

HIV/AIDS Situation in Economic Cooperation Countries; Achievement and Gaps toward Millennium Development Goals

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Abstract

Objective: Evaluating the status of the ECO member countries in relation to HIV/AIDS (goal 6–a) which includes the main targets for global HIV/AIDS control.

Materials and methods: In 2009, we have critically reviewed the countries' MDG reports and extracted the data on each MDG's indicator by year to explore the trend. In the next phase, the main stakeholders, from both governmental and international organizations in the country have been visited and interviewed (individually and in group) by the research team as part of the data validation process.

Results: The most important issue in ECO countries is lack of accurate data about HIV/AIDS. From all countries four of them are facing concentrated epidemics in IDUs. ECO countries are categorized into three groups; countries in which HIV prevalence had remained less than 0.1 percent during 2001 to 2008 (Only country is within this group) , countries in which prevalence had reached 0.1 percent during 2001 to 2008 (5 countries are in this group) and countries in which prevalence had reached 0.2 percent or more during 2001 to 2008. Three countries are in latter group. There is no valid data about people's awareness, condom usage during last sexual intercourse, and antiretroviral treatment. Existing data indicates inappropriateness of these indicators in all countries of the region.

Conclusion: An efficient surveillance system is needed to illustrate an exact picture of HIV/AIDS in all countries. This study shows that though the epidemics has started lately in member countries compared with other parts of the world, no proper intervention has been adopted for controlling the epidemics yet. Moreover, in those countries which AIDS epidemics are concentrated among drug users, harm reduction activities are necessary to control the problem. Increasing the coverage of antiretroviral treatment and awareness of general and high risk population could help countries to achieve HIV/AIDS indicators.

Keywords: Millennium Development Goals, HIV/AIDS, ECO

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Introduction

In the third decade of HIV epidemic in the world, it has become the most important infectious disease threatening many groups of people. HIV/AIDS is not limited to an especial geographical region or especial ethnicity and there are many high risk groups all over the world.

Though some developed countries have a successful profile in HIV/AIDS control, there are trivial achievements in many other parts of the world. Countries with limited resources have more problems in controlling the disease (1–3).

Since 1999 in which we had the peak of AIDS epidemics, new cases of infection have decreased up to 19 percent (4).

Nevertheless it is still a health priority for the world. Although the number of new cases has decreased, the number of people living with HIV/AIDS has increased. It is still one of the most important causes of mortality especially among young age groups (4).

Based on WHO HIV/AIDS 2008 report, at the end of that year 33 million people were living with HIV/AIDS. There were 2.7 million new cases of the infection and 2 million people died at the end of the year. The percentage of adults living with HIV all over the world has been stabilized since 2000. The incidence of new infections is decreasing in several countries; however it is being affected globally by increasing trends in other countries. In 2007, about 67 percent of infected people were still inhabitants of sub-Saharan countries and 75 percents of mortality happened in this region. The HIV/AIDS prevalence is extensively high in sub-Saharan countries. For example, The HIV/AIDS prevalence in Kenya 2007 was about 7.1 to 8.5 percent. There is distressing increase in new cases of infection in some populated countries like "Indonesia", "federation of Russia" and some other high-income countries (5, 6).

In seven countries the HIV/AIDS prevalence had an increase of 25 percent during 2001 to 2009; among these seven countries five of them are located in Eastern Europe and central Asia (4).

The annual AIDS mortality has decreased due to improved access to treatments. Because of better access to treatments and improved quality of care services, the mortality rate of 2.1 million deaths per year in 2004 declined to 1.8 million in 2009 (4).

Only few numbers of countries had prepared public access to antiretroviral drugs and PMTCT services by 2008 and other countries were trying to achieve these goals. Twenty-seven years after the commencement

of HIV epidemics, for every five newly infected persons we can just deliver antiretroviral treatment for two persons. From 15 million patients living in countries with low or average income, just 5.2 million can access treatments (4).

It has been planed to achieve the goals of public access to services and millennium development goals by 2010 and 2015 respectively (6).

