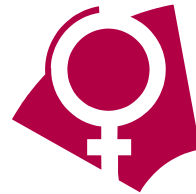




Sexual Health & Risky Behaviour (The Health Belief Model)



Dr Howard Fine
Clinical Psychologist
Royal London Hospital



1

Session Outline

- Nature of HIV/AIDS
 - Definitions
 - Transmission
 - Risk factors
 - Symptoms
 - Testing
 - Treatment
- World & UK trends
- Risk Groups
- Cultural factors
- HIV Prevention – The Health Belief Model
- Stages of Change Model
- Consensus Model
- Psychosocial influences on the course of HIV/AIDS: Stress and coping with HIV

2

Nature of HIV

Definition

- HIV - Human immunodeficiency virus infection
 - a viral infection caused by the human immunodeficiency virus (HIV) that gradually destroys the immune system, resulting in infections that are hard for the body to fight.

Causes, incidence, and risk factors

- The virus attacks the immune system and leaves the body vulnerable to a variety of life-threatening infections and cancers.
- HIV has been found in saliva, tears, nervous system tissue, blood, semen (including pre-seminal fluid), vaginal fluid, and breast milk. However, only blood, semen, vaginal secretions, and breast milk have been proven to transmit infection to others.
- Transmission of the virus occurs:
 - Through sexual contact -- including oral, vaginal, and anal sex
 - Through blood -- via blood transfusions or needle sharing
 - From mother to child -- a pregnant woman can transmit the virus to her fetus through their shared blood circulation, or a nursing mother can transmit it to her baby in her milk
 - Other transmission methods are rare and include accidental needle injury,

3

Nature of HIV 2

The most common methods of transmission of HIV are:

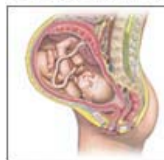


Unprotected sex with an infected partner



Sharing needles with infected person

Almost eliminated as risk factors for HIV transmission are:



Transmission from infected mother to fetus



Infection from blood products

ADAM.

4

Nature of HIV 3

Symptoms

- Acute HIV infection may be associated with symptoms resembling the flu within 2 to 4 weeks of exposure.
 - People who become infected with HIV may have no symptoms for up to 10 years, but they can still transmit the infection to others. Meanwhile, their immune system gradually weakens until they are diagnosed with AIDS.
 - Acute HIV infection progresses over time to asymptomatic HIV infection and then to early symptomatic HIV infection and later, to AIDS (advanced HIV infection):
 - HIV Infection (acute HIV infection) -->early asymptomatic HIV infection -->early symptomatic HIV infection -->AIDS.
 - Most individuals infected with HIV will progress to AIDS if not treated.
 - Any symptoms of illness may occur, since infections can occur throughout the body. Special symptoms relating to HIV infection include:
 - Sore throat, mouth sores, muscular stiffness or aching, headache, diarrhoea, swollen lymph glands, fever, fatigue, rash of various types, weight loss.
- Note:** At the time of diagnosis with HIV infection, many people have not experienced any symptoms.

5

Nature of HIV 4

Treatment

- Drug therapy is often recommended for patients who are committed to taking all their medications and have a CD4 (T-cell, immune cell) count less than 350 (indicating immune system suppression) or a high viral load (amount of HIV virus in the bloodstream).
- It is extremely important that patients take all doses of their medications, otherwise the virus will rapidly become resistant to the medications. Therapy is always given with a combination of antiviral drugs.
- People with HIV infection need to receive education about the disease and treatment so that they can be active partners in decision making with their health care provider.

Prognosis

- HIV is a chronic medical condition that can be treated, but not yet cured.
- There are effective means of preventing complications and delaying, but not preventing, progression to AIDS.
- At the present time, not all persons infected with HIV have progressed to AIDS, but time has shown that the vast majority do.

6

Nature of AIDS

Definition

- AIDS - Acquired immune deficiency syndrome is the final and most serious stage of HIV disease, which causes severe damage to the immune system.
- AIDS begins when a person with HIV infection has a CD4 cell (a.k.a. T-cell). AIDS is also defined by numerous opportunistic infections and cancers that occur in the presence of HIV infection.

