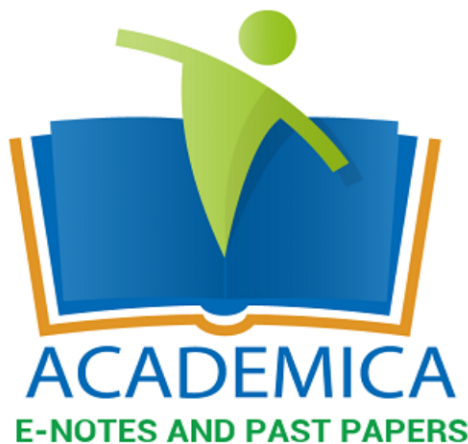




**DIPLOMA IN SOCIAL WORK
AND COMMUNITY
DEVELOPMENT**

HIV/AIDS



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PURCHASE FULL NOTES

This course will be conducted using lectures, discussions and presentations. It's a requirement for each student to sit for a minimum of two written CATs (20% or 30%), two assignments (10%) and a main exam (70%).

COURSE OUTLINE

I. GENERAL INTRODUCTION

- a) Definition of terms
- b) Types of HIV
- c) Justification of the course
- d) Origins, theories and history of HIV/AIDS
- e) Sex and sexuality
- f) Global distribution and trends of HIV/AIDS- Comparative trends (statistics locally and globally)

II. BIOLOGY OF HIV

- a) Nature of HIV
- b) Structure of HIV
- c) Lifecycle of HIV
- d) Human Immune System- an overview
- e) The effects of HIV on the immune system

III. TRANSMISSION OF HIV

- a) The modes of HIV transmission
- b) Pregnancy and HIV/AIDS
- c) STIs, STDs, FGM and HIV/AIDS

IV. DISEASE PROGRESSION AND SYMPTOMS.

V. TREATMENT OF HIV/AIDS

- a) Diagnosis of HIV
- b) Anti retroviral therapy (ART)
- c) ARVS and AIDS vaccines

VI. MANAGEMENT OF HIV/AIDS

- a) Proper nutrition
- b) Living positively
- c) Voluntary Counselling and Testing (VCT)
- d) Home Based Care (HBC)

VII. PREVENTION AND CONTROL OF HIV/AIDS

- a) Safer sex strategies
- b) Abstinence
- c) Being faithful
- d) Condom use
- e) Destigmatize

VIII. SOCIAL AND CULTURAL PRACTICES

- a) Practices that promote /reduce the spread of HIV/AIDS
- b) Religion and HIV/AIDS
- c) Gender and HIV/AIDSs
- d) Poverty and HIV/AIDSs
- e) Drugs and HIV/AIDSs
- f) Social stigma on HIV/AIDS
- g) Behavioral change

IX. POLICIES AND RIGHTS OF PLWHAs

X. IMPLICATIONS OF HIV/AIDS

- a) Impacts on individuals, families, community
- b) Demographic impacts- population
- c) Multi-sectoral impact (Education, Agriculture, Economy, Health, Industry and Business)

INTRODUCTION

- People have been warned about HIV and AIDS for over twenty years now.
- AIDS has already killed millions of people, millions more continue to become infected with HIV, and there's no cure - so AIDS will be around for a while yet.
- However, some of us still don't know exactly what HIV and AIDS actually are
- HIV is a virus.
- Viruses infect the cells of living organisms and **replicate** (make new copies of themselves) within those cells.
- A virus can damage the cells it replicates in, which is one of the things that can make an infected creature become ill.
- Different viruses attack different parts of the body - some may attack the skin, others the lungs, and so on.
- What makes HIV so dangerous is that it attacks the immune system itself - the very thing that would normally get rid of a virus.
- It particularly attacks a special type of immune system cell known as a CD4 lymphocyte.
- And on top of this, HIV has a number of tricks that help it to evade the body's defences, including very rapid **mutation**. This means that once HIV has taken hold, the immune system can never fully get rid of it.
- People can become infected with HIV from other people who already have it, and when they are infected they can then go on to infect other people. Basically, this is how HIV is spread.
- HIV stands for the '**Human Immunodeficiency Virus**'. Someone who is infected with HIV is said to be '**HIV+**' or '**HIV positive**'.
- A damaged immune system is not only more vulnerable to HIV, but also to the attacks of other infections. It won't always have the strength to fight off things that wouldn't have bothered it before.

