

# Socio-Demographic Profile, Clinical Factors, and Quality of Life of People Living with HIV and AIDS at a Primary HIV Care Clinic in Angeles City

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## Abstract

Joint United Nations Programme on HIV/ AIDS recorded 36.7 million People living with HIV and AIDS worldwide (PLWHA). Understanding different factors associated with HIV and improvement of quality of life are significant indicators of developing strengthened and strategic program response. The study aimed to describe the socio-demographic profile, clinical factors, and the quality of life (QOL) of PLWHA in a Primary HIV Care Clinic (PHCC) in Angeles City and associate these variables to the patient's overall QoL and Health Related QOL (HRQOL). This correlational study involved 120 PLWHA with ART aged 18 years old and above. The outcome of the study shows that 100% of the respondents are coming from the productive and reproductive years of 15-49 years old, 95% single, 93% coming from the male population, 70% from the working sector (15.83% teachers), and 81.67% coming from the research locale, Angeles City. In terms of clinical factors, 100% of the respondents have a sexual transmission as a mode of exposure, 100% with experience STI symptoms, 75.84% are those with below 300 cells/mm<sup>3</sup>, 39.17% are coming from Stages 3 and 4 (symptomatic phase), and 70.84% passed the more than 6 months of treatment (in the context of treatment adherence). In terms of QOL, respondents rated general QOL better than their Health Related QOL (HRQOL). Respondents had the highest scores in the psychological domain and the lowest scores in their physical domain. Furthermore, there is a statistically significant association between environmental domain scores and occupation (p-value = 0.001), educational attainment



and HRQOL scores (p-value = 0.014), and physical domain with WHO clinical stages (p-value = 0.001). and treatment of duration (p-value = 0.024).

**Keywords** – AIDS, ART, clinical factors, HIV, PLWHA, QOL, socio-demographic profile, STD, STI, WHOQOL-BREF

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## INTRODUCTION

As of 2016, the Joint United Nations Programme on HIV/ AIDS (UNAIDS) has recorded 36.7 million PLWHA worldwide. According to the report, the rate of increase has been declining by 16% annually (1.8 million new cases) since 2010 due to the intensified and aggressive prevention and control efforts, particularly the scale-up of testing strategies and anti-retroviral therapy coverage. However, it is an undoubted fact that still, a great number of individuals are being plagued with this epidemic (UNAIDS, 2017).

Being the public health concern that it is, World Health Organization (WHO) underscored the HIV epidemic as a social issue more than a medical one, as no other disease provoked the strongest reactions, and led to worst injustices, stigmatization, and inclusion. Aspects of socio-demographic and clinical factors are to be considered for programmatic approaches, interventions, and strategies (WHO, 2010).

As HIV and AIDS evolved from a fatal condition to a manageable chronic disease with lifelong medication, PLWHA still experience issues involving mental health, poverty, confidentiality, and co-morbidities, among other factors affecting their total well-being (Zhang et al., 2009). With an increased incidence of PLWHA on life-long ART, it is critical to have a deeper understanding of the patient-centered factors affecting their QOL, as its improvement becomes the goal of their treatment and management (Tam et al., 2011).

WHO defines QOL as an individual's perception of their position in life in the context of the culture and value systems in their living milieu and relation to their concerns, expectations, goals, and standards (WHO, 1996). Considering the emerging issues of PLWHA, QOL becomes the evolving and encompassing measurement of health, more than the traditional morbidity and mortality. Furthermore, QOL has been popularly used to convey a sense of well-being in the contextual paradigms of physical, psychological, social, and environmental domains. (Basavaraj, 2010).

Most STD surveillance happens in social hygiene clinics and government facilities and available studies regarding PLWHA socio-demographic profile, clinical factors, and QOL are focused in the hospital setting with an identified key population. More so, they are usually treated separately. With limited studies focusing on primary care facilities and the general population, the researcher expresses interest in this matter.

