
9:00 to 9:30	Recap of previous day	
9:30 to 10:15	Sexuality and sexual language	
10:15 to 10:45	History taking in STI	
10:45 to 11:00	Tea Break	
11: 00 to 12:00	Physical examination including speculum and anoscopy/proctoscopy (demonstration and Practical session)	
12:00 to 12:45	Lunch	
12:45 to 1:45	“Four Cs” and condom demonstration	
1:45 to 2:30	Steps of STI case management	
2:30 to 2:45	Tea break	
2:45 to 3:30	Approaches for STI diagnosis and management	
3:30 to 4:00	Use of flow charts	
4:00 to 4:45	Urethral discharge syndrome	
4:45 to 5:00	End day evaluation	

Date	Day 4	
Time	**Subject**	**Facilitator**
9:00 to 9:30	Recap of previous day	
9:30 to 10:15	Scrotal swelling syndrome	
10:15 to 11:05	Genital ulcer disease syndrome	
11:05 to 11:15	Tea break	
11:15 to 12:00	Inguinal Bubo syndrome	
12:00 to 12:45	Vaginal discharge syndrome	
12:45 to 1:45	Lunch Break	
1:45 to 2:30	Lower abdominal pain syndrome (PID)	
2:30 to 2:50	Neonatal conjunctivitis syndrome	
2:50 to 3:00	Tea break	
3:00 to 3:30	Importance of follow-up and partner notification	
3:30 to 4:15	Management of STI in Pregnancy	
4:15 to 5:00	End day evaluation	

Date	**Day 5**	
Time	**Subject**	**Facilitator**
9:00 to 9:30	Recap of previous day	
9:30 to 10:25	STI Management in MSM, transgender and MSWs.	
10:25 to 11:05	Presumptive treatment of STI among sex workers and Screening and treatment of asymptomatic infections for most-at-risk populations (MARPs)	
11:05 to 11:15	Tea break	
11:15 to 12:15	Infection control (Universal precautions, Post-exposure prophylaxis and Waste disposal)	
12:15 to 1:15	Lunch Break	
1:15 to 2:45	Emergency management (Basic life support, cardiopulmonary resuscitation and Management of anaphylaxis)	
2:45 to 3:30	Laboratory diagnosis of STI	
3:30 to 3:45	Tea break	
3:45: 4:30	Recording and Reporting for STI services	
4:30 to 5:00	End day evaluation	

Date	**Day 6**	
Time	**Subject**	**Facilitator**
9:00 to 12:00	Field visits	
12:00 to 1:00	Lunch	
1:30 to 3:15	Problem solving on case studies	
3:15 to 3:45	Post-test	
3:45 to 4:00	Training evaluation	
4:00 to 4:15	Sharing of pre and post test	
4:15 to 4:30	Feedback from the participants	
4:30 to 5:00	Certificate distribution and closing	

Annex 11: Ice-breaker Games

1. Introduction game:

1. Inform participants that having a fun introduction helps overcome any hesitation they may be experiencing
2. Draw some pictures of objects (e.g., birds, kites, flower, house or books) on a piece of paper and cut it into half
3. Put all pieces of paper in a paper box
4. Ask each participant to pick a piece of paper out of the box
5. Each participant will have a different figure in their hand
6. Tell them to search for the missing picture among participants. Once the missing pieces have been found, participants sit together with their partner for the introduction exercise
7. Ask them to share with each other their name, personal interest, hobbies, study, current working place & working environment. They should also share a preferred nickname if they have one for the training period
8. Now everyone comes together and introduce each other to the group. For the training period that participant will be called by the nickname he/she preferes.

2. Ball game:

1. All participants are standing in a circle.
2. Each person says his or her name.
3. Then the first person takes a ball, says the name of another person in the circle & throws the ball to that person.
4. Then that person says his/her own name & then the name of another person, which the ball is thrown to. In this way, the ball goes round in a random order.
5. People can throw the ball to anyone as long as first they say that person's name.
6. When the exercise is going smoothly, more balls can be added to speed up the game.

3. I am a joker Joni

1. All participants stand in a circle.
2. People introduce themselves by stating their name with an adjective that tells something about them and starts with the same letter as their name.
3. For example: "My name is Joker Joni, because every time I talk to people, I tell a joke".
4. In everybody's turn, you can ask for a volunteer to repeat all names with their adjectives.

