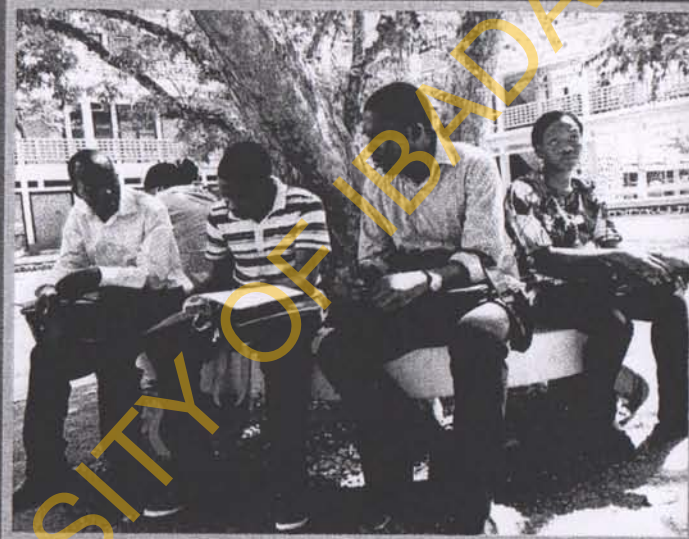


A Textbook for GES 107

Reproductive Health Sexually Transmitted Infections (STIs) Human Immunodeficiency Virus (HIV)



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University of Ibadan



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**REPRODUCTIVE HEALTH,
SEXUALLY TRANSMITTED INFECTIONS (STIs)
AND HUMAN IMMUNODEFICIENCY VIRUS (HIV)**

General Studies Programme Unit (GSPU)
University of Ibadan
Ibadan, Nigeria

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put this book together. I also wish to thank the current and future teachers and tutors of the GES 107 for their dedication to the actualization of the objectives of the course.

Last but not least, I wish to appreciate the vision of the MEPIN Consortium members for conceiving the idea of such an important course which will undoubtedly equip the youths who go through the four walls of this great University with knowledge and skills to protect themselves against HIV infection and other STIs. They will also be prepared to serve as “ChangeAgents” in their present and future communities in the global efforts to control the scourge of HIV/AIDS. The coordinating work for the production of this book by Dr. Georgina Odaibo, the Course Coordinator for GES 107 and untiring commitment to actualize the vision by the Principal Investigator of the MEPIN Programme, Professor D. O. Olaleye are well noted.

Professor O.O. Akinyinka

Provost, College of Medicine, University of Ibadan

Preface

It is my singular honour to write this preface to an innovative programme being executed under the auspices of the Medical Education Partnership Initiative of Nigeria (MEPIN). Implemented under GES 107, this is the first time that we are incorporating into our basic curriculum, a comprehensive programme designed to increase awareness and build the next champions in the field of Reproductive Health, Sexually Transmitted Infection and Human Immunodeficiency Syndrome.

Reproductive Health represents a major challenge in the developing and resource-constrained countries of Africa, Asia and Latin America. The indicators portend grave crisis deserving of urgent and sustained intervention. They clearly mirror the state of development in these countries. African countries have the worst maternal and child mortality ratios/rates. They also harbour about 70% of the global burden of HIV and AIDS.

It is against this backdrop that this introductory course becomes apt. The course represents our determined efforts to correct the imbalance in knowledge and efforts. The introductory section sets the tone for the course. In all, it comprises twelve chapters covering such diverse fields as Healthy Living, Human Nutrition and Health, Microbes and Human Health, the reproductive system, Sexually Transmitted Infections, Prevention, Control and treatment of HIV/AIDS, Youth and Life Skill, Genetic Disorder and

Non Communicable Diseases in Africa, and then ending with a novel chapter on Drugs and Mankind. The chapters have been carefully selected and packaged by seasoned academics and leaders in the field.

It is our expectation that students who go through this programme diligently would be able to avoid infection, and live a socially productive and healthy life. I therefore strongly recommend the book for use by students, for whom it is primarily meant, policy makers, and groups established to promote healthy living.

Prof. Isaac F. Adewole FAS
Vice-Chancellor

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Sexually Transmitted Infections

A. O. Kehinde, MBChB, FWCPATH., and Bukola Adesina, MBBS, FWCS

Introduction and Definition

Sexually Transmitted Infections (STIs) are a group of contagious diseases in which the main mode of transmission is by sexual intercourse. They are often traditionally referred to as venereal diseases. Principal sites of infections include moist mucous surfaces such as penis, vagina and cervix. Other parts of the body like lips, oropharynx, anus and rectum are increasingly becoming important sites of infections with the advent of new ways of sexual intercourse such as oral sex and rectal sex as seen in homosexuals. In Nigeria, and in many other countries of the world, STIs are of significant public health importance (1). Its epidemic is driven by

behaviors such as multiple sexual partners, unprotected sexual contact with high risk persons, intravenous drug use, use of contaminated instruments and unsafe blood transfusion (1).