The present study aimed to determine the socio-demographic profile, clinical factors, and the QOL of PLWHA in a PHCC in Angeles City. It also aimed to associate the patient's socio-demographic profile and clinical factors with QOL.

## **METHODOLOGY**

### ***Research Design***

The project is a correlational study design, which aims to describe the socio-demographic profile, clinical factors, and QOL of the PLWHA and to determine the association of these two variables to the QOL. Socio-demographic factors refer to the respondents' age, gender, educational attainment, marital status, occupation, and place of residence. Meanwhile, clinical factors refer to the respondents' route of transmission, STD symptoms, CD4 cell count, clinical stage, and duration of treatment.

### ***Sources of Data***

The primary data were sourced from the respondents of the study who were patients of Angeles City who were undergoing anti-retroviral therapy. The secondary data consisting of the clinical stage, length of time of treatment, presence of comorbidities, and drug regimen of the patients were taken from the patient's file with the permission given by the patients with strict observance of the Data Privacy Act of 2012.

### ***Data Gathering Procedure***

The data were gathered through online and in-person modalities. The online was done using Google Forms whose link was sent to the respondents through email. In case of internet connectivity issues, face-to-face data-gathering was done. Each of the respondents was given a structured set of questions.

### ***Respondents and Locale***

According to the DOH-Epidemiology Bureau Report (2019), there were 111 newly diagnosed individuals from January 2018-January 2019 Angeles City. The locale of the study is considered a highly prevalent city for HIV Cases and known to be one of the red-light districts in the Philippines (DOH-Epidemiology Bureau, 2015).

### ***Research Instrument***

In this study, a questionnaire consisting of three parts was used. An English version and Filipino translation were made available as validated by a psychometrician, linguist, statistician, infectious disease specialist, and patient support group

representative. Parts I and II of the questionnaire were researcher-made, while Part III was a standard questionnaire created by the World Health Organization (WHO) to measure the Quality of Life of a Person Living With HIV/AIDS (PLWHA).

### ***Sampling Technique***

Since the sample size computed was close to the population of 124, all 124 patients were targeted as respondents. This is purposive sampling with total enumeration. However, while doing the study, two PLHWAs died, and two transferred facilities, yielding a total of 120 respondents.

### ***Ethical Clearance***

Ethical clearance was gotten from a Philippine Health Research Ethics Board member institution and was cleared by Central Luzon Center for Health Development and the Regional TB-HIV Support Network, Incorporated.

### ***Statistical treatment***

The data were encoded and checked for completeness using Microsoft Excel. The socio-demographic, clinical characteristics of people living with acquired immunodeficiency syndrome and responses to individual WHOQOL-BREF questions were described using frequency, percentages, and median. The answers to each statement under each domain of the WHOQOL-BREF were added and transformed into a 0-100 scale following the scoring guide provided by WHO. Higher scores mean higher QOL.

To test the difference in the median general and HRQOL responses among socio-demographic and clinical characteristics, Kruskal-Wallis and Dunn's multiple comparison tests were utilized since no transformation was provided in the scoring guide of WHO (original responses ranging from 1-5 was used in the analysis). On the other hand, to test the difference in domain scores among different socio-demographic and clinical characteristics, a one-way Analysis of Variance (ANOVA) was used. Statistical analyses were done using Stata IC ver. 13.

## **RESULTS**

### ***Sociodemographic Profile***

The majority (93.65%) of the respondents were males; in the age group 30-34 (32.70%); A total of 120 PLWHA were included in the study. Of the 120, 93.33% are males, and 6.67% are females. Most of them are in the age range 25-29 years (37.50%); fewest are those 45-49 years old (4.17%), and there was no respondent with age range 40-44 years and 50 years and above. The majority of the PLWHA in the clinic were college

undergraduates (37.50%), 25.00% were college graduates, and 15.00% were high school graduates. Some of the participants took master's degree units (9.17%) or were master's degree holders (8.33%). In terms of civil status, 95.00% were single, while 5% were married. The largest group based on occupation was students (16.67%), while 13.33% were unemployed. Other occupations include teachers (15.83%), fast food crew (9.17%), beauticians (8.33%), self-employed (8.33%), sales representatives (7.50%), office staff (6.67%), nurses (4.17%), club entertainers (4.17%), construction workers (2.50%), OFWs (1.67%), doctors (0.83%), and police, military, or in recruitment services (0.83%). Around 82% were from Angeles City, and around 18% were from outside.