4. The name game-national leader

1. Write the name of a national figure-politician, artist, or a musician on one meta-card and keep it hidden.
2. Distribute a meta card and a pen to all participants and have everyone write the name of a national figure.
3. When everyone is done, show what you have written on your card. Ask participants to compare their answers.
4. If someone has the same name then he/she will be declared the winner.
5. If the word does not exactly match you can declare the one with the most letters-matching the winner.
6. After everyone has read their answers, who ever has the most matching letters wins!

5. The name game-my name

1. Have all the participants sit in a circle. One of the participants (or a leader) starts the game by saying "Hi! My name is ...".
2. Then the next person continues by saying "Hi! My name is... and sitting next to me is...".
3. This continues on around the circle, until the last person introduces him or herself, and then the participant also has to introduce the entire circle!
4. This is a great way to learn names

6. Pass it on

1. Everyone should be sitting in a circle formation.
2. Starting with the facilitator, he/she states one word describing a participant.
3. The next person says his/her word, plus the word from the previous person, i.e., 1st person: Chasme; 2nd person: Chasme, Heera; 3rd person: Chasme, Heera, Ram and so on.

7. The name game- your name

1. This game gets everyone's memory working
2. Make all participants sit around in a circle.
3. Each person introduces themselves along with their favorite fruit or a hobby that starts with their first initial.
4. For example; Hi my name is Anil and my favorite fruit is an apple. Or Hi I'm Sarita and I like to sing.
5. Whoever gets the most or all the names right wins a prize. At least for one session you can call someone by the name of their favorite fruit or hobby.

8. How do you REALLY feel?

1. Give everyone a scrap of paper and a pen. Have them write the chore they least like to do and why in the following format of "I hate _____ because _____."
2. Example: I hate cooking because it takes all evening and makes the house hot.
3. Have everyone turn in his or her chore and pass them back out randomly so that no one gets their own chore.
4. Now, have everyone read the paper they have but replace the chore with the word sex... "I hate sex because it takes my whole evening."
5. You can imagine how hilarious some of these can turn out.
6. Of course it only works if most people have never played before.

9. Try to pop the condom

1. Provide each guest with a condom that they must blow up, tie, and break.
2. In each condom is a strip of paper that has a simple saying.
3. Sayings that you can use on the strips of paper inside the condoms include, "too bad", "better luck next time", "sorry, no cigarette", "nothing for you", etc.
4. One condom has a wedding date and that person receives a prize.

It's great to watch participants try to pop the condom buy sitting, standing, stomping, etc.

10. Blowing condom

1. Give one condom to each participant
2. Ask participants to blow the condom and make it as big as possible.

3. Announce that the blower of the biggest condom will be declared a winner and will win a prize. The one who breaks the condom while blowing it will be the loser and will have to either dance or sing.

11. Using condoms properly

1. Draw the figure of a condom on the white board or a chart paper
2. Cut the chart paper to the size of the condom drawn. Make some pieces of condom cuttings and fix masking tape to each piece
3. Ask participants to volunteer for the game
4. Ask the first participant to cover their eyes with a piece of cloth or handkerchief
5. Ask them to turn round several times
6. Give him the paper condom and instruct him to place it as close as possible to the condom picture given in the board
7. Ask the next participant to repeat the activity
8. The one who sticks the paper condom nearest to the picture of the condom will be the winner
9. Give a prize to those who placed the paper condom nearest to the picture of the condom.

12. How strong is a condom?

1. Ask for two volunteers to conduct a role-play
2. Give a condom to both
3. Ask one participant to pour oil into it.
4. Similarly ask the other participant to fill the other condom with water
5. After some time the condom with oil will burst, while the other one will be okay
6. Repeat the activity with more water in one condom and wait for some time
7. The condom filled with water will not burst
8. Ask participants to discuss and conclude that oily matter should not be used as lubricant in the condom. This will pose a threat to safe sex.
9. The other point is that a condom is strong enough to use.

13. The toilet paper game

1. Pass the roll of toilet paper around the circle of people.
2. Tell each person to rip off however many pieces they want (this is what will determine the "length" of the game.)
3. Don't tell anyone what they are doing, don't even let on that it is a game if you can help it, this makes it even funnier.
4. Once everyone is finished, you can explain the game.
5. For every piece they are holding, they have to tell the group something about themselves- any secret other people do not know.
6. You can also have a prize for the person who pulls the most pieces and is able to put a fact to each one!!!