- As time goes by, a person who has been infected with HIV is likely to become ill more and more often until, usually several years after infection, they become ill with one of a number of particularly severe illnesses.
- It is at this point that they are said to have **AIDS** - when they first become seriously ill, or when the number of immune system cells left in the body drops below a particular point.
- Different countries have slightly different ways of defining the point at which a person is said to have AIDS rather than HIV.
- **AIDS (Acquired Immune Deficiency Syndrome)** is an extremely serious condition, and at this stage the body has very little defence against any sort of infection

DEFINITION OF TERMS

a) HIV

- It's the virus that causes progressive impairment of the body's cellular immune system leading to increased susceptibility to infections, diseases and tumors and a fatal condition called AIDS
- **Immunodeficiency**- lack of natural ability of the body to protect itself against diseases and/or infections. Once inside the body, HIV attacks and destroys WBCs thus the body lacks immunity.
- **Virus**- an organism transmittable from one person to another. It can multiply at a very high rate and can only be seen using a very powerful microscope i.e an electron.
- Infected semen has been found to contain about 100million viral copies per ml.

b) AIDS

- It is a collection of signs and symptoms caused by infections and other implications arising from HIV infection. It may occur 3-10 years after HIV infection.
- **Acquired**- to obtain something new
- **Immune**- against infections
- **Deficiency**- lack of
- **Syndrome**- a group of clinical signs and symptoms denoting a disease, in this case the collection of signs and symptoms result from lowered immunity due to HIV

c) HIV prevalence

- The percentage of population infected with HIV

d) Infection

- Invasion of the body by pathogenic organism

- Not all infections lead to diseases because the body's defense mechanism resist the effects of toxins (poisonous substances) and prevents the multiplication and spread of pathogens.
- e) **Infectiousness/ communicability**
- Capacity of an organism to spread
- f) **Super infection**
- Being exposed to different strains of HIV almost at the same time
 - The 2nd infection occurs months after the 1st infection
 - The body's immune response to the 1st virus is sometimes not enough to prevent infection with the 2nd virus/strain
- g) **Co-infection**
- Being infected with 2 or more strains at once
- h) **Opportunistic infection**
- These are infections that take advantage of impairment of the immune system and sometimes are caused by organisms that don't cause infection or diseases in man
 - They take advantage of an immune system which has been weakened by HIV.
 - As HIV multiplies and more immune cells are destroyed, many complications and infections occur
 - These complications are called Opportunistic Infections (O.I.s) because they take advantage of lowered immunity.
- i) **Virulence**
- It describes the degree of pathogenicity of an organism and is dependent on the invasiveness and/or the ability of an **organism to produce toxins (poisonous substances)**
- j) **Endemic**
- **Constant presence of a disease or an agent of a disease in a community/ region**
 - **Endemic diseases can rapidly become epidemics if environmental factors changes in a way which favors transmission**
- k) **Epidemic**
- **An acute outbreak of a disease in a community/region in excess of normal expectancy and is derived from a common or a propagated source**
 - **A sporadic disease is that which breaks out only occasionally.**
- l) **Pandemic**
- **Spreads to several countries and affect a large number of population e.g. HIV**
- m) **Epidemiology**
- **The study of spread distribution, prevalence and control of a disease in a community.**
- n) **Sentinel surveillance**
- A system used to determine the prevalence of HIV in Kenya
 - It is coordinated by NASCOP (National AIDS and STDs Control Program)

- It involves anonymous HIV testing of blood samples collected for routine testing of pregnant women who visit ante natal clinics
- o) Enzymes**
- Are biological catalysts that enables cellular processes to go on or quicken their pace e.g. of HIV enzymes are proteases, RT, integrases.
- p) Mutation**
- A process through which new cells are formed with a genetic material that is different from the original one due to copying errors
 - For cells to multiply, they must make new copies of their genetic material, and, this is not usually error free
 - Mutation is common with RNA viruses e.g. HIV, because the genetic material is copied in 2 stages, 1st to DNA form then back to RNA form
- q) Mutants**
- New type of virus produced as a result of mutation i.e. the mutant strain
- r) Wild type virus**
- The original virus that has not undergone mutation
- s) Evidence based approach**
- An approach to prevent HIV/AIDS spread which involves using tested, proven and practical evidence rather than as perceived or theoretical