7

Nature of AIDS 2

Definition

- AIDS - Acquired immune deficiency syndrome is the final and most serious stage of HIV disease, which causes severe damage to the immune system.
- AIDS begins when a person with HIV infection has a CD4 cell (a.k.a. T-cell). AIDS is also defined by numerous opportunistic infections and cancers that occur in the presence of HIV infection.

8

Nature of AIDS 3

Signs and tests

- The following is a list of AIDS-related infections and cancers that people with AIDS acquire as their CD4 count decreases.

Common with CD4 count below 350/ml:

- Herpes simplex virus - causes ulcers in the mouth or genitals, occurring more frequently and more severely than previously
- Tuberculosis - infection by the tuberculosis bacteria that predominately affects the lungs
- Oral or vaginal thrush - yeast infection of the mouth or genitals
- Herpes zoster - ulcers over a discrete patch of skin caused by this virus
- Non-Hodgkins lymphoma - cancer of the lymph glands

CD4 count below 200/ml

- Pneumocystis carinii pneumonia, "PCP pneumonia"
- Candida esophagitis - painful yeast infection of the esophagus

9

Nature of AIDS 4

CD4 count below 100/ml

- Cryptococcal meningitis - infection of the brain by this fungus
- AIDS dementia -- worsening and slowing of mental function caused by HIV itself
- Toxoplasmosis encephalitis - infection of the brain by this parasite, which is frequently found in cat feces
- Progressive multifocal leukoencephalopathy -- a viral disease of the brain caused by a virus (called the JC virus) that results in a quick decline in cognitive and motor functions
- Wasting syndrome - extreme weight loss and anorexia caused by HIV

CD4 count below 50/ml

- Mycobacterium avium - a blood infection by a bacterium related to tuberculosis
- Cytomegalovirus infection - a viral infection that can affect almost any organ system, especially the eyes

10

Nature of AIDS 5

Treatment

- There is no cure for AIDS at this time, however, several treatments are available that can delay the progression of disease for many years and improve the quality of life.
- Antiviral therapy suppresses the replication of the HIV virus in the body.
- A combination of several antiretroviral agents, termed Highly Active Anti-Retroviral Therapy (HAART), has been highly effective in reducing the number of HIV particles in the blood stream (a.k.a Viral load). This can help the immune system bounce back for a while and improve T-cell counts.
- There is good evidence that if the levels of HIV remain suppressed and the CD4 count remains high (above 200), that life and quality of life can be significantly prolonged and improved.
- **However**, HIV tends to become resistant in patients who do not take their medications on schedule every day. Also, certain strains of HIV mutate easily and may become resistant to HAART especially quickly.

11

World estimates of the HIV & AIDS epidemics at the end of 2004

- Total number of AIDS deaths between 1981 and the end of 2003: 20 million.
- Number of children orphaned by AIDS living in Sub-Saharan Africa at the end of 2003: 12 million.
- By December 2004 women accounted for 47% of all people living with HIV worldwide, and for 57% in sub-Saharan Africa.
- In 2003, young people (15-24 years old) accounted for half of all new HIV infections worldwide
 - more than 6,000 became infected with HIV every day.
- An estimated five million people in low and middle income countries do not have the AIDS drugs which could save their lives.

12

World estimates of the HIV & AIDS epidemics at the end of 2004

Number of people living with HIV/AIDS in 2004	Millions	
	Total	39.4
Adults	37.2	
Women	17.6	
Children <15	2.2	
People newly infected with HIV in 2004	Total	4.9
	Adults	4.3
	Children <15	0.64
AIDS deaths in 2004	Total	3.1
	Adults	2.6
	Children <15	0.51