14. Guessing game

1. Put some chocolates, with candies (almonds, mints, etc.) in one glass, jar or cup and wrap it with some paper.
2. Ask each of them to guess the number of pieces of chocolate, almonds etc.
3. Participants should write down their guess and the person with the closest estimate wins the jar.

15. Ali Baba and the 40 thieves

1. Participants line up shoulder to shoulder. The leader of the game is at one of the end participants.
2. The whole group chants "Ali Baba and the 40 Thieves" over and over again.
3. The leader begins an action with one chant (such as clapping her hands).
4. At the next chant, the participant next to the leader picks up the first action and the leader starts the second action.
5. On the next chant, the third participant in line picks up the first action, the second participant picks up the second action and the leader begins a third action and so on...

16. Know your neighbor

1. This game helps participants learn each other's names and have fun at the same time.
2. One player is designated to be IT.
3. S/he takes his or her place in the center of the group, sitting in a circle in the dark.
4. IT suddenly flashes his flashlight on one of the players and asks, "Who are your next door neighbors?"
5. And then he flashes the light on the nearby neighbors. If the player, who was asked the question, can't name both neighbors correctly, s/he becomes IT.
6. If s/he does name them correctly, IT asks him "How is So and So?" naming either of the players.
7. If the reply is "OK", the players remain seated, but if the answer is "Not so good", all players must change seats. While everyone is shifting IT tries to get a seat. If he succeeds the one without a spot then becomes IT.
8. Note: Until everyone is sure of the names, IT must give them time to learn the names of their neighbors before they shift.

17. The great shoe game

1. This game works best with lots and lots of players, at least 30-40.
2. Get everyone to take off his or her left shoe.
3. Put all the shoes in a pile.
4. At "Go!" everyone dives for the pile and grabs a shoe, any shoe.
5. The objective of the game is then for each player to find the person who has their shoe and reclaim it!
6. This game helps people get to know each other.

18. Scissors, stone and paper

1. Divide participants into two groups
2. Inform participants that each group should work with confidence
3. In each group, individual members are free to select one out of three words –Scissors, Stone and Paper but the group should come to a consensus.
4. When all the members have decided on their choice, ask each group leader to write the choice on a piece of paper.
5. Ask both groups to come in front, then announce which group has chosen scissors, stone or paper in each group

6. Each group will be scored on the following basis:
a. If one group is scissors and the other stone, stone group scores one mark
b. If one group is scissors and the other paper, scissor group scores one mark
c. If one group is paper and the other stone, paper group scores one mark
d. If both groups are the same, the game will be draw, none will get score
e. You can repeat this activity for some time and decide a winner
f. The winner should receive a prize

19. Musical chairs

1. Keep chairs in a circle equal to the number of participants
2. Play a cassette or drum and ask them to go around the chairs while the music or drum continues.
3. Take out one chair and rearrange the seats in circle
4. When the music stops, the participants are required to take a seat but without moving backward S/he should always move forward to take a seat
5. The one who does not get a seat will be out of the game
6. Repeat the activity until there is one chair and winner

20. 7-up Game

1. All participants should form a circle
2. Every one should say one number 1, 2, 3, in order but at the time of 7, the person should put his/her hand on his/her head and say 7 –up
3. The next persons should go on saying 8, 9, 10 etc up to 16
4. At the time of 17, the person concerned should put his/her hand on their head and say 7-up
5. Continue this activity for some time
6. At the time 7, 17, 27 etc the person should always put his/her hand on the head and say 7-up.
7. The participants who cannot follow the instructions will be out from this game
8. Instead of saying 7-up you can ask the participants to make a signal and ask others to follow it and continue the activity.

21. Fruit Salad

1. All participants stand in the middle of the sitting circle.
2. Everyone needs to have a place to sit. For instance, if participants are sitting on mats, agree on how many should be sharing each mat before the game starts
3. Ask participants to choose three different fruit names
4. Then go around the circle, naming each participant in turn with these fruit names
5. For instance, the first person could be mango, the next a banana, and the third an orange
6. The fourth would then be another mango
7. Go round the whole circle until everyone, including you, has one of the three fruit names.
8. Next explain that you are going to call out one of the fruit names.
9. Everyone with that name has to jump up and find somewhere else to sit.
10. You are also going to find a place to sit
11. The person who does not find a place will be left in the middle and will have to call out the next fruit
12. Add that when the person in the middle calls out “fruit salad”, everyone has to jump up and find another place to sit.

22. Zipp-zapp
Objective: To create an amicable setting especially at the beginning of a workshop.

The zipp-zapp game is a good icebreaker. After the game participants will know each other by their names. It helps to change sitting positions, to crack coalitions and form new groups.

