



## Socio-Demographic Characteristics of People Living with HIV/AIDS at the Komfo Anokye Teaching Hospital, Ghana: A Five-Year Retrospective Study

John Taylor<sup>1</sup>, Paul Poku Sampene Ossei<sup>2</sup>, Eric Agyeman-Duah<sup>1,2\*</sup>, Enoch Baah<sup>3</sup>, Eric Asare Fenteng<sup>2</sup> and William Ayibor<sup>2</sup>

<sup>1</sup>Department of Biochemistry, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

<sup>2</sup>Department of Pathology, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

<sup>3</sup>Department of Medicine, University of Health and Allied Sciences, Ho, Ghana

**\*Corresponding Author:** Eric Agyeman-Duah, Department of Pathology, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana.

**Received:** July 17, 2018; **Published:** August 30, 2018

### Abstract

Globally, HIV is estimated at 38.6 million and the prevalence in Ghana as at 2014 was 1.6%. The spread of HIV/AIDS has a wider implication than health alone and has effect on the socio-demographic and economic fabric of society. This five year retrospective cross sectional study examined the socio-demographic and economic characteristics of people living with HIV/AIDS (PLWHA). The age, sex and socio - demographics were retrieved from the record folders of 600 diagnosed HIV patients visiting the Komfo Anokye Teaching Hospital (KATH) from 2012 to 2016. HIV/AIDS is still on the sharp increase with HIV type 1 expressing a high incidence of 84% with the least occurrence being HIV type 2 (6%). HIV/AIDS was prevalent among the self-employed (87%) and almost half of the overall PLWHA studied were married (47%). Prevalence occurred more among adults (age ranges: 41 - 45, 46 - 50 and > 50 years) and females were mostly infected than males. Christians were the most religious group affected (84%) with a low incidence (13%) occurring among the Muslim religious group. Treatment conditions still prevail in adults with a declination among individuals less than or equal to 20 years. The commonest form of referral was from the PITC with a few diagnosis from the VCT (14%) centre. Also, only a few (20%) of PLWHA recorded HIV/Tuberculosis co-infection. Understanding this, will help in generating new information about the HIV-related knowledge, attitudes and behaviours of people living with HIV/AIDS.

**Keywords:** Retrospective Cross Sectional Study; PLWA; Diagnostic Referral Methods; Socio-Demographic and Economic Characteristics

### Abbreviations

PLWHA: People Living with HIV and AIDS; KATH: Komfo Anokye Teaching Hospital

### Introduction

As a country with a high number of people living with HIV/AIDS (PLWHA), Ghana has become a focus for international efforts to prevent and deal with HIV/AIDS [1]. In Ghana, the dominant mode of HIV transmission is sexual and naturally from mother to child.

There is an increased political will and commitment for HIV prevention and control efforts, including a focus on issues of stigma and discrimination for PLWHA [2]. Surveys like the HIV sentinel survey, both nationally representative and those that focus on sub-populations, have yielded improved prevalence estimates. National sample surveys in resource-constrained settings were needed as evidence for governments to formulate national level policies. However, the sentinel survey was limited in their ability to produce knowledge relevant to risk reduction strategies [3].

Estimates and projections of the scale of the epidemic were important for policy and program planning. However, they only describe the magnitude of the problem. They tell us little about the context and impacts (social, cultural, economic and demographic) of the epidemic and they tell us nothing about the lived realities of PLWHA. In Ghana, although it is understood that information on sexual practices and sexual health is necessary in planning, implementation and evaluation of efficient HIV/AIDS prevention and care programs [4], most aspects of the socio-economic and demographic characteristics of PLWHA are under researched.

The contextual scope of this study is to detail and shed light on the social, demographic and economic characteristics of people living with HIV/AIDS. We sought to examine the influence of these characteristics through quantitative and qualitative analysis of data as found in PLWHA hospital records. This is done with the purpose of understanding best practices for HIV prevention and control and to influence policy decisions in Ghana. The key contribution is to add to the body of knowledge from the perspective of PLWHA, to understand socio-cultural issues that influence interventions and procedures in a regional context and to better understand the concept of positive prevention so as to place behavioural changes in context. The study seeks to portray an accurate descriptive profile of a sample of PLWHA in the Komfo Anokye Teaching Hospital (KATH) and to serve as background for future research.

