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Research Article

HIV Status Disclosure and Quality of Life of People Living with HIV/AIDS in the Ho Municipality, Ghana

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Background. Quality of life (QoL) and HIV/AIDS serostatus disclosure are vital HIV outcome indicators. This study examined factors associated with QoL, HIV status disclosure, and the relationship between QoL and disclosure among people living with HIV (PLWHIV) at the Ho Teaching Hospital. *Methods*. We conducted a hospital-based cross-sectional survey among 311 PLWHIV. The World Health Organization WHOQOL-HIV BREF questionnaire was used to measure QoL. A semistructured questionnaire was used to gather information on socio-demographics and HIV serostatus disclosure. Multivariate logistic and multiple linear regressions were used to determine predictors of HIV serostatus disclosure and QoL in six domains, respectively. *Results*. Overall, 88.7% of participants disclosed their HIV status to a significant relation. The majority (98.1%) presented with good QoL, high (83.3%) among participants who disclosed their HIV seropositive status. Patients on antiretroviral therapy (ART) for more than a year were 8.64 times more likely to disclose their HIV status as compared to those on ART for less than a year (AOR = 8.64 (95% CI: 2.00–37.27), $p = 0.004$). Increasing years on ART ($\beta = 0.37$) and being employed ($\beta = 1.31$) positively predicted good QoL in the physical domain, whereas higher educational level positively predicted good QoL in the social domain ($\beta = 0.66$). QoL was not associated with HIV serostatus disclosure. *Conclusion*. HIV status disclosure was high. Increasing years on ART increased the odds of disclosure. Although there was no significant relationship between QoL and disclosure, good QoL was high among those who disclosed their HIV status. Increasing years on ART, higher education, and being employed predicted good QoL.

1. Background

HIV/AIDS is identified as one of the most significant infectious diseases, and about 37.9 million people are living with HIV globally [1]. An estimated 1.5 million people became newly infected and 650,000 died from AIDS-related illnesses in 2021 [2]. Sub-Saharan Africa (SSA) remains the worst affected region with close to 68% of all HIV cases [3]. In Ghana, according to the 2020 National and Sub-National HIV and AIDS Estimates Report, the incidence rate for adults (15–49 years) was 0.09% and the national adult HIV prevalence was 1.68% (down from 1.70% in 2019) [4]. There are currently 346,120 individuals living with HIV in Ghana, with 66% of them being females [5].

The arrival of antiretroviral therapy (ART) has significantly ameliorated quality of life (QoL) of people living with HIV (PLWHIV) [6–8], increased survival rates, and transformed HIV into a chronic condition. PLWHIV can now have a near-normal life expectancy [9] of improved QoL. In 2021, about 28.7 million people had access to ART globally [2]. Although Ghana provides ART services in 197 facilities [10], ART coverage is suboptimal, with a decline from 41.7%

utilization in 2004 to 30.1% in 2008 and 27.6% in 2010 [11]. In 2020, ART utilization in Ghana stood at 52.3% for all ages [12].

Strategies for the prevention of HIV transmission are mainly based on creating awareness including sharing HIV status information [13]. These strategies create a relationship that influences the psychological health of patients through stress reduction [14] and serve as an avenue for support, help patients better cope with physical and psychological morbidities such as stress and anxiety, and minimize support challenges resulting from the underlying infection [15, 16]. Yet, disclosing HIV status becomes a major psychological challenge faced by PLWHV. Previous studies conducted in Uganda found a 95% HIV status disclosure rate [17]. Lower rates were reported in Ethiopia and Togo, where only 37.6% and 60.9% of the population disclosed their HIV status, respectively [13, 18]. Many studies have found several factors associated with HIV status disclosure. Adherence to ART and marital status [13] are the predominating related factors. In Ghana, disclosure of HIV status remains a daunting task that increases the risk of subverting treatment and clinical care options, such as better adherence to ART and reduction in the risk of HIV transmission. However, a study reported a low HIV disclosure rate of 33.3% in the Eastern Region of Ghana [19].

Perhaps, the riddled belief that assumes HIV to be an aftermath of risky sexual behavior could explain the reluctance to disclose one's HIV serostatus in Ghana. For instance, the orientation of Ghanaian communities creates a situation where community beliefs override personal aspirations; thus, beliefs of communities are considered significantly more important than personal beliefs [20]. As a result, PLWHIV are afraid to disclose their status so as to elude spontaneous negative reactions from society. Nonetheless, HIV status disclosure emerges as an important factor to consider in improving QoL of PLWHIV [8], as lack of disclosure is a factor that could impair understanding of treatment and increase psychological and behavioural problems.

