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## FIELD REPORT | HIV

# Individual and Community Level Factors Related to HIV Diagnosis, Treatment, and Stigma in Kumasi, Ghana: A Field Report

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## ABSTRACT

The human immunodeficiency virus (HIV) is a public health issue globally and in Ghana. While efforts are underway to reduce HIV prevalence in Ghana, there are still some HIV-related issues (duration lived with HIV, mode of HIV diagnosis, HIV status disclosure, HIV treatment, HIV knowledge, and HIV prevention and stigma) that need to be addressed. The purpose of the field study was to examine individual and community level factors related to HIV diagnosis, treatment, and stigma in Kumasi, Ghana. Specifically, we conducted a field-based comparison of HIV-related issues in Kumasi and the US to determine areas of similarities and differences. Since our focus was the Kumasi district in general, and the Suntreso Government Hospital in particular, we used convenient sampling. Thus, study results are not generalizable to the entire population of Ghana. Given the short duration of the entire field study (three weeks) and the fact that most information on the HIV-related issues focused in Ghana are available in the US, secondary data from various sources were used for the US comparison. Results from the study showed that 29.2% of participants in Kumasi had lived with HIV for seven or more years, while data from the US showed that people generally live with HIV for 20 years or more after testing positive for the disease. Most of the study participants in Kumasi (68.5%) stated that they were diagnosed with HIV through a laboratory blood sample test, while rapid antibody and ELISA (enzyme-linked immunosorbent assay) tests were found to be the most commonly used methods in HIV diagnosis in the US. The majority of participants living with HIV in Kumasi (71.7%) and the US (67%) were concerned about their friends and family knowing of their HIV status. Unlike the US where patient assisted programs administered by pharmaceutical companies offer free to lowly priced HIV medication to low-income people living with HIV (PLWH), 92.7% of PLWH in Kumasi had free access to HIV medication. HIV-related stigma was an issue in both Kumasi and the US.

**Keywords:** • HIV • Kumasi • Ghana • Stigma • Comparative Analysis

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## I. Introduction

### I.1. Statement of the Problem

The human immunodeficiency virus (HIV) is a global epidemic. In 2020, approximately 37.6 million people

were living with HIV globally. About 35.9 million of that population were adults, and 1.7 million were children (<15 years old).<sup>1</sup> Despite the advances made in HIV prevention and treatment globally, many people living with the virus still do not have access to

care and treatment, and HIV-related stigma has made HIV status disclosure a challenge. This is particularly the case in developing countries, including Ghana.

The first known HIV case in Ghana was reported in March 1986, and since then, the number of cases in the country has increased.<sup>2</sup> The overall HIV prevalence rate in Ghana is 1.70% for adults aged 15-49 years, with Kumasi having the second-highest number of people living with HIV (PLWH).<sup>3</sup> As of 2019, 342,307 Ghanaians were living with HIV, and about 36% (122,321) of that population were males and 64% (219,986) were females.

Although the HIV prevalence rate in Ghana is lower than in some neighboring countries (Togo and Cote d'Ivoire), there is a disproportionately high prevalence of the disease among key populations - female sex workers (6.9%) and men who have sex with men (18.1%).<sup>4</sup> The government of Ghana has made strides in addressing HIV prevalence through the adoption of local and international policies, including the World Health Organization's TREAT ALL policy. Nevertheless, HIV prevalence in the country remains high.<sup>5</sup>

### 1.2. Objectives of the Field Study

The purpose of the field study was to examine individual and community level factors related to HIV diagnosis, treatment, and stigma in Kumasi, Ghana. Specifically, we conducted a field-based comparison of HIV-related issues in Kumasi and the US to determine areas of similarities and differences.

## 2. Methods

### 2.1. Description of Activities

As part of the three-week Georgia State University School of Public Health's study abroad program, we participated in a virtual Ghana field study in the summer of 2021. The field study focused on three contemporary public health issues (water and sanitation, HIV, and women's health) and required students to participate in lectures, site visits, field trips, and to write a field study report. For the field report aspect of the study, our team chose to focus on HIV. Due to travel restrictions associated with the COVID disease of 2019 (COVID-19) pandemic,

we were unable to travel physically to Ghana. As a result, we had one of our in-country partners at the Suntreso Government Hospital located in Kumasi use a questionnaire we created to collect data on our behalf over a period of four weeks prior to the commencement of the three-week study abroad program. We pilot tested the questionnaire with our in-country partner for appropriateness, clarity, and ease of administration since he was going to be administering it. Feedback from our in-country partner was used to revise and finalize the questionnaire.

