



# Sexually Transmitted Infections: The Egyptian situation with special emphasis on HIV/AIDS.

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**Abstract— In Egypt, the available information on STIs epidemiological status is limited and can't quantify the situation, guide program planning or assess the impact of interventions. STIs epidemiological data are largely driven from fragmented researches focusing chiefly on HIV-related aspects, with negligence of other STIs. The prevalence and incidence of STIs in Egypt have remained mostly unknown, and its impact on public health was largely undetermined despite the apparent social changes, the emergent risk groups, the demographic and migratory trends. Patients with STIs are receiving suboptimal treatment. Egypt faces several challenges in maintaining a low prevalence of STIs including HIV/AIDS including weak surveillance system, health inequality with poor access to reproductive health information and care, unexpected influx of refugees, inferior status of women, presence of pervasive fear and stigmatization and even criminalization. Egypt was once considered to be an HIV/AIDS low-grade epidemic country, recent data indicated that Egypt is stepping toward a concentrated HIV epidemic with numerous challenges and barriers to prevent and control in the future.**

**Keywords — Control, Egypt, Epidemiology, HIV/AIDS, Sexually transmitted infections.**

## I. INTRODUCTION

Sexually transmitted infections (STIs) (apart from HIV/AIDS) are causing considerable mortality and morbidity in both adults and newborn infants and many of them amplifying the risk for HIV transmission<sup>1</sup>. In the developing countries, both the prevalence and incidence of STIs are high, making up the second highest cause of healthy life lost in women aged 15 to 45 years, after maternal morbidity and mortality<sup>2</sup>. Moreover, STIs constitute a substantial health and economic burden, especially for developing countries already strained with other emerging health problems and

double burden, where they account for 17% of economic losses caused by ill-health<sup>3</sup>. Reliable data on regional prevalence of STIs are limited because surveillance has been largely neglected and funding for surveillance remains inadequate at global, regional and national level<sup>2</sup>. The best available estimates indicated that on global level each year some 340 million new curable STIs cases of *syphilis*, *gonorrhoea*, *chlamydia* and *trichomoniasis* occurring in men and women aged 15–49 years<sup>3</sup>.

### STIs in the Eastern Mediterranean Region (EMR):

World Health Organization (WHO) has estimated that around 10 million new cases occur every year in the EMR extending from Morocco in the west to Pakistan in the east<sup>4</sup>. Few countries in the EMR have developed a comprehensive national strategy for prevention and control of STIs, such strategy would contribute to achievement of the Millennium Development Goals and to prevention and control of HIV<sup>5</sup>. Existing interventions in the EMR are often not built on evidence-based effective public health approaches, as recommended in the global control strategy<sup>5</sup>, the previous notion is confounded by huge deficiency of qualitative and quantities research initiatives with novelty in tackling the health services problems, stigmatizations accompanied and epidemiological synergy amongst STIs<sup>6</sup>. Figure 1 displays the incidence of STIs in the EMR as reported by the W. H.O surveys in 2005 and 2008, apart from the increment in *trichomoniasis*, the other three curable STIs encountered have a lower incidence when compared<sup>4</sup>. Overall, the status of STIs in the many developing countries including EMR is shadowed by lack of reliable STIs data, high incidence and prevalence among the high risk populations, high rate of complications and sequelae, emergence of antibiotic resistance, all coupled and synergized by the dramatic increase of HIV infection, changes in the socio-economic and with inadequate control program<sup>7</sup>. Islam continues to dictate many traditional practices and social habits, including sexual and reproductive health, Islam acknowledges that sexuality should be practiced within a legal binding in the form of marriage<sup>8</sup>. Any sexual act outside or before marriage is considered to be adultery and is strongly penalized; a jurisdiction that had contributed to development of various sexual behaviors influencing levels of sexual health and seeking behaviors. Moreover, issues like forced marriages, honor killing or crimes of passion, marital rape, domestic violence, gender-based violence, female genital mutilation, polygamy, and homophobia are prevalent in the EMR, adding to the burden of STIs<sup>9</sup>.

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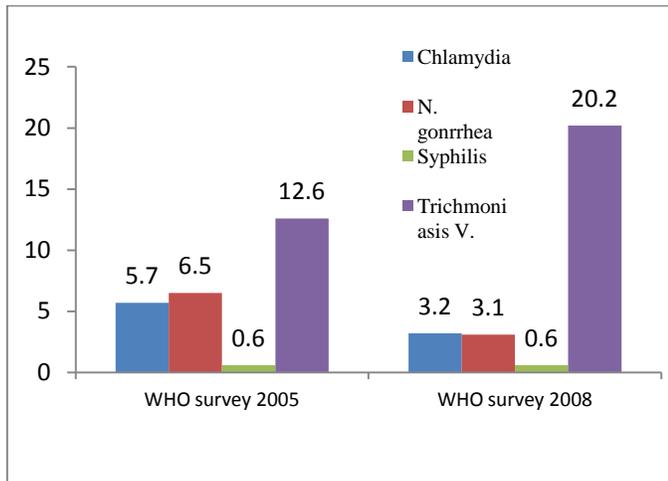


Fig. 1. Incidence (per 1000) of the four curable sexually transmitted infections in the Eastern Mediterranean Region (World Health Organization 2005 and 2008).