QoL is an important component in the evaluation of the wellbeing of PLWHIV, and good QoL is vital to the care and support of PLWHIV [21]. In addition, the sustainable development goals invariably aim at improving QoL of all, and measuring QoL is important in assessing effectiveness of therapeutic strategies [22], documenting changes in health overtime, and quantifying return on health investment [23]. A study conducted in Japan found that, compared to the general population, PLWHIV had lower QoL [24]. Previous studies conducted in Ghana and Togo found an overall good QoL of PLWHIV [8, 25]. Another study conducted in Ethiopia found good QoL among 52.9% PLWHIV [26]. QoL of PLWHIV has been found to be influenced by a myriad of factors. Most of such studies have highlighted the contribution of ART in improving QoL [27]. Other factors such as support from social relationships and families [28], disclosure of HIV status [25], and negative lifestyle choices such as smoking, drinking, and risky sexual behaviour have also been found to be predictors of QoL [29].

In Ghana, studies on QoL and HIV status disclosure among PLWHIV are limited. In addition, the wealth of existing studies in Ghana has focused independently on disclosure or QoL [8, 30, 31]. To address this knowledge gap, we sought to examine the relationship between QoL and HIV serostatus disclosure and also determine if age, sex, years on ART, marital status, number of children, and educational level are associated with HIV serostatus disclosure and QoL of PLWHIV accessing care at the Ho Teaching Hospital, Ghana.

2. Methods

2.1. Study Design and Population. We conducted a hospital-based cross-sectional study in 2018 between August and November among HIV positive patients receiving care at the Ho Teaching Hospital. The Ho Teaching Hospital is located in Ho Municipality, the capital of the Volta Region. The 240-bed capacity hospital has approximately 103,964 annual Out Patients Department (OPD) attendances and provides about forty-one (41) essential services, including ART [32]. Pregnancy-related complications, anaemia, and malaria remain the top three causes of all hospital admissions. Patients were eligible to participate in the study if they were aged eighteen (18) years or more, diagnosed with HIV, registered as an active patient, and gave consent to participate in the study.

2.2. Sample Size Determination. The required sample size was determined using a formula: $N = Z^2pq/e^2$ by Cochran [33] using an estimated size of 911 PLWHIV actively on ART [34], reliability coefficient (z, score of 1.96), 95% confidence level, and 5% margin of error. We further adjusted for a 5% nonresponse resulting in a minimum sample size of 292. The study identified 311 PLWHIV willing to participate in the study.

2.3. Data Collection Tools. A pretested semi-structured questionnaire was used to collect data on background characteristics and serostatus disclosure. The WHOQOL-HIV BREF questionnaire was adapted to measure QoL [35]. The reliability and validity of the WHOQOL-HIV BREF have been adequately established in other studies [36, 37]. The WHOQOL-HIV BREF comprised six domains: physical, psychological, level of independence, social relationships, environment, and spiritual/religion/personal beliefs embedded in 31 items. The physical domain measured pain and discomfort, energy and fatigue, and symptoms of HIV/AIDS associated with PLWHIV. The psychological domain examined components of positive feelings, thinking, learning, memory and concentration, self-esteem, bodily image and appearance, and negative feelings. The level of independence domain measured mobility, activities of daily living, dependence on medications or treatments, and work capacity. The social domain determined personal relationships, social support, sexual activity, and social inclusion. The environmental domain assessed physical security and protection, home environment such as housing, financial resources, and accessibility to quality health and social care, opportunities for acquiring new information and skills, participation in and opportunities for recreation and leisure activities, and physical environment such as pollution, noise, climate, traffic, and transport. The religious/personal beliefs domain examined

forgiveness and blames, personal beliefs, concerns about the future, and worries about death or dying [8]. Responses to these items were coded on a 5-point Likert scale as 1 = not at all, 2 = a little, 3 = a moderate amount, 4 = very much, and 5 = an extreme amount. The overall score for a domain was obtained by calculating the sum of the items score per domain divided by the number of domain questions. Negative items were reverse coded. Results for domain scores were then multiplied by 4 [38]. A higher score in a domain indicates a good QoL. The overall QoL score was obtained from all six domains, yielding an overall score ranging from 52 (indicating a poor overall QoL) to 127 (better overall quality of life).

2.4. Sampling and Data Collection Procedure. The Ho Teaching Hospital was purposively selected since it serves as one of the HIV sentinel sites in the country. A systematic sampling technique was used to identify PLWHIV for interview using the ART register at the clinic as a sampling frame. This was done by selecting every third patient starting with a patient that corresponds to a number selected at random. We repeated this procedure until the sample was obtained. With an average attendance of 60 patients per clinic day, the study recruited about 20–30 patients on each clinic day. Information was gathered using face-to-face interviews. We also extracted data on the number of years since diagnosis and place of residence. Cronbach's alpha coefficient above 0.70 was reported for six QoL domains.