Classification and types of STIs

STIs can be classified into two namely: aetiological classification and clinical classification.

Aetiological classification:

This is based on the aetiology or causative agent of STIs such as bacterial causes, viral causes, Fungi and Protozoa causes of STIs.

Table 1: Aetiological classification of STIs

Group	Causative agent	STI
Bacteria	Neisseria gonorrhoeae	Gonorrhoea
Chlamydia trachomatis		(i) Non- gonococcal urethritis or cervicitis
		(ii) Lymphogranuloma venereum
Ureaplasma urealyticum		Non-gonococcal urethritis or cervicitis
Haemophilus ducreyi		Chancroid
Treponema pallidum		Syphilis
Calymmatobacterium granulomatis		Granuloma inguinale
Gardnerella vaginalis		Bacteria vaginosis
Viruses	Human immunodeficiency virus (HIV)	Acquired Immune Deficiency Syndrome
(AIDS)		

Herpes simplex virus
Papilloma virus

Genital herpes
Genital warts
Hepatitis B virus
Candida albicans
Trichomonas vaginalis

Liver disease
Genital candidiasis
Trichomoniasis

The second classification method is based on the clinical presence or absence of genital ulcer, thus STIs can be classified either as genital ulcer disease (GUD) or non-genital ulcer disease (non-GUD).

Examples of ulcerative STIs (GUD) are:

1. Syphilis
2. Chancroid
3. Herpes genitalis
4. Lymphogranuloma venereum
5. Granuloma inguinale

Table 2. Distinguishing clinical features of different ulcerative STIs (GUD)

Clinical feature	Syphilis	Chancroid	Herpes genitalis	Lymphogranuloma venereum	Granuloma inguinale
Number of Ulcers	Single	Multiple	Multiple	Single	Variable in number
Characteristics of ulcer	Round clean ulcer with well defined edges	Dirty deep sited ulcers with rough edges	Clean shallow ulcers	Variable	Well defined edges
Induration (Feeling on touch)	Firm	Soft	Variable	Variable	Firm
Pain	Absent	Present	Present	Variable	Rare
Groin enlarged nodes	Present with no pain	Present, very painful, may aggregate together and burst	Present, painful but do not aggregate together	Present slightly painful	Present, slightly painful

Examples of non-genital ulcer diseases are:

1. Gonorrhea
2. Non-gonococcal urethritis or cervicitis
3. Genital candidiasis
4. Trichonomiasis
5. Bacterial vaginosis
6. Genital warts

Epidemiology of STIs

Globally, STI is a public health problem. In Nigeria, it is one of the leading causes of outpatient visits with an average prevalence rate of 9.3% (2). The burden of STIs is further compounded with the advent of HIV infection. The epidemiology of STIs involves the study of sexual behavior. STIs affect sexually active reproductive age groups in the community. It affects all strata on the society but commoner among people of low socioeconomic class (2). Adolescents are particularly prone to STIs because of the influence of peer pressure and urge to experiment sexual activity. People of poor socioeconomic class are prone to STIs because of their poverty level and the need to use sexual activity as means of their livelihood. This is commonly the case with Commercial sex workers (CSWs) and also married women in polygamous settings who seek financial assistance outside their marriage to keep aloft (3). People in the high socioeconomic class may also be infected with STIs through extra marital activities as ways of showing their affluence. It affects both sexes and occur at any time of the year.

Risk factors for STIs including HIV/AIDS

Adolescent age group is at risk of contacting STIs including HIV/AIDS because of their high sexual activity resulting from peer group pressure. Female gender is more likely to be prone to STIs than their male counterparts because of the tendency to have their first sexual experience at a younger age. Some occupations such as members of the armed forces, long truck distant drivers and salesmen are at risk of contracting STIs because of their high mobility. Stable marital status where both couple are staying together is a protection against acquisition of STIs. Husbands who are living away from their spouses are prone to acquire STIs.

Poverty which often co-exists with low level of occupation is associated with STIs (4, 5). Even though the disease is known to cut across all social strata (6, 7), people with higher education which translates to higher social status are prone to STIs because they are better informed.

Having multiple sexual partners is regarded as a guarantee for acquisition of STIs and HIV/AIDS infections (1). The association is further reinforced in the presence of an ulcerative genital lesion such as syphilis, chancroid, herpes genitalis, lymphogranuloma venereum and granuloma inguinale thus increases the chances of acquiring HIV infection by 100 fold (8, 9). Promoting safer sexual behavior has been the most important strategy of the national STIs/HIV/AIDS control program. The primary aim of the program is to delay first sex among young people and to encourage lifelong mutually monogamous partnerships.

