

Research Article

Knowledge and Behavior on HIV/AIDS Infection among Adult in Guinea

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Abstract: HIV/AIDS is one of the major medical and public health problems in the world, particularly in Guinea since the first case has been reported in 1987, it became a major public health concern in the country. The prevalence rate is currently between 1.5 and 2%. The feminization of HIV infection is noted with a sero-prevalence rate among women aged 15-49 by 1.9% against 0.9% for men in the same age group. The average HIV prevalence in urban areas is higher than in rural areas 2.4% against 1%; however it is almost twice higher among men in rural areas than those in urban areas 1.1% against 0.6%. Risk factors associated with HIV infection are many. In terms of HIV transmission during heterosexual intercourse, women are more vulnerable than men due that the transmission of men to women during sexual intercourse is two or four times more likely to occur than the transmission from women to men. Sexual risk behaviors including unprotected sex, multi-partners, rape and early sexual intercourse among adolescents are common in Guinea. Educational programmes with specific interventions are needed to bring behavior changes, to increase knowledge and to prevent new HIV infections.

Keywords: Adult, behavior, Guinea, HIV/AIDS, knowledge

INTRODUCTION

Acquired Immune Deficiency Syndrome (AIDS) is an infectious disease that is caused by the Human Immuno deficiency Virus (HIV). The virus affects and destroys the immune system and causes infected people to become more prone to opportunistic infections (Lindsay, 2001).

Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) are among the most complex health problems of the 21st century (Ungan and Yaman, 2003). The year 2011 marked 30 years since the discovery of AIDS, which has claimed more than 25 million lives. More than 60 million people have been infected with HIV and more than 90% of the cases occurred in developing countries (UN, 2011). In Asia, approximately 4.9 million people were infected with HIV in 2009. Most national HIV epidemics appear to have stabilized (UNAIDS, 2010). The estimated number of children younger than 15 years, who are living with HIV increased significantly, from 140,000 in 2005 to 160,000 in 2009 (UNAIDS, 2010).

At the end of 2010, the number of people living with HIV worldwide was estimated at 34 million, of which 3.4 million children less than 15 years. An estimated 2.7 million the number of new HIV infections in 2010, 390000 in children under 15 years. Sub-

Saharan Africa remains the region most heavily affected by HIV. In 2010, about 68% of all people living with HIV resided in sub-Saharan Africa, a region with only 12% of the global population. Sub-Saharan Africa also accounted for 70% of new HIV infections in 2010, although there was a notable decline in the regional rate of new infections. The epidemic continues to be most severe in southern Africa, with South Africa having more people living with HIV (an estimated 5.6 million) than any other country in the world (UNAIDS, 2011).

The first cases of HIV/AIDS in Guinea were reported in 1986. Today Guinea faces a generalized epidemic, with an estimated 170000 adults and children living with HIV/AIDS at the end of 2004. The 2005 Health and Demographic Survey reveals a prevalence rate among the age group 15-49 years of 1.5% nationally: 1.0% in rural areas and 2.4% in urban areas. Women are more infected than men, with respective rates of 1.9 and 1.1%. One percent of females 15-19 years old are living with HIV/AIDS versus 0.5% of males in the same age group. According to a national sero-behavioural survey conducted in 2001 including women attending antenatal care clinics in all regions, the median HIV prevalence among pregnant women attending antenatal care clinics was 2.8%, a sharp increase from 1.5 in 1995. Further, the HIV prevalence among pregnant women was slightly higher in urban

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areas (median prevalence of 3.2%) than in rural areas (median prevalence of 2.6%). The HIV prevalence among people 15-24 years old was estimated to be 2.7%, with no significant difference between men and women. Overall, AIDS cases comprise 52 men, 45 women and 3% children. About 9000 adults and children died from AIDS during 2003. The spread of the HIV/AIDS epidemic in Guinea is attributed to several factors such as its proximity to high-prevalence countries, a large refugee population from neighboring countries, many internally displaced people and general sub-regional instability. The presence of polygamy, the low status of women and low rates of condom use have also contributed to spreading the epidemic (WHO, 2005).