13

Regional statistics for HIV & AIDS end of 2004



Region	Adults & Children	Adults & Children	Adult Infection	Deaths of
	Living with HIV/AIDS*	Newly Infected	Rate (%)	Adults & Children*
Sub-Saharan Africa	25.4	3.1	7.4	2.3
East Asia	1.1	0.29	0.1	0.051
South and South-East Asia	7.1	0.89	0.6	0.49
Oceania	0.035	0.005	0.2	0.0007
Eastern Europe & Central Asia	1.4	0.21	0.8	0.06
Western & Central Europe	0.61	0.021	0.3	0.0065
North Africa & Middle East	0.54	0.092	0.3	0.028
North America	1	0.044	0.6	0.016
Caribbean	0.44	0.053	2.3	0.036
Latin America	1.7	0.24	0.6	0.095
Global Total	39.4	4.9	1.1	3.4

UK HIV & AIDS Summary 1

Key figures

- An estimated 53,000 adults were living with HIV in the UK at the end of 2003, of whom 14,300 (27%) were unaware of their infection.
- In 2003, there were 6,780 new diagnoses of HIV, contributing to a total of 66,554 since the epidemic began.
- As of September 2004, there have been 20,778 diagnoses of AIDS in the UK. It is known that at least 13,033 of these people have died.

Trends in HIV and AIDS Statistics

- When the tests for HIV antibodies became widely available in the mid 1980s, three main risk groups of HIV were identified. These were:
 - Men who have sex with men
 - Injecting drug users
 - People who have received treatment with blood products.
- Many of these people came forward for testing in the mid 1980s, after which there was a decline in the annual number of HIV diagnoses. This trend was reversed towards the end of the decade and there were between 2,500 and 2,800 diagnoses each year from 1990 to 1997.

15

UK HIV & AIDS Summary 2

- Since 1999 there has been a steep increase in the number of HIV diagnoses. During 2003, reports show that 6,780 people were infected with HIV in the UK. This number is expected to rise as further data are received.
- Rapid increase in recent years in heterosexually acquired infections.
- The use of HAART (Highly Active Antiretroviral Therapy) has proved effective in delaying HIV associated deaths and the onset of AIDS. This resulted in a steep decline in the number of AIDS cases reported each year between 1994 and 1998.
 - However, the number of cases has remained consistent over the last six years, lying in the range 700-850.
- Some of the progressions to AIDS or death, which continue to occur in the era of widely available HAART, may be attributed to patient non-compliance or failure to tolerate a demanding drug regime.
 - However, evidence of the emergence of drug resistant viral strains cannot be ignored.

16

UK AIDS cases by exposure category

How HIV infection was probably acquired	Male	Female	Total	%
Sex between men	12534	0	12534	61%
Sex between men and women	2631	2724	5355	26%
Injecting drug use	867	344	1211	6%
Blood/tissue transfer or blood factor	750	116	866	4%
Mother to infant	292	278	570	3%
Other/undetermined	214	28	242	1%
Total	17288	3490	20778	100%
Percentage Total	83%	17%	100%	100%

17

How people probably became infected by year (UK)

Year of diagnosis	Route of transmission		
	Sex between men*	Sex between men and women	Injecting drug use
1988 or earlier	7925	713	1653
1989	1456	360	213
1990	1705	535	201
1991	1715	649	243
1992	1640	780	187
1993	1509	773	205
1994	1486	794	167
1995	1475	855	182
1996	1554	837	172
1997	1409	1010	170
1998	1371	1163	131
1999	1368	1439	113
2000	1517	2009	112
2001	1770	2883	133
2002	1825	3594	112
2003	1803	3975	118
Until end Sept 2004	884	1804	58
Total	32412	24173	4170

Risk Groups 1

- **Men who have sex with men**
- **Heterosexuals**
- **Injecting Drug Users (IDU)**
- **Blood and blood factor recipients**
- **Children born to HIV infected mothers**

Up until 1998, men who have sex with men formed the main exposure category for new infections.

However, in 1999, heterosexually acquired HIV became the largest category, and has continued to be so ever since.

The proportion of HIV infections acquired through injecting drug use has been much smaller in the UK than in many other European countries.