In 2009, about 1.2 million people received antiretroviral drugs for the first time and it means an increase of 30% in a year. Generally, the number of people who received treatment is 13 times more than those who received drugs in 2004. The incidence of HIV decreased 25% in 33 countries during 2001 to 2009; 22 countries were among sub-Saharan countries. Epidemics has stabilized or decreased in Etyopia, Nigeria, South Africa, Zambia, and Zimbabwe (5).

Even though, controlling AIDS is one of the main items in Millennium development goals, this disease directly or indirectly affects other goals as well (including fighting famine and poverty, primary education, sexual equality, women empowerment and reducing maternal and child mortality); this is bidirectional impact (7).

In spite of quick progresses in many universal indicators, lots of countries were not able to accomplish 6th goal of MDG. Without the 6th goal of MDG, only a few numbers of other goals could be fulfilled. In the other hand, it will be impossible to accomplish 6th goal if we do not concentrate and pay attention to other goals (4).

Millennium Development Goals (MDGs) have emerged as the key strategic tools for raising awareness, advocacy, alliance building, and renewing the political commitment towards the promotion of Sustainable Human Development at the country level based on a global consensus. In the Millennium Declaration member states committed themselves to reducing human poverty by 2015. The eight goals address targets to increase incomes; reduce hunger; achieve universal primary education; eliminate gender inequality; reduce maternal and child mortality; reverse the spread of HIV/AIDS, tuberculosis, and malaria; reverse the loss of natural resources and biodiversity; improve access to water, sanitation, and good housing; and establish effective global partnerships. Progress in some goals has been impressive; however, global targets will not be met in some regions, particularly sub-Saharan Africa and in some region in Asia (7).

Economic Cooperation Organization (ECO) is a regional organization established in 1985 with coope-

Table 1: Adult HIV prevalence (15–49y) ^(a)

Country	Adult HIV prevalence (15–49y) – 2000	Adult HIV prevalence (15–49y) – 2008	Epidemic level
Afghanistan	NA	0.10	NA
Azerbaijan	< 0.10	0.10	Concentrated
Iran	0.10	0.20	Concentrated
Kazakhstan	< 0.10	0.10	NA ^(b)
Kyrgyzstan	< 0.10	0.20	Concentrated
Pakistan	< 0.10	0.10	Concentrated
Tajikistan	0.10	0.20	NA
Turkey	< 0.10	< 0.10	NA
Turkmenistan	NA	0.10	NA
Uzbekistan	< 0.10	0.10	NA

(a) **Indicator 6–1:** HIV prevalence among pregnant women aged 15–24 years

(b) NA = Data are not available

Table 2: Condom use to overall contraceptive use among currently married women 15–49 years old, percentage ^(a)

Country	Percent	Year
Afghanistan	11.8	2006
Azerbaijan	4.3	2006
I.R. of Iran	8.2	2002
Kazakhstan	9.5	2006
Kyrgyzstan	12.1	2006
Pakistan	20	2008
Tajikistan	3.7	2005
Turkey	15.2	2003
Turkmenistan	3.2	2000
Uzbekistan	3.2	2006

(a) **Indicator 6–2:** Condom use rate of the contraceptive prevalence rate**Table 3:** Condom use at last high-risk sex ^(a)

Country	Total / year	Women / year	Men / year
Afghanistan	NA ^(b)	NA	NA
Azerbaijan	30 (2006)	NA	31.1 (2006)
Iran	NA	NA	NA
Kazakhstan	NA	31.8 (1999)	64.9 (1999)
Kyrgyzstan	65 (2007)	56.0 (2006)	2007
Pakistan	NA	NA	NA
Tajikistan	65% (2007)	NA	2007
Turkey	58% (2007)	NA	2007
Turkmenistan	6.60% (2000)	NA	2000
Uzbekistan	NA	60.5 (2006)	50.0 (2002)

(a) **Indicator 6–3** Condom use at last high-risk sex

(b) NA = Data are not available

ration of Islamic Republic of Iran, Islamic Republic of Pakistan and Republic of Turkey. In 1992, the number of member countries has increased to 10 including Islamic republic of Afghanistan, Republic of Azerbaijan, Republic of Kazakhstan, republic of Kyrgyzstan, republic of Tajikistan, republic of Turkmenistan and republic of Uzbekistan. Total population of 10 member

countries in 2010 is equal to 400 million people (8).

