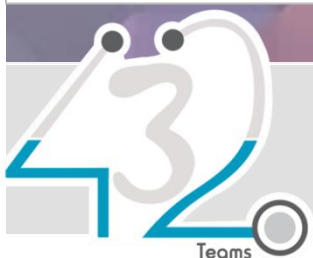


Objectives

1. Describe the current estimates of HIV / AIDS infection
2. Understand how people get infected with HIV
3. Appreciate the features which characterize the pandemic in the Eastern Mediterranean Region
4. Differentiate what could work best, as far as prevention & control efforts are concerned, in our Region

Don't panic by the number of pages (there are a lot of pictures -.-")



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King Saud University



What is AIDS?

Acquired Immuno-Deficiency Syndrome (AIDS) is a severe **life-threatening** clinical condition, first recognized as a distinct syndrome in 1981.

This syndrome represents the **late stage of infection** with the Human Immunodeficiency Virus (HIV), which often results in **progressive damage** of the immune and other organ systems, **especially the central nervous system (CNS)**

HIV/AIDS PANDEMIC: overall features

-Pandemic: all continents, all nations

-HIV has been isolated from **ALL body fluids** (eg: semen, blood, vaginal secretions, breast milk...etc)

- There are only **three modes** of transmission

- Incubation & communicability: long **asymptomatic** infected (incubating carriers) are capable of transmission of the infection

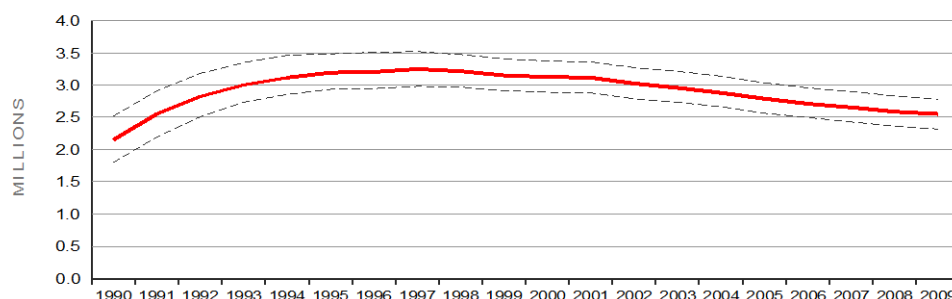
-Impacts of infection: health, social, productivity, life expectancy, economic, overall development

HIV Epidemiologic Update

GLOBAL REPORT

Figure 2.1

Number of people newly infected with HIV



Dotted lines represent ranges, solid lines represent the best estimate.

✓ Numbers from 1990 to 2009 are relatively the same (no increase in incidence)

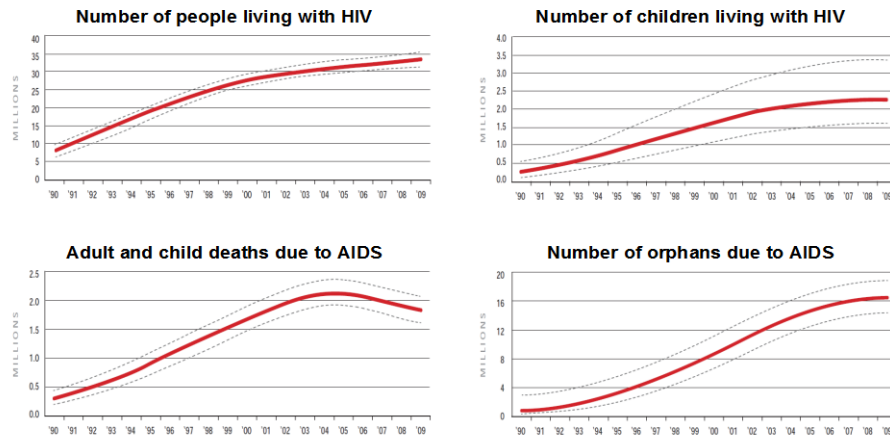
Notes: This lecture was given by a doctor who didn't prepare the presentation herself. For every picture in this lecture, focus more on the comments below or beside that picture. And also, make sure you understand the numbers and facts as the doctor didn't know whether they are important or not.

