



## Problematic of voluntary HIV/AIDS Testing of military living in Kisangani City, DR Congo

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### Abstract

The objective of this study is to determine the prevalence of HIV/AIDS infection among military living in Kisangani City, specifically at the TEKELE camp in the municipality of Kabondo. Our study is descriptive transversal and we used the convenience random sampling technique during the period of our research that took place over 3 days, from 13 to 15 July 2019. We worked on 150 military cases.

The results of our study are as follows: the sample was 92.7% male and 7.3% female; 56.7% of soldiers screened were between 15 and 29 years old; the majority of soldiers screened were married (72.0%); Catholic (40.0%) and secondary level (46.6%). The most represented military rank was the NCO (42.0%); 92.0% of military members were aware of the cause of the HIV / AIDS infection and 80.7% of the military had declared to be in the habit of using the condom. And in relation to the serological status: the results showed that 96.0% of soldiers were not HIV-positive and the prevalence of HIV / AIDS in the TEKELE camp was 4.0%.

**Keywords:** Problematic, HIV/AIDS Kisangani, TEKELE, military

### 1. Introduction

Currently, the human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS) are a major public health problem [1-3]. Worldwide, the HIV / AIDS epidemic has increased from 5 to 10 million people infected in 1987 to 37.9 million in 2018 and is the fourth leading cause of death in the world [1, 4]. Of this prevalence, 23.3 million people had access to antiretroviral therapy, 1.7 million people became newly infected with HIV, and 770 million died of AIDS-related illnesses [5].

The military is among the group most exposed to the risk of sexually transmitted diseases (STDs) and especially HIV. In times of peace, the rate of HIV infection in the armed forces is 2 to 5 times higher than that of its civilian population, and during armed conflict this rate can be multiplied by as much as 50 [6].

Screening is the main intervention for access to AIDS prevention and care services [7]. International standards and policies to combat HIV / AIDS are adopted by UN member countries, according to their national context, to promote, regulate and ensure better monitoring of testing services [8]. Unfortunately, 10% of adults in sub-Saharan Africa are aware of their HIV status [9]. In 2007, the World Health Organization (WHO) and the United Nations Joint Program on HIV/AIDS (UNAIDS) proposed methods to improve access to testing: on the one hand by improving the role of providers in care services and on the

other hand by developing interventions in the community [10]. This vision provides universal access to care that seems like a difficult challenge in poor countries. How to move from a non-existent screening offer in the early 2000s to an accessibility screening test of 80% of health services, as demand the objectives of several national plans?

As a result, new treatment and prevention strategies developed over the last two years require early detection of infection [11], as the "Zero Transmission" goal proclaimed by UNAIDS can only be achieved if people are treated before being symptomatic and that all serodiscordant couples are affected [12]. This requires good community participation for voluntary testing and improved access to care services [11, 13]. For the time being, there is no medical treatment or vaccine against HIV / AIDS and WHO recommends that the government of each country make available antiretrovirals to people living with the virus [12].

The determinants of the spread of HIV / AIDS in the military community are [14]:

- military recruitment is done to young people (between 18-25 years), these young soldiers are curious to begin the sexual experience with their first monthly salary.
- the emotions of a soldier who attends the disappearance of his companions on the field of combat and, this despair, and carries away by his sexual instincts.
- the removal of the spouses, the married soldier becomes a geographical single person during the war, as happened in Kisangani.
- sexual vagrancy of the military is at the root of the spread of HIV / AIDS.

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In 2014, the Democratic Republic of Congo presented a national multisectoral plan to fight HIV / AIDS that gave a new vision "generation without AIDS". Its five strategic axes can determine the results of impacts, effects and products to be achieved in the period 2014 - 2017 are <sup>[13]</sup>:

- the prevention of HIV transmission, this axis aims to reduce new HIV infections in the general population and target groups including, truckers, miners and fishermen and, especially women and the military.
- improving access to care and treatment, this axis aims to reduce the number of HIV-related deaths through the comprehensive care of people living with HIV, the management of HIV-TB co-infection and medical administration of ARVs of people living with the virus.