19

Risk Groups 2

Men who have sex with men

- Men who have sex with men remain the group at greatest risk of getting infected with HIV in the UK.
- Throughout the 1990s, there were modest falls in the number of new diagnoses among this group, except in 1996 when multi-antiretroviral therapy first became widely available and the advantages of early diagnoses became clearer.
- Since 1999, the figures have steadily risen again, exceeding 1,800 in 2002 and 2003.
- **The primary cause of transmission is high risk sexual behaviour, and there are indications of rises in such behaviour in recent years.**
- As the end of September 2004, 32,412 men who have sex with men have been diagnosed with HIV.
 - It has been estimated that, at the end of 2003, just under half of all people living with HIV in the UK were men who had sex with men.

20

Risk Groups 3

Heterosexuals

- The number of heterosexually acquired HIV infections diagnosed in the UK has risen hugely over the last 15 years.
- In 1999, for the first time, the rate of heterosexually acquired infection overtook the rate of infection in men who have sex with men.
- During 2003, there were 3,975 reports of heterosexually acquired HIV and a total of 24,173 at the end of September 2004.
- Many of the new diagnoses are in people who probably acquired HIV in other countries. However, the number of infections probably acquired in the UK from heterosexual sex with a heterosexually-infected partner has soared from 138 in 1998 to 357 in 2003.

21

Risk Groups 4

Injecting Drug Users (IDU)

- Injecting drug use has played a smaller part in the HIV epidemic in the UK than it has in many other developed countries.
 - 118 people acquired HIV infection through injecting drug use during 2003.
 - At the end of September 2004, a total of 4,170 people had acquired HIV by this route.
- In this exposure category there have been differences within the UK.
 - Scotland experienced rapid HIV spread through injecting drug users in the early 1980s, which was not the case in the rest of the Kingdom.
 - Probably as a result of the introduction of harm reduction measures such as needle exchange programmes in the mid-1980s.
 - Localised epidemics on the scale of Scotland have not occurred elsewhere in the UK.

22

Risk Groups 5

Blood and blood factor recipients

- Production of the clotting factor concentrates, used mainly for treating patients with haemophilia, involves the pooling of plasma from several thousand blood donations.
- Before the introduction of inactivation processes in 1985, a single donation infectious for HIV could contaminate a batch of concentrate used to treat many patients.
- There have been no recorded transmissions of HIV in the UK through concentrate use since the introduction of inactivation.
- Since October 1985, when suitable tests became available, all blood donations have been screened for HIV antibodies. In total, 1,778 people had been reported as infected through treatment blood/tissue transfer or blood factor by the end of September 2004.

23

Risk Groups 6

Children born to HIV infected mothers

- Surveillance of children recognised as born to HIV-infected women relies on confidential voluntary reports from paediatricians and obstetricians.
- A total of 4,926 children born to HIV infected mothers had been reported by the end of September 2004.
 - Of these, 1,188 have contracted AIDS or have tested positive for HIV.
- Women who are unaware of their infection status are unable to benefit from interventions, which can reduce the risk of mother to child transmission to under 5%.

24

Cultural issues in HIV

Health beliefs

An individual's ethnic background or cultural heritage may exert a strong influence on their health belief systems and ultimately health-related behaviours.

In some communities, male circumcision is believed to be a key element of good hygiene and may reduce the risk of acquiring some sexually transmitted infections.

Health seeking behaviours

A person's health beliefs often impact on their health seeking behaviour.

Many individuals do not access health services unless they have symptoms of an illness.

Migrants or asylum seekers may not feel entitled to access healthcare facilities in a new country, may be unaware of their entitlements or may have linguistic barriers.

Access to treatment

- At present 42 million people in the world are living with HIV, 95% of which are in developing countries and 30 million in Sub-Saharan Africa alone.
- In Africa only 50,000 individuals with HIV are currently accessing treatment.

Prevalence in home country

Coming from a country with a high prevalence of HIV may increase the likelihood of having been infected with that disease.

War

25

Preventing HIV: Introducing the Health Belief Model

26

Health Belief Model

The model, developed in the 1950's, focused on relation of health behaviour to utilisation of Health Services. The model is based on the following sequence of events. For behaviour change to occur:

1. The person must believe that his or her health is in jeopardy.
2. The person must perceive the potential seriousness of the condition in terms of pain or discomfort, time lost from work, economic difficulties, and so forth.
3. On assessing the circumstances, the person must believe that benefits stemming from the healthy behaviour outweigh the costs and are indeed possible and within his or her grasp.
4. There must be a "cue to action" or a precipitating force that makes the person feel the need to take action.