TYPES OF HIV

- There are 2 main types of HIV:- HIV-1 & HIV-2
- Both types are transmitted by sexual contact, through blood & from mother-to-child.
- They both appear to cause clinically indistinguishable AIDS.
- **HIV-2** is less easily transmitted & the period between initial infection & illness is longer. Its uncommon & conc. in W.Africa. E.g. Senegal, Ghana, Mali, Burkina Faso, Ivory Coast.
- Most HIV-2 reported in Brazil, Angola, Mozambique and Portugal can be traced back to W. African contact.
- **HIV-1** is the predominant virus world wide & generally when people refer to HIV without specifying the type they refer to HIV-1.

HIV-1 subtypes

- HIV-1- a) Group M (major)
b) Group N (new) c) Group O (outlier)
- The 3 groups may rep separate introduction of SIV into humans
- Group O appears to be restricted to West-central Africa
- Group N was discovered in 1998 in Cameroon & is extremely rare.
- More than 90% of HIV-1 infections belong to group M

- There are at least 9 subtypes within group M.
- They include A, B, C, D, F, G, H, J, K.

HIV1A – found across west east axis from Ivory Coast to Djibouti via Kenya

HIV1B – found in Thailand, Europe and S.America

HIV1C – found in East Africa, Botswana and South Africa and is the commonest subtype globally accounting for 50%

HIV1D – found in Congo, Kenya, Rwanda, Burundi, Tanzania and Uganda

HIV1E – found in Thailand, Cameroon, Central African Republic and Congo

HIV1F – found in Cameroon and Congo

HIV1G – found in Congo and Gabon

HIV1H, J, K – are rare but found in African continent.

- In Kenya we have subtypes A, C, and D and this makes our country to be ranked amongst the leading countries with the highest HIV infections.

CRFs-circulating recombinant forms

- Occasionally 2 viruses of diff subtypes can meet in the cell of an infected person & mix together its genetic material to create a new hybrid virus in a process similar to sexual reproduction & sometime called **viral sex**.
- Many of these strains don't survive for long but those that infect more than one person are known as CRFs. E.g. CRF A/B is a mixture of subtype A&B.

JUSTIFICATION OF THE COURSE

- Education is an important component of preventing the spread of HIV.

Aims of HIV/AIDS training,

- To prevent new infections from taking place. i.e.
 - By giving people information about HIV - what HIV and AIDS are, how they are transmitted, and how people can protect themselves from infection.
 - Teaching people how to put this information to use and act on it practically –for e.g. how to get and use condoms, how to suggest and practice safer sex, how to prevent infection in a medical environment or when injecting drugs.
- To improve quality of life for HIV positive people i.e.by
 - Enabling and empowering them to improve their quality of life.
 - To be able to access medical services and drug provision
 - To be able to find appropriate emotional and practical support and help
 - Teaching them about the importance of not passing on the virus
- To reduce stigma and discrimination.- Discrimination against positive people can help the AIDS epidemic to spread
- To help people focus upon the person than the disease and be more caring to the person.

- To provide knowledge on modes of transmission especially to those affected and how to cope with the infected.
- To initiate and sustain behavior changes necessary to reduce the rate of developing infections through safer sex practices.

Reasons for AIDS education/ why train in HIV/AIDS

- HIV infection is lifelong and there is no cure
- HIV is infectious, and those infected will remain infectious throughout their lives.
- Fear arises from uncertainty of unpredictable medical conditions and reactions of people especially of those close to them.
- Information and knowledge is incomplete about HIV care and prevention and at times even conflicting.
- The infected and affected are likely to have a broad range of physical, psychological and social needs which may need adjustments e.g. finances.
- Good management can contain some of these problems, early identification and intervention.
- It provides knowledge needed to initiate and sustain change in risky behavior.
- It helps the infected find a new or perhaps different approach to using safer sex and responsible social relationships.
- It helps those who are infected to live with the infection.