The facilitator walks around in the circle of seated participants. He/she points here and there on a participants and says: “zipp” or “zapp”. At “zipp” the participants must tell the name of his/her right neighbor, at “zapp” the name of the left neighbor. After some “zipps” and “zapps” the facilitator says “zoppzapp” and all participants must get up and change place. Now “zipp” and “zapp” goes on.

23. The Rainstorm
Objective: To energize the group

The group forms a circle with the facilitators standing inside. Only after eye contact each participants should copy the facilitator's action and continue these until next eye contact is made. The sequence is as follows:

1. Click fingers
2. Clap hands
3. Slap thighs
4. Stamp feet
5. Slap thigh and stamp feet
6. Stamp only
7. Slap thighs
8. Clap hands
9. Click fingers

24. The snake
All participants stand up and form a line. Everybody faces the same direction and puts their hands on the shoulders of the person in front of him/her.

- The first person is the head of the snake; the last person is the tail.
- Now the head tries to catch the tail, and the tail tries to move away in order not to be caught.

It is a very fast game, which does not need preparation and makes everybody move and laugh.

Annex 12: Participants' evaluation of the training

National Training on the Management of STIs
Evaluation Questionnaire

1. What did you enjoy **MOST** about the course?

2. What did you enjoy **LEAST** about the course?

3. What would you **ADD** to the course?

4. What would you **REMOVE** from the course?

5. Any other comments?

Annex 13: WHO Clinical Staging of HIV and AIDS for Adults and Adolescents

Clinical Stage 1

- Asymptomatic
- Persistent generalized lymphadenopathy

Clinical Stage 2

- Unexplained moderate weight loss (<10% of presumed or measured body weight)[a]
- Recurrent respiratory tract infections (sinusitis, tonsillitis, otitis media and pharyngitis)
- Herpes zoster
- Angular cheilitis
- Recurrent oral ulceration
- Papular pruritic eruptions
- Seborrhoeic dermatitis
- Fungal nail infections

Clinical Stage 3

- Unexplained[b] severe weight loss (>10% of presumed or measured body weight)
- Unexplained chronic diarrhea for longer than one month
- `Unexplained persistent fever (above 37.5°C intermittent or constant, for longer than 1 month)
- Persistent oral candidiasis
- Oral hairy leukoplakia
- Pulmonary tuberculosis
- Severe bacterial infections (such as pneumonia, empyema, pyomyositis, bone or joint infection, meningitis or bacteremia)
- Acute necrotizing ulcerative stomatitis, gingivitis or periodontitis
- Unexplained anemia (<8 g/dl), neutropenia (<0.5 × 10^9 per liter) and/or chronic thrombocytopenia (<50 × 10^9 per liter)

Clinical Stage 4[c]

- HIV wasting syndrome
- Pneumocystis pneumonia
- Recurrent severe bacterial pneumonia
- Chronic herpes simplex infection (orolabial, genital or anorectal of more than one month's duration or visceral at any site)
- Esophageal candidiasis (or candidiasis of trachea, bronchi or lungs)
- Extrapulmonary tuberculosis
- Kaposi's sarcoma
- Cytomegalovirus infection (retinitis or infection of other organs)
- Central nervous system toxoplasmosis
- HIV encephalopathy
- Extrapulmonary cryptococcosis including meningitis
- Disseminated non-tuberculous mycobacterial infection
- Progressive multifocal leukoencephalopathy
- Chronic cryptosporidiosis

- Chronic isosporiasis
- Disseminated mycosis (extrapulmonary histoplasmosis or coccidiomycosis)
- Recurrent septicaemia (including non-typhoidal *Salmonella*)
- Lymphoma (cerebral or B-cell non-Hodgkin)
- Invasive cervical carcinoma
- Atypical disseminated leishmaniasis
- Symptomatic HIV-associated nephropathy or symptomatic HIV-associated cardiomyopathy

a. Assessment of body weight in pregnant woman needs to consider the expected weight gain of pregnancy.
b. Unexplained refers to where the condition is not explained by other causes.
c. Some additional specific conditions can also be included in regional classifications (such as penicilliosis in Asia).

