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Assessment of the Quality of Life of Young People on Anti-Retroviral Therapy: A Rural - Urban Comparison in North Central Nigeria

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Abstract:

- ***Introduction:***

Despite the advances made in HIV prevention, treatment and care, HIV/AIDS is still a leading cause of morbidity/mortality among young people in Sub-Saharan Africa. In order to meet the UNAIDS target of ending HIV/AIDS epidemics worldwide, concerted efforts are needed to stop the transmission, ensure viral suppression and enable people living with HIV to lead normal lives. Given the unique position that young people on ART occupy in the continuum of care, the quality of their lives have a direct bearing on the efforts towards the achievement epidemic control.

- ***Objective:***

This study was meant to assess on the one hand, and then compare, on the other hand, the quality of life of young people on ART in rural and urban facilities in Nasarawa State, north central Nigeria.

- ***Method:***

This study was a comparative cross sectional descriptive study carried out in Dalhatu Araf Specialist Hospital, Lafia and General Hospital Obi, as the urban and rural health facilities respectively. A multistage sampling technique was used to select 354 respondents. Respondents were young people aged 10 years – 24 years and caregivers of young people aged 10 years – 17 years. Quantitative data was collected through a pretested interviewer-administered questionnaire. Qualitative data was collected through focus group discussions (FGDs).

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➢ ***Data Analysis:***

Quantitative data was collated and analysed with IBM Statistical Package for Social Sciences (SPSS) version 23. Quantitative variables were described using mean and frequency while Chi-square test and Fisher's Exact test were used to compare categorical variables. Logistic regression was used to determine the predictors of quality of life. At 95% Confidence interval, a p-value ≤ 0.05 was considered significant. Qualitative data was transcribed and analysed using NVIVO version 11.

➢ ***Results:***

The mean age of the respondents was 16 (±3.2) in the urban facility and 18 (±4.3) in the rural facility. About 54% of young people in the urban facility had good quality of life ratings compared to 46% of those in the rural facility. This difference between the two facilities was statistically significant. Predictors of good QoL in the urban facility were the level of education (AOR – 2.12, 95% CI – 1.13-3.95, p=0.019) and the ART regimen (AOR – 0.36, 95% CI – 0.14-0.95, p=0.040).

➢ ***Conclusion:***

There was a significant disparity in the quality of life ratings among young persons on ART between the urban and rural facilities. The study also showed that level of education and ART regimen type were predictors of good quality of life.

Keywords: *Adolescent, HIV/AIDS, Quality of Life, Rural Facility, Urban Facility, Young People.*

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I. INTRODUCTION

Young people are made up of individuals aged 10 years to 24 years and comprise adolescents and youths[1]. Of the 1.8 billion young people around the world today, about 17.5% reside in Africa and make up 31.8% of the total population in Africa[2,3]. In Nigeria, 31.4% of the population are young people of which adolescents constitute about 72.6%[3]. Early puberty, early sexual debut, rising incidence of illicit sexual behaviors, inappropriate use of psychoactive substances and social media influences are some of the factors responsible for the reproductive health challenges of young people. They are therefore more predisposed to HIV/AIDS and other sexually transmitted infections, unsafe abortions, sexual exploitation and violence[4,5,6].

Apart from the physical, mental, social and psychological changes that young people undergo, mental challenges such as psychological distress, suicidal tendencies, anxiety disorders and depressive illness have been reported in young people living with HIV[6,7]. Psychosocial challenges also involve the development of a unique social image and individuality that emanate directly from self-perception of HIV status[8]. These health complexes have been shown to adversely affect disclosure, adherence to medications or retention in care and overall quality of life[6,7]. In addition, the medications that adolescents living with HIV have to take for a life time represent challenges that may also adversely affect quality of life[9,10,11]. Transition of care makes it incumbent on an adolescent to take responsibility for his/her care in respect composure, adherence, clinic appointments, due diligence and quality decision making. These adjustments may be difficult without good psychosocial support[12,13]

The Nigeria HIV/AIDS Impact and Indicator Survey (NAIIS) estimated HIV prevalence rate in Nasarawa State to be 2% and among people aged 15-49 years old to be 5.9%, compared to the national estimate of 2.8%[14]. About 10,300 adolescents are living with HIV in Nasarawa State, making up 4.5% of the total in Nigeria[14,15]. According to the Nasarawa State Surge project which commenced in May 2019 in response to NAIIS, the number of people living with HIV (PLHIVs) as at December 2021, was 33,090 and viral suppression rate was 95%[16,17].