Why educate HIV positive people

- To help people to cope with the trauma of a HIV positive test result.
- To inform HIV positive people about the nature of HIV and AIDS.
- To help them to confront any discrimination they may face as a result of being infected with HIV.
- To enable them to lead full and healthy lives.
- To enable them, should they wish to, to have an active sexual life without passing the infection on to anyone else
- To ensure that the infection isn't passed on by any other means - the sharing of injecting equipment.

Who should be trained?

- People who have not yet been educated and may be at risk of becoming infected.
 - People who have already been educated for whom the education was not effective. If AIDS education were completely effective, there wouldn't be so many new infections.
 - Everyone needs to learn how and why not to discriminate against positive people.
 - People who are already infected also require education.
 - Those who are physically unwell and want to know their HIV status.
 - Those who are worried about HIV counseling and testing
-
- The family, close friends and colleagues of the infected.
 - Children with HIV/AIDS.
 - Discordant couples

- Those who are currently engaged in risky sexual behavior.
- People who experience difficulty and problems as they seek employment and housing.
- Those who are at all stages of illnesses related to HIV.
- When one is receiving HIV results whether positive or negative.
- When people come for clinical checkups and have HIV related illnesses.

NB: The only people who do not fall into one of these groups are those who have received AIDS education, have taken it in, and have the resources to turn knowledge into action.

ORIGINS, THEORIES AND HISTORY OF HIV/AIDS

- The origin of AIDS and HIV has puzzled scientists ever since the illness first came to light in the early 1980s.
- For over twenty years it has been the subject of debate and the cause of countless arguments, with everything from a promiscuous flight attendant to a suspect vaccine program being blamed.
- The first recognized cases of AIDS occurred in the USA in the early 1980s

In 1981,

- The virus was discovered among homosexuals in the USA.
- A number of gay men in New York and San Francisco suddenly began to develop rare opportunistic infections and cancers that seemed stubbornly resistant to any treatment.
- They presented with a syndrome which included mouth rash, skin problems e.t.c
- At this time, AIDS did not yet have a name, but it quickly became obvious that all the men were suffering from a common syndrome.
- Their bodies' immunity was weakened and completely suppressed.
- Medics wrote their investigations in a journal.

In 1983,

- It was discovered that the symptoms that were earlier observed were caused by a certain virus called **immunodeficiency virus** and it was suppressing the immune system.

In 1986,

- It became clear that the virus discovered in 1981 was spreading fast and many people suffered from the same condition.
- In 1986, in West Africa, another virus was discovered & they called it **immunodeficiency virus type2**.
- The discovery of HIV, the Virus that causes AIDS was made soon after.
- **In Kenya**, the 1st case was noted in **1983** in KNH & it was noted that the body of the patient had low immunity.

From **1981** to date the disease has claimed 22m lives & is still spreading.

- There is now clear evidence to prove that HIV does cause AIDS.

- So, in order to find the source of AIDS, it is necessary to look for the origin of HIV, and find out how, when and where HIV first began to cause disease in humans.

Did HIV come from SIV?

- It is now thought that HIV came from a similar virus found in chimpanzees.
- It is now generally accepted that HIV is a descendant of a Simian Immunodeficiency Virus because certain strains of SIVs bear a very close resemblance to HIV-1 and HIV-2, the two types of HIV.
- For e.g. HIV2 corresponds to *SIVsm*, a strain of the Simian Immunodeficiency Virus found in the sooty mangabey (also known as the green monkey), which is indigenous to western Africa.
- HIV-1, was until recently more difficult to place. Until 1999, the closest counterpart that had been identified was *SIVcpz*, found in chimpanzees, but this virus still had certain significant differences from HIV-1.