27

*Perceived
Susceptibility*

I'm safe – I only
have "clean"
partners.



*Perceived
Severity*

Having an STD
might really affect
me...



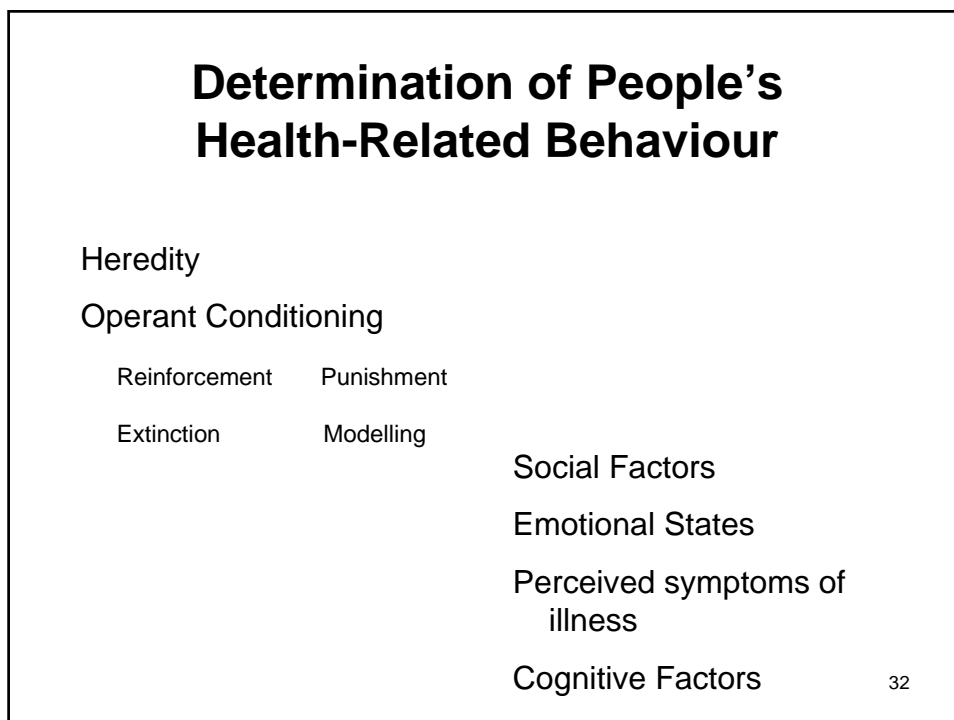
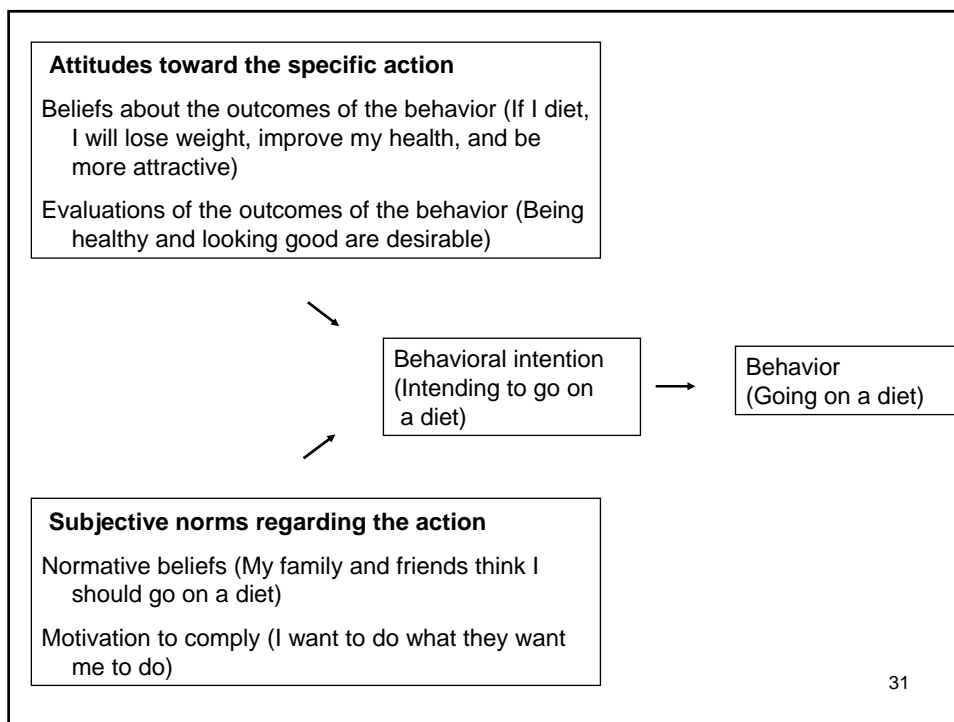
28