## Materials and Methods

### Study Design and Sampling

A retrospective cross-sectional study was done. We retrieved record folders and treatment cards for HIV/AIDS patients registered in the HIV central register between the 1<sup>st</sup> of January 2012 and 31<sup>st</sup> December, 2016 from the hospital's records department. The folders were sorted and marked positive or negative according to HIV test results. A total of 986 case files were reviewed. 250 were test negatives while 736 were test positives. Out of the 736 positives, 136 did not meet the stated eligibility or inclusion criteria.

Thus, altogether, 600 recorded folders were included for the study.

### Data Collection Technique

Data collected included properly recorded patient's sex and age, socio - demographics such as place of residence, Occupation, educational background, marital and economic status and other information relevant to the study such as diagnostic referral methods. A health worker in-charge of hospital records made available PLWHA folders/cards and assisted in the collection/retrieving of data.

### Inclusion Criteria

All record folders/cards of PLWHA with properly recorded socio-demographic and economic characteristics and other information relevant to the study.

### Analysis

Analysis of the data obtained from patient folders was carried out using Microsoft Excel to create Percentages and frequencies. Qualitative data was transcribed and sorted according to the study objectives, to enable the investigator pool ideas and statements under a particular code to illustrate the life situations of PLWHA.

### Ethical Consideration

Ethical clearance was sought from the Committee on Human Research Publication and Ethics, Kwame Nkrumah University of Science and Technology and the Komfo Anokye Teaching Hospital. The study results were produced without reference to individual records used in the study. We protected the privacy of individuals in processing personal data and maintained confidentiality of individual records and accounts.

## Results and Discussion

### Socio-Demographic and Economic characteristics of PLWHA

The study recorded a higher number of PLWHA from Ashanti Region (AR) (97.5%), where the hospital is located. There were few, 12 (2%), from the Brong Ahafo (B/A) and only 3 patient from the Greater Accra Region (G/A). Out of the 585 PLWHA from the Ashanti Region, 90 could not tell of their various districts and municipalities. 365 (73.8%) were from Kumasi, 17 (3.5%) from Ejisu Juaben, 15 (3%) from Atwima Nwabiagya and 10 (2%) from Atwima Mponua. Twenty (20) patients were recorded each for Obuasi, Sefwi Asampanaye and Kwabre districts altogether representing 10.26% of the total study sample. Three districts had 8 patient each; Mampong, Asante Akyem North and Efigya Kwabre also representing 4.1%. Also, 4 patients were recorded for the Ahafo Ano south district.

### HIV Type Distribution

Each time HIV replicates (by infecting a new cell), small changes or mutations exist bringing about the different forms of the virus, including within the body of a single person living with it. Over the past five years considered for this study (Table 1), most patients have been infected with HIV type 1, representing 84.0% of the total study sample. Worldwide the predominant virus is HIV-1 and accounts for 95% of all HIV infections. HIV-2 is mainly seen in a few West African countries and the spread in the rest of the world is

usually insignificant. HIV-2 generally progresses more slowly than HIV-1 and on a structural level there exist some important genetic differences. On a functional level, there is a difference between the two viruses in terms of how easy it is for the virus to infect. HIV-1 enters the immune system by attaching onto the CD4+ receptor found on the surface of white blood cells. HIV-2 however has a harder time gaining such a foothold with a lower viral load and slower risk of an individual becoming sick. HIV-2 is a less prevalent and less pathogenic type principally found in Western Africa in relatively small numbers [5].

Variables	Frequency	Percentage (%)
<b>HIV type Distribution</b>		
HIV-1	504	84
HIV-1 and 2	60	10
HIV-2	36	6
<b>HIV co-infection</b>		
HIV/Tuberculosis	120	20
HIV/HBV	30	5
HIV/None	450	75
HIV/Others	None recorded	None recorded
<b>Gender</b>		
Male	180	30
Female	420	70
<b>Age Range of PLWHA</b>		
≤ 20	9	1.5
21 - 25	42	7
26 - 30	72	12
31 - 35	87	14.5
36 - 40	90	15
41 - 45	114	19
46 - 50	66	11
> 50	120	20
<b>Marital Status</b>		
Married	282	47
Divorced	30	5
Separated	24	4
Single	162	27
Co-habiting	24	4
widowed	78	13

<b>Religious Affiliation</b>		
Christian	504	84
Muslim	78	13
Others	18	3
<b>Occupational Status</b>		
Employed	30	5
Self-employed	520	87
Non-employed	50	8
<b>Educational Level</b>		
No Formal Education	132	22
Primary Education	78	13
Junior High School (J.H.S)	150	25
Middle School Leaving Certificate (M.S.L.C)	114	19
Secondary/Technical School	72	12
Tertiary Education	54	9