Currently, the lack of medical treatment for HIV / AIDS places a strong emphasis on preventing the spread of HIV / AIDS. Good prevention always starts with screening. And screening, being a public health activity, should not be compulsory but voluntarism and its importance is great <sup>[14]</sup>:

- early knowledge of HIV status increases the chance of access to treatment for the person living with HIV and the chance to reduce the morbidity and mortality associated with HIV infection, as well as to prevent mother-to-child transmission.
- effective HIV treatments reduce the likelihood of an HIV-positive person transmitting the virus to a sexual partner by 96%.

- the HIV-négative person can continue to make efforts to protect themselves from HIV infection through prevention methods that have shown them: safer sex, condom use, voluntary medical circumcision, safety of injection equipment, decreased number of sexual partners.

For any counseling and testing service, WHO recommends these five essential elements <sup>[14]</sup>:

- Consent;
- Confidentiality;
- Advice;
- Correct results;
- Connection / link to prevention, care and treatment.

In 2014, the Democratic Republic of Congo had more than 68% of people infected with HIV who did not know their HIV status because they had never been tested <sup>[15]</sup>. And according to the coordination of the Tshopo of the National AIDS Control Program, in 2016, the prevalence of HIV AIDS in the city of Kisangani was 1.02% <sup>[16]</sup>.

In this HIV / AIDS framework in Kisangani City, which is being organized, its objective of this study is to determine the prevalence of HIV/AIDS infection among military personnel living in the city of Kisangani.

## 2. Study Area and Method

### 2.1. Study area

The study of the problematic of voluntary testing of HIV / AIDS of the military is organized at Sergeant KETELE camp located in the commune of Kabondo / Kisangani city. This camp, named KETELE, in memory of a valiant black fighter of the second world war, this camp was built at the colonial time around 1950 and the capacity of housed 250 villas but today, it is occupied by 350 households. Many HIV awareness campaigns have already been organized in this military camp. And after receiving permission from Camp Commander, we moved to the Camp Health Center and the freely decided military arrived at the medical center according to the call of crier Sergeant of the camp. We had organized this screening session for 3 days, from 13 to 15 July 2019.

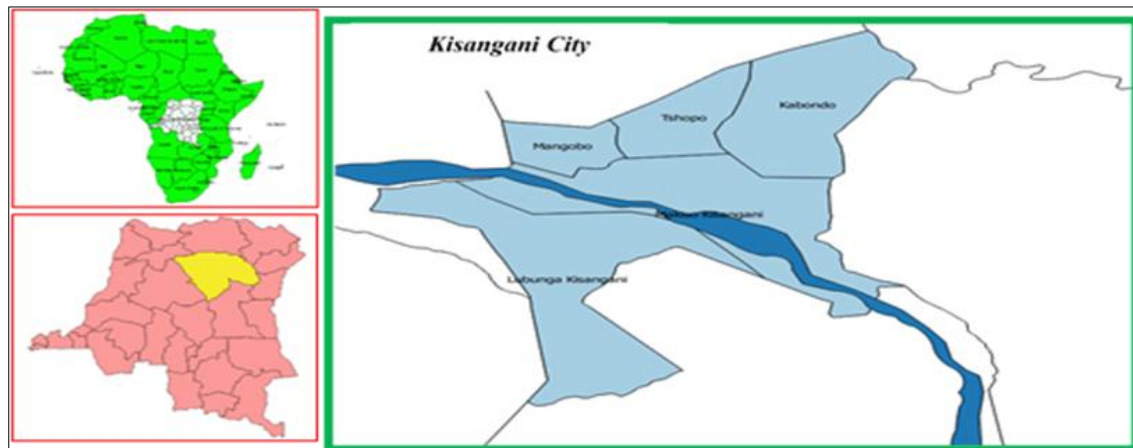


Fig 1: Location of KETELE Camp in Kabondo / Kisangani Commune.