**STIs burden in Egypt:** In Egypt, the STIs surveillance is in initiation/ transitional phase, information on the status of STIs surveillance and control obtained from focal points in Ministry of Health (MOH) <sup>10</sup>. The possibility of generating trend charts, quantifies the situation, guide program planning and assess the impact of interventions are limited, unreliable or unavailable!. For example, MOH in Egypt has reported antenatal syphilis rate of 0.0%, while data revealed form studies on the high risk groups showed higher rates, for example syphilis seroprevalence is 7.5% among men who have sex with men (MSM) <sup>11</sup>. Another aspect that made the situation worse is the paucity of population based, service-based operational researches tackling the prevalence, incidence and the risky behavior among the general population, assessing knowledge, attitudes and safe sex practices with especial inclusion of those suffering health inequality the most (women, and adolescents) <sup>6</sup>. In addition, many of the available studies were institutions-based, focusing chiefly on HIV-related aspects with negligence of other STIs, with some methodological flaws like small sample size, patient's-based or merely prevalence studies <sup>8</sup>. In 1995 Ali and his coworkers <sup>12</sup> conducted a hospital-based Hud Marsoud (a major Venereal Diseases Hospital in Cairo) study to assess the prevalence of STIs among attendees, out of the included patients (n=95), 71.8% were positive for STIs, 33.8% were drug abusers, 85.3% N. gonorrhoeae was found in 36.8%, T. pallidum in 30.9%, HIV 14.7%, G. vaginalis was isolated from 11.8%, T. vaginalis and C. albicans in 1.5%. Concomitant STIs were detected in 18 out of 68 patients <sup>12</sup>. El Sayed et al (2002) <sup>11</sup> have assessed the prevalence of curable STIs among different sub-populations (female sex workers (FSWs), MSM, Intravenous drug users (IUDs), antenatal care attendees and family planning consumers) in greater Cairo (the sampling, and location of screened population was not mentioned) and they reported the STIs prevalence as shown in figure 2.

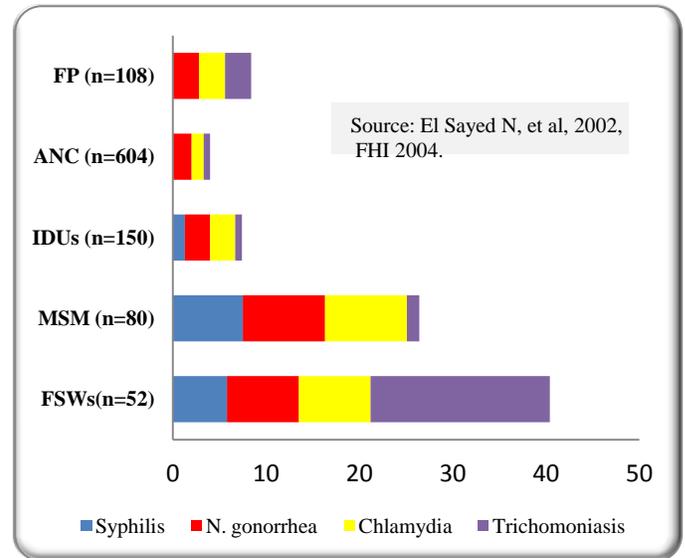


Fig.2. Evaluation of selected reproductive health infections in various Egyptian population groups in Greater Cairo area, 1998-2000. FP= Family planning attendees, ANC=Antenatal care customers, IUDs; Injection drug users, MSM=men have sex with men, FSWs=female sex workers.

### STIs, the changing situation:

The prevalence and incidence of STIs in Egypt (beyond the WHO estimates) have remained mostly unknown, and its impact on public health was largely undetermined but given the explicit social changes with the emergence of new high risk groups, for example the street children (There are around 3 million street children in Egypt as a result of social injustice and slum life, according to a recent study by the National Center for Social and Criminological Research in Egypt, but data about the exact figure are not publicly available, UNICEF estimated them as tens of thousands year 2008 ), the demographic and migratory trends of the population especially the young, these factors lead to a dramatic growth of STIs <sup>13</sup>. This growth will be augmented by the change in population's sexual behavior, increase in travelling and the increased prevalence of non curable viral STI namely HIV <sup>6,14</sup>. On the other hand, the conservative environment created by cultural, religious and social values forced the STIs to be concealed <sup>6,15</sup> with apparent low rates and subsequent reluctance in STIs prevention and control measures. Several researches although chiefly focused on HIV prevalence yet they have pointed out the social and sexual changes among Egyptians with probable increase in the likelihood of STIs including HIV. In 2008, a sample of 73 MSM in Cairo, Egypt, were screened for HIV, El-Sayyed et al <sup>11</sup> found that 65.8% of them initiated sexual activity < 15 years of age and 65.8% took both active and passive roles in sexual acts. Heterosexual relations were reported by 73.3% of the older age group, while 70.7% of the younger age group was exclusively MSM and condoms were always used by only 19.2% of the sample <sup>11</sup>. Moreover, in their study, Soliman et al <sup>16</sup> have enrolled 413 male IUDs from Cairo to measure HIV prevalence; HIV prevalence was 0.6%, 53.0% reported IUDs with used needles or syringes and 32.4% shared their used needle or syringe with one or more persons in the preceding