HIV Epidemiologic Update (continued)

GLOBAL REPORT

Figure 2.5

Global HIV trends, 1990 to 2009



Dotted lines represent ranges, solid lines represent the best estimate.

Source: UNAIDS.



- ✓ The number is increasing because people who've been diagnosed are controlled well (new cases build up on top of the old ones); more people are living with HIV rather than dying from it.

Global summary of the AIDS epidemic | 2011

Number of people living with HIV	Total	34.2 million [31.8 million–35.9 million]
	Adults	30.7 million [28.6 million–32.2 million]
	Women	16.7 million [15.7 million–17.8 million]
	Children (<15 years)	3.4 million [3.1 million–3.9 million]

People newly infected with HIV in 2011	Total	2.5 million [2.2 million–2.8 million]
	Adults	2.2 million [2.0 million–2.4 million]
	Children (<15 years)	330 000 [280 000–380 000]

AIDS deaths in 2011	Total	1.7 million [1.6 million–1.9 million]
	Adults	1.5 million [1.3 million–1.7 million]
	Children (<15 years)	230 000 [200 000–270 000]



- ✓ No significant change. It's more of a male disease (eg: in homosexual men). Remember that in Africa there's an equal risk of getting the disease in both men and women.

Global estimates for adults and children | 2011

People living with HIV	34.2 million [31.8 million – 35.9 million]
New HIV infections in 2011	2.5 million [2.2 million – 2.8 million]
Deaths due to AIDS in 2011	1.7 million [1.6 million – 1.9 million]



Regional HIV and AIDS statistics and features | 2011

	Adults and children living with HIV	Adults and children newly infected with HIV	Adult prevalence (15–49) [%]	Adult & child deaths due to AIDS
Sub-Saharan Africa	23.5 million [22.2 million – 24.7 million]	1.7 million [1.6 million – 1.9 million]	4.8% [4.6% – 5.1%]	1.2 million [1.1 million – 1.3 million]
Middle East and North Africa	330 000 [250 000 – 450 000]	39 000 [29 000 – 60 000]	0.2% [0.1% – 0.2%]	25 000 [17 000 – 35 000]
South and South-East Asia	4.2 million [3.1 million – 4.7 million]	300 000 [220 000 – 340 000]	0.3% [0.2% – 0.4%]	270 000 [140 000 – 600 000]
East Asia	830 000 [590 000 – 1.2 million]	89 000 [44 000 – 170 000]	0.1% [0.1% – 0.1%]	60 000 [42 000 – 83 000]
Latin America	1.4 million [1.1 million – 1.7 million]	86 000 [52 000 – 140 000]	0.4% [0.3% – 0.5%]	57 000 [35 000 – 88 000]
Caribbean	230 000 [200 000 – 250 000]	13 000 [9700 – 16 000]	1.0% [0.8% – 1.1%]	10 000 [8200 – 12 000]
Eastern Europe and Central Asia	1.5 million [1.3 million – 1.8 million]	170 000 [110 000 – 220 000]	1.0% [0.8% – 1.1%]	90 000 [74 000 – 110 000]
Western and Central Europe	860 000 [780 000 – 980 000]	30 000 [21 000 – 40 000]	0.2% [0.2% – 0.2%]	9300 [8300 – 10 000]
North America	1.4 million [1.1 million – 2.0 million]	58 000 [21 000 – 130 000]	0.6% [0.5% – 1.0%]	20 000 [16 000 – 27 000]
Oceania	53 000 [47 000 – 80 000]	2900 [2200 – 3800]	0.3% [0.2% – 0.3%]	1300 [<1000 – 1800]
TOTAL	34.2 million [31.8 million – 35.9 million]	2.5 million [2.2 million – 2.8 million]	0.8% [0.7% – 0.8%]	1.7 million [1.6 million – 1.9 million]

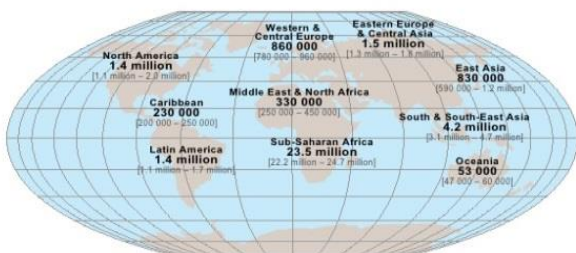
The ranges around the estimates in this table define the boundaries within which the actual numbers lie, based on the best available information.