2.5. Respondent Interview. We gathered information on background characteristics, disclosure of HIV serostatus, recipient of disclosure, source of emotional support, and affiliation to any social support group. We also gathered information regarding time since diagnosis (thus, how long the subject has known of and lived with HIV) and duration on antiretroviral medication. A question was also asked regarding the source of support received by participants.

2.6. Data Management and Analysis. Data were entered into SPSS and exported to Stata 16/MP for analysis. No missing data were found after the export. Descriptive statistics such as proportions, means, and standard deviations were used to summarize categorical and continuous variables. Our main study outcomes were QoL and HIV serostatus disclosure. HIV status disclosure was treated as a dichotomous variable, while QoL was treated as both continuous and categorical variable. We used a cut-off of 60 to classify QoL scores into "poor" and "good" QoL [39]. An overall QoL score less than or equal to 60 was considered as poor quality, whereas a score higher than 60 was considered good quality. Cronbach's alpha was used to measure internal consistency and reliability of the 6 domains of WHOQOL–HIV BREF. A correlation analysis was conducted between the six domains of QoL.

The chi-square and Fisher's exact test were used to determine the association between disclosure status and demographic characteristics. Multivariate analysis was performed to identify risk factors associated with HIV serostatus disclosure using all observed variables.

Welch's *t*-test was used to assess the difference between the means scores of WHOQOL-BREF domains across background and clinical characteristics. Differences in mean scores between ≥3 groups were analyzed by one-way analysis of variance (ANOVA). Multiple linear regression was performed to determine predictors of QoL in six domains using all observed variables. A $p < 0.05$ was considered statistically significant. The Bonferroni correction was used to test for multiple testing corrections.

3. Results

3.1. Background Characteristics of Participants. Table 1 shows the background characteristics of participants included in this study. The mean (SD) age was 40.34 (±8.19) years, and most 167/311 (53.7%) were aged between 40 and 49 years. The majority of 233/311 (74.9%) were women. All participants had some level of formal education with about three-quarters of 227/311 (73%) attaining a secondary level of education at the time of the study. Almost 186/311 (60%) were married. About half (157/311 [50.5%]) had lived with HIV for 1–5 years, and 125/311 (40.2%) had for more than 5 years. Only 29/311 (9.3%) had lived with the disease in less than a year. The majority of 288/311 (92.6%) were employed. At the time of the study, less than half (148/311 (47.6%)) had ≥3 children, 112/311 (36%) had 1-2 children, and 51/311 (16.4%) had no child (Table 1).

3.2. HIV Serostatus Disclosure. Regarding disclosure of HIV serostatus, approximately 276/311 (88.7%) of participants disclosed their serostatus (Table 2). Out of this proportion, 63.8% disclosed to a nuclear family member, 32.6% disclosed to an extended family member, and 3.6% disclosed to a nonfamily member (Figure 1). About half (139/276 [50.4%]) disclosed they have been living with the infection between 1 and 5 years (Figure 2). Approximately 147/276 (53.3%) of those who disclosed their HIV status received emotional support from a nuclear family member, whereas 126/276 (45.6%) received emotional support from an extended family member. Only 3/276 (1.1%) received emotional support for a nonfamily member (Figure 1).

3.3. QoL of Participants. QoL among study participants was high at 305/311 (98.1%) (Figure 3). Of the proportion who disclosed HIV serostatus, approximately 271/305 (88.9%) had good QoL as compared to those who did not disclose it which was 34/305 (11.1%) (Table 2). Half (156/305 [51.2%]) of those living with the infection between 1 and 5 years presented good QoL (Figure 4).

3.4. Factors Associated with HIV Serostatus Disclosure. Table 2 depicts factors associated with HIV serostatus disclosure. In the multivariate logistic regression, the probability of disclosure increased with increasing years on ART.

Table 1: Sociodemographic characteristics of participants.

Characteristics	Total $N = (311)$	Percent
Age		
18–29	36	11.6
30–39	79	25.4
40–49	167	53.7
50+	29	9.3
Mean (±SD) = 40.34 (±8.19)		
Sex		
Men	78	25.1
Women	233	74.9
Level of education		
Up to primary	53	17.0
Secondary	227	73.0
Tertiary	31	10.0
Marital status		
Not married	63	20.3
Married	186	59.8
Divorced/widowed	62	19.9
Years since diagnosis		
<1 year	29	9.3
1-5 years	157	50.5
>5 years	125	40.2
Occupation		
Unemployed	22	7.4
Employed	288	92.6
Number of children		
No child	51	16.4
1-2 children	112	36.0
≥3	148	47.6

Duration on ART, in this study, was defined as the number of years a participant has been undergoing ART. Patients on ART for more than a year were 8.64 times more likely to disclose their HIV status compared to those on ART for less than a year (AOR = 8.64 (95% CI: 2.00–37.27), $p = 0.004$) (Table 2).