Secretarial office of ECO in Tehran has not limited its activities to Economical issues its goal is extended to the objectives of 3rd millennium in cooperation of member countries.

The purpose of this study was to answer the following questions: What's the most evidence based status

Table 4: Women and men 15–24 years old with comprehensive correct knowledge of HIV/AIDS, percentage^(a)

	Country	Total percent / year	Men percent / year	Women percent / year
1	Afghanistan	NA ^(b)	NA	NA
2	Azerbaijan	6 (2007)	5.3 (2006)	4.8 (2006)
3	Iran	NA	NA	NA
4	Kazakhstan	22 (2007)	NA	22.4 (2006)
5	Kyrgyzstan	31.76 (2007)	NA	20.3 (2006)
6	Pakistan	3 (2007)	NA	3.4 (2007)
7	Tajikistan	11 (2007)	NA	2.3 (2005)
8	Turkey	52 (2008)	NA	NA
9	Turkmenistan	6 (2007)	NA	4.8 (2006)
10	Uzbekistan	35.3 (2006)	7 (2002)	31 (2006)

(a) **Indicator 6–4:** Percentage of population aged 15–24 years with comprehensive correct knowledge of HIV/AIDS

(b) NA=Data are not available

Table 5: Contraceptive prevalence rate^(a)

	Country	Percent	Year
1	Afghanistan	18.6	2006
2	Azerbaijan	51.1	2006
3	Iran	66.17	2007
4	Kazakhstan	48.7	2006
5	Kyrgyzstan	49	2008
6	Pakistan	29.6	2007
7	Tajikistan	37.9	2005
8	Turkey	46	2008
9	Turkmenistan	57	2004
10	Uzbekistan	59.3	2006

(a) **Indicator 6–5:** Contraceptive prevalence rate**Table 6:** Antiretroviral therapy coverage among people with advanced HIV infection, percentage

	Country	Percent	Year
1	Afghanistan	NA ^(a)	2007
2	Azerbaijan	14	2007
3	Iran	5	2007
4	Kazakhstan	23	2007
5	Kyrgyzstan	14	2007
6	Pakistan	3	2007
7	Tajikistan	6	2007
8	Turkey	NA	2007
9	Turkmenistan	NA	2007
10	Uzbekistan	24	2007

(a) NA=Data are not available

of the ECO countries in regard to HIV / AIDS and if they are in track for achieving the goal in 2015?

Materials and Methods

This review study has been done in 2009. As the first step, a comprehensive literature review has been done to find the most recent documents related to MDGs 4,

5 and 6 indicators for each country as the member of the ECO. The focal MDG secretariats in the Ministry of Health and the international organizations have been contacted in advance to provide the available documents, report (mostly gray literature) for the research team.

We reviewed the latest MDGs' report critically to

extract the most valid and reliable data by year of data collection and place of residence (if available).

In the next phase, the main stakeholders, from both governmental and international organizations, in the country have been visited and interviewed (individually and in group) by the research team. A specific data extraction toolkit was applied to extract the findings into tables and list all the important pros and cons regarding the country health care services and public health programs.

After the literature review and the country visits, we have found that, the most valid information is gathered through following reports:

- ❖ *Countries' cooperation based on the approved international methodologies such as Demographic Health Surveys (DHS) and Multiple Indicators Cluster Surveys (MICS) assessments under the supervision of the international organizations.*
- ❖ *Reports published by UNICEF, WHO, UNFPA, UNDP and other international organizations.*
- ❖ *Reports prepared by member countries based on the registered information and local consensus.*

HIV/AIDS goals in MDGs are as below:

- ❖ **HIV/AIDS: Target:** *Have halted by 2015 and begun to reverse the spread of HIV/AIDS*
 - 6-1. *HIV prevalence among pregnant women aged 15–24 years*
 - 6-2. *Condom use rate of the contraceptive prevalence rate*
 - 6-3. *Condom use at last high-risk sex*
 - 6-4. *Percentage of population aged 15–24 years with comprehensive correct knowledge of HIV/AIDS*
 - 6-5. *Contraceptive prevalence rate*
 - 6-6. *Ratio of school attendance of orphans to school attendance of non-orphans aged 10–14 years*

To find out that if the country is on the track, we have calculated the amount of all indicators.