3 Primary Dimensions

1. The person's readiness to comply with treatment.
 - Belief in vulnerability
 - Motives to reduce threat
 - Compliance with recorded behaviour
 - Reduces threat and provides good health
2. The motivating and enabling forces that determine what the person will do.
 - i.e. Costs, feelings, attitudes
3. The compliance behaviours actually exhibited.

30



Major Models of Adherence

Health Belief Model

Theory of Reasoned Action

Theory of Planning Behaviour

Health Decision Model

Model of Illness Behaviour

Self-Regulation Model

Social Learning Theory

Relapse Prevention

Behaviour Modification

33

Intervention: “Stages of Change” Model (change is an ongoing process)



- **Precontemplation**
- **Contemplation**
- **Preparation**
- **Action**
- **Maintenance**

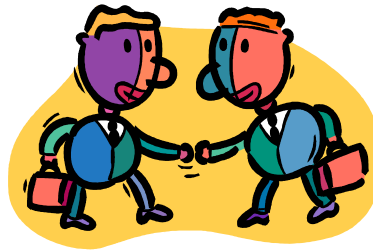
“Habit is habit, and not to be flung out of the window, but coaxed down the stairs a step at a time”

-Mark Twain

34

Model of Behavioral Change: Consensus model

1. Intention
2. Absence of environmental constraints
3. Necessary skills
4. Benefits outweigh costs
5. Social support
6. Self-efficacy
7. Consistent with self-standards
8. Positive affect



35

Intention

"I will ask my partner to use a condom every time we have sexual intercourse."

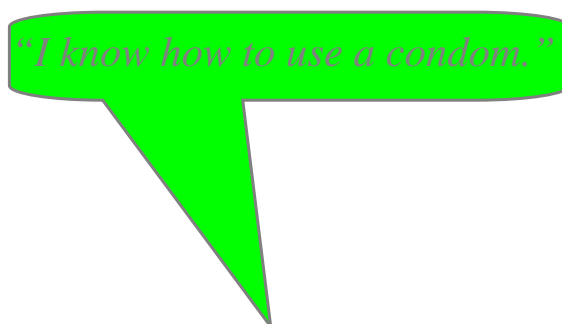
36

Absence of environmental constraints



37

Skills



38

Positive Attitude

(benefits outweigh costs)

“Using a condom every time I have sex is a good thing to do.”

39

Perceived norms

“Most people who are important to me think I should use condoms.”

40

Self-efficacy (confidence)

“Even though my boyfriend doesn’t like condoms, I’m confident I can get him to use them every time.”

41

Self-standards

“‘Real men’ always uses condoms when they have intercourse.”

42

Emotional reactions

"When I think of using a condom, I feel anxious..."

How easily the same task becomes difficult because ideas, beliefs, fears all impinge on performance, disrupting even those goals strongly desired."