month. Overall, 70.5% had sex in the preceding year, out of which 9.4% reported sex with male partners and 13.2% reported sex with commercial sex workers in the preceding 12 months. Ever use of a condom during sex was low with all partner types and only 5.8% ever had an HIV test. An interesting research conducted by Nada and Suliman<sup>17</sup> in 2010 to measure the prevalence of HIV/AIDS risk behaviors and related factors in a sample of street boys and girls (n=857) aged 12-17 years living on the streets of Egypt's largest urban centers of Greater Cairo and Alexandria Governorates. Sexual harassment or abuse was reported by 93% of them, 62 % had used drugs and 67% were sexually active. It was found that among those sexually active, 54% reported multiple partners and 52% never used condoms. Most girls (53% in Greater Cairo and 90% in Alexandria) had experienced sexual abuse. Mingling with populations at higher risk for HIV was substantial, namely MSM, commercial sex workers, and IUDs. Another hospital-record based Egyptian study found that of the 308,762 blood donors, the overall prevalence of HIV and syphilis antibodies were 0.07%, and 0.13%, respectively<sup>18</sup>.

#### STIs Health Care Services:

Egypt, reported having a national strategy for STIs, but there is no evidence of the availability of a national plan to implement these strategies<sup>15</sup>. STI interventions currently being implemented in several countries often do not build on evidence-based effective public health approaches, as recommended in the global strategy for the prevention and control of STIs. Egypt has implemented the syndromic approach for STI case management and has also carried out etiological studies to validate the WHO flowcharts relating to the syndromic approach. Egypt was among the six countries in the EMR to provide special STIs services for- at-risk populations in the form of an outreach and peers education program among sex workers with provision of special consultation and treatment services for this group<sup>10, 15, 19</sup>. Any response that does not address most-at-risk populations, such as FSWs, MSM men and IDUs, will fall short of having any significant impact on the spread of STI in Egypt<sup>14,20</sup>. The Egyptian MOH has made gigantic strides in upgrading their services for the detection and treatment of STIs!, through provision of laboratory diagnosis and treatment along the private sector, the governmental sectors including STIs clinics, Dermatology and Venereal diseases departments in teaching and general hospitals – Obstetrics and gynecology clinics – Antenatal care at primary health centers (no data available)<sup>15</sup>.

#### STIs Egyptian control Strategy:

Currently the Egyptian MOH exerting tremendous efforts to standardize quality service in the prevention and treatment of STIs, activities including:

- The establishment and strengthening of the National HIV/STIs Surveillance plan and system.
- Production and validation of National Guidelines for STIs case management.
- Production of STIs training manual for health care professionals including contents about communication, counseling, advocacy, and management of with STIs/HIV.

- Establishment of Pilot STIs Clinics: – Cairo Skin and STIs Hospital (El Hod El Marsoud) and Alexandria Skin and STIs Clinic (Mina El Basal).
- Training and recruitment of qualified health care providers.
- Several trials for the introduction of syndromic approach for the management of STIs<sup>15, 21</sup>.

#### Barriers of STIs prevention and control:

- In Egypt many patients in response to stigmatization and sometimes criminalization do not seek treatment (with reliance on self-medication) and if treatment is done it will be by non-professionals
- Difficulty accessing STIs clinics, they are few, mainly in the major urban cities, receive other patients than STIs or those affiliated to the private sector where he/she can't afford
- Weak reporting using passive non- standardized system
- Inefficient surveillance system and the most important is the stigma accompanied STIs.
- The mere association of the words STIs, including HIV/AIDS, and sexuality, to EMR residents in any discussion, social or academic, seems to elicit heated debates and controversy<sup>6, 15</sup>. HIV epidemic and other STIs should be concealed behind a wall of denial. In addition, discussion of sexual practices is culturally difficult throughout Egypt and presents a major challenge to keeping the public informed.
- Barrier methods of contraception, which offer some protection against STIs, receive little promotion and use. The government is aware that discussion of sexual matters is highly controversial which impose an additional constraint in shaping policies and implementing programs<sup>6,7</sup>.

#### Challenges for STIs prevention and control:

Egypt is facing several challenges in maintaining a low prevalence of STIs including HIV/AIDS.