**2.2. Study Methodology**

To make up our sample, we used the technique of random sampling of convenience, that is to say a sample which consists of the available units (military volunteers) who agreed to be screened during the period of our research. On the basis of registers of voluntary screening consultations, we received 163 cases of screenings of which 150 were selected in our study based on selection criteria: the inclusion criterion for all military screened and living in the TEKELE camp and the criterion of no inclusion, as all military screened and not living TEKELE camp.

**2.3. Type of study**

Our study is descriptive transversal.

**2.4. Study parameters**

Our study exploited the following variables:

- Age;
- Gender;
- Civil status;
- Religion;
- Level of study;
- Military grade;
- Knowledge of the cause of HIV infection;
- Protection in sexual relation;
- Serological status.

**2.5. Analytical techniques and data processing**

The following statistical formulas were used:

Percentage calculation (P)

$$P = n / N \times 100$$

With

n = number of observed cases

N = total number of cases

Average arithmetic calculation:  $X = \Sigma n / N$

**Legend**

n = observed frequency

N = total frequency

P = percentage

X = arithmetic mean

**3. Results**

From the consultation of the voluntary screening session organized at Camp TEKELE, 167 military volunteers were received during the period of our study, from which 150 cases were identified in our study after the selection criteria.

**Table 1:** Distribution of military screened by selection criteria

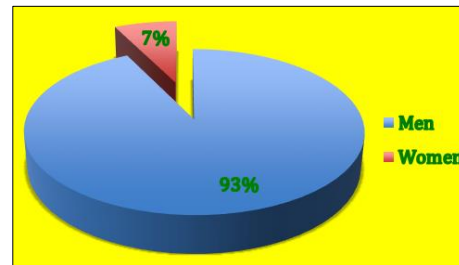
Military screened	Effective	%
Military of Tekele	150	89.8
Military visitors	17	10.2
Total	167	100.0

Table 2 gives the breakdown of military screened by age. The age of all cases ranges from 15 to 49 years old, 20 to 25 years old cases have a higher number of 54.0% and the 40 to 45 cases have a small number of 0.4%.

**Table 2:** Distribution of military screened by Age

Age	Effective	%
15 - 19	26	17.3
20 - 24	28	18.7
25 - 29	31	20.7
30 - 34	25	16.7
35 - 39	20	13.3
40 - 44	15	10.0
45 - 49	5	3.3
Total	150	100.0

Figure 2 shows that military screened are 92.7% of men and 7.3% of women.



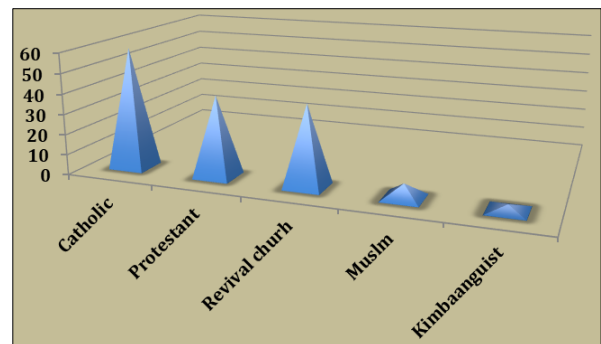
**Fig 2:** Distribution of military screened by Gender

The data in Table 3 show that the majority of military screened (72.0%) are married; followed by single military (12.7%); divorced military (10.0%) and widowers military (5.3%).

**Table 3:** Distribution of military screened by civil status

Civil status	Effective	%
Married military	108	72.0
Single military	19	12.7
Divorced military	15	10.0
Widowers military	08	5.3
Total	226	100.0

Figure 3 gives the breakdown of military screened by religious beliefs: 40.0% of Catholics, 26.7% of Protestants, 26.7% of revival church, 4.6% of Muslim and 2.0% of kimbanguist.