--Milton Erickson, MD



Stress and Coping with HIV



Contextual approach to HIV

- Disease is not just a physical and biological event
- Disease is also framed within a psychological and sociocultural perspective
- Need to consider stress and disease progression
- Need to consider how stress may influence disease progression

45

Disease: Psychological and Sociocultural Phenomenon

- Disease is not just a physical/biological phenomenon
- It “locates” people based on social roles, community expectations, psychological make-up, temporal factors such as disease stage, and social relationships

46

Social and Psychological Context of HIV

- Cultural conditions (community attitudes about sickness, economics, ethnicity/race)
- Temporal factors (epidemiological stage of disease, disease progression, person's age)
- Psychological make-up (personal resources, motives and desires)
- Interpersonal factors (e.g., social roles, social and community support available)

47

HIV and Stress: A Problem-Solving Model

- HIV disease influences quality of life
- Negative life events and HIV-related stressors influence quality of life
- Problem-solving reduces the adverse effects of HIV disease and negative life events and HIV-related stressors

48

Emotional Reactions In the Course of HIV Disease

1. HIV-related event (HIV+ test result, declining T-helper cells, symptom onset, hospitalization, AIDS diagnosis)
2. Shock, psychological numbness, disbelief
3. Depression, guilt, anger
4. Anxiety, fear, worry
5. Somatization (symptom preoccupation)
6. Adjustment (coping, denial)

49

Emotional Reactions in the Asymptomatic Phase

- As many as 90% of recent diagnosis of HIV infection experience acute stress (Maj, 1990)
- Denial may be a short-term compensatory reaction
- Depression and generalized anxiety decline over time

50

Emotional Reactions in the Early Symptomatic Period

- First signs of illness can cause resurgence of depression, anxiety, somatization
- Number of symptoms correlate with emotional distress (e.g., depression)

51

Emotional Reactions in the Later Symptomatic Stages

- Acute psychological distress typically returns with an AIDS diagnosis
- People with AIDS may be less distressed than people at both asymptomatic and early symptomatic phases, after the initial reaction to the AIDS diagnosis
- Declining functional abilities lead to mood disturbances

52

Life Stress and HIV Progression

Does severe life stress influence HIV infection?

- Prospective study of 93 HIV-positive homosexual men (Evans et al., 1997)
- All were without HIV symptoms at the time of entry into the study
- All with medical problems, drug use, taking medications excluded from study
- All the men were interviewed

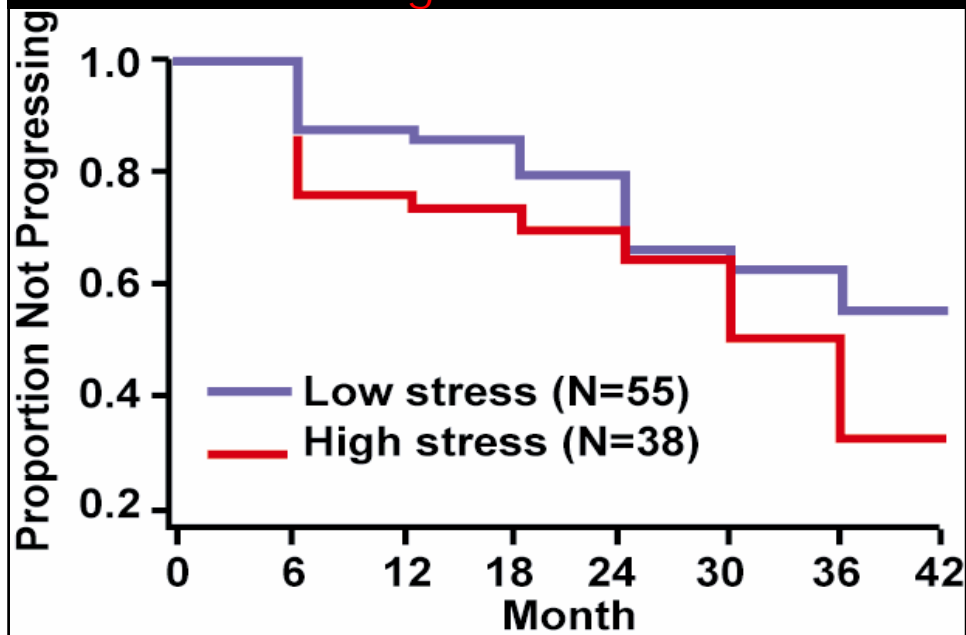
53

Results: Stress and HIV Progression

- 38% (N = 35) had developed some HIV symptoms
- More severe the life stress experienced, the greater the risk of early HIV disease progression
- Higher levels of stress predicted greater severity of first disease progression