The Ministry of Health has shown a sustained commitment to fighting HIV/AIDS since the initial cases were detected in the mid-1980s. Between 1986 and 2000, three successive national HIV/AIDS plans were developed and implemented. The National AIDS Control Policy was adopted in 1998, outlining the institutional framework of the national response. In 2002, Guinea developed its National Strategic Framework for a Multisectoral Response to HIV/AIDS for 2002-2007 with the objective of intensifying the national response to the epidemic, including preventing mother-to-child transmission, promoting condom use, ensuring blood safety, conducting epidemiological surveillance, expanding voluntary counseling and testing and providing care and treatment, including antiretroviral therapy. It also outlines targeted interventions for vulnerable population groups, including young people, women, refugees, sex workers, mining workers and personnel of the armed forces (WHO, 2005). This study is focused on HIV/AIDS knowledge and sexual behavior among university student in Guinea.

HISTORY AND CURRENT SITUATION OF HIV/AIDS IN GUINEA

Guinea, officially the Republic of Guinea is a country in West Africa. Formerly known as French Guinea, it is today sometimes called Guinea-Conakry to distinguish it from its neighbor Guinea-Bissau and the Republic of Equatorial Guinea (Wikipedia, 2013). It has a population of 10,057,975 and an area of 246,000 km². Forming a crescent as it curves from its western border on the Atlantic Ocean toward the east and the south, it shares its northern border with Guinea-Bissau, Senegal and Mali and its southern border with Sierra Leone, Liberia and Côte d'Ivoire.

The first report on AIDS in patients from Central Africa was published in 1983. The patients, three of whom had been living in Belgium for less than three years, were admitted to hospital in Brussels (Clumeck *et al.*, 1983). This report was followed by investigations in Central Africa (Piot *et al.*, 1984) and by 1986 it was

clear that the Human Immunodeficiency Virus (HIV) had spread in the populations of numerous countries in sub-Saharan Africa and posed a major public health problem there (Quinn *et al.*, 1986).

Two types of HIV exist: HIV-1 and HIV-2. HIV-1 is more virulent, is more easily transmitted and is the cause of the vast majority of HIV infections globally (Jacqueline and Robert, 2002). The pandemic strain of HIV-1 is closely related to a virus found in the chimpanzees of the subspecies *Pan troglodytes*, which lives in the forests of the Central African nations of Cameroon, Equatorial Guinea, Gabon, Republic of Congo (or Congo-Brazzaville) and Central African Republic. HIV-2 is less transmittable and is largely confined to West Africa, along with its closest relative, a virus of the sooty mangabey (*Cercocebus atys*), an Old World monkey inhabiting southern Senegal, Guinea-Bissau, Guinea, Sierra Leone, Liberia and western Ivory Coast (Santiago *et al.*, 2005).

In Guinea, it was in 1987 that the first cases of AIDS have been notified, between January 1987 and September 1998, 5,307 cumulative cases of HIV/AIDS had been reported in our health facilities (Mamadou, 2005). According to the National Health management program load and prevention of STIs and AIDS, the cumulative number of reported cases of HIV/AIDS stood on 31 December 2001 to 9279 cases` (ROCARE, 2001).

National sero-prevalence was 1.5% in the general population with variations by gender (women: 1.9% Men: 0.9%) and area of residence (Urban: 2.4% and Rural: 1%) (UNGASS, 2012).

Risk factors associated with HIV/AIDS: Risk factors associated with HIV infection are many. In terms of HIV transmission during heterosexual intercourse, women are more vulnerable than men (Lazzarin *et al.*, 1991).

The transmission of a man to a woman during sex is two to four times more likely to occur than the transmission from a woman to a man (Patricia, 2009). Indeed, the area of mucosa exposed to the virus during intercourse is greater among women and the fragility of the vaginal walls offer multiple entry routes to the virus. This is especially true for girls, whose cervical immature and low vaginal mucus production does provide a thin barrier against infection. In addition, the concentration of virus is higher in semen than in vaginal secretions and semen can stay several days in the female genital tract (Population Référence Bureau, 2000).