Results

Based on analyzed data and interviews, following data were collected from the mentioned sources; the related information is presented in the tables 1 to 6.

The results are presented in tables based on MDG indicators but for Indicator 6-6 the ratio of school attendance of orphans to school attendance of non-orph-

ans aged 10–14 years there isn't any data in the ECO countries.

Discussion

One of the most important health issues in ECO countries is the lack of accurate data about HIV/AIDS. Most of MDG reports in these countries do not represent comprehensive information about their HIV status. Though there are some differences in quality of reports, they have lots of shortages (8, 9). This has been mentioned and confirmed in other international reports and articles. Report of AIDS update 2009 mentioned that an inefficiency and shortage in presenting timely and reliable epidemiological and behavioral data about HIV/AIDS has led to the lack of accurate picture of HIV trend and dynamics in Mediterranean and North African region in which some ECO countries are located (3).

Passive reporting is still the most common method of collecting data about HIV/AIDS in most of countries. This method can not represent a proper picture of HIV/AIDS and its trend (3, 10).

While some people believe that cultural values and issues in these countries lead to a protection and resistance against the infection, others believe that HIV is happening in the region and presence of such a culture only prevents its reporting and registration (3).

In addition to the lack of sufficient data for introducing and defining HIV status in these countries, disagreement and contrast between current data about HIV is another problem in these countries.

The relevant data presented by health ministries or international organizations like UN, UNAIDS, and WHO are different and dissimilar, despite the fact that the origin of these data are health ministry of each country (11, 12, and 13).

Based on the results of this study it is difficult for ECO countries to fulfill AIDS Program Indicators by 2015. Compared with western and African countries, AIDS epidemics started with a delay in these countries and consequently policy makers and principals had a delay in paying attention to the subject and interventions were applied belated. In east Mediterranean, North African, east European, and central Asian regions in which most of ECO countries are located there has been a weak response against AIDS. Countries located in east European and central Asian region are not successful in controlling HIV prevalence and they still have an increasing trend of infection; there had been an increase of 25 percent in new cases of infection during 2001 to 2009 in five countries from this

region (3).

There are basic differences within and between countries regarding HIV. Though this report considers HIV trend in a national level, we should not forget HIV epidemiology and patterns differ extremely in every part of each country. Therefore, in order to have a clear picture of HIV sometimes we need more data from regional and local levels (3). According to our findings, ECO countries are categorized into three groups:

- ❖ *Countries in which HIV prevalence had remained less than 0.1 percent during 2001 to 2008 and their prevalence rate did not have a noticeable growth. Turkey is within this group. Such a prevalence rate shows that HIV is not a risk factor for this country.*
- ❖ *Countries in which prevalence rate had reached 0.1 percent during 2001 to 2008. Though prevalence had increased in these countries, it did not surpass 0.1 percent yet. Afghanistan, Pakistan, Turkmenistan, Uzbekistan, Kazakhstan and Azerbaijan are in this group. Accordingly, in these countries HIV growth trend has not stopped yet.*
- ❖ *Countries in which prevalence rate had reached 0.2 percent or more during 2001 to 2008. Iran, Kyrgyzstan, Tajikistan are in this group. In these countries, HIV growth trend not only has not stopped yet but also it has a significant increase.*

According to the study results, in these countries HIV/AIDS epidemics remained in low level among general population, however some countries have concentrated epidemics among addicted people and some other groups.

Similar to east European, south-east Asian, and central Asian countries and Russia the occurrence of the epidemics among Injecting drug users is a critical potential risk in these countries; if proper interventions are not devised for controlling the epidemics, it will spread quickly among this group and it will be transferred to the society later on.