3.5. Summary of WHOQOL-HIV BREF. Table 3 shows the measure of internal consistency of the six QoL domains. The minimum (0.711) and maximum (0.869) Cronbach alpha was in the social domain (Table 3). Cronbach's value for each domain includes the overall QoL falls within the acceptable range of 0.70 to 0.95 [31]. Table 3 also reports on the minimum and maximum scores as well the overall mean and standard deviation for each domain.

3.6. Comparison of the QoL Domain Scores among the Background Characteristics. We observed a significant difference in mean score for physical domain across marital status ($p = 0.001$), years of diagnosis ($p = 0.003$), and occupation ($p = 0.003$) (Table 4). There were also significant differences in psychological domain ($p < 0.001$), independence domain ($p = 0.039$), and environmental domain ($p = 0.024$) scores based on number of children. Differences in social domain scores was significant across different educational levels ($p = 0.049$), whereas marital status ($p = 0.020$) and HIV serostatus disclosure ($p = 0.034$) were significant for spiritual domain (Table 4).

3.7. Multiple Linear Regression Model of Factors Associated with QoL. Table 5 shows six distinct multiple linear regression models for QoL domains. For QoL in the physical domain, adherence to ART ($\beta = 0.37$, $p = 0.020$) and occupation ($\beta = 1.31$, $p = 0.006$) were significant factors (Table 5). For QoL in the social domain, the level of education was a significant factor ($\beta = 0.66$, $p = 0.017$). Disclosure of HIV status was not significantly associated with any of the QoL domains (Table 5).

4. Discussion

In this present study, we found HIV serostatus disclosure to be relatively high (88.7%) and profound towards nuclear family members. Similar HIV serostatus disclosure rates were observed in studies conducted in Kenya (84%) [40] and China (83.6%) [41] but comparatively lower than findings in Tanzania (93.3%) [42], Ethiopia (93.1%) [43], and India (91.5%) [44]. Yet, lower rates of disclosure were reported in Togo (60.9%) [13], Uganda (50.9%) [45], Zimbabwe (70–79%) [46], and Nigeria (39.5%) [47]. Differences in disclosure rates could partly be due to varied healthcare packages in the individual countries. The high disclosure rate in our study could be attributed to the fact that, in order to gain support and access to medical care [48], participants are tempted to disclose their serostatus. Moral obligation to prevent transmission and uphold relationship integrity as suggested by a study conducted in four African countries [49] could also influence the disclosure rate in this study. The distinguished roles of health workers at HIV health centers by providing counselling on opting for good lifestyle choices and motivation to adhere to ART could serve as a central attribute for improved disclosure rates in our study, as studies have shown these attributes to be important facilitators of disclosure [50, 51]. An important public health implication of our observed rate is the possibility of primary prevention, whereby disclosure could aid in the uptake of HIV testing and counselling among recipients, decline in risky sexual activities, and developing coping strategies among peers [52]. Regardless, the 11.3% who did not disclose their serostatus presents risk of transmission, and health workers must further strengthen counselling and other significant activities to promote disclosure. To the best of our knowledge, this study is the first to report an increase in odds of HIV status disclosure with advancing years on ART in Ghana. Interestingly, disclosure of serostatus rate increases with increase in years after diagnosis. Studies have shown that patients who adhere to ART are those with consistent use of health care service as such it could be possible that they often receive relevant information and some form of encouragement, not only for them to adhere to medication but also provide friendly environment for them to disclose their HIV status.

In this current study, as high as 98.1% of PLWHIV presented with good QoL, higher among patients living with the infection for more than a year; however, the QoL rate in this study is higher when compared to what was reported previously in Togo [25] and Ghana [8]. Stigma associated negative side effects of the first year of ART intake [53, 54],

Table 2: Odds of HIV serostatus disclosure.