✓ Sub-saharan: Great risk (greatly infected)

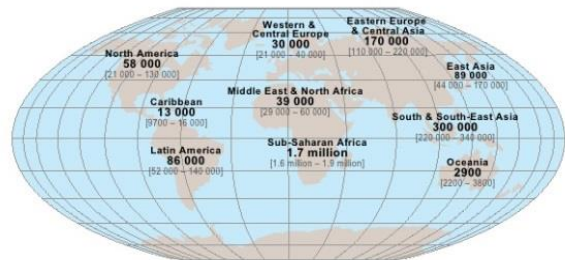
IMPORTANT: HIV is more common in the Sub-saharan, Second comes the south and south east Asia

Adults and children estimated to be living with HIV | 2011



Total: 34.2 million [31.8 million – 35.9 million]

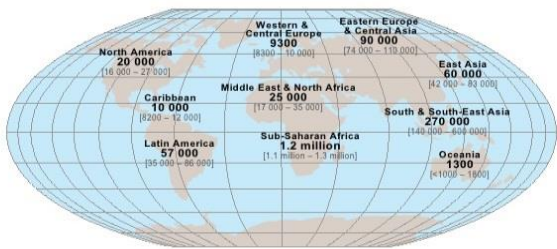
Estimated number of adults and children newly infected with HIV | 2011



Total: 2.5 million [2.2 million – 2.8 million]



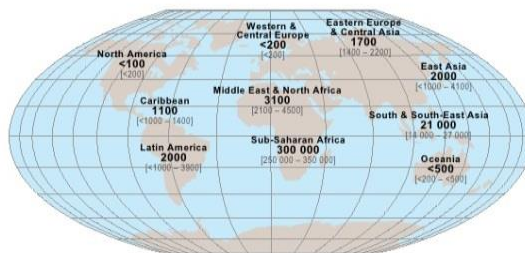
Estimated adult and child deaths from AIDS | 2011



Total: 1.7 million [1.6 million – 1.9 million]



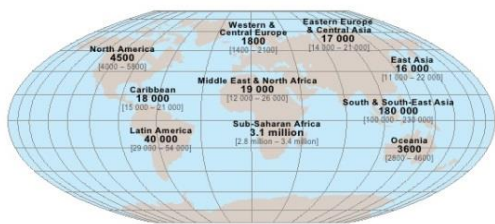
Estimated number of children (<15 years) newly infected with HIV | 2011



Total: 330 000 [280 000 – 380 000]