### **Clinical Factors**

All respondents have sex as the route of transmission. The majority experienced pain in the abdomen (27.50%) as a symptom; next to this were discharges (20.00%), painful urination (16.67%), pain in the genitals (14.17%), and ulcerations (13.33%). Others experienced symptoms such as rash in the genital area (3.33%), genital itching (1.67%), burning urination (1.67%), and pain during intercourse (1.67%). In terms of CD4 cell count, 21.67% have less than 50 cells/mm<sup>3</sup>, 9.17% have 50 – 100 cells/mm<sup>3</sup>, 45.00% have 101 – 300 cells/mm<sup>3</sup>, 20.00% have 301-500 cells/mm<sup>3</sup>, and 4.17% have more than 500 cells/mm<sup>3</sup>.

### **Quality of Life**

Most of them rated their QOL as neither poor nor good (44.17%), 30.83% rated good, and 8.33% rated very good. There were 16.67% who rated their QOL as poor. Moreover, the majority rated health as neither satisfied nor dissatisfied (45.83%), while 17.5% were satisfied. On the other hand, 31.67% were dissatisfied with their health and 5.00% were very dissatisfied. Overall, the respondents were neither poor (dissatisfied) nor good (satisfied) with their QOL and health.

### **Physical Domain**

The respondents feel that physical pain prevents them from doing what they need to do in a moderate amount (35.83%). Also, more than half (51.67%) need medical treatment very much to function in their daily life. Most of them moderately have enough energy for everyday life (40.00%), and 70% of them rated being able to get around as neither poor nor good. In terms of sleep, a large percentage of the respondents were dissatisfied (54.17%), and very dissatisfied (39.17%). In their ability to perform daily activities, and work capacity, most were neither dissatisfied nor satisfied (47.50%, and 58.33%, respectively). Overall, the response under the physical domain is in the middle (Md=3), except for those areas most affected and needing more focus, which is the need for medical treatment where the median is equal to 4 (meaning very much) and the satisfaction with their sleep with median equal to 2, meaning dissatisfied.

## ***Psychological Domain***

The participants mostly enjoy life very much (31.67%) and to an extreme amount (30.83%). Around 50% responded with “very much” on the feeling of their life being meaningful, and on how well they were able to concentrate. In acceptance of bodily appearance, 45.00% answered "mostly", while on how satisfied are with themselves, the majority answered neither (40.00%). They also answered, "quite often" for having negative feelings (58.33%); some "very often" (31.67%). Overall, the responses were moderate for how well they can concentrate, how satisfied are they with themselves, and on having negative feelings. On the other hand, the overall perception of how much they enjoy life, life being meaningful, and accepting their bodily appearance, is positive with a median equal to 4.

## ***Social Domain***

The majority are neither dissatisfied nor satisfied with their relationships (48%), sex life (46.67%), and the support they get from their friends (48.335).

## ***Environmental Domain***

On the feeling of safety and how healthy the physical environment they are in, around 40%, which is the majority, answered "a moderate amount". The majority also have moderately enough money to meet their needs (37.50%) and have opportunities for leisure activities (57.50%). On the other hand, the information they need for day-to-day life is mostly available (48.33%). In terms of the conditions of their living place, and access to health services, most of them are satisfied (45.00%, and 40.00%, respectively). In terms of transport, however, the majority are neither (43.33%). Overall, they have positive responses on the availability of information, living conditions, and access to health services.