According to studies and reports, the most common method of HIV transmission in central Asian, and east European countries in transmission through drug injection among IDUs (14).

Using unclean injection equipments is the cause of more than 57 percent of new cases of HIV infection in central Asian, and east European countries (15).

There is an overlap between IDUs and sex workers that enhances the transmission of epidemics from a group to another group and if no control strategy be

devised it will be transmitted to general population as well (16).

In east Mediterranean and north African countries, epidemics is more common among Injecting drug users and rarely it is found among homosexual males, and female sex workers and their partners. It is estimated that there are about one million IDUs in east Mediterranean and North African region which have a significant role in transferring HIV.

In this region using shared needles and syringes is very common and most of IDUs are infected with hepatitis C (17).

In a systematic review conducted in east Mediterranean and North African region, based on biologic and behavioral data about HIV and MSM, it was concluded that despite the low prevalence of HIV in different MSM groups, in some countries epidemics could reach 28 percent in MSMs. In some countries of this region the impact of disease transmission arrived at 25 percent in 2008. High levels of risky behaviors (4 to 14 sexual partners during last 6 months in different MSM groups), dangerous biomarkers (e. g. HSV-II of 3 to 54 percent), low percentage of condom use (generally less than 25%), relative abundance of MSM (20 to 76%), high overlap of heterosexual contacts and IDU are forecasting signals for potential increase of disease prevalence in the region in the future (18).

There are little studies and information about HIV transmission among homosexuals, however there are some reports representing the existence of epidemics among their networks in Kyrgyzstan and Kazakhstan (19).

Unprotected sexual behaviors among men are very insignificant in east European and central Asian region and it includes only less than one percent of new cases of transmission. In a limited assessment, the prevalence of HIV in MSM was reported differently from zero in Belarus, litany, and some regions in central Asia to 5 percent in Georgia, 6 percent in Russia federation; in Ukraine it was reported from 4% to 23% (4).

In East Mediterranean region and North Africa sexual contacts between men is illicit. In a study in Sudan 8 to 9 percent of men having homosexual relationships were HIV positive and it was 6 percent in Egypt. Like any other place, homosexual men had relationships with women as well (4).

Some studies has reported the prevalence rate of HIV among IDUs in some countries, for example the prevalence rate of HIV among addicted people was reported as 11.8% in Oman, 6. 5% in Marrakesh, 2.6% in Egypt, and 2.6% in Turkey (20).

Naturally, it is probable the national rate of HIV prevalence among IDUs to be less than prevalence rate in some especial areas within that country (21). Some evidences show that, the prevalence of HIV among prisoners is higher than general population. Some studies show that the prevalence of HIV among prisoners is more than 10 percent in some countries located in East European and central Asian countries (22).

More than 4.5 million IDUs are living in Asia and it is estimated that about 16 percent of them are HIV infected; 30 to 50% in Thailand, more than 37.5% in Myanmar and 23% in Pakistan are infected with HIV (23). In China, with the biggest population of IDUs, it is estimated that 6.7 to 13.4 percent of IDUs are HIV infected (24).

In a short run, in these countries the biggest threat of AIDS is the spread of concentrated epidemics among drug users. Some of these countries perform harm reduction interventions with vast coverage and with proper strategies; however in many countries just some little actions are taken. Conducting harm reduction strategies is the best method for controlling AIDS problems in these countries (3).

While occurrence of new cases of HIV is decreasing globally, there is an increasing trend of new cases in central Asia and Eastern Europe and the number of new cases of HIV in these regions is two times more than 2001 (3). HIV epidemic is typically concentrated among IDUs, sex workers, and MSMs. It is estimated that one-fourth of 3.7 million IDUs in this region are HIV infected (4).

The knowledge about the disease has had a little growth since 2003. Only ten countries were successful to increase the general knowledge of men and women to a level of more than 60 percent (4).