- First, a weak system existing of prevention and surveillance for STIs, including HIV, coupled with the health inequality with poor access to reproductive health information and care; particularly by young people and women.
- Second, the unexpected influx of refugees from Libya, Syria (with unknown STIs status in terms of prevalence and types), Sudan and neighboring Horn of African countries that have much higher HIV prevalence rates<sup>22</sup>.
- Third, inferior status of women, with low rates of employment and completion of secondary school is another factor that may aggravate the problem of high health illiteracy concerning health seeking behavior and safe sexual practices<sup>7,14</sup>.
- Fourth, Egypt witnessing a large immigration movement of men especially to the Gulf and some African countries with substantial numbers working abroad and may return home with STI/HIV infections.
- Fifth, the presence of pervasive fear and stigmatization and even criminalization of those diagnosed as having STIs (especially HIV/AIDS).

- Sixth, several studies demonstrated the low condom demand and use among at risk groups (FSWs, MSM, IDUs). A cross-sectional study investigated the high-risk behavior for HIV infection and HIV prevalence among FSWs in greater Cairo, found that among the included FSWs (n=431), male condoms were used by only 32.8% in the previous month and only 22.4% had used one with their last client. The main reasons for not using condoms were not thinking of it (40.6%) and client refusal (20.5%)<sup>23</sup>.
- Seventh, though illegal there is a significant but hidden commercial sex work.
- Eighth, the presence of explicit criminalization and persecution of high risk population of MSM, FSWs and IUDs with subsequent infection concealment, reluctance in seeking testing and treatment and spreading the infections.
- Ninth, the growing and unclear patterns of IUDs and the inadequate compliance with universal precautions in blood banks and unsafe injection practices<sup>22</sup>.
- Tenth, one of the greatest challenges facing STIs research is the paucity of trained investigators<sup>6,8</sup>.

#### The situation of HIV/AIDS in Egypt:

W.H.O. estimated that there are 380,000 people living with HIV/AIDS (PLHIV) in the region of Middle East and North Africa (MENA)<sup>24</sup>, representing a relatively small proportion while considering the 33.2 million PLHA estimated worldwide<sup>25</sup>. It has been believed since the emergence of the HIV epidemic that the conservative culture in these countries helped in slowing down the spread of infection with relatively lower rates of infections and diseases<sup>24</sup>. Moreover, it was claimed that these societies are immune against HIV spread based solely on the assumptions that religious, conservative values and traditions exerting protective shield to their populations<sup>26</sup>, which lately proved to be inaccurate<sup>27,28</sup>. Across the region, the Ministries of Health (MOHs) the solo responsible bodies for HIV prevention and control have devoted their efforts to the prevention of HIV spread in an attempt to abort the epidemic at its early stages through detecting AIDS cases and monitoring the epidemic<sup>24</sup>. During the early stage of HIV epidemic, the national efforts focused on strengthening HIV testing laboratory facilities and training health personnel in detecting AIDS cases. However, later on with the growth of the epidemic and the emerging evidence about the dynamics of HIV spread, these efforts turned out to be insufficient<sup>23</sup>. Potent surveillance systems proved to be a deemed necessity for tracking the epidemic and provide the necessary information needed for program design and improving prevention, care and treatment programs<sup>29</sup>. However, several countries in the region still resisting adoption of the second-generation surveillance systems (biological and behavioral surveillance survey "BBSS"<sup>30</sup> that compile HIV serological and risk data from multiple sources for several reasons. This resistance could be explained while considering that HIV is not a health problem in these countries and the epidemic is not expected to grow, launching of a national programs to survey risk behavior among the high risk groups may perceived as a sort of legitimacy or approval of these behaviors conflicting and opposing the religious and cultural beliefs in these countries, and collecting information

about risk behavior could be perceived wrongly to encourage these risky practices and the policy makers and leaders prefer to save and/or reallocate resources for more important public health issue with higher prevalence and higher public attention and concern<sup>28</sup>.

#### HIV/AIDS Epidemic Profile in Egypt:

In Egypt, HIV epidemic has never been a health threat; however, there is always fear that the epidemic may grow. Egypt's first AIDS case was discovered in 1986, since then the number of HIV reported cases are showing a steady increase and are estimated to double nearly every 5 years<sup>31</sup> (Figure 3).