Children (<15 years) estimated to be living with HIV | 2011

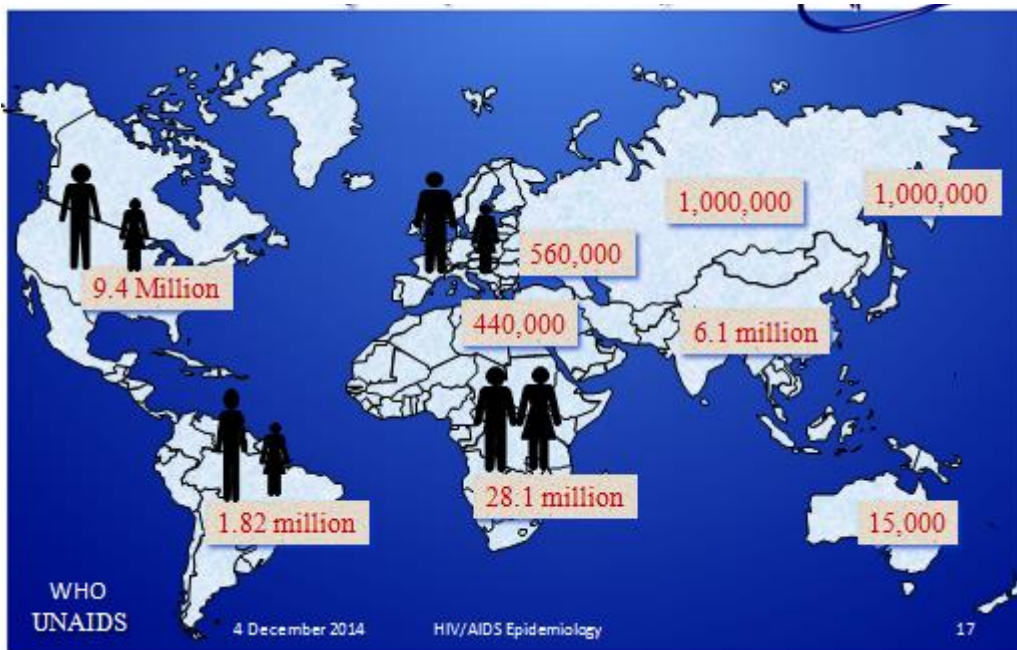


Total: 3.4 million [3.1 million – 3.9 million]



No comments

Estimated global distribution of HIV/AIDS infections, by sex (1970s - 2001)



HIV / AIDS Infectious Cycle

Agent: HIV retrovirus, target cell: T4 lymphocyte

Reservoir: humans (cases, carriers)

Communicability increases with: STI, TB, addiction, repeated contaminated injections / transfusions, sexual promiscuity (frequency, multiple partners)

Portal(s) of outlet: semen, vaginal secretions, Blood, skin (wound or injury)

Modes of transmission:

Sexual (90 %): hetero- , homo- , bi sexually.

Parenteral (5 %): blood, IDU (intravenous drug abusers), skin-piercing

Perinatal (4 %): during pregnancy, labor, and milk

Portal of inlet: according to transmission

Susceptibility: general, more among high risk groups especially: TB & STI patients

HIV Transmission by Efficiency & Global Distribution

Exposure	Transmission Efficiency %	Global Distribution
Blood Transfusion	> 90	< 1
Perinatal	20 - 45	4
Sexual	0.1 - 1.0	90
IV Drug Abuse	0.5 - 1.0	5
Needle-prick	< 0.5	< 1

✓ Transmission efficacy with blood is high it means that the risk of having the infection is so high
Global distribution is low due to blood screening

There is no current evidence to suggest that HIV is transmitted by:

- ◆ Casual contact
- ◆ Respiratory route ,Tears
- ◆ Enteric route
- ◆ Insects
- ◆ Food/water
- ◆ Sharing eating utensils
- ◆ Toilets
- ◆ Swimming pools
- ◆ Seats
- ◆ door-knob

HIV / AIDS in the EMR

HIV/AIDS PANDEMIC: EMR features

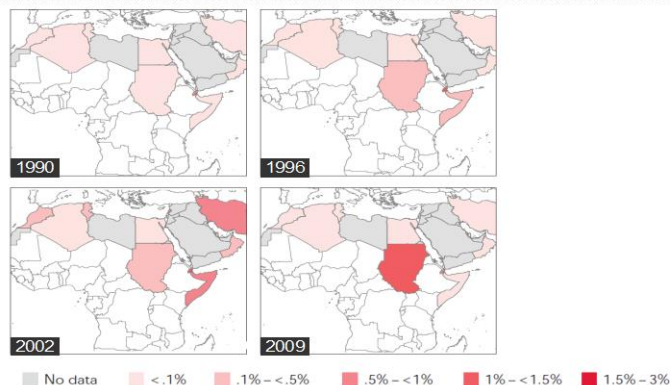
- **Late introduction** (late 1980s), **slow progression** By end of 2007, reported **low overall prevalence** of 0.2 % in EMR nations
- **Generalized** epidemic (> 1 %): in Djibouti, Sudan, some parts of Somalia
- **Concentrated** epidemic (> 5 %): among IDU in Iran, Libya, Pakistan
- **Age-gender** distribution: predominantly affecting adult (91 %) **males** (71 %)
- **Modes**: mainly **heterosexual** (77 %); **IDU** (11 %); blood transfusion (5 %), mother to child (2 %)
- **Current indigenous transmission among high risk groups:**
IDU, STI patients, T.B. patients, blood recipients, dialyzed patients, prostitutes, imprisoned people, homosexuals (some of whom are underground groups with social / legal difficulties to deal with)
- Serious current limitation in deeply needed surveillance activities
- **HIV SEROPOSITIVES (2010)**: Estimate: 470 000 [350 000–570 000] up from 320 000 [190 000–450 000] in 2001
- **New infections**: 59 000 [40 000–73 000] up from 43 000 [31 000–57 000]
- **AIDS related deaths**: 35 000 [25 000–42 000] up from 22 000 [9700–38 000] in 2001
- **STI CASES (2009) (sexually-transmitted infections)**: Estimate: 10,000,000 cases
- **PROBLEMS**: late reporting, under reporting, under diagnosis, conflicts, denial (few states)