Women are more vulnerable at certain times of the genital life: intercourse during menstruation, pregnancy, the postpartum period and menopause. In women after menopause, decreased vaginal lubrication and thinning of the inner wall of the vagina increase the risk of contracting HIV, since intercourse occurs in a

drier vagina, where the lining is likely to tear or crack. HIV can then easily enter the woman's body through these cracks (Dwyer *et al.*, 1990; Zablotsky and Kennedy, 2003).

Violent anal sex, unprotected, can cause tears and bleeding facilitating virus entry. But in some cultures, this type of sexual intercourse may be preferred to preserve virginity and avoid pregnancy (Brady, 1999).

There is an increased risk of transmission of HIV infections untreated sexually transmitted in one or both partners (Cameron *et al.*, 1989; Plummer *et al.*, 1991).

The existence of an STI multiplies by 10 the risk of HIV transmission (Population Référence Bureau, 2000).

Unfortunately, these STIs often go unnoticed in women, in fact, 50-80% of cases, women who have an STI do not know it by the absence of pathognomonic signs.

The persistence of these risk behaviors is often associated with situations of vulnerability that are the underlying causes of HIV transmission. In Guinea, studies and research have highlighted the following factors:

- Poverty and economic insecurity which lead some young girls and women in the sex trade
- The Guinean men dominance on woman in decision making regarding sexual relations, including condom use status
- Ignorance of HIV status, the non perception of risk the presumption being sero-negative which lead people to take any precautions in case of casual sex
- Early sexual relationships between girls and much older adults
- Migration is also a significant contributor to HIV infection, as HIV prevalence in neighboring countries such as Côte d'Ivoire, Liberia is substantially higher than in Guinea. Political and social troubles or any others conflicts in countries can contribute to increased HIV transmission across borders

HIV/AIDS IMPACT ON THE POPULATION

The AIDS epidemic is one of the most destructive health crises of modern times, in recent years, nationally representative surveys have enabled researchers to lower the previously published HIV prevalence estimates for some countries, but the number of people infected and the effects on their families, communities and countries are still staggering (UNAIDS, 2006).

Demographic and health effects of HIV/AIDS: Countries hard hit by the AIDS epidemic have seen mortality surge and life expectancy drop in the last decade. But the epidemic has not led to a decrease in

population in sub-Saharan Africa, due to relatively high fertility. Even accounting for AIDS-related mortality, sub-Saharan Africa's population is projected to grow from 788 million in 2007 to 1.7 billion in 2050. AIDS takes a major toll on societies. It ranks fourth among the leading causes of death worldwide and first in sub-Saharan Africa. In 2006, UNAIDS estimated that 2.9 million adults and children died of AIDS and 2.1 million of them were in sub-Saharan Africa (Carl, 2007).

Effects on mortality and life expectancy: People living with HIV and AIDS are prone to developing other illnesses and infections because of their suppressed immune systems and, as a result, the AIDS epidemic has fueled an upsurge of pneumonia and tuberculosis in many world regions. In sub-Saharan Africa, mortality rates among children under age 5 are substantially higher than they would be without HIV. Without lifesaving drugs, one-third of children who are born infected with HIV (transmitted through their mothers) die before their first birthday and about 60% die by age 5 (Peter *et al.*, 2006). The surge of AIDS deaths has also halted or reversed gains in life expectancy in many African countries. For example, in Lesotho, where one fourth of adults were estimated to be living with HIV/AIDS in 2005, life expectancy was nearly 60 years in 1990-1995, but plummeted to 34 years by 2005-2010, primarily because of AIDS-related mortality. The UN projected that Lesotho's life expectancy would have improved to 69 years by 2015-2020 if not for excessive AIDS mortality (United Nations, 2006). Outside Africa, countries expected to see a drop in life expectancy include the Bahamas, Cambodia, Dominican Republic, Haiti and Myanmar (United Nations, 2004).