Theories of how HIV could have originated

- Below are some of the most common theories about how this 'zoonosis' took place, and how SIV became HIV in humans.
- Zoonosis- viral transfer between animals & humans

1. Hunter theory

- The most commonly accepted theory is that of the 'hunter'.
- In this scenario, *SIVcpz* was transferred to humans as a result of chimps being killed and eaten or their blood getting into cuts or wounds on the hunter.
- Normally the hunter's body would have fought off SIV, but on a few occasions it adapted itself within its new human host and become HIV-1.
- Discoveries such as this have led to calls for an outright ban on bush meat hunting to prevent simian viruses being passed to humans.

2. Oral Polio Vaccine (OPV) theory

- That HIV was transferred via medical experiments.
- That HIV could be traced to the testing of an oral polio vaccine called Chat, given to about a million people in the Belgian Congo, Ruanda and Urundi in the late 1950s.
- To be reproduced, live polio vaccine needs to be cultivated in living tissue, and
- Hooper's belief is that Chat was grown in kidney cells taken from local chimps infected with *SIVcpz*.
- This, he claims, would have resulted in the contamination of the vaccine with chimp SIV, and a large number of people subsequently becoming infected with HIV-1.
- However, in February 2000 the Wistar Institute in Philadelphia (one of the original places that developed the Chat vaccine) announced that it had discovered in its stores a phial of polio vaccine that had been used as part of the program.

- The vaccine was subsequently analysed and in April 2001 it was announced⁴ that no trace had been found of either HIV or chimpanzee SIV.
- A second analysis⁵ confirmed that only macaque monkey kidney cells, which cannot be infected with SIV or HIV, were used to make Chat.
- While this is just one phial of many, most have taken its existence to mean that the OPV vaccine theory is not possible
- The fact that the OPV theory accounts for just one (group M) of several different groups of HIV also suggests that transferral must have happened in other ways too.
- The final element that suggests that the OPV theory is not credible as the sole method of transmission is the argument that HIV existed in humans before the vaccine trials were ever carried out.

3. The contaminated needle vaccine

- This is an extension of the original 'hunter' theory.
- In the 1950s, the use of disposable plastic syringes became commonplace around the world as a cheap, sterile way to administer medicines.
- However, to African healthcare professionals working on inoculation and other medical programmes, the huge quantities of syringes needed would have been very costly.
- It is therefore likely that one single syringe would have been used to inject multiple patients without any sterilisation in between.
- This would rapidly have transferred any viral particles (within a hunter's blood for example) from one person to another, creating huge potential for the virus to multiply in each new individual it entered, even if the SIV within the original person infected had not yet converted to HIV.

4. The colonialism theory

- The colonialism or '**Heart of Darkness**' theory is one of the more recent theories to have entered into the debate.
- It is again based on the basic 'hunter' premise, but more thoroughly explains how this original infection could have led to an epidemic.
- During the late 19th and early 20th century, much of Africa was ruled by colonial forces. In areas such as French Equatorial Africa and the Belgian Congo,
- colonial rule was particularly harsh and many Africans were forced into labour camps where sanitation was poor, food was scarce and physical demands were extreme.
- These factors alone would have been sufficient to create poor health in anyone, so SIV could easily have infiltrated the labour force and taken advantage of their weakened immune systems to become HIV.
- A stray and perhaps sick chimpanzee with SIV would have made a welcome extra source of food for the workers.
- Moore also believes that many of the labourers would have been inoculated with unsterile needles against diseases such as smallpox (to keep them alive and working),
- and that many of the camps actively employed prostitutes to keep the workers happy, creating numerous possibilities for onward transmission.

5. The conspiracy theory

- Some say that HIV is a 'conspiracy theory' or that it is 'man-made'.
- A recent survey carried out in the US for example, identified a significant number of African Americans who believe HIV was manufactured as part of a biological warfare program, designed to wipe out large numbers of black and homosexual people.
- Many say this was done under the auspices of the US federal 'Special Cancer Virus Program' (SCVP), possibly with the help of the CIA.
- Some even believe that the virus was spread (either deliberately or inadvertently) to thousands of people all over the world through the smallpox inoculation program, or to gay men through Hepatitis B vaccine trials.

6. The calculated theory

- This is the latest theory on the origins of HIV and it emerged in early 19th century.
- It deals with the question of when and not how or why.
- The scientists calculated how far back in time one could need to go for all the HIV-viral subtypes to have a common ancestor/ origin.
- That mutant strains can be used to trace how far back HIV has been in existence.