## ***Association of QOL with the Socio-demographic Characteristics***

Results showed that of all the variables under study, only educational attainment showed a significant association in the HRQOL (p-value: 0.014). Other variables such as age, sex, marital status, occupation, and place of residence showed no significant association (p-value > 0.05).

## ***Association of QOL with the Clinical Characteristics Characteristic***

Results of the Kruskal-Wallis test revealed no significant differences in median general and health-related QOL scores among groups of different STD symptoms, CD4 cell count, clinical stage, and treatment duration (Table 1).

Table 1. General QOL and HRQOL median scores by clinical characteristics

Variable	General QOL <sup>a</sup>	pv	Health-related QOL <sup>a</sup>	pv
Sexually transmitted disease symptoms		0.138		0.909
Discharges	3		2.5	
Painful urination	4		3	
Ulcerations	4		3	
Pain in genitals	3		3	
Pain in abdomen	3		3	
Genital itching	2.5		2.5	
Burning urination	4		3	
Rash in the genital area	3		2.5	
Pain during intercourse	4		3	
CD4 cell count		0.438		0.774
<50 cells/mm <sup>3</sup>	3		3	
50 – 100 cells/mm <sup>3</sup>	3		2	
101 – 300 cells/mm <sup>3</sup>	3		3	
301 – 500 cells/mm <sup>3</sup>	3		3	
>500 cells/mm <sup>3</sup>	3		3	
Clinical stage		0.999		0.648
Stage 1	3		3	
Stage 2	3		3	
Stage 3	3		3	
Stage 4	3.5		3	
Treatment duration		0.450		0.342
Below 6 months	3		3	
6 – 12 months	3		3	
12 months and above	4		3	

## DISCUSSION

### *Socio-demographic Profile*

#### *Age*

The current study revealed more cases in the age range of 25-29 years old (37.50%), followed by 15-19 years old (22.50%), 35-39 years old (19.17%), and some are 20-24 years old (10%) respectively. According to the Department of Health-Epidemiology Bureau (2015), HIV Infection is more prevalent in the youth, because of the interplay of social media

exposure, peer pressure, and influence on the consumption of alcohol and drugs that affects their decision-making, and so their risk-taking behaviors. Similarly, Marsh et al. (2011) reiterated increased cases within the same age demographics as per United Nations General Assembly for Special Sessions (UNGASS) Report from the years 2000-2004.

Contrary to that and as a programmatic strategic direction, in Manicaland, Zimbabwe, there was an observed decreased incidence of PLHWA aged 15-24 years old since 2005. An observation in that study was that not having enough wide-reaching preventive measures may be the cause of increased HIV cases among youth. Thus, due to affirmative feedback and HIV awareness in schools and targeted advocacy and events for the youth in a community setting, people mended their behavior towards sex, and they have observed behavior change in safe sexual practices (Michelo, et al., 2006).

Relating this to QOL, younger persons (<35 years old) with HIV have better QOL (such as being optimistic) than older persons with HIV specifically in the psychological domain as their cases are frequently diagnosed in early stages. This is also due to the more resilient attitude of the youth, along with the already established program to aid them in their adjustments (Kovačević, et.al, 2006).

## **Sex**

Of all the 120 PLWHA respondents, 93.33% are males and 6.67% are females. According to a study, extensive male homosexual activities in China spiked the occurrence of HIV among males having sex with males (MSM) from 0.6% to 5.8% in 2003 and 2006, respectively (Chengdu Gay Community Care Organization, 2006). This is due to the reason that 79% of the male respondents have had multiple sexual encounters (boyfriends, casual sex partners, one-night stands) within just one year (Department of Health-Epidemiology Bureau, 2015). North Indian research stated that the prevalence of HIV among males was because of their relocation to search for work in metropolitan cities. Therefore, being alone, new to the environment, and sexually indiscriminate put them at risk of contracting HIV Infection (Jha, et al., 2014).