Characteristics	Disclosed 276 (88.7%)	Not disclosed 35 (11.3%)	p value	Crude odds ratio (COR) (95% CI)	p value	Adjusted odds ratio (AOR) (95% CI)	p value
Age							
18–29	33 (91.7)	3 (8.3)		Ref		Ref	
30–39	70 (88.6)	9 (11.4)		0.71 (0.17–2.78)	0.620	1.60 (0.11–3.24)	0.555
40–49	145 (86.8)	22 (13.2)		0.59 (0.16–2.12)	0.427	0.45 (0.08–2.39)	0.351
50+	28 (96.5)	1 (3.5)	0.507	2.55 (0.25–25.86)	0.430	1.59 (0.11–22.48)	0.729
Sex							
Men	68 (87.2)	10 (12.8)		Ref		Ref	
Women	208 (89.3)	25 (10.7)	0.679	1.22 (0.55–2.67)	0.613	1.17 (0.47–2.93)	0.734
Level of education							
Up to primary	45 (84.9)	8 (15.1)		Ref		Ref	
Secondary	207 (91.2)	20 (8.8)		1.84 (0.76–4.44)	0.175	1.49 (0.53–4.21)	0.443
Tertiary	24 (77.4)	7 (22.6)	0.047	0.61 (0.19–1.88)		0.67 (0.16–2.65)	0.565
Marital status							
Not married	56 (88.9)	7 (11.1)		Ref		Ref	
Married	166 (89.3)	20 (10.7)		1.03 (0.42–2.58)	0.937	1.02 (0.34–2.01)	0.966
Divorced/widowed	54 (87.1)	8 (12.9)	0.897	0.84 (0.28–2.48)	0.758	0.70 (0.18–2.63)	0.601
Years since diagnosis							
<1 year	20 (69.0)	9 (31.0)		Ref		Ref	
1-5 years	139 (88.5)	18 (11.5)		3.47 (1.37–8.78)	0.008	0.85 (0.19–3.64)	0.058
>5 years	117 (93.6)	8 (6.4)	0.001	6.58 (2.27–19.07)	0.001	1.35 (0.24–7.55)	0.730
Employment status							
Unemployed	21 (95.5)	1 (4.5)		Ref		Ref	
Employed	255 (88.2)	34 (11.8)	0.302	0.35 (0.04–2.60)	0.298	0.34 (0.03–3.64)	0.370
Number of children							
No child	44 (86.3)	7 (13.7)		Ref		Ref	
1-2 children	104 (92.9)	8 (7.1)		2.01 (0.70–6.05)	0.185	3.45 (0.96–12.44)	0.058
3 and above	128 (86.5)	20 (13.5)	0.227	1.02 (0.40–2.57)	0.970	1.11 (0.35–3.58)	0.851
Duration on ART							
<1	18 (60.0)	12 (40.0)		Ref		Ref	
≥1	256 (91.8)	23 (8.2)	<0.001	7.47 (3.21–17.42)	<0.001	8.64 (2.00–37.27)	0.004
QoL of patients							
Poor	5 (83.3)	1 (16.7)				Ref	
Good	271 (88.9)	34 (11.1)	0.514	1.59 (0.18–14.05)	0.675	1.83 (0.09–38.91)	0.696

Note. Ref: reference; significant at $p < 0.05$.

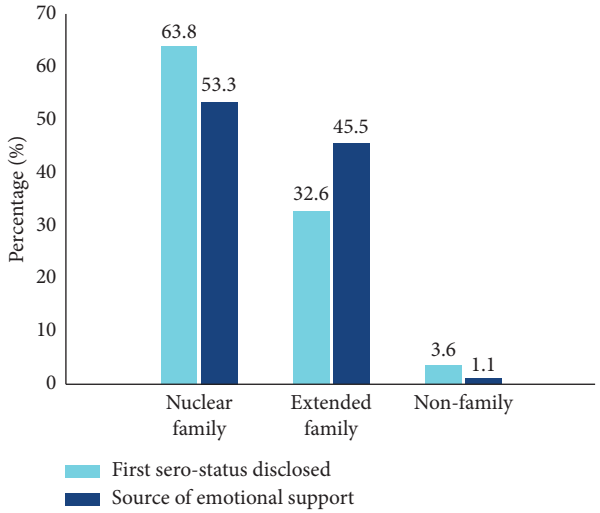

Figure 1: Disclosure recipient and source of emotional support.

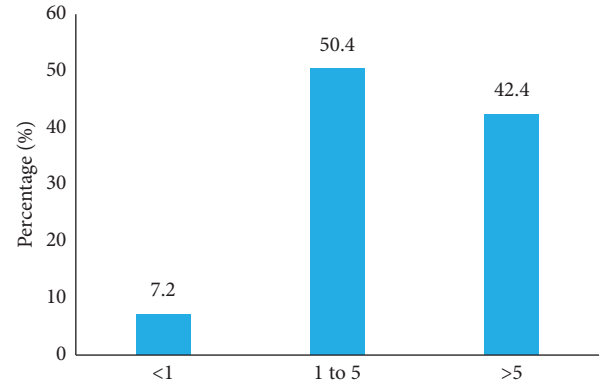

Figure 2: Disclosure of HIV status stratified by years since diagnosis ($p < 0.001$).