**Fig 3:** Distribution of military screened by religious beliefs

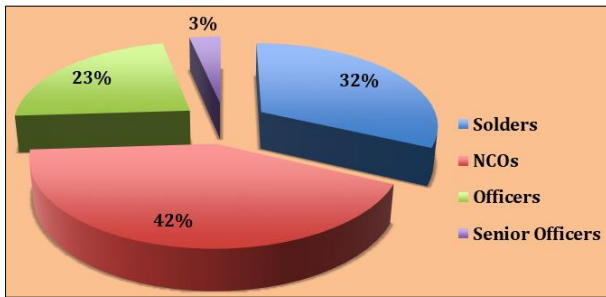
The data in Table 4 show that the majority of smilitary have a secondary level (46.6%); followed by primary military (28.7%);

university-level military (18.0%) and without level (6 military.7%).

**Table 4:** Distribution of military screened by Education Level

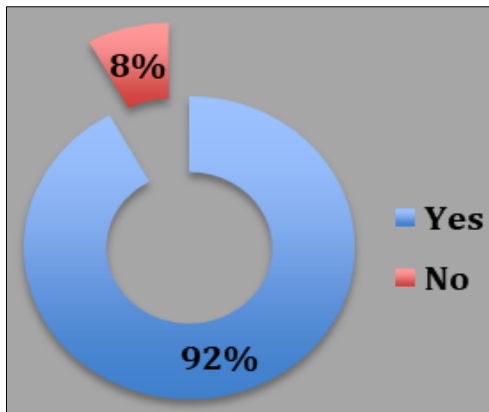
Education Level	Effective	%
without level	10	6.7
Primary	43	28.7
Secondary	70	46.6
University	27	18.0
Total	150	100.0

Figure 4 shows the distribution of military screened by rank in the army, in descending order: 42.0% Non-commissioned officers, 32.0% soldiers, 22.7% officers and 3.3% senior officers.



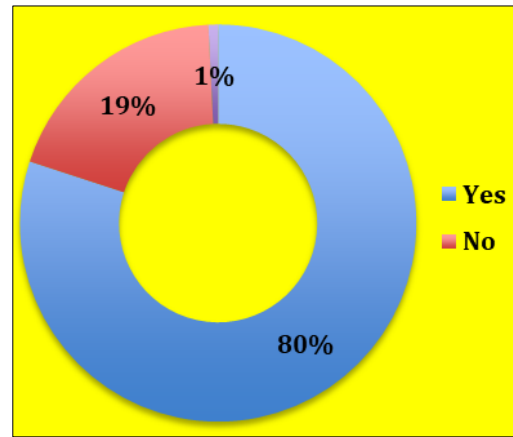
**Fig 4:** Distribution of military screened by Rank

Figure 5 shows the distribution of military screened based on knowledge of the causes of HIV infection: 92.0% of military know that HIV virus contamination is the cause of AIDS disease compared to 8.0% of cases who think that HIV infection is a divine punishment.



**Fig 5:** Distribution of military screened by knowledge of HIV / AIDS infection

The data in Table 5 indicate the practice of condoms against HIV infection during intercourse: 80.7% of military screened admit to using condoms during their occasional sexual intercourse and 19.3% do not use condoms.

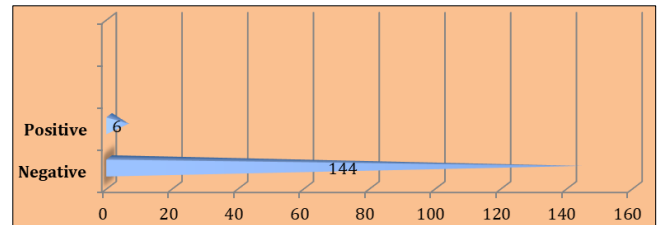


**Fig 6**

**Table 5:** Distribution of military screened by condom use

Practice of condoms	Effective	%
Yes	121	80.7
No	29	19.3
Total	150	100.0

The data in Figure 6 indicate the serological status of military screened: 96.0% of military are seronegative and 4% of military are 4% HIV positive.