**Table 1:** Socio-Demographic Characteristics of PLWHA.

#### Demographic Characteristics of PLWHA at KATH

The lower incidence of HIV in the age group ≤ 20 years (Table 1) is attributed to the low sexual activity recorded by the Centre for Disease Control and Prevention (CDC) [6]. Most individuals within this year group, according to Centre for Disease Control and Prevention (CDC), are not too sexually active and could be generally restricted by parents (guardians) from engaging in sexual practices which is the most common mode of transmission in these areas. Also, the possibility of individuals in these age groups not knowing their statuses may also exist as they may not have tested/screened for HIV. Despite the availability of numerous free screening opportunities, compliance is generally low among this age group [7]. In a study conducted by CDC [6], an estimated 9,731 youth aged 13 - 24 were diagnosed with HIV in the United States and 81% (7,868) of the diagnosed were persons between ages of 20 to 24years. This finding emphasizes the high cases obtained for individuals between 21 to 25 years as compared to less than or equal to 20 years in this present study. Individuals in this age group are most sexually active and are most likely to involve in sexual practices growing up. From table 1, the lower prevalence of HIV/AIDS among this age group (21 - 25) as compared to PLWHA

> 50 years deviates from the study conducted in 2014 by the CDC, Higher stigmatization from peers, classmates and others are common among individuals aged between 21 and 25 years and may be generally responsible for the lower prevalence. Thus; the probability of such individuals seeking HIV care or revealing their status may be very low. Many older people are prone to HIV infection and have the same risk factors as younger people such as lack of knowledge and may face some unique issues; older people believe HIV is not an issue for them and may not worry about protecting themselves, older women no longer worry about getting pregnant and may be less likely to use condoms and to practice safe sex. Even though older people visit their doctors they are less likely to discuss their sexual issues and doctors are less likely to talk to them about it. Besides, these people normally go for the HIV/AIDS test to know their status in order to take certain precautionary measures to maintain their health and live long. This reflected in the higher incidence among patients aged 50 years and above.

Globally, according to UNAIDS [8], women represent an increasingly larger percentage of adults (15 years and older) who are infected with HIV. About 25.3 million people in sub-Saharan Africa as at 2000 were living with HIV/AIDS of which 12.2 million were women and 10.1 million men [9]. It is evident from this study, as indicated in table 1, that HIV occurred more among females than in males. During sexual intercourse, it is easier for a man to transmit HIV to a woman than it is for a woman to transmit HIV to a man. The increased surface area of the genital parts (cervix, vagina and possibly the uterus) where HIV transmission could occur easily as compared to the areas of the penis (the foreskin, urethra and small tears on the head of the penis), the higher concentrations of HIV in semen than in vaginal secretions and the delicate tissues of the genital tract which can be damaged during intercourse leading to increased abrasions, vaginal bleeding and tearing generally account for the high prevalence rates [10]. The warmth and moistness of the vaginal muscles provide HIV with an easy entrance into the body and provide an ideal place for bacteria, viruses and other germs to grow. Low levels of the hormone oestrogen may increase a woman's risk of infection as it makes the vaginal wall thinner, enabling HIV to pass through more easily. Washing the vagina before and after sex by douching with water, soap, lemon juice, vinegar, antiseptics and consumer douching products can alter or destroy "friendly" bacteria that protect the vagina. Lastly, using antiseptic or acidic liquids such as rubbing alcohol or lemon juice can irritate the lining of the vagina and create microscopic tears that HIV can easily pass through. The high prevalence of HIV among females could be due to socio-economic and socio-cultural factors affecting women mostly in African countries such as poor quality of life, poor housing, overcrowding, under-nutrition, lack of education and empowerment, social placement of women as inferior to men and harmful traditional practices including violence against women. There is a complex relationship between marital status and HIV affected

by many external factors. This relationship diminishes when controlled for other socio-demographic risk factors for the infection. According to Shisana, *et al.* [11] sex behaviour acts as an intervening variable between HIV and marital status, marital status becomes statistically significant only when sex behaviour is considered. In this study, the records showed higher prevalence rates among married patients and singles. Clearly the higher incidence in the married group is related directly to sexual practices [12]. Women face a risk of infection in marriage because they do not use condoms, believing that their partners are faithful and do not engage in extramarital affairs. This is to be expected as condoms are largely used for birth control purposes and not for prevention of HIV or STIs in marriages [13], singles, divorced and the separated are re-dating and the prevalence of HIV infection in these individuals is only natural as these agreements (dating) are characterized by sexual practices. HIV/AIDS infection weakens the immune system making it susceptible to other infections. People with AIDS are also more likely to suffer complications of common illnesses such as respiratory tract infections including flu, tuberculosis and hepatitis B. In fact, TB is the most common presenting illness among people living with HIV, including those undergoing antiretroviral therapy [10].