GLOBAL REPORT

Figure 2.20

HIV prevalence in the Middle East and North Africa

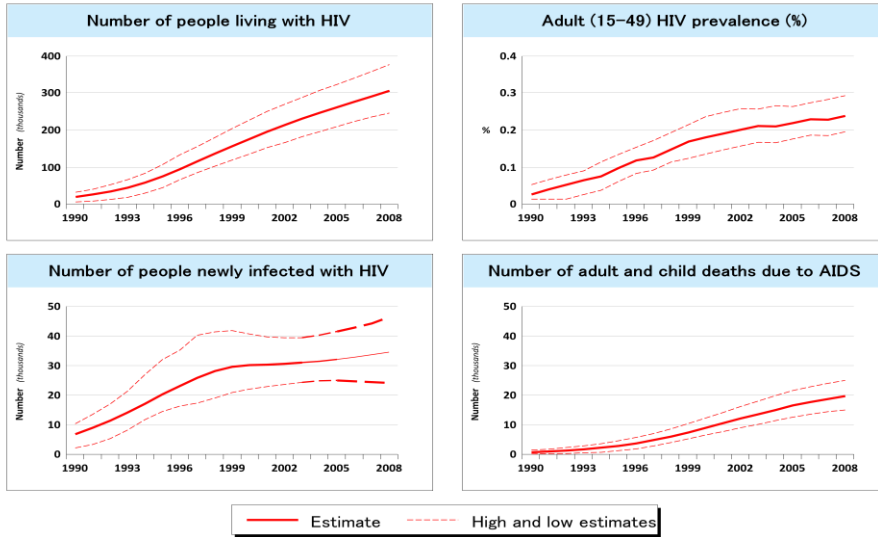
HIV prevalence among adults aged 15–49 years old in the Middle East and North Africa, 1990 to 2009.



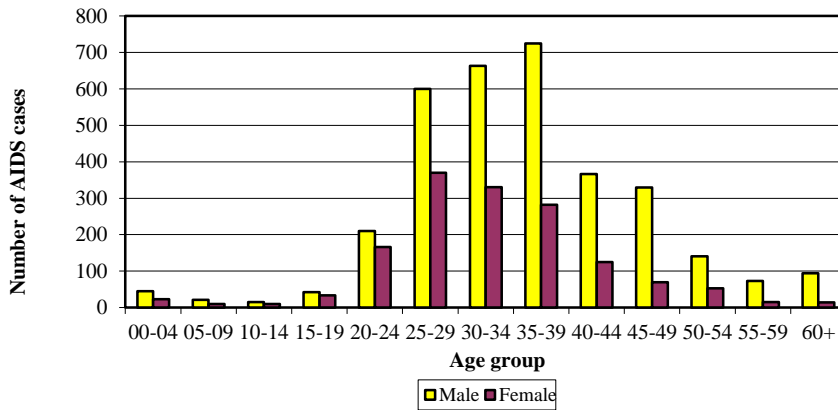
Source: UNAIDS.