and psychological instability noted with early days of HIV could explain the low QoL of participants with less than a year of living with the disease. Better QoL in the physical and spiritual domains was observed among married participants in this study. This is in agreement with studies in Nigeria and Ghana, where marital status was found to have a significant influence on the physical domain score [55, 56]. Our findings also confirm results of Carr and Springer that marital status could influence the physical, social, and

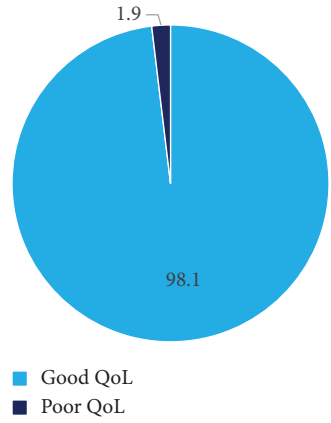

Figure 3: QoL of participants.

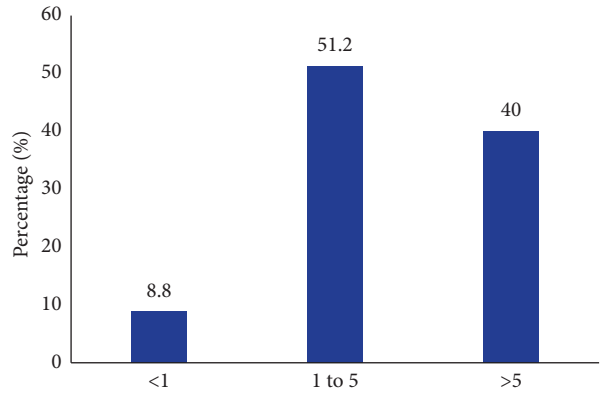

Figure 4: QoL stratified by years since diagnosis ($p = 0.070$).

Table 3: Internal consistency and summaries of the WHO quality of life scores.

QoL domains	Number of items	Cronbach's alpha	Minimum	Maximum	Mean (±SD)
Physical	4	0.747	6.00	18	11.9 ± 2.05
Psychological	5	0.728	8.8	18.4	12.8 ± 1.77
Independence	4	0.728	8	18	12.5 ± 1.67
Social	4	0.711	4	20	13.0 ± 2.38
Environmental	8	0.716	4	20	13.1 ± 2.38
Spiritual	4	0.869	6	20	13.2 ± 2.90
Overall QoL	29	0.787	52	127	94.2 ± 11.07

SD: standard deviation.

emotional wellbeing of an individual [57] as well as overall QoL [27, 58]. The observed better QoL among married patients could be attributed to the physical, emotional, and social support married people receive from their partners, as most participants in this study receive emotional support from nuclear family members. This highlights significant importance of family in improving QoL of PLWHIV.

We also found better QoL scores in all domains among patients with an increasing educational level. This is no different from what was reported by Gaspar and colleagues, indicating that higher education promotes better QoL [59]. Conversely, Liping and colleagues [60] found this relationship only in the physical and environmental domain. In our multiple linear regression, higher education predicted QoL in the social domain. The possible explanation for this observation could be that higher education creates a circle of enlightened friends, enhancing social benefits and stability, and that educated people easily integrate and are accepted into society. This creates substantial options for a better social network of families and friends. Associating oneself with such movements creates a sense of worth and importance.

Being employed and increasing years on ART positively predicted QoL in the physical domain in the current study. The significant impact of employment on QoL is reported in other countries [59, 61]. Social structure, emergence of positive feelings for oneself, and reduction in stress are often associated with being employed. Also, being employed

Table 4: Comparison of mean score for QoL domains across background characteristics.