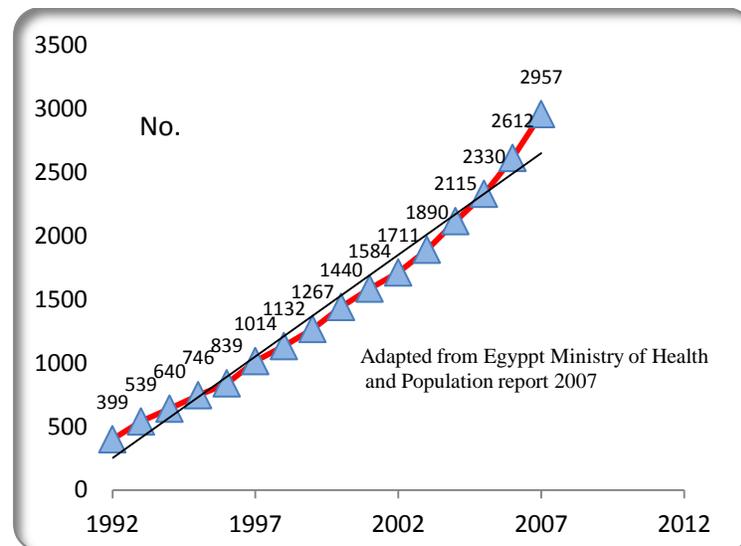


Fig. 3. Number of HIV infections reported, Egypt from 1992 to 2007.

Egypt has low HIV prevalence among the general population (below 0.02%)<sup>32</sup> with a concentrated epidemic among MSM (Cairo 5.4% and Alex 6.9%) and IDUs (Cairo 7.7% and Alex 6.7%) as detected by the latest BIO-BBSS completed in 2010. The earlier study (BBSS) only demonstrated a concentrated prevalence among MSM in Alexandria at 5.9%<sup>33</sup>.

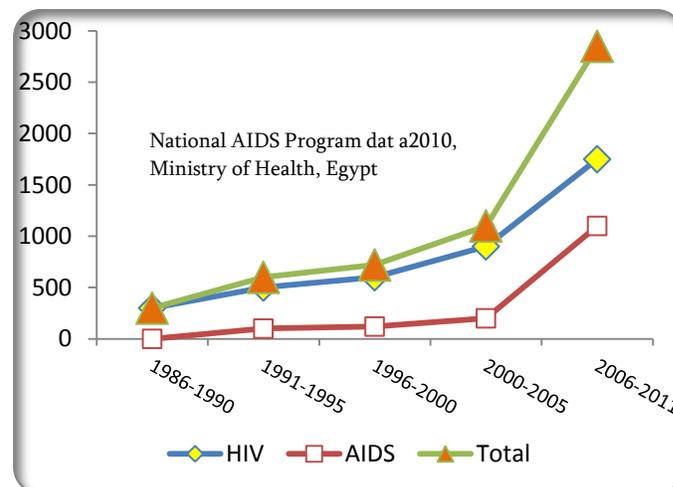


Fig. 4. Number of HIV and AIDS patients (people living with HIV) in Egypt from 1986 to 2011.

Till the end of 2011, a total of 4,781 HIV cumulative cases were detected in Egypt, of which 3,746 were Egyptians (1035 foreigners)<sup>32</sup>. In year 2011, 2,471 Egyptians are known to be living with HIV; among whom, 388 (15.7 %) developed AIDS. Since 1990 and 2011, there has been a regular increase in HIV detected cases. Over the past ten years, the number of detected cases has increased from 1,040 HIV and AIDS cases (from 2001-2005) to 1,663 cases (from 2006-2009). The declared number of HIV cumulative cases at the end of 2010 was 4,313 resulting in 468 new cases detected in 2011 only<sup>34</sup> (Figure 4). This increase in the number of detected HIV positive cases could be explained by the efforts of the MOH to improve HIV surveillance, testing and reporting<sup>25</sup>. A population based survey was never conducted in Egypt. UNAIDS estimated the number of PLHIV in Egypt to be 11,000 till the end of 2010<sup>35</sup>.

**HIV transmission:** In 2010, most transmissions occurred sexually (66.8%). Out of the total detected cases 46.2% are heterosexual and 20.6% are homosexual transmission. Transmission through IUD represents around 28.3%. In addition, among detected cases in 2010, 14 (4.9%) were children of various ages denoting probable mother to child transmission. It is worth noting that out of the total number of people who presented for voluntary counseling and testing services in 2010, 18.2% were women<sup>32, 34</sup> (Figure 5).

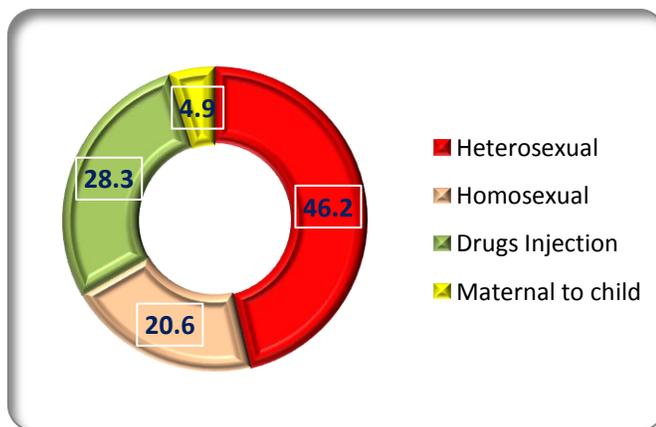


Fig.5. Modes of HIV transmission (%), Egypt Biological and Behavioral Surveillance Survey 2010.