Per QOL, males have better general QOL due to the conclusion that they receive more support and genuine help with their syndrome. Females, on the other hand, have a lower level of general QOL since there are not taken into consideration their disorder and lack of mutual assistance. However, when started on treatment, the females PLWHA has a better rate of QOL increase in all domains than males, because they are more adherent to treatment and clinical management (Tesfay et al., 2015).

## **Educational Attainment**

College Undergraduate respondents appeared to be on the top list of acquiring the disease with no noted respondents from the elementary graduate and the

elementary undergraduate. This can be related to the fact that most of the people in this age group are engaged in sexual exploration. Proving so, revealing that risky behavior starts early and preventive measures start late, as reiterated by the DOH Epidemiology Bureau (2018), the first sexual encounter of young Filipinos is at 15 years old with the first penetrative sex at the age of 18, first condom use at 19 years old, and the first HIV testing at 22 years old.

On the other hand, studies show that people who have a higher education have less rate of HIV Infection (Michelo et al., 2006). This is because people have increased learning and heightened awareness of HIV (Kayeyi et al., 2009). Moreover, the limited control measures are the reasons why there are higher risks of HIV infection among lesser educated people (Michelo et al., 2006).

The PLWHA will have more tendencies to accomplish healthier QOL with higher education as they have a more solid and stable foundation on knowledge, and employment opportunities while enjoying various support systems such as family, friends, and long-term partners (Tam, et al., 2012).

### **Civil Status**

Based on the result, single people (95%) are more likely to have HIV infection than married people (5%). It was established in a study that there is a correlation between marital status and HIV infection. Their results showed a higher prevalence among unmarried people than married people, 15.70% and 10.48% respectively. Also, the probability of getting HIV had a 95% confidence interval between the unmarried group and the married group. This is due to the more controlled and protected sexual behaviors of married individuals in the context of mutual faithfulness and to the vulnerabilities of uncommitted, multiple sexual encounter possibilities for single individuals (Shisana, et al., 2004). Regarding the social domain of QOL, married people have better QOL than those who are single. This is because having your own family provides a sense of comfort, better communication, and improved well-being (Mokhbat et al., 2010).

### **Occupation**

This study also determined patients' socio-demographic profiles concerning their occupations. With all the indicators given, the majority were students (16.67%), and 13.33% were unemployed followed by teachers (15.83%). According to the Department of Health-Epidemiology Bureau (2015), among the respondents of males and transgender having sex with males (M/TSM), more than half (57%) were students, while among female sex workers (FSW) and male people who inject drugs (PWID), 39% and 13% respectively were students. Another study had a result where most of their respondents were unemployed including students (56.1%) (Imam et al., 2011). Even so, an advanced HIV infection called AIDS is further experienced more by unemployed people than those employed (Grob, et al., 2016). Furthermore, in this study, the second highest occupation is being a teacher

(15.83%). Teachers who are exposed in health care settings and those handling students with special needs may be exposed to blood spillage and experience bites or scratches. Proving so, school-based activities regarding HIV awareness will be beneficial and critical. (McGoldrick, 2012).

Henceforth, employment is highly associated with QOL for having a job ensures funds that suffice the needs and desires of a PLWHA (Imam, et al., 2011). In agreement with this statement, Razera et al. (2008) indicated that having stable pay encourages better QOL significantly in physical and psychological domains.

### ***Place of Residence***

In terms of its locale, this study was more focused on Angeles City, because it is a highly prevalent city for HIV, proving the result that 82% of the respondents are from Angeles City compared to 18% from outside. Referring to a study, HIV prevalence is 7.7% in urban residences and 0.9% in rural residences. This is because of the increase in people's migration and economic activities in these areas, along with their sexual practices and behaviors (Tesfay, et al., 2015). Conforming to this is the study in Sub-saharan Africa, where they are a wider range of HIV cases in urban areas than in rural areas, which is 8.4% and 6.7% respectively (Kimani, et al., 2013). More so, in another study, the predominance of HIV and STDs in Zhejiang Province (China) was due to the entertainment purposes that offer sexual activities as risk factors in urban areas (Pan, et al., 2014).