#### Economic Characteristics of PLWHA at KATH

According to a study conducted, individuals of lower socio-economic status are substantially less likely to receive antiretroviral as their initial regimen, even after adjustment for baseline clinical characteristics [14]. Analysis of the results indicates; patients who are working, either employed or self-employed are able to seek early treatment and management and are most likely willing and ready to undergo HIV/AIDS screening/testing. The prevalence trend in higher economic groups could have been occasioned by a system neglect of some sectors of society when it comes to HIV/AIDS awareness, prevention and treatment. It is often assumed that rich people are also well educated, intelligent and knowledgeable. But as evident from this study (Table 1), knowledge does not necessarily translate into awareness. The non-employed were few. A larger number of non-employed PLWHA may exist but may not have been captured in this study.

#### Social Characteristics of PLWHA at KATH

Social characteristics according to this study, focused on the social settings within which the patients were including their educational levels, disclosure of condition to close relations and the diagnostic referral methods at KATH (Table 1). A larger proportion of studies conducted from 1996 onwards identified a lower risk of infection among the most educated [14]. Across many settings, HIV prevalence has reduced more consistently among the higher educated than among the less educated groups. Taking these findings together, it is suggested that new HIV infections occurring in

the latter half of the 1990s and into the 21<sup>st</sup> century has been occurring disproportionately among the least educated members of the society [14]. However, in recent years there has been a shift in paradigm as evident from this study, acquisition of knowledge in schools has not necessarily translated into awareness. HIV/AIDS over the past five years has been prevalent among individuals in the Junior high school and MLSC than in the primary school (Table 1). Educational campaigns, awareness creation and efforts made by non-governmental organizations and government agencies over the years has mostly targeted and concentrated on individuals in low resource settings mostly with no formal education [15] at the neglect of high-income areas perceived to have knowledge about the infection.

### Diagnostic Referral Methods of PLWHA

A total of 312 HIV/AIDS patients representing 52% of study sample were requested by doctors to go for the HIV test either at the wards or from the out-patient department (OPD). A total of 204 (34%) PLWHA were referred from the Antenatal Clinic Prevention of Mother to Child Transmission (PMTCT) and a very few (14%) from the Voluntary Counseling and Testing (VCT) centre (Figure 1). Diagnostic methods of referral of PLWHA varied significantly among the study sample. Over the past five years, 52% of PLWHA at the Komfo Anokye Teaching Hospital have been requested by doctors to go for the HIV test either at the wards or from the out-patient department (OPD). HIV testing and counselling is recommended by health-care providers to persons attending health care facilities as a standard component of medical care commonly referred to as “in provider-initiated testing and counselling” (PITC). The major purpose is to enable specific clinical decisions to be made and/or specific medical services to be offered which would not be possible without the knowledge of the HIV status of the people concerned. About 34% of PLWHA were referred from the Antenatal Clinic Prevention of Mother to Child Transmission (PMTCT) and a very few (14%) from the Voluntary Counselling and Testing (VCT) centre. These findings suggest that individuals no longer voluntarily go for HIV screening at the VCT centres. A study conducted in China found that the levels of HIV/AIDS knowledge and acceptability of VCT among adults were generally low. The use of VCT was related to occupation, age, transportation difficulties, ethnicity and high risk behaviour [16]. The main barriers to HIV testing included perceiving oneself as low risk, fear of unsolicited disclosure and fear of stigma and discrimination that would result from taking the test. When individuals present at the Komfo Anokye Teaching Hospital at the time of study were randomly asked “what prevented them

from having an HIV test?”, the most significant response was “no risky behaviours” other barriers included: “afraid of being seen by friends”, “people might think I have AIDS”, “afraid that health personnel would not keep the test result confidential” and “fear of discrimination if positive”. Altogether, VCT in the traditional sense is one approach to ethical HIV testing and counselling procedure that should be expanded and radically scaled up to meet the urgent requirement for greater access to ARV treatment and prevention.