Effects on age and sex structure: AIDS-related deaths are altering the age structure of populations in severely affected countries. In developing countries with low levels of HIV and AIDS, most deaths occur among the very young and very old. But AIDS primarily strikes adults in their prime working-ages-people who were infected as adolescents or young adults-shifting.

The usual pattern of deaths and distorting the age structure in some countries because of increasingly high AIDS-mortality in southern Africa, for example, people ages 20 to 49 accounted for almost three-fifths of all deaths in that region between 2000 and 2005, up from just one-fifth of all deaths between 1985 and 1990 (Lamptey *et al.*, 2006).

Because AIDS deaths are concentrated in the 25 to 45 age group, communities with high rates of HIV infections lose disproportionate numbers of parents and experienced workers and create gaps that are difficult for society to fill. Women are more vulnerable than men in some regions and their deaths rob families of the

primary caregivers. In sub-Saharan Africa and in the Caribbean, where the virus is spread predominantly through heterosexual contact, HIV infections are higher among women than among men.

The impacts of HIV/AIDS on economic growth and development sectors: It is clear that when an individual is infected with HIV, it affects the family, community and the entire nation. That leads to an increase in expenses and a decrease in household income. Funds for family welfare, education of children, the care and savings will be absorbed by these expenses. The same household may incur loss of property and properties. At the macro level, the reduction of skilled labor, income and investments could cause a significant reduction in economic growth. Such a reduction in economic growth, coupled with weak infrastructure and personnel, reduce state resources, resulting in enormous pressures on the budget for health and education and, in particular, the resources allocated to the fight against AIDS.

Impacts of HIV/AIDS on the health sector: In terms of public health, in addition to the fight against HIV/AIDS, the objectives of the Millennium Development target of improving the health of women and children and the control of other major diseases such as malaria and tuberculosis.

The adverse economic conditions, persistent poverty and lack of funding for intervention programs certainly dull problems. The high cost of treating AIDS and opportunistic infections is already unbearable by the health system. Trend epidemic situation disrupt programs and health services.

Another important constraint on the ability of the health system response to the epidemic is the growing need for replacement caregivers, sick or died because of AIDS.

In fact, agents in specific skills with extensive experience are among victims of AIDS. Morbidity and mortality among health personnel have dual effect as a decrease in labor productivity and an increase in government spending related to higher training costs for their replacement.

Public projected costs for training new staff to replace those who have died of AIDS in 2015 expect between 22.5 and 46.3 thousand dollars. This adds to the need for staff to be recruited to replace the output due to retirement, currently estimated at 923 workers/year (MSPG, 2002b).

Impacts of HIV/AIDS on the education sector: The links between HIV/AIDS and education are also close. These links can be analyzed in terms of supply and demand for educational services and social and economic terms.

The most direct impact of HIV/AIDS on the education sector is the teaching staff, especially related to the reduction of human capital in terms of quality and quantity. Teachers who have AIDS are much less

productive and more absent. A significant cost for the government is to replace teachers who died from the disease.

In addition the number of AIDS orphans is growing. AIDS orphans and HIV-positive children are often victims of discrimination. In some quarters, there will be a decrease in school attendance of these children. This is another potential cost for the government, which would set up a program that would provide support for their training.

Business and agriculture have also been seriously affected by HIV/AIDS. Employers are hard hit by a loss of workers, absenteeism, the rising costs of providing health-care benefits (including the expensive AIDS drugs) and the payment of death benefits. The economic viability of small farms and commercial agriculture is also compromised by a loss of farm workers. A study by the Food and Agriculture Organization found that in the 10 African countries most severely affected by HIV/AIDS, the agricultural workforce will decline between 10 and 26% by 2020. Another study found that in countries such as Kenya, Malawi, Tanzania and Zambia, slow growth in agricultural production could result in growing food insecurity by 2010 (United Nations Population Division, 2006).