### The changing epidemic of HIV/AIDS in Egypt:

Despite a low prevalence of HIV in the general population (<0.02%), recent studies have shown that Egypt had a concentrated epidemic within certain specific risk groups such as MSM and IDUs. The most recent BBSS in 2010, conducted by the MOH, Family Health International (FHI) and Center for Development Services (CDS) has demonstrated that a concentrated epidemic exists among surveyed MSM in Cairo at 5.4% and in Alexandria at 6.9%. Additionally, a concentrated epidemic was also detected among surveyed male IDUs in Cairo at 7.7% and in Alexandria at 6.7%<sup>32</sup>. The results of the 1<sup>st</sup> and 2<sup>nd</sup> rounds of BBSS revealed that Egypt is stepping toward a concentrated HIV epidemic<sup>32,34</sup>. Besides the already known modes of transmission, blood borne infections and mother to child routes were responsible for a sizable proportion of cases

<sup>22, 32,34</sup>. An additional finding of the BBSS rounds showed the probable expansion in the bridging population as the higher at risk groups practicing risk behaviors (FSWs, MSM, IDUs) have links with the general population with considerable proportions of them, even MSM, are either married and/or have multiple opposite sex partners<sup>36</sup>. Egypt is stepping toward a concentrated epidemic<sup>22, 32</sup>.

**Gender and HIV/AIDS:** According to the national statistics in 2006<sup>37</sup>, HIV seems to be prevalent among the most productive population in Egypt as 89.0% of the infected were aged between 15–49 years. The share of females in Egypt represent around one fifth of people living with the HIV infection (PLHA). It is also important to note that when comparing the males and females living with HIV/AIDS according to the age distribution (Figure 6), the infection is concentrated in women aged 20–34 years more than men in the same age group. Age shifting was noted from the BBSS second round, detected cases indicated that the population group most affected is adults in the age group 25 – 40 years (60% of all detected cases) and with increase in females affection as the Male-Female ratio was four to one<sup>32,34</sup>.

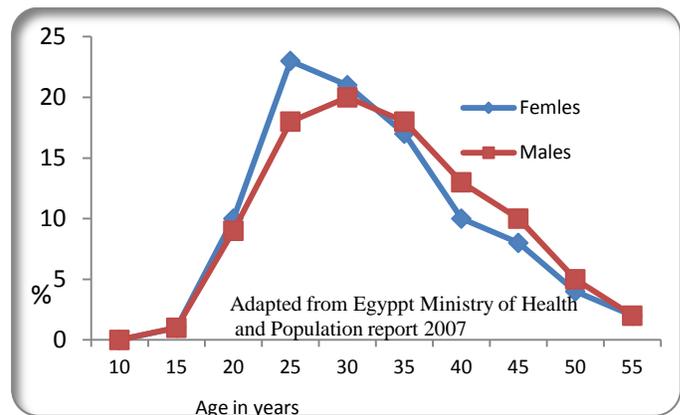


Fig. 6. Age and gender distribution of the reported HIV/AIDS in Egypt 2007.

WHO estimate of those HIV infected and eligible for anti-retroviral treatment (ART) in Egypt is 37% (confidence intervals C.I.=13-42) year 2012. The ART coverage in patients with advanced HIV/AIDS year 2009 (according to the WHO guidelines 2006) was 19(C.I.=12-22)<sup>42</sup><sup>38</sup>.

### HIV/AIDS High risk groups vulnerability in Egypt:

**MSM:** Risk behaviors investigated through BBSS 2006 and 2010 suggest that a wider epidemic may be emerging especially among most at risk populations and bridging groups. In 2010, among the studied sample of MSM in three governorates (260 MSM in Cairo, 262 in Alexandria and 269 in Luxor in BBSS 2010), condom use among MSM at last sex with non-commercial partner was reported at 20.29%<sup>32</sup>. Earlier studies have shown that 24% of MSM reported one or more STIs within the 3 months preceding the study<sup>11</sup>. The low level of condom use, coupled by high rate of STIs suggests high vulnerability of this population. Additionally 39.8%, 59.2% and 86.5%, of MSM in Cairo, Alexandria and Luxor respectively reported ever having sex with female partners

(BBSS 2010)<sup>32</sup>. This information highlights a clear vulnerability of MSM female sex partners.

**IUDs:** Among sampled IDUs, 22.9% and 40.5% in Cairo and Alexandria respectively shared needles with one or more persons in the 30 days preceding the survey. Only 24.59% of surveyed IDUs reported using condom at last sex with a commercial partner<sup>32</sup>. It is worth mentioning that 13.1% of Cairo sampled IDUs and 10.8% of Alex sampled IDUs exchanged sex for money while 14.3% and 7.7% of IDUs in Cairo and Alex respectively reported MSM activity, also. 48.7% and 29.3% of surveyed IDUs in Cairo and Alexandria reported being currently married and only 9.5% in both groups were ever tested for HIV.