**Fig 7:** Distribution of soldiers screened for HIV status

#### 4. Discussion

The study of the problematic of voluntary testing of HIV / AIDS of the military was organized at the KETELE camp of Kabondo commune in the city of Kisangani. These military are often exposed to HIV infection because of: recruitment of young soldiers between the ages of 18 and 25, behavioral disorder caused by the disappearance of their companions during the fighting, removal of their spouse during the period of the war, and sexual ransom of military. This study gave the following results:

- Our sample is made up of 56.7% of military personnel between the ages of 15 and 29; the gender distribution gives 92.7% of male cases and 7.3% of female cases; marital status was dominated by married (72.0%), single (12.7%), divorced (10.0%) and widowed (5.3%); religious sects are composed of the predominance of Catholic (40%), Protestant (26.7%), Revival churches (26.7%), Islam (4.6%) and Kimbanguist (2.0%); the study levels of our sample were: without levels 6.7% of cases, primary 28.7% of cases,

Secondary 46.6% of cases and academics 18.0% of cases; and finally in relation to the ranks in the army: 32.0% of soldiers, 42.0% of non-commissioned officers, 22.7% of officers and 3.3% of senior officers.

- Knowledge assessment of HIV infection gave: affirmative responses were 92.0% of cases and negative responses were 8.0% of cases; prevention practice against HIV infection by condoms: 80.7% of cases report having concerns about using during sex with casual partners and 19.3% of cases say they are not used to using the preservative. The results of serological tests gave: 96.0% of cases were negative and 4.0% of positive cases.

In short, the vulnerability of the military is caused by their age of recruitment to military services which is confused with the age of onset of sexual adventures, and also working conditions during the war require them to live away from their families.<sup>[17]</sup> Religion and sex are not related to the prevalence of HIV / AIDS in the population of our study. Also, UNAIDS reports that in all countries of high prevalence of HIV and, especially among men in uniform than the civilian population<sup>[4]</sup>. However, the level of instruction or the knowledge of means of prevention is not always superimposable to practice and behavior change<sup>[18,19]</sup>.

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Curiosity is the main reason for screening, which may have resulted in messages from UNAIDS, oriented towards the interest of knowing one's HIV status which, negatively, should be a motivating factor to remain HIV-negative. In addition, the predominance of the Catholic religion, which advocates for fidelity to marriage, contributes to the weak progression of the epidemic in the Democratic Republic of Congo. This situation is different from that of Mali, where some soldiers do not believe in the existence of HIV / AIDS<sup>[20]</sup>. The prevalence of people in uniform with HIV / AIDS in the City of Kisangani is three times higher than that of its civilian population<sup>[21]</sup>.

## 5. Conclusion

A descriptive transversal study was conducted in Kisangani City, specifically in Kabondo commune at KETELE military camp from 13 to 15 July 2019. This study analyzes the problematic of voluntary HIV / AIDS testing of military living in this camp. To collect our data, we resorted to the technique of random sampling of convenience, that is to say a sample which is made up of military volunteers who agreed to be screened during the period of our research.

The results of our investigation are as follows:

- Our sample consisted of 92.7% male members and 7.3% female members; 56.7% of soldiers screened were between 15 and 29 years old; the majority of soldiers screened were

married (72.0%); Catholic (40.0%) and secondary level (46.6%). The most represented military rank was the NCO (42.0%); 92.0% of military members were aware of the cause of the HIV / AIDS infection and 80.7% of the military had declared to be in the habit of using the condom.

- And in relation to serological status: the results showed that 96.0% of soldiers were not HIV-positive and the prevalence of HIV / AIDS in TEKELE camp was 4.0%.