Middle East and North Africa estimates 1990-2008

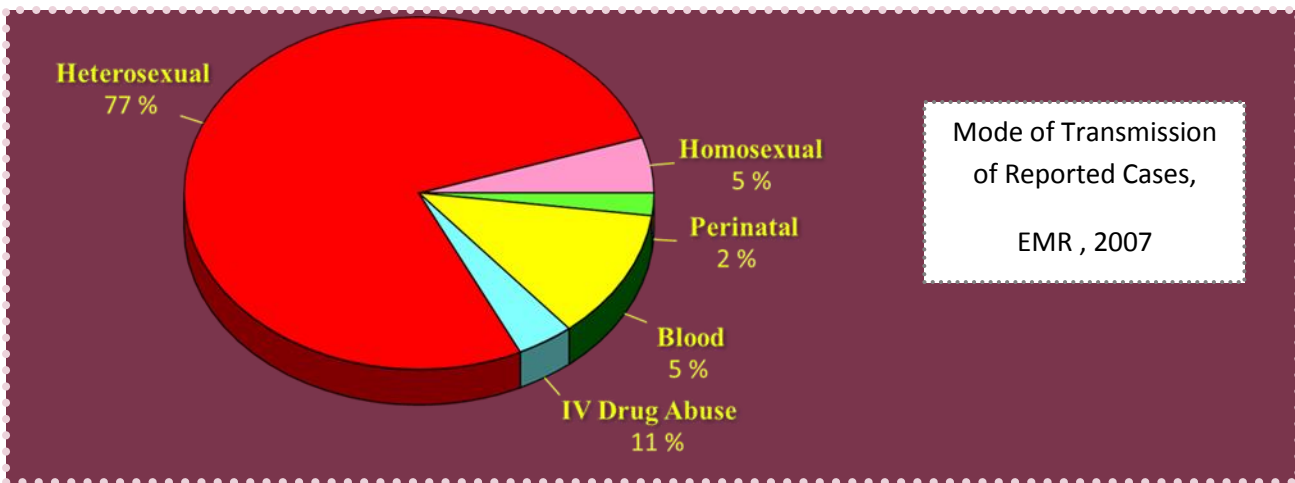
Middle East and North Africa estimates 1990-2008



Source: UNAIDS/WHO
Figure 24



Distribution of cumulative AIDS cases by age and by sex
WHO / EMR, 1999-2002

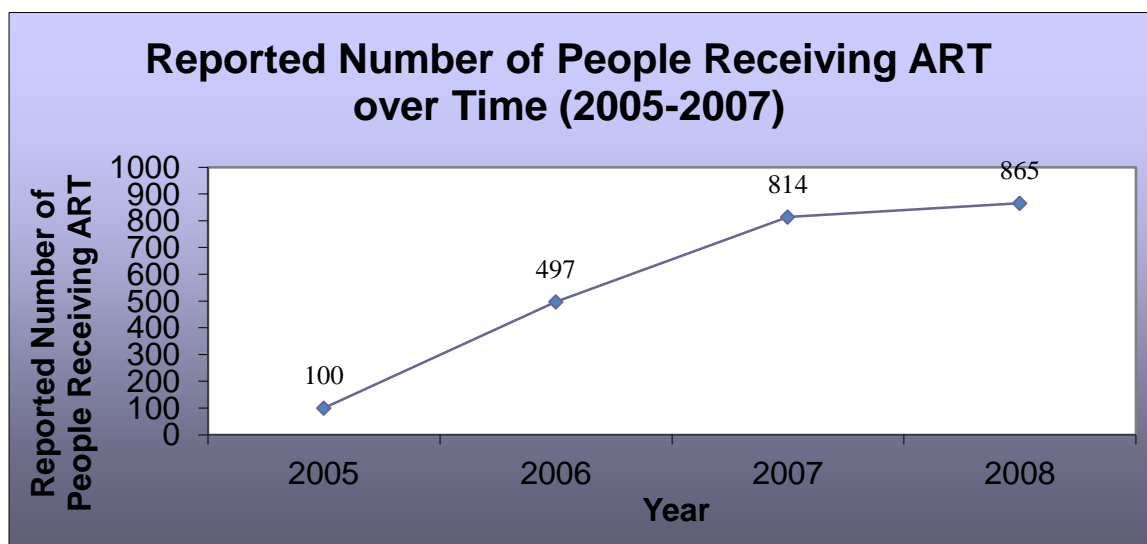


Mode of Transmission of Reported Cases, EMR, 2007

HIV in Saudi Arabia

According to information from the National AIDS Control Program (May 2009) the following estimates are provided:

- **HIV prevalence in adult population:** 0.01%
- **Prevalence among TB patients:** Riyadh: 0.30%, (Surveillance reports from 2007)
- **Prevalence among STI:** Riyadh: 2.80%, Jeddah: 1.20%, Dammam: 0.30%



HIV / AIDS Prevention & Control

HIV/AIDS Control Bodies

1. **Globally:** UNAIDS (includes 10 UN agencies); IHRA (International Harm Reduction Association)
2. **Nationally:** MoH- National AIDS Program (NAP),
3. **Multi-sectoral** National AIDS Committee (NAC) including: health, education, higher education, information, Islamic Affairs, Sports & Youth Welfare, planning, finance, labor, defense, interior
4. **Non-governmental (civil service) organizations**

MoH - National AIDS Control Program, KSA

- Established back in 1986, in response to the emergence of HIV pandemic
- Responsible for defining and implementing strategies for preventive and control of HIV/AIDS/STI activities in KSA
- Supported by different committees of experts in related aspects
- Such program activities are integrated in existing national health system

To unify the strategy among the GCC countries that combat HIV/AIDS and motivate these countries to deal with HIV/AIDS in a way that goes in line with the global trend of HIV/AIDS prevention and control

المبادرة السعودية لمكافحة الإيدز بدول مجلس التعاون
Saudi initiative to combat AIDS in the GCC countries



HIV/AIDS Preventive Measures

1. **Primary:** Health education, preventing transmission
2. **Secondary:** health education, counseling, health care, support (avoid stigmatization, discrimination), protect society (public health measures)
3. **Tertiary:** care for the terminally ill, managing complications and associated conditions

AIDS management

Anti retroviral treatment (ART)

- ◆ zidovudine + lamivudine
- ◆ abacavir + zidovudine + lamivudine
- ◆ lopinavir + ritonavir
- ◆ abacavir + lamivudine
- ◆ tenofovir/emtricitabine
- ◆ efavirenz + tenofovir/emtricitabine
- ◆ rilpivirine + tenofovir/emtricitabine

elvitegravir + cobicistat + tenofovir/emtricitabine

Target Groups for HIV/AIDS Preventive Measures

1. **Vulnerable groups:** youngsters & women (in general) but IDU, prisoners, TB & STI patients, homosexuals, prostitutes (in specific)
2. **Other groups:** migrant workers, refugees and displaced persons, transport workers, & tourists

PREVENTION OF SEXUAL TRANSMISSION

- ◆ Global recommendations: abstinence, condom use
- ◆ EMR Recommendations: Fostering religion, health education (curricula, information, skills, behavior) dealing with the problem as a social/health issue, use of mass media (advertisements, plays, dialogues)

PREVENTION OF BLOOD TRANSMISSION

1. Safety measures & screening at every stage
2. Voluntary un-paid donors only
3. Transfusion, only when needed
4. Careful history-taking and physical examination

PREVENTION OF PERINATAL TRANSMISSION

1. Pre-marital counseling
2. Infected women are advised not to conceive
3. Use of AZT (reduces transmission risk by 2/3)
4. In general, breast feeding should be continued
5. Case-management: compulsory notification

AIDS must not be allowed to join the long list of problems, like poverty, hunger and ignorance, that the world has learnt to live with, because the powerful have lost interest, and the powerless have no choice.

MCQS:

Q1: HIV is more common in which of the following:

A: North America

B: Caribbean

C: Sub-Saharan Africa

Answer is C

Q2: One of the most common modes of transmission of HIV is :

A: Tears

B: Vaginal secretions

C: Cough

Answer is B

Community medicine team leader :

Rozan Murshid

If you find any Mistakes please contact me:

Roza1066@gmail.com