**FSWs:** Out of the surveyed sample of FSWs (200 in Cairo), only 25% reported condom use at last commercial sex, and 41% reported condom use at least once in the previous 30 days with a commercial partner. Only 11.0% of FSW reported condom use at last sex with a non-commercial sex partner and 27.4% of FSW reported condom use at least once in the previous 30 days with a non-commercial sex partner. Additionally, 45.5% reported being currently married and only 3.4% of them have ever tested for HIV at the time of the survey. 30.6% of FSWs reported suffering from a genital ulcer/sore and 20.4% from genital discharge<sup>32</sup>.

**Street children:** BBSS results demonstrated low HIV prevalence among this group at 0.5%<sup>32</sup>. Nevertheless, this is a worrying sign of the epidemic spreading to a vulnerable group of highly marginalized and mobile children. Street children were also surveyed through BBSS 2006<sup>33</sup> but no child resulted positive to HIV after testing. Latest results provided by the BBSS 2010 reveal that 46.5% and 16% of street boys and girls reported ever having sex. The median age at first sex is reported to be 13 and 14 years respectively<sup>32</sup>.

**Women and youth:** There is a special vulnerability for women and girls due to lower socioeconomic status, as well as higher illiteracy rates. Fewer women present for voluntary counseling and testing than men accounting for 18.5% (2010)<sup>32</sup> and 16.18% (2011) of all venereal clinics visitors<sup>39</sup>. A study investigating needs of females living with HIV in Egypt have indicated that many women are not only at risk of infection, but they get infected without knowing and remain uninformed of their infection's status until they are confronted with a sick and dying husband. Many women still require permission from their husbands to seek healthcare. If women become ill before they know of their husband's HIV status, they often go misdiagnosed<sup>40,41</sup>.

**Knowledge Gap:** There are gap of HIV/AIDS knowledge among youth at large, especially in young women<sup>42</sup>. According to the last Demographic and Health Survey (DHS 2008)<sup>43</sup> only 7.1% of women age 15-59; and 4.8% of 15-24 years old women were found to have comprehensive knowledge of HIV. A survey on young people in Egypt (SYPE)<sup>44</sup> was conducted in 2010 and provided updated figures on knowledge of HIV and AIDS. Among all SYPE respondents aged 10-29, the majority (71.5%) had heard of HIV/AIDS. More males had heard of HIV/AIDS than females, and those over 15 years of age were much more aware of HIV/AIDS than those aged 10-14, the most common sources of information about HIV/AIDS were reported to be media/cinema/radio (88.8%), school (26.3%), and friends (13.3%)<sup>44</sup> Among those who had ever heard of

HIV, 82.4% knew that it can be transmitted sexually and 62.9% knew that it can be transmitted through contaminated blood, while only 20.3% knew that it can be transmitted through sharing a needle, and only 10.3% knew that HIV can be transmitted from mother to child. Overall knowledge of modes of transmission remains low (figure 7).

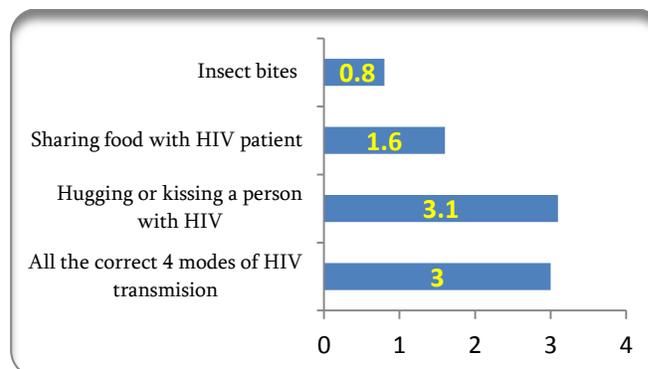


Fig. 7. Results of HIV/AIDS knowledge survey among youth, Egypt Biological and Behavioral Surveillance Survey 2010(% responses for HIV modes of transmission).

#### The National Strategic Plan (NSP) on HIV and AIDS<sup>45</sup>:

NSP listed programmatic priorities include:

- Increase coverage of prevention interventions for most at risk populations
- Increase coverage of prevention interventions for vulnerable populations.
- Increase coverage of prevention interventions for general populations
- Increase coverage of comprehensive and integrated treatment, care and support for PLHIV.
- Ensure availability and use of strategic information for decision-making
- Ensure supportive and enabling environment for the national response to HIV and AIDS.
- Ensure effective leadership, coordination and management by government, civil society and other actors at national and governorate levels<sup>45</sup>.

#### The implementation of the NSP:

- Strengthening Health System capacity for effective HIV response.
  - Enhancing coordination and advocacy efforts.
  - Ensuring continuum of prevention, testing, early detection and timely enrollment into treatment with the objective of saving lives.
  - Promote, protect and respect equity, assure gender equality and greater involvement of people living with HIV.
  - Implementation based on close and fruitful cooperation between the government and other relevant stakeholders (Civil Society Organizations; Private sector; International donors etc).
  - Reducing access barriers.
- The Egyptian government is exerting a real effort to coordinate the national response and enhance universal access to HIV prevention, care, support and treatment<sup>46</sup>.