### 2.2. Setting and Data Collection

This study included both men and women over the age of 18 years who live in Kumasi. Individuals qualified to participate in the study if they had tested positive for HIV. We used a cross-sectional mixed-method study design. Using the face-to-face questionnaire administration format, data were collected from 100 participants over a period of two weeks by our in-country partner using Twi, one of the 50 indigenous languages spoken in Ghana as well as the English language. Prior to data collection, our in-country partner obtained consent from study participants and informed them about the confidentiality of any information they would provide. Participants answered 17 questions across 5 domains: i) demographic information, ii) mode of transmission and diagnosis, iii) HIV treatment, iv) HIV knowledge, and v) HIV prevention and stigma.

### 2.3. Statistical Analysis

Quantitative and qualitative data collected were exported from Qualtrics to the Statistical Package for the Social Sciences (SPSS) IBM version 26 software for data analysis. Prior to data analysis, all questionnaires were checked for completion, double entries, and inconsistencies. Quantitative data with missing values were excluded from calculations. Descriptive analysis was conducted to summarize the data. Qualitative data were analyzed manually using the thematic approach.

### 2.4. Ethical Approval

Approval for the study was obtained from the Kwame Nkrumah University of Science and Technology in Kumasi.

### 3. Findings

#### 3.1. Overall Findings

We found that 29.2% of participants in Kumasi had lived with HIV for 7 years or more compared to a duration of 20 years or more among PLWH in the US. We also found that 68.5% of study participants in Kumasi were diagnosed with HIV through a laboratory blood sample test, while those in the US were mostly diagnosed via rapid antibody and ELISA (enzyme-linked immunosorbent assay) tests.<sup>6</sup> The majority of study participants in Kumasi (71.7%) and the US (67%) were concerned about disclosing their HIV status for fear of discrimination and stigma.<sup>7</sup> HIV-related stigma was an issue in both Kumasi and the US. Unlike the US where patient assisted programs administered by pharmaceutical companies offer free to lowly priced HIV medication to low-income people living with HIV (PLWH), almost all (92.7%) study participants in Kumasi had free access to HIV medication.<sup>8</sup>

#### 3.2. Demographics

Over three quarters (80.2%) of the 100 study participants in Kumasi were female and a little less than a fifth (19.8%) were male. The highest level of education participants had attained was junior high school (39.6%), followed by senior high school (25.2%). About 18.0% of study participants had never attended school. Most participants (37.2%) were above 49 years, 22.1% were within the 29-38 age group, 29.0% were within the 39-48 age group, and 11.5% were within the 18-28 age group. Most participants were married (35.1%), while others were either single (28.8%), divorced (18.9%), or widowed (17.1%).

#### 3.3. Duration Lived with HIV, Mode of HIV Diagnosis, and HIV Status Disclosure

When asked how long they had been living with HIV, some study participants in Kumasi stated 7 or more years (29.2%), others stated 4-6 years (27.4%), 1-3 years (26.5%), less than a year (13.3%), and since birth (3.5%). Most participants (68.5%) stated that they were diagnosed with HIV by a laboratory blood sample test, while others (25.2%) indicated that they were diagnosed through a rapid HIV diagnosis test kit or by some other means (6.3%). The

majority (71.7%) of participants stated that they had not disclosed their HIV status, while not as many (28.8%) indicated the converse.

#### 3.4. HIV Treatment

Almost all study participants in Kumasi indicated that they were taking HIV medication (96.4%). Just a few (3.6%) said they were not. Regarding types of medication, most participants stated that they were on HIV medication, specifically tenofovir, lamivudine, or dolutegravir. When asked if it was easy to obtain their HIV medication, about three-quarters of the participants (74%) said "yes." Almost all participants (92.7%) said they do not pay for their HIV medication. On the issue of their perception of the efficacy of the HIV medication they were taking, over three-quarters (78.38%) of study participants stated that their health had improved.

#### 3.5. HIV Knowledge

Many study participants in Kumasi (73%) were aware that HIV could not be cured or transmitted by standing in close proximity to an infected person. Only 0.9% stated that one could acquire the infection by standing close to an infected person. When asked if having more than one sexual partner could increase a person's chance of being infected with HIV, 44.4% said yes, 19.4% said no, and 36.1% said they did not know.

#### 3.6. HIV Prevention and Stigma

Over half of study participants in Kumasi (57.3%) stated that they did not have access to contraceptives, and most stated that they were not comfortable talking about their HIV status (81.8%). Stigma (cited 62 times) and confidentiality (cited 23 times) issues were the two common themes that emerged as reasons why study participants were not comfortable disclosing their HIV status. When asked if PLWH are treated unfairly by community members, less than half (45.0%) of study participants stated that they did not know, some said "yes" (18.4%), and others said "no" (3%). On the issue of what they thought the government of Ghana could do to reduce HIV stigma, over 60% of study participants stated that they believed educating the public on HIV would help to reduce HIV-related stigma.