Recognizing, however, that such partnerships are more of the exception than the norm, the program also aims to

encourage people to reduce the overall number of sexual partners, and to use condoms especially with partners other than their spouses. Attention should be focused on young people who are not yet sexually active, or who are just embarking on their sexual activity.

Untreated STIs both ulcerative and non-ulcerative lesions are of particular importance in the sexual transmission of HIV/AIDS. Data from Ibadan (9) and elsewhere (10, 11, 12) has shown that subjects with either genital ulcer diseases or non-genital ulcer diseases were at higher risk of acquiring HIV infection than subjects without any STIs. From the foregoing, it means that adequate recognition and proper management of STIs will go a long way in curbing sexual transmission of HIV/AIDS. Use of intravenous drugs has also been identified as a risk factor for acquisition of STIs including HIV/AIDS (9). This reinforced the fact that transmission through intravenous drug use is increasingly becoming important in our community.

Signs and symptoms

STIs commonly affect genital organs in both sexes. In heterosexual male (male who practices penile to vagina intercourse): signs and symptoms include (i) urethral discharge which may be of acute onset, profuse or frank pussy discharge. This is typically seen in gonococcal urethritis caused by *Neisseria gonorrhoeae*. In non-gonococcal urethritis, commonly caused by *Chlamydia trachomatis*, the urethral discharge is of insidious onset, with scanty milky discharge on straining.

(ii) Difficulty in passing urine (Dysuria)

(iii) Presence of genital Ulcer as seen in genital ulcer disease
(iv) Presence of inguinal lymph nodes enlargement

In homosexual male (male practices penile to anal or rectal sex)

There may be (i) rectal discharge; (ii) Rectal pain; (iii) rectal bruises

In heterosexual females

(i) Foul smelling vaginal discharge as commonly seen in candidiasis (caused by *Candida albicans* - a fungus); Trichomoniasis (caused by a protozoa parasite- *Trichomonas vaginalis*) and bacterial vaginosis (caused by a bacterium called *Gardnerella vaginalis*)

(ii) Difficulty in passing urine (Dysuria)

(iii) Presence of genital ulcers or sores

(iv) Vaginal itching

In females who practice oral sex

(i) Difficulty in swallowing (Dysphagia)

(ii) Hoarseness of voice

(iii) Throat pain

Management

(i) Specimen collection:

For urethritis in heterosexual male, one will collect urethral swab for microscopy, culture and sensitivity and also urine specimen for microscopy. For homosexual male, one should collect rectal swab for microscopy, culture and sensitivity.

For heterosexual females: you collect both high vaginal swab and endocervical swab for microscopy, culture and

sensitivity and also urine sample for microscopy.

For females who practice oral sex: you collect throat swab for microscopy, culture and sensitivity.

(ii) Transport of specimen to the laboratory: The specimen collected should be transported in a specially made medium to the laboratory for immediate processing.

(iii) Laboratory analysis: The specimen will be processed using standard laboratory technique (13)

(iv) Treatment: Treatment modalities include (a) Prescription of oral drugs to be taken once by the patient. This is to ensure patient compliance and prevent development of resistant organisms. Recommended drugs for treatment of gonococcal infections include quinolones group of antibiotics such as ciprofloxacin, ofloxacin and perfloxacin. Data from Ibadan, Nigeria showed that penicillin G was no longer useful for the treatment of gonococcal infections because about 98.6% of *Neisseria gonorrhoeae*, the bacterium causing gonorrhea were resistant to penicillin (14). Oral doxycycline is reserved for treatment of non-gonococcal urethritis/cervicitis while vaginal candidiasis responds to topical clotrimazole or nystatin vaginal cream. Oral metronidazole is prescribed for trichomoniasis while co-trimoxazole tablets are effective for treatment of chancroid. It is very important to screen and treat sexual partner or partners of the patient through contact tracing. This is to ensure eradication of the pool or reservoir of infection to prevent re-infection.

Prevention and control of STIs

(i) Ensure proper and adequate management of STI cases in order to minimize the risk of infection.

community

(ii) Routine screening for STIs among high risks population that may serve as pockets or reservoir of infection eg Commercial sex workers.

(iii) Preaching of good sexual behavior to people: (i) Abstain from premarital sex, (ii) Encourage monogamous sexual relationship, (iii) Discourage people from risky sexual habits.

(iv) Be faithful to your partner if you are married

(v) Use condom if you engage in premarital or extra-marital sexual relationship.

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