	Physical domain mean (SD)	Psychological domain mean (SD)	Independence domain mean (SD)	Social domain mean (SD)	Environment domain mean (SD)	Spiritual domain mean (SD)
Age**						
18–29	11.69 (1.99)	13.0 (1.86)	12.63 (1.94)	13.28 (2.15)	12.95 (1.91)	12.44 (2.89)
30–39	11.88 (2.03)	12.77 (1.97)	12.45 (1.67)	13.21 (2.71)	13.45 (2.28)	14.35 (3.13)
40–49	12.05 (2.07)	12.83 (1.65)	12.58 (1.63)	13.07 (2.26)	13.13 (1.95)	14.45 (2.79)
50+	11.62 (2.09)	12.61 (1.77)	12.24 (1.57)	12.41 (2.35)	13.10 (1.74)	13.96 (2.85)
p value	0.619	0.832	0.715	0.431	0.672	0.266
Sex*						
Male	12.05 (1.81)	12.69 (1.69)	12.53 (1.48)	12.91 (2.17)	13.02 (1.87)	14.75 (2.37)
Female	11.89 (2.11)	12.85 (1.79)	12.52 (1.73)	13.12 (2.45)	13.23 (2.07)	14.10 (3.05)
p value	0.588	0.487	0.945	0.502	0.422	0.086
Education level**						
Primary	11.58 (1.92)	12.43 (1.67)	12.24 (1.81)	12.35 (2.38)	12.91 (2.23)	13.45 (3.13)
Secondary	11.96 (2.07)	12.88 (1.78)	12.52 (1.61)	13.18 (2.30)	13.18 (1.97)	14.38 (2.84)
Tertiary	12.25 (2.08)	13.00 (1.78)	13.06 (1.71)	13.45 (2.79)	13.62 (1.99)	14.81 (2.79)
p value	0.307	0.213	0.094	0.049*	0.285	0.061
Marital status**						
Not married	11.79 (1.97)	12.94 (1.75)	12.49 (1.61)	12.87 (2.45)	13.04 (2.23)	14.0 (2.97)
Married	12.23 (1.92)	12.92 (1.74)	12.64 (1.63)	13.31 (2.25)	13.31 (1.85)	14.61 (2.78)
Divorced/widowed	11.16 (2.29)	12.37 (1.82)	12.22 (1.82)	12.53 (2.59)	12.91 (2.27)	13.48 (3.09)
p value	0.001**	0.086	0.235	0.063	0.345	0.020*
Years since diagnosis**						
<1 year	11.17 (1.89)	12.33 (1.44)	12.31 (1.71)	12.44 (2.76)	12.75 (2.29)	14.41 (2.89)
1–5 years	12.28 (1.91)	13.0 (1.83)	12.71 (1.64)	13.13 (2.33)	13.24 (2.10)	14.49 (2.87)
>5 years	11.65 (2.17)	12.69 (1.74)	12.34 (1.67)	13.14 (2.35)	13.19 (1.83)	13.95 (2.95)
p value	0.003*	0.096	0.139	0.340	0.493	0.292
Employment status**						
Unemployed	10.74 (2.22)	12.45 (1.85)	12.47 (1.97)	12.52 (1.99)	12.91 (1.84)	14.04 (2.86)
Employed	12.02 (2.00)	12.84 (1.76)	12.53 (1.64)	13.11 (1.99)	13.20 (2.03)	14.28 (2.92)
p value	0.003*	0.303	0.884	0.254	0.513	0.648
Number of children**						
No child	11.96 (1.99)	13.24 (1.97)	12.84 (1.92)	13.31 (2.13)	13.39 (2.07)	13.58 (3.13)
1-2 children	11.89 (2.04)	12.84 (1.91)	12.57 (1.80)	13.19 (2.91)	13.29 (2.33)	14.47 (3.02)
3–5 children	11.87 (1.99)	12.49 (1.52)	12.26 (1.45)	12.75 (1.85)	12.84 (1.58)	14.42 (2.66)
>5 children	12.42 (2.61)	13.72 (1.39)	13.21 (1.13)	13.73 (2.67)	14.18 (2.14)	13.78 (3.08)
p value	0.747	<0.001**	0.039*	0.210	0.024*	0.237
Peer support*						
Yes	12.63 (1.99)	13.05 (1.42)	12.50 (1.54)	13.18 (2.13)	13.21 (1.99)	14.56 (2.50)
No	11.89 (2.04)	12.81 (1.78)	12.52 (1.67)	13.06 (2.39)	13.17 (2.02)	14.25 (2.93)
p value	0.163	0.591	0.945	0.837	0.935	0.677
HIV disclosure*						
Yes	11.93 (2.02)	12.82 (1.77)	12.49 (1.68)	13.97 (2.23)	13.18 (2.02)	16.20 (1.92)
No	11.91 (2.23)	12.82 (1.71)	12.77 (1.61)	12.97 (2.22)	13.12 (1.96)	15.77 (2.41)
p value	0.963	0.986	0.359	0.801	0.877	0.034*

Table 4: Continued.

	Physical domain mean (SD)	Psychological domain mean (SD)	Independence domain mean (SD)	Social domain mean (SD)	Environment domain mean (SD)	Spiritual domain mean (SD)
Years on ART*						
<1	11.23 (2.31)	12.56 (1.36)	12.43 (1.54)	12.7 (2.14)	12.95 (1.94)	14.33 (2.81)
>1	12.0 (2.01)	12.85 (1.80)	12.54 (1.68)	13.11 (2.41)	13.20 (2.03)	14.25 (2.92)
p value	0.062	0.401	0.746	0.375	0.515	0.896

SD: standard deviation, *results are from the t-test, and **results are from one-way ANOVA; $p < 0.05^{*}$ and $p < 0.001^{**}$.