## 6. References

1. ONUSIDA. Le point sur l'épidémie dans le Monde. Secrétariat de l'ONUSIDA, 2003; 28:11.
2. Schwartländer B, Piot P. VIH/sida: l'épidémie résiste. *Virologie*. 1998; 2:263-8
3. Kerouedan D, Lutter contre le sida en Afrique de l'Ouest: quelles perspectives en cette fin de siècle? A partir d'un cas de la Côte d'Ivoire observé sur la période de 1987-1997. *Santé Publique*. 1998; 10:203-18.
4. ONUSIDA. Accélérer l'action contre le sida en Afrique. Genève, 2003, 74.
5. ONUSIDA. Dernières statistiques sur l'état de l'épidémie de sida en 2018. Secrétariat de l'ONUSIDA; Fiche d'information 2019.
6. ONUSIDA. Le SIDA et l'armée, Point de vue ONUSIDA, Mai, 1996.
7. WHO. Global Programme on AIDS. Geneva: World Health Organization; Counselling for HIV/AIDS: A key to caring. WHO/GPA/TCO/HCS/95.15. [Google Scholar], 1995.
8. WHO/AFRO. Generic document for the elaboration of National VCT Guidelines. Sep, Regional HIV/AIDS Voluntary Counseling and Testing (VCT) Guideline; p. 73. [Google Scholar], 2003.
9. OMS/Onusida/Unicef. Rapport de situation. 2008. Vers un accès universel. Etendre les interventions prioritaires liées au VIH/sida dans le secteur de la santé p. 144. [Google Scholar]
10. WHO/UNAIDS. Guidance on provider-initiated HIV testing and counselling in health facilities. Geneva: World Health Organization; [Google Scholar], 2007.
11. WHO/UNAIDS/Unicef. Progress Report. Global HIV/AIDS response. Epidemic update and health sector progress towards Universal Access. [Google Scholar], 2011.
12. Conseil National de Lutte contre le Sida et les IST du Burkina Faso, ONUSIDA. Rapport UNGASS 2010 du Burkina Faso. [Google Scholar], 2010.
13. Programme National Multisectoriel de Lutte contre le Sida, Présidence de la République, Plan stratégique national de lutte contre le VIH et le sida, Kinshasa, RDC, 2014, p. 9.
14. OMS et ONUSIDA, Déclaration sur le conseil et le dépistage du VIH une opposition au dépistage obligatoire, site mondiale OMS, 2012.
15. République Démocratique du Congo, Deuxième Enquête Démographique et de santé (EDS / RDC II 2013/2014), Measure DHS, ICF International Rock ville, Maryland, USA, 2014, p. 255 et ss.
16. Coordination Provinciale du Programme National de Lutte contre le Sida, Rapport annuelle des activités 2016, Kisangani, 2017, p. 67 à ss.
17. Ministère de la Défense Nationale, République du Burundi., Rapport Final du Projet: 207/BDI/40. « Lutte contre le

VIH/sida au sein de la communauté Militaires, Bujumbura, ONUSIDA, 2002, p. 3.

18. Martini JG, Bandeira Ada S. Knowledge and practice of adolescents in the prevention of sexually transmitted diseases. *Rev Bras Enferm.* 2003; 56:160-3.
19. Stone KM, Grimes DA, Magder LS. Primary prevention of sexually trans-mitted diseases. A primer for clinicians. *JAMA.* 1986; 255:1763-6.
20. Castle S. Doubting the existence of AIDS: a barrier to voluntary HIV testing and counselling in urban Mali. *Health Policy Plan.* 2003; 18:146-55.
21. Programme National Multisectoriel de Lutte conte le Sida, Enquetes sur la prévalence du sida dans la province de la Tshopo, Kinshasa, République Démocratique du Congo, Radio Okapi, Publié le dim, 15/01/2017 - 08:27