#### Egypt HIV/AIDS prevention and control program: Challenges and barriers.

- There is a dire need to focus on most vulnerable and high-risk segments of the population whose behaviors can have the most effect on the course of the HIV epidemic.



- Establishing and maintaining surveillance with capacity building and employment a standardized data format is valuable in comparing the trend, behavioral change, and HIV spread pattern in relation to time, at risk subpopulations, regional inter country difference and globally.
- Tracking behavioral data for high-risk groups aiming at assessing HIV knowledge and beliefs and risk behavior practices among them.
- Assess biological data for high-risk groups to determine the prevalence of HIV, measuring the impact of risk behaviors on exposure to HIV infection, provision of counseling and testing of these groups, and to assess effects of previous interventions on the overall incidence of infection<sup>22, 32, 33</sup>.
- In response to expected increase in HIV/AIDS, demands to treatment and follow up will be increased. The ART and the follow-up testing are expensive, and the economy in Egypt is already strained and may fail to cope with this added huge economic burden.
- Mother-to-child transmission in Egypt is active as revealed from the national data with the risk of more infected newborns. Thus there is an emerging need to secure the rights of these children to access education, health care, and be accepted in the society<sup>47,48</sup>.
- The high-risk groups, as FSWs, IDUs, and the MSM are in need of tailored preventive programs to reduce risk behaviors in addition to health care and social support. These high risk groups can be reached through their networks<sup>33</sup>.
- In addition to the high-risk groups, the emergence of another vulnerable groups exist in Egypt namely the street children with special social and health needs. Street children in Egypt, males and females, deprived from several civil rights, do not have access to educational opportunities, lacking economic security and protection under law. Moreover, they are liable to sexual violence, lacking proper knowledge about safe sex, with little or no chance to negotiate for safe sex<sup>22</sup>.
- In Egypt, risk behaviors are shaped and determined socially, males are the breadwinners, freely mobile, have lots of social networks, and the society may accept that they have multiple sexual partners<sup>22, 47</sup>. Furthermore, in case of limited resources, men are pushed on the street looking for income-generating activities. Poverty and limited resources may drive men to experience risk behaviors as injecting drugs or practicing unsafe sex. Females suffer from gender norms that make them less exposed to sexual knowledge, less able to negotiate safe sex, and more vulnerable to sexual assaults, also, limited family resources may push some females to practice risk behaviors<sup>47,48</sup>.
- Attempts to set HIV-specific policies in Egypt will be faced by stigma, gender inequality and limited resources and social opposition<sup>6, 22</sup>.
- Strong stigmatization and social exclusion of people practicing risk behaviors and those living with HIV/AIDS<sup>22,26,49</sup>. The stigma and discrimination act on three levels. First, the perceived shame and disgrace that people

practicing risk behavior or living with HIV infection put on their families force them to conceal their infection status, non-health care seeking and HIV care including testing, and counseling. Second, health care providers (HCPs) rarely admit that risk behaviors and HIV infection are issues that need special health care and social support. Given the HIV-related phobia, several HCPs may refuse to care for PLHA for fear of getting infected. Furthermore, PLHA are not welcomed in many health care facilities that risk losing clients. Third, there is a widespread national denial of the existence of risk behaviors and HIV infections. There is a serious misconception between the rights of the high- risk groups to benefit from HIV prevention and care programs and the rights of the society to refuse the risk practices<sup>22, 32, 49</sup>.

- The roles of other national sectors in HIV intervention are ill defined. The national health policies lack the inter-sectoral vision in facing health issues.
- Limited resources with unfavorable reflections on the people's' income, the quality and quantity of health care, and the limited government resources. In the absence of efficient health insurance schemes, people will be unable to pay for HIV testing, health care, and monitoring of disease progression, if infected. The MOH in all countries carries the burden of providing free HIV testing and health care, however, given the expected increase in the number of people who will seek HIV care, the MOH face difficulties to sustain its financial contributions in the coming years<sup>22, 48</sup>.

## II- CONCLUSION

In Egypt, the available information on STIs epidemiological status is limited and can't quantify the situation, guide program planning or assess the impact of interventions. STIs epidemiological data are largely driven from fragmented researches. The prevalence and incidence of STIs in Egypt have remained mostly unknown, and its impact on public health is largely undetermined despite social and behavioral changes. HIV in Egypt is heading towards concentrated epidemic and maintaining a low prevalence of STIs and HIV/AIDS will be the country's future and eminent challenge due to weak surveillance system, health inequality with poor access to reproductive health information and care, unexpected influx of refugees, inferior status of women, presence of pervasive fear and stigmatization and even criminalization.

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