NB: While none of these theories can be definitively disapproved, the evidence they are based on is tenuous at best, and often ignores the clear link between SIV and HIV, or the fact that the virus has been identified in people as far back as 1959.

- They also fail to take into consideration the lack of genetic-engineering technology available to 'create' the virus at the time that AIDS first appeared.

SEX AND SEXUALITY

What is sex education?

- **Sex education**, is sometimes called **sexuality education** or **sex and relationships education**,
- It's the process of acquiring information and forming attitudes and beliefs about sex, sexual identity, relationships and intimacy.
- It is also about developing young people's skills so that they make informed choices about their behaviour, and feel confident and competent about acting on these choices.
- It is widely accepted that young people have a right to sex education, partly because it is a means by which they are helped to protect themselves against abuse, exploitation, unintended pregnancies, sexually transmitted diseases and HIV/AIDS.

Aims of sex education

- To reduce the risks of potentially negative outcomes from sexual behaviour like unwanted or unplanned pregnancies and infection with STDs
- To enhance the quality of relationships.
- To develop young people's ability to make decisions over their entire lifetime.
- ❖ **Sex**- the state of being male or female i.e gender
- ❖ **Sexuality**- the sexual nature or xtics of somebody i.e. involves all biological, social & spiritual xtics that makes up a person to be either a woman or a man.
- ❖ **Sexual intercourse**- the action of a man inserting the penis into a woman's vagina leading to release of semen from the penis & as a result the woman may become pregnant.
- ❖ **Sex abuse**- Illegal sexual activities esp as practiced on children by adults
- ❖ **Sex offender**- a person found guilty of illegal sexual acts esp on children
- ❖ **Sex object**- a person considered only in terms of his or her sexual attractions.
- ❖ **Sex symbol**- a person generally considered to be ideal in terms of his /her appearance sexual attraction.

Reasons for excessive interest in sexual intercourse

- Peer pressure among the youth.
- Genetic makeup of a person i.e tribe
- Curiosity –the urge to discover
- Availability of sexually explicit material eg pornography
- Breakdown of mechanism of social control
- Existence of unstable families- divorce, separation- child freedom
- Poverty
- Idleness
- Alcoholism & drug addiction
- Attitude towards premarital sex e.g European countries

Nature of sexual relationships

- Heterosexual- both partners are willing
- Homosexual- “ “ “ “
- Lesbianism
- Incest
- Rape- one partner is willing
- Prostitution
- Sugar mummies/daddies
- Multiple partners- differential in age.

Sources of sexual information

- Media-TVs, Radio, magazines etc
- Films –pornographic materials
- Internet
- Observation
- Literature-novels
- Professionals-doctors, teachers

Myths surrounding sexuality

- ❖ Virginitly myth- 25 when still a virgin one does not enjoy sex.
- ❖ Vitality myth/ Fertility myth- men become infertile/engagement in sex enhances fertility.
- ❖ Virility myth- the more one is engaged, the powerful they become/ practice makes perfect.
- ❖ Abstaining from sex leads to sickness/ madness
- ❖ Men’s sex drive is believed to be boundless
- ❖ Sex with virgins cures AIDS/ raping young girls cure AIDS
- ❖ Women should never say no to sex
- ❖ Sex with condoms is not real sex
- ❖ Have sex early to know if you are functioning well
- ❖ The more one engages in sex the healthier they become
- ❖ A man cannot be satisfied by one woman
- ❖ The cure of backache is sex
- ❖ Femininity & masculinity- the gender identity prove theory- to prove you are a man.
- ❖ To multiply & fill the earth

GLOBAL DISTRIBUTION AND TRENDS OF HIV/AIDS- COMPARATIVE TRENDS (STATISTICS LOCALLY AND GLOBALLY)

- **Trends** - Involves looking at the direction HIV/AIDS is taking, the way it is affecting people, and, what measures are put across to curb its transmission
- **Distribution**- Involves looking at how HIV is spread globally i.e. in the continents, regions and countries which are grossly affected.