Table 5: Multiple linear regression model of factors affecting the QoL.

Variables	Physical domain		Psychological domain		Independence domain		Social domain		Environment domain		Spiritual domain	
					$n = 311$							
	β	SE	β	SE	β	SE	β	SE	β	SE	β	SE
Age	0.01	0.17	0.03	0.15	0.06	0.14	−0.03	0.20	−0.02	0.02	0.01	0.24
Sex (ref: male)	−0.04	0.27	0.28	0.24	0.08	0.22	0.28	0.32	0.31	0.28	−0.47	0.39
Education (ref: no formal education)	0.18	0.24	0.25	0.20	0.33	0.19	0.66*	0.27	0.40	0.23	0.55	0.33
Marital status (ref: Single)	−0.32	0.21	−0.21	0.18	−0.04	0.17	0.08	0.24	0.04	0.21	−0.25	0.29
Years since diagnosis	−0.27	0.22	0.01	0.19	−0.15	0.18	0.33	0.25	0.19	0.22	−0.46	0.31
Employment status (ref: unemployed)	1.32**	0.47	0.58	0.41	0.19	0.39	0.97	0.55	0.47	0.48	−0.20	0.68
Duration on ART	1.12**	0.48	−0.38	0.43	0.39	0.40	0.18	0.21	0.09	0.48	0.51	0.69
Number of children	−0.07	0.17	−0.29	0.15	−0.25	0.15	−0.20	0.21	−0.25	0.18	0.37	0.26
HIV disclosure (ref: disclosed)	−0.14	0.38	−0.11	0.33	−0.33	0.31	−0.01	0.45	−0.02	0.38	−0.48	0.55

SE: standard error; $p < 0.05^{*}$ and $p < 0.001^{**}$.

serves as a source of financial self-sufficiency and stability, a prerequisite to accessing basic needs. Simultaneously, being financially stable could influence better self-management, such as making good lifestyle choices and adhering to ART. The association between increasing years on ART and QoL was observed in a study conducted in Vietnam [62], and the impact of ART on QoL of PLWHIV is well known [56, 60, 63]. The prolonged use of ART, which suppresses viral replication and reduce morbidity and mortality, could explain the positive association between years on ART and QoL in the current study.

Although not statistically significant, patients who disclosed their HIV serostatus were found to have better scores in all domains, and about 83.3% who disclosed their HIV serostatus presented good QoL. However, a significant association between HIV serostatus disclosure and QoL was observed in studies conducted in Togo and Thailand [25, 64]. HIV status disclosure serves as the first stage of creating a supportive relationship [25], thus creating an opportunity to minimize stigmatization and discrimination. More so, disclosure has the possibility of facilitating support from family members and significant others.

5. Conclusion

HIV status disclosure and QoL of PLWHIV accessing care at the Ho Teaching Hospital is high. The odds of disclosure increased with increasing years on ART. Higher education, increasing years on ART, and being employed influenced QoL of PLWHIV.

5.1. Strengths and Limitations. The study is the first to explore the relationship between HIV serostatus disclosure and quality of life of PLWHIV in the Ho Municipality. Unfortunately, findings from this study may not be applicable to patients who are either inactive or not receiving care at tertiary/referral facilities. Secondly, the study was a hospital-based survey and included only patients 18 years of age and older. Hence, the study may have missed the opportunity to explore the characteristics of those younger than 18 years. Also, the study was unable to explore the time of disclosure after diagnosis. Further study, therefore, needs to be conducted to determine the time of diagnosis and disclosure. In addition, this study did not present data on viral load suppression, which could influence QoL, so results relating to QoL should be interpreted with caution.

6. Consent

Written consent was obtained from eligible participants after the study procedures, objectives, risks, and benefits of participation were explained.

Abbreviations

QoL: Quality of life
PLWHIV: People living with HIV
ART: Antiretroviral
GHS-ERC: Ghana Health Service Ethics Review Committee.

Data Availability

Data used for this study are available from the corresponding author on request.

Ethical Approval

Ethical clearance for the study was obtained from the Ghana Health Service Ethical Review Committee (GHS-ERC 069/02/18). Administrative permission was obtained from the Volta Regional Directorate of Health Services and the Medical Director of the Ho Teaching Hospital.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

Authors' Contributions

AA and DOA conceptualized the study, collected data, analyzed data, interpreted findings, and drafted the initial manuscript. RO analyzed the data, interpreted the findings, and made significant inputs to the initial draft of manuscript. YA provided support in data analysis and interpretation of findings. WKA and TL critically reviewed the manuscript for intellectual content. All authors read and approved the final manuscript.

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