In terms of QOL, urban residents have better QOL and independence than residents of rural as the level of support is not as much at rural locations compared to an urban locale. Furthermore, services are usually completer and more comprehensive in these commercial city centers (Imam et al., 2011).

### ***Clinical profile of PLWHA in a PHCC in Angeles City***

#### ***Mode of Transmission***

This study also included the distribution of PLWHA in line with their clinical profile. All 120 respondents have a sexual transmission as their mode of exposure. Around the world, 85% of HIV incidences are transmitted through sexual transmission (Chugh et al., 2017). Supporting this is the study of Keshava in 2006 where homosexual transmission was the most common route of transmission worldwide. The use of condoms as a means of protection takes a huge role in preventing HIV transmission. However, to date, our condom is low at the 8% to 20% range, varying on types of population groups. Specifically, the reason for low condom uptake is as follows: unavailability of condoms (61%), not into condoms (17%), the opposition of a partner in using condoms (7%), not necessary to use condoms (7%) (DOH, 2015).

In terms of QOL, among respondents with different kinds of transmission, respondents who acquired HIV Infection through same-sex sexual contact have higher scores on the environmental domain of QOL (Liping, et al., 2015).

### **STD Symptom**

Concerning sexually transmitted infections (STI), most patients experienced pain in the abdomen (27.50%). Gregson, et al.(2001) reported that pain in the abdomen is experienced by 32% of men and 42% of women, while discharges are experienced by 35% of women. STI and its symptoms increase the risk of being infected with HIV.

In the aspect of QOL, the clients' experiences of STI symptoms are contributory to worsening levels of QOL (Akinboro, et al., 2014). With the variables of medical history in a study, PLWHA with STD symptoms had experienced unhealthier situations that influence their QOL (Shan, et al., 2011). Asymptomatic PLHIV has been shown to live with greater QOL in the physical domain, have more independence, and even have a more positive take on health (Imam, et al., 2011).

### **CD4 Levels**

One of the primary measurements in assessing PLWHA health conditions, particularly the immune system, is testing the CD4 cell count. Normal range values are 500-1600 CD4 cell counts (Mark, 2007). CD4 cell count of <350 is among the PLWHA but differs in the seriousness of HIV (Anyaegbunam, 2014).

Based on this study, CD4 cell count with 101 – 300 cells/mm<sup>3</sup> got the highest percentage among CD4 levels. 200 cells/mm<sup>3</sup> to <350 cells/mm<sup>3</sup> is the range or usual CD4 threshold of newly diagnosed PLHWA worldwide (World Health Organization, 2010). By 2015 and 2016, 133 cells/mm<sup>3</sup> and 132 cells/mm<sup>3</sup> respectively were the average CD4 cell count of the newly diagnosed PLWHA here in the Philippines. This is below the Health Sector Plan 2020-2022 goal of PLWHA diagnosis at 300 cells/mm<sup>3</sup>. As such, programmatically, this is an indication of the need to intensify testing and linkage to care to capture PLWHA, while their asymptomatic and with high immunologic status (DOH-EB, 2020).

Dealing with its relationship to QOL, PLWHA with >350 cells/mm<sup>3</sup> have greater physical, psychological, and independence domains of QOL than those with <350 cells/mm<sup>3</sup> of CD4 cells (Akinboro, et al., 2014). It is said that the higher the CD4 cell count, the better QOL. However, those PLWHA with low CD4 levels upon diagnosis, but were compliant with treatment and with complete management and prophylaxis initiation, have observantly had better QOL than those high CD4 PLWHA who are not treatment compliant (Liping et al., 2015).