Except Turkey and Uzbekistan, in ECO countries the level of knowledge about AIDS and prevention methods is lower than the world average (less than 35 percent) and it is extremely far from intended goal for 2010. Knowledge about HIV and prevention methods is increasing very slowly among youngsters. In most of the countries it is too low and it is significantly lower than the goal designed in MDG program. The intended goal for 2010 was 95 percent, while its global average is now about 35% in men and 19% in women which is tremendously far from desired target (25).

In 12 countries the rate of condom usage has increased among those who had more than one partner during last 12 months; it was 8 percent among women aged 15 to 24 years old, in 2008, and it is not a rewarding

rate (24). In 11 countries, more than 75% of men and women reported that they used condom in their last high risk sexual contacts. According to the reports, 48% of men and 38% women had used condoms in their high risk sexual behaviors during previous year (4).

Recently, there has been an increasing focus on antiretroviral therapy for HIV/AIDS, and even its coverage has been introduced as one of indicators for the sixth goal. Globally, from 9.7 million people who need antiretroviral therapy, only 3 million are receiving the treatment. Proper antiretroviral treatment can decrease mortality rate in HIV/AIDS. The coverage of antiretroviral treatment in east Mediterranean and North African and east European and central Asian countries in which ECO countries are located are still extremely lower than desired goal (23).

In 2009, 1.2 million people received antiretroviral treatment all over the world. At the end of 2009, from 15 million people in need who were living in countries with low or average income 36% (5.2 million) received antiretroviral treatment (4).

Even if the number of people receiving antiretroviral treatment has increased during a period of five years, it did not change significantly in the countries located in this region (25).

Recommendations for the countries in the region:

- ✦ **Integration:** *In the medical literature, there are strong evidences regarding the effectiveness of primary health care (PHC) to reduce the child and maternal mortality and control/prevent of several diseases such as tuberculosis, HIV infections and Malaria. It's highly recommended that the ECO secretariat help and support the member countries to re-establish and improved the PHC, to integrate HIV/AIDS in the health system. The ECO countries, from the Soviet Unions, have a brilliant experience on the PHC development and by refining the system; even they could provide best-practice examples for the other countries in the world.*
- ✦ **Focus on Adolescents:** *In most of the countries, during the defining phase of the target population of the reproductive health services, adolescents and juveniles were the most ignored groups. When considering the fact that the most part of the inhabitants in the countries are very young people (based on the current population structure) , and they mostly are not married and also sexually active, they are prone to all sexual transmitted infections (STIs) , HIV and high-risk pregnancies. Designing and*

running applied research to find out the best way to address these issues by a well accepted PHC compatible to all believes, traditions and social cultures is highly recommended.

- ❖ **Education:** The education sector is a crucial avenue for HIV prevention. Providing both primary and secondary school-aged children and adolescents with specific, gender-sensitive and age-appropriate information on preventing HIV is essential, as is equipping them with the problem-solving, negotiation and decision-making skills to put that knowledge into practice. There is strong evidence that comprehensive sexuality education, delivered through schools, can be effective in changing the attitudes and practices that lead to risky behavior. Young women are also more vulnerable when they lack the knowledge and skills to protect themselves and have limited access to quality sexual and reproductive health services, including HIV prevention. Social and cultural norms, practices, beliefs and laws can also reinforce the relative powerlessness of young women, and their susceptibility to HIV infection.
- ❖ **ECO collaboration:** An effective collaboration between the ECO countries in order to develop and conduct joint strategies for **better control and management** of HIV/AIDs is recommended
- ❖ **Harm reduction programs:** The **most at risk group** for HIV and AIDS in the region countries were Injecting Drug Users (IDUs) countries should develop and improve the **coverage** of the **harm reduction programs** among these high-risk groups
- ❖ **Second generation of surveillance system:** As the HIV epidemic in the ECO countries is concentrated in some most at risk population, special attention to the **behavioral surveillance** and **population size estimation project** to find out the size and the networks of such groups is highly recommended. countries should improve second generation of **surveillance system** for HIV/AIDs
- ❖ Countries should set up and run the **screening of the blood** supply with the best available **cost-effective methods** as a national HIV prevention program
- ❖ Increasing ART coverage, by 2010, universal access to treatment for HIV/AIDs for all those who need it

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