## 4. Discussion and Implications for Policy and Practice

The purpose of the field study was to examine individual and community level factors related to HIV diagnosis, treatment, and stigma in Kumasi, Ghana, and to determine areas of similarities and differences between Kumasi and the US.

### 4.1. Duration Lived with HIV, Mode of HIV Diagnosis, and HIV Status Disclosure

A notable difference between the US and Kumasi is that PLWH on HIV medication in the US are living longer than those in Kumasi. The life expectancy of PLWH in the US is approaching 20 years or more after diagnosis - PLWH in the US are living to about 70 years.<sup>9</sup> The same cannot be said of Kumasi, where study participants on HIV medications had been living with the disease for about seven years. This short duration may be due to the late receipt of treatment after being diagnosed with HIV.<sup>10</sup>

Most of the study participants in Kumasi (68.5%) stated that they were diagnosed with HIV through a laboratory blood sample test, while almost 30% stated that it was through a rapid diagnosis kit. Just as in Ghana, rapid antibody laboratory tests are commonly used for HIV diagnosis in the US in addition to the ELISA (enzyme-linked immunosorbent assay) test.<sup>11</sup> The majority of participants living with HIV in Kumasi (71.7%) and the US (67%) were concerned about their friends and family knowing of their HIV status.<sup>7</sup> Unlike Ghana, PLWH in the US can be prosecuted for neglecting to disclose their HIV status to their sexual partners.<sup>12</sup> Irrespective of this, the criminalization of not disclosing one's HIV status in the US has had limited success in reducing HIV transmission.<sup>13</sup>

### 4.2. HIV Treatment

In the US, about 65.9% of PLWH received treatment in 2019.<sup>14</sup> This is different from what pertains in Kumasi, where all PLWH have free access to services and treatment. Even though HIV medication and treatment are free in Kumasi, we found that more PLWH in the US access HIV medication and treatment than those in Kumasi.<sup>15</sup> The estimated HIV medication uptake or coverage in Ghana is 34%.<sup>5</sup> As with the US, indirect costs such as travel time and

transportation served as barriers for HIV treatment for many study participants in Kumasi, particularly those living in rural areas.<sup>3</sup>

### 4.3. HIV Knowledge

Study participants in Kumasi were generally knowledgeable about HIV as PLWH in the US. The majority of study participants (85%) knew their HIV status. In the US, 15% of the over one million PLWH are unaware of their HIV status.<sup>7</sup> That translates to about 165,000 people who do not know that they are living with HIV.<sup>16</sup>

### 4.4. HIV Prevention and Stigma

We observed that condom use is widely recognized as an effective means of HIV prevention in both Kumasi and the US. In the US, HIV prevention has brought the annual number of new HIV infections to an all-time low since the start of the epidemic. Indeed, the US Centers for Disease Control and Prevention recommends the use of condoms as a means of HIV prevention.<sup>17</sup> In Kumasi, study participants' religious and cultural beliefs influence contraceptive use. This is also the case among certain populations (Catholics) in the US.<sup>18</sup> In the US, as in Kumasi, PLWH experience HIV-related stigma, which makes it difficult for them to share their status with family and friends. This behavior is consistent with what Turan et al. found in their study on how stigma affects PLWH.<sup>19</sup>

### 4.5. Strengths and Limitations

The field study had a few limitations. Some words like "stigma" and "rapid diagnostic test" in the questionnaire were difficult to be translated into Twi. However, our in-country partner addressed this issue by describing the words in Twi. There were also connectivity issues during questionnaire administration to participants. Our in-country partner addressed this issue by switching internet providers during the process. Since the field study focused primarily on Kumasi and used a convenient sample, results cannot be generalized to the entire population of Ghana.

### 4.6. Recommendation for Faculty, Students, and Professionals

For future field studies on HIV, researchers could focus on the strategies that the government of Ghana

can use to support and advocate for the elimination of HIV-related stigma. Future studies could also focus on the other two regions in Ghana (Greater Accra and the Eastern region) that are greatly affected by HIV to obtain more data to compare with what pertains in the US. Additionally, students could focus on how culture impacts HIV treatment in Ghana and the US. Overall, we learned about the culture of Ghana as well as HIV-related issues in the country.

### Compliance with Ethical Standards

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### Key Messages

- ▶ HIV is a global public health issue.
- ▶ More women than men seek care.
- ▶ HIV-related stigma prevents PLWH from disclosing their status.

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