## ***Clinical Staging***

About the clinical stage, most numbers of respondents are in stage 2 (50.83%) followed by stage 3 with 32.50%. Likewise, in another study, most of the participants were in either Stage 2 at 31.7% or Stage 3 at 34.1% (Imam et al., 2011). WHO clinical stages regulate the course of HIV/AIDS. Lengthy engagements attended with some laboratory screenings received by Stage 1 and 2 patients. Lesser clinical and laboratory evaluations are received by Stage 3 and 4 patients to assess when to have ART. Respondents at lower stages of HIV have better general QOL than respondents at advanced stages of HIV (Liping et al., 2015). Conversely, patients in advanced stages of HIV showed better QOL than patients in lower stages of HIV significantly in physical and psychological aspects (Fan et al., 2011) since at advanced stages, there were already prolonged ARTs (Handajani et al., 2012).

## ***Duration of Treatment***

In the results, most patients underwent 6-12 months duration of treatment (51.67%), few are under 6 months (29.17%) followed by 12 months and above (19.17%). There had been studies that observed the changes in the QOLs of PLWHA in a short period, commonly less than 1 year (Carrieri et al., 2003). A study in France showed that ART adherence had a great impact on a patient's QOL and certain patients because of pill burden and fatigue are having lowering QOL levels as time goes by (Carrieri et al., 2003).

## ***QOL of PLWHA in a PHCC in Angeles City***

### ***General QOL and Health Related QOL***

On general health, the respondents showed the rate of their QOL (44.17%), as well as satisfaction with their health (45.83%), is neither poor nor good. However, mean scores reveal that QOL is better scored than HRQOL. Comparing this to the study of Handajani et al. in 2012, the concept of disease or infection of the PLWHA affects their HRQOL. Response, as most patients feel sick and debilitated with their positive HIV Status. Furthermore, general QOL covers a more comprehensive and wide-ranging scope of the definition of well-being (Imam et al., 2011).

### ***Physical Domain***

The perception of PLWHA on the physical domain in the questionnaire resulted in a mean score of 45.75, which is the lowest among the domains under study. However, their perception of dependence on medical treatment had a median of 4 (interpreted as very much), which means that they have a strong dependence on their treatment, while their satisfaction with sleep was only 2, meaning the respondents are dissatisfied with this aspect of the physical domain.

Particularly, the physical symptoms they are experiencing are the reasons why PLWHA were not so much satisfied with their QOL. A study in Nigeria proved that PLWHA has a weak physical ability which in turn influenced their decline in health. This put them with a higher dependence on their medication (Akinboro et al., 2014). An outpatient clinic in Nigeria noted that 68.7% of the patients do not have a good quality of sleep. This is due to the side effects of the anti-retroviral therapy medications being widely used and available, which include nausea, lucid dreams, and dizziness. Poor sleep quality may have led to other diseases and poor performance at work (Morgan et al., 2015).

### ***Psychological Domain***

There was a positive response in the psychological domain of the PLWHA, garnering the highest mean of 58.30. In Indonesia, there is an outpatient clinic at the Kramat Hospital that disclosed outstanding results of the respondents in connection with psychological aspects. The QOL of patients are higher due to their acceptance of the state of disease within themselves, and so having better insights into life (Handajani et al., 2012). In addition, the psychological domain of QOL may also increase due to antiretroviral treatment, as it gives a sense of security and positive well-being to the patients (Wig et al., 2006).

### ***Sociological Relationships Domain***

From all the responses from the participants, a median of 3 was the result of their internal representation of social relationships with a mean score of 56.47. This is also the domain where there is a great gap in terms of responses, yielding less general and representative results. PLWHA who are married has higher QOL rather than single people because social support, love, security, and sexual activity from loved ones improve well-being (Akinboro et al., 2014). QOL could also be improved thru enhanced social support. In that case, mental health problems can also be minimized. (Degroote et al., 2014).