### Conclusion

HIV-1 recorded a higher prevalence and an appreciably lower HIV type 2 prevalence. Treatment of condition still prevails in the adult population with a decline among younger adults. A higher percentage of PLWHA were females and among the educated groups. HIV/AIDS was more prevalent among the employed/self-employed and almost half of the overall PLWHA studied were married. A larger percentage of PLWHA were diagnosed by the “in provider-initiated testing and counseling” (PITC) with a few diagnosis from the VCT centres. Also, only a few (20%) of PLWHA recorded HIV/Tuberculosis co-infection. The study recommends educational campaigns in neglected sectors (high income and educated groups) emphasizing prevention, awareness and control. There should be a written policy and a formalized check system to make HIV screening and open disclosure of HIV/AIDS status mandatory prior to marriages. International initiatives and government interventions should be well designed and placed in a socio-demographic context in order to address the target groups. In addition, health facilities represent a key point of contact with people with HIV who are unaware of their status and who would benefit from HIV-specific services. PITC will be a valuable and important addition to the available range of approaches.

### Bibliography

1. Abrefa-Gyan T, *et al.* “Gender and Children as the Moderators of the Relationship between Social Support and Quality of Life: An Empirical Study of People Living with HIV/AIDS in Ghana”. *Social Work in Public Health* 30.7 (2015): 550-558.
2. Godbole S and Mehendale S. “HIV/AIDS epidemic in India: risk factors, risk behaviour and strategies for prevention and control”. *Indian Journal of Medical Research* 121.4 (2005): 356-368.
3. Lamptey PR and Gayle HD. “HIV/AIDS prevention and care in resource-constrained settings. A Handbook for the Design and Management of programs”. Arlington, Virginia, USA: Family Health International (2001): 23-56.



4. Olowookere SA and Adewole IF. "Socio-demographic characteristics and challenges experienced by disabled patients living with HIV/AIDS in a tertiary hospital in Ibadan, Nigeria". *African Journal of Medical Sciences* 41.3 (2012): 243-248.
5. Dougan S., *et al.* "Diagnoses of HIV-1 and HIV-2 in England, Wales, and Northern Ireland associated with west Africa". *Sexually Transmitted Infections* 81.4 (2005): 338-341.
6. Center for Disease Control and Prevention. HIV Surveillance Report 26 (2014).
7. Lyons MS., *et al.* "Emergency Department HIV testing and counselling: an ongoing experience in a low prevalence area". *Annals of Emergency Medicine* 46.1 (2005): 22-28.
8. UNAIDS/WHO. AIDS epidemic update. WHO/CDS/CSR/NCS/2001.2 Geneva: UNAIDS/WHO (2002).
9. Susser I and Stein Z. "Culture, sexuality, and women's agency in the prevention of HIV/AIDS in southern Africa". *American Journal of Public Health* 90.7 (2000): 1042-1048.
10. WHO. "Policy Brief: consolidated guidelines on HIV prevention, diagnosis, treatment and care for key populations". NY, Geneva (2013).
11. Shisana O., *et al.* "Marital status and risk of HIV infection in South Africa". *South African Medical Journal* 94.7 (2004): 537-543.
12. Newmann S., *et al.* "Marriage, monogamy and HIV: a profile of HIV-infected women in south India". *International Journal of STD and AIDS* 11.4 (2000): 250-253.
13. Gregson S., *et al.* "Age and religion selection biases in HIV-1 prevalence data from antenatal clinics in Manicaland, Zimbabwe". *Central African Journal of Medicine* 41.11 (1995): 339-346.
14. Wood E., *et al.* "Socio-economic status, access to triple therapy, and survival from HIV-disease since 1996". *AIDS (London, England)* 16.15 (2002a): 2065-2072.
15. Hargreaves JR., *et al.* "Systematic review exploring time trends in the association between educational attainment and risk of HIV infection in sub-Saharan Africa". *AIDS (London, England)* 22.3 (2008): 403-414.
16. Wei M., *et al.* "Acceptance of and barriers to voluntary HIV counseling and testing among adults in Guizhou province, China". *AIDS (London, England)* 21.8 (2007): S129-S135.

**Volume 2 Issue 6 September 2018**

**© All rights are reserved by Eric Agyeman-Duah., *et al.***