Impacts of HIV/AIDS on women: The situation of women already serious could be exacerbated by the spread of the epidemic. In addition to being more susceptible to infection due to a number of biological, socio-cultural and economic factors, the impact of HIV/AIDS may be more important to women:

- Women generally have less access to health care and, in practice, family resources are more often used to pay for medicines for human use.
- Women are usually responsible for caring for sick members of the household AIDS in addition to their domestic workload, thus limiting their ability to undertake income-generating activities or to meet their own health.
- Girls are more likely to be withdrawn from school to care for a sick parent or household chores.
- The death of her husband to AIDS leaves the woman as head of household and therefore more vulnerable to poverty.

Knowledge and behavior of HIV/AIDS: The level of knowledge that people have in relation to a disease often affects his attitude and behavior towards the disease.

The adolescent sexual activity is recognized around the world, but the age that young people experience their first sexual intercourse varies from one region to another and within the same country, between urban and rural areas. In general, young men report their sexual activity earlier than girls; premarital sex is acceptable for men but not women (Mcauley *et al.*, 1995). A large proportion of adolescents reported

having had their first sexual experience before the age of 15. In 23 of 43 countries have been the subject of a national survey, more than 10% of girls aged 15 to 19 reported having had sex before age 15 (CDC, 1998-2003).

Adolescents are at increased risk of exposure to Sexually Transmitted Diseases (STDs) (Brabin *et al.*, 1995). According to estimates, the spread of HIV occur for more than half among young people aged less than 25 years (Merson, 1993). The sexual behavior of young people and the consequences of that behavior are public health concern as more important.

Vulnerability to HIV infection is particularly high when the age difference between sexual partners is high (Anderson *et al.*, 1991), in the presence of multiple or suspicious partners and in case of unprotected intercourse (Wagstaff *et al.*, 1995).

Everything indicates that merely delay the onset of sexuality is crucial to reverse the HIV/AIDS. Education plays a role by encouraging girls to delay their first sexual experience. In a recent analysis of eight sub-Saharan Africa, women who have attended school for at least eight years were between 47 and 87% less likely to have sex before age 18 than women without instruction (Gupta and Mahy, 2003).

The level of knowledge of different targets is relatively high. However, STI symptoms and modes of transmission of HIV seem unfamiliar. The lower knowledge occur among MSM and injecting drug users often do not recognize themselves in the messages on STI/HIV/AIDS. Further efforts must be provided in communication for behavior change especially in those vulnerable groups (CNLS-Togo, 2001-2011).

The level of knowledge and behavior of people facing this disease is very cramped for lack of literacy. Some people consider HIV as a shameful disease and taboo. This promotes the spread of HIV in the population.

As in most African countries, HIV/AIDS is essentially transmitted by sexual intercourse. Men and women sexually active are involved in the foreground by the information campaigns, Education and Communication (Mamadou, 2001a).

According to the results of the Demographic Health Survey in Guinea 3rd edition (DHS-G-III) in 2005, almost all women (97%) and men (99%) said they had heard of HIV/AIDS. Compared to data collected during the Demographic Health Survey in Guinea 2nd edition (DHS-G-II) in 1999, we find that the proportions of men and women who are aware of HIV/AIDS have increased slightly, from women 95 to 97% to men 96 to 99%. At Demographic Health Survey in Guinea 1st edition (DHS-G-I) in 1992, the proportions of men and women who had heard of HIV/AIDS were 69 and 90%. Furthermore, we find that this level of knowledge is consistent because whatever the demographic characteristic, more than nine out of ten respondents said they had heard of HIV/AIDS (Mamadou, 2001b).

CONCLUSION

The first case of HIV in Guinea was reported in 1987. Since then, HIV/AIDS has become a major public health concern in the country. Women are particularly vulnerable to HIV/AIDS due that the transmission of men to women during sexual intercourse is more likely to occur than the transmission from women to men. The spread of HIV in any community is in part determined by the knowledge towards the infection of its members and by their actual behavior.

Therefore, we recommend continuing and strengthening health education to bring change in knowledge in regard to relationship between HIV and other STDs, promote positive attitude more in men and bring behavioral changes in the population of Guinea.

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