54

Effect of High and Low Stress on HIV Disease Progression in 93 Men



HIV-Related Stressors and Psychological Symptoms

- Thompson et al. (1996) examined HIV-related stressors' impact on mood states
- Stressors measured
 - relationships
 - medical care
 - Grief/illness of others
 - Financial/housing
 - Problems at work

Measures of Mood and Unhealthy Behaviors

- Depressive symptoms
- Unhealthy behaviors
 - alcohol use
 - smoking
 - unprotected sex

57

Results of Thompson et al.'s (1996) Study

- Number and perceived stress of events positively related to depression
- Stressful events associated with relationships, grief/illness of others, and financial/housing were positively related to depression
- Perceived stress associated with cigarette smoking and unsafe sex

58

Stress and HIV Progression: Mechanisms

- People with high experience high numbers of stressors and levels of stress
- Stressors may
 - Directly weaken immune system functioning
 - Increase likelihood of unhealthy practices, including more smoking and risky sexual behavior, that exacerbate coping with HIV
 - Decrease likelihood of health management

59

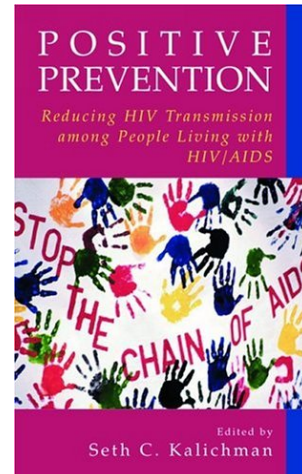
Stress and HIV Interventions

- Interventions needed to reduce perceived stress and reduce the number of stressors
- Increase sense of autonomy and optimism in people's lives
- Numbers of stressors might be reduced if housing, health insurance, and financial stability could be assured
- Importance of problem-solving orientation

60

Useful references

- Aids Health Project (2001). HIV and Depression: Context and Care (UCSF Aids Health Project Monograph Series, No. 5).
- Check, W.C. & Koop, C.E. (1998). AIDS (21st Century Health and Wellness). NY: Chelsea House Publications.
- Kalichman, S.C. (2005). Positive Prevention: Reducing HIV transmission among people living with HIV/AIDS. NY: Plenum Press.



61

Resources

Internet links:

- <http://www.aidsconsortium.org.uk/Education/educationbibliography.html> - UK AIDS consortium
- <http://hivinsite.ucsf.edu/> - Comprehensive information on HIV/AIDS treatment
- <http://www.schoolsandhealth.org/Sourcebook/sourcebook%20intro.htm> – World Bank Sourcebook on prevention and Intervention for HIV

Review Questions

- Describe the main considerations in designing a HIV health prevention programme for asylum seekers from sub-Saharan Africa?
- What is the Health Belief Model, and what five components contribute to the decision to seek health care? Describe an example of a health decision and explain what each of the five components are for your example.

62

Group activity

- The head on an inner-city, multi-ethnic, sixth form college is surprised by the results of a survey carried out by the local drug and alcohol advocacy service which shows that around one-third of students attending the college have used one or more illegal drugs during the past six months. She was less surprised, but nevertheless concerned, that one-tenth of the male students and almost as many female students were drinking alcohol at levels above the recommended safe limits and were regularly getting drunk through binge drinking. She had read that in Britain, 20% of the reported cases of HIV infection are in people under the age of 25, and she knows many of her students are having sexual relationships. She is worried that if many students are taking risks with their health through consumption of alcohol, they may also be risking threats to their health through unsafe sexual practices. She decided to launch an education campaign about drug use, safer sex, and avoiding HIV infection.
- Is the Head correct to be concerned about links between risk behaviours and HIV infection?
- If so, what should she do to make her education campaign successful?
- Whose help should she enlist to present her campaign?
- What more could the college do to help students avoid the risk of HIV infection?

63