Annex 14: References

ASHA Project (2008) Essential package of care operational guidelines, Kathmandu:ASHA Project

Brown, ZA. et al. (2003) Effect of serological status and caesarian delivery on transmission rates of Herpes simplex virus from mother to infant. *JAMA* 289:203

Burns, AA., Lovinc, R. and Maxwell, J. et al. (1997) Where women have no doctor. USA: Hesperian Foundation

Burns, T., Breathnach, S., Cox, N. and Griffiths, C. eds. Rooks Text book of Dermatology, 7th edn, Blackwell Publishing.

CDC (1985) HHS publication No. 99-1117.

CDC (1987) Recommendations for prevention of HIV transmission in health-care settings. MMWR 1987 36 (suppl no. 2S)

CDC (1988) MMWR 1988, June 24, 37(24), pp. 377-388.

CDC (2002) Sexually transmitted diseases treatment guidelines 2002, MMWR 2002; 51 (No. RR-6).

CDC (2006) MMWR sexually transmitted diseases treatment guidelines,

Eng, TR. and Butler, WT. eds (1997) The hidden epidemic: confronting sexually transmitted diseases. Washington: National Academy Press

Fauci, AS., Braunwald, E., and Kasper, DL. et al. eds. (2008) Harrison's principles of internal medicine, 17th edn. USA: Mc Graw Hill Medical

FHI APD (2004) Clinical guidelines for managing sexual health issues for MSM and transgender.

FHI Bangladesh (2007) The effectiveness and costs of two methods for the systematic prevention and control of STIs among female sex workers in Dhaka, Bangladesh.

Garner, JS. and Favero, MS. (1985) Guidelines for hand washing and hospital environmental control.

Goldenberg, RL., Andrews, WW. and Yuan, AC. et al. (1997) Sexually transmitted diseases and adverse outcomes of pregnancy. In: *Clinics in Perinatology: Infections in Perinatology,* 24(1):23-41.

Grenvik, A., Ayres, SM. and Holbrook, PR. et al. eds. (1999) Textbook of Critical Care, 4th edn. Philadelphia: WB Saunders

Hitchcock, PJ., MacKay, HT. and Wasserheit, JN. eds. (1999) Sexually transmitted diseases and adverse outcomes of pregnancy. Washington DC: ASM Press.

International Union against Sexually Transmitted Infections (2010) Activity report. 16th International Union against Sexually Transmitted Infection, Asia Pacific Conference, May 4-6, 2010

Kimberlin, D. (2003) Herpes simplex virus, meningitis and encephalitis in neonates. *Herpes* 11: 65 A,

McQuillan, G. and Kruszon-Moran, D. (2006) HIV Infection in the United States household population aged 18–49 years: Results from 1999–2006 (online) Available at http://www.cdc.gov/nchs/data/databriefs/db04.pdf (Accessed on December 11, 2010)

MOH/DOHS, NCASC and UOH (1996) Case management guidelines for Sexually transmitted diseases, Training handbook for hospital level health workers. Kathmandu: NCASC

Mytton, OT. et al. (2007) Safety of benzyl benzoate lotion and permethrin in pregnancy. A retrospective matched cohort study. BJOG: *An international journal of obstetric and gynaecology,* 114 (5):580-587, May

NCASC (2004) National guidelines on case management of sexually transmitted infections, Kathmandu: NCASC

NCASC (2006) National training manual on management of sexually transmitted infections, Kathmandu: NCASC

NCASC (2009 a) National guidelines on case management of sexually transmitted infections, Kathmandu: NCASC

NCASC (2009 b) National refresher training manual on management of sexually transmitted infections, Kathmandu: NCASC

Project Parivartan (2007) Presumptive treatment and syndromic management of sexually transmitted infections (STIs): Annotated bibliography, April 2007

Queensland Health. Queensland Management Guidelines for the Treatment of Sexually Transmissible Diseases and Genital Infections. Brisbane. Queensland Health. 2002.

Redcliffe, K. (2001) International *Journal of STD and AIDS,* October, 12(3)

Richard, S. and Krause, MD. (2004) Emergency Medicine

Schaefer, L., Blouse, A. and McIntosh, N. eds. (2000) Guideline for performing breast and pelvic examination.

Whitfield, CR, ed. (1985) Dewhurst's textbook of obstetrics and gynecology for postgraduates, 5th edn. Oxford: Blackwell Science Ltd

WHO and Population Council (2008) Periodic presumptive treatment for sexually transmitted infections – Experience from the field and recommendations.

Wolff, K., Goldsmith, LA. and Stephen, IK. et al. eds. (2008) Fitzpatrick Dermatology in General Medicine, 7th edn. USA: Mc Graw Hill Medical

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