### ***Environmental Domain***

Respondents in this study have positive responses leading to the overall result of the environment domain with a mean score of 58.22. PLWHA who have a good quality of living and better availability of information and access to health services have greater QOL, as the milieu is responsive to their needs and well-being (Handajani et al., 2012). In another study by Kovačević et al. in 2006, well-educated patients have better QOL in connection with the environment domain. This may be due to the knowledge and public awareness of the disease (Liping et al., 2015). Conversely, However, a Brazilian study also pointed out that HIV patients are having a hard time finding work. This proves that having a source of income truly helps them to achieve a better QOL (Imam, et al., 2011).

## CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of the study, it can be concluded, in terms of the socio-demographic profile, that 100% of the respondents are coming from the productive and reproductive years of 15-49 years old, with 93% coming from the male population, 70% from the working population (15.83% teachers), and 30% from the unemployed sector (16.67% from the students), and 81.67% coming from the research locale, Angeles City. In terms of clinical factors, 100% of the respondents have a sexual transmission as a mode of exposure, 100% with experience STI symptoms, 75.84% are those with below 300 cells/mm<sup>3</sup>, 39.17% are coming from Stages 3 and 4 (symptomatic phase), and 70.84% passed the more than 6 months of treatment (in the context of adherence).

In terms of QOL, respondents rated their general QOL better than their HRQOL. The area with the highest score is the psychological domain and the area with the lowest score is the physical domain. Specifically, in the context of the physical domain, dependence on medical aids and substances and sleep and rest are the critical factors needed to be focused on as they have elicited negative responses.

In terms of the association of variables with QOL, those with lower educational attainment have lower HRQOL scores. Physical domain scores are decreasing as WHO Stages and as treatment duration progress. Environmental domain scores are affected by occupation as those unemployed (with students) respondents have the lowest transmuted scores.

With the findings drawn, it is suggested that strategic prevention mechanisms (awareness, condom use, testing, and Pre-Exposure and Post Exposure Prophylaxis) should focus on the target population (males, working in private-setting and in-school population, and those in the unemployed sector) be implemented. Strengthening the partnership on the provision of HIV services (prevention/ awareness, testing, treatment, care, and support services) between the working and education sectors is also desirable. Also, approaches for strategic activities should focus on the context of sexual transmission. Critical to this is the program on improved condom access and utilization, along with the introduction of Pre-Exposure and Post-Exposure Prophylaxis.

There is a need for intensification of improved testing strategies (early detection) and linkage to care are significant to capture clients during their asymptomatic phase (Stage 1 and Stage 2) and/or still during their high CD4 levels. Moreover, involving patient support groups in program planning and direct service provision may be deemed beneficial. The hiring of stable PLWHA case managers can be recommended to improve PLWHA coping mechanisms in various physical health changes encountered.

Another point of recommendation is in the form of lobbying for a more tolerable anti-retroviral regimen with lesser side effects affecting sleep and rest. Customary patient education, based on level of educational attainment, for treatment and adherence, could

be incorporated with the package of services. Patient QOL monitoring could be included in the cascade of services to determine factors for intensified differentiated care approaches or patient-centered care during treatment in the context of clinical staging, the experience of STD symptoms, and length of treatment. Creation of an additional package of service for the unemployed PLWHA, including students, specifically on financial and health security may address the issue of investigated. Designing a service package focusing on the physical domain, with emphasis on interventions to improve patient independence and improve sleep and rest, could be established.

Finally, further studies may be initiated with the following considerations: (1) cover a considerable number of facilities and respondents; (2) triangulate data from the healthcare workers and clients. Include key informant interviews as a method of data collection and a client satisfaction survey; (3) compare QOL variables per model of the facility (PHCC and HIV Treatment Hub); and (4) add perceptions on stigma and discrimination as a parameter under investigation.

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## **DECLARATIONS**

### ***Conflict of Interest***

There is no conflict of interest to be declared in the study. This was fully funded by the researcher.

### ***Informed Consent***

Informed Consent was sought from all the respondents.

### ***Ethics Approval***

Ethics approval was sought from the Philippine Health Research Ethics Board Institution.

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