The 2030 target of the modified Joint United Nations Program on AIDS, UNAIDS 95 – 95 – 95 target, did not consider young people as a priority group in spite of the fact that mortality increased by 50% in that age group compared to other groups where mortality decreased by 35% between 2005 and 2013[1,18]. In Nigeria, the National HIV/AIDS Strategic Plan aligned with UNAIDS target, but failed to mention young people as a special category[1]. The National HIV Strategy for Adolescents and Young People made reference to only 50% of young people in respect of linkage to care, but was silent on important parameters like quality of life (QoL), retention, viral load monitoring and viral suppression[6,19].

World Health Organization (WHO) defines Quality of life as how a person perceives his or her life situation in relation to personal goals, expectations and values. It is a subjective evaluation of how well a person is doing at a specific point in time[18].Young people living with HIV/AIDS are more susceptible to the socioeconomic difficulties of caring for themselves and younger siblings, educational challenges and decreased psychosocial function. All these adversely affect quality of life when compared with non-HIV

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infected young people of the same age band[18]. In a study carried out among families of adolescents with HIV/AIDS and those without HIV/AIDS in Benue State, 27% of adolescents living with HIV/AIDS had poor quality of life compared to about 14% of those without HIV[18]. It was also found that within the adolescents living with HIV/AIDS, a larger proportion of those aged 13 years or younger (44%), those living in rural areas (35%) and those with divorced or separated parents (47%) had a poorer quality of life when compared with other adolescents older than 13 years, living in urban areas and whose parents were still married (33%, 27% and 36% respectively).[18] This study is meant to assess and compare the quality of life of young people on anti-retroviral therapy (ART) in rural and urban health facilities in Nasarawa State, Nigeria. Apart from the fact that studies bordering on QoL in young people are scanty in this environment, this study also profiled the sensitive position that young people on ART occupy in the health sector response to HIV/AIDS epidemics in our setting. The findings may act as a nidus for further research and will be presented to relevant stakeholders with the hope that it may influence policy decisions appropriately.

II. MATERIALS AND METHOD

A. Study Setting

Lafia is the administrative capital of Nasarawa State and it is geopolitically located in the north-central region of Nigeria. It is a predominantly agrarian setting with a tropical sub-humid climate with daily temperatures ranging between 23 and 37 Degree Celsius. The urban facility, Dalhatu Araf Specialist Hospital, is a tertiary facility that is centrally located in the city of Lafia and has the highest treatment current for ART in the state.

Obi town is also a largely agrarian setting situated in the southern part of Nasarawa State. It has a tropical savanna climate with undulating terrains. The rural site, General Hospital Obi, is located in Obi town. It is a comprehensive site for the ART program and also has a fairly huge treatment current.

B. Study Design

The study employed a comparative cross sectional descriptive study design with mixed quantitative and qualitative approach.

C. Study Population

The study population comprised young people on ART at the selected urban and rural health facilities in Nasarawa State. Furthermore, parents/caregivers of children that are less than 18 years of age were part of the study population.

➢ *Inclusion Criteria*

- Young people aged 10 years - 24 years who have being on ART for at least one year prior to the study.
- Adolescents (10 years – 17 years) that assented to the study and whose parents/care givers consented to the study and young people (18 years – 24 years) who consented to the study

➢ *Exclusion Criteria*

- Young people on ART that were on admission or have just been discharged from the hospital within the past 90 days.
- Young people on ART who have other co-morbid conditions were excluded from the study.

D. Sample Size Determination

The minimum sample size was determined using the formula for calculating sample size for comparison of two independent groups:[19]

$$n = \frac{(z_\alpha + z_\beta) \times 2 \times pq}{d^2}$$

176 young people were sampled from the urban health facility and 178 young people were sampled from the rural health facility, which brought the total sample size, n, to 354.

E. Sampling Technique

A two-stage sampling technique was used for the study

➢ *Stage One (Selection of Facilities)*

The two facilities were purposively selected on the basis of the fact that they both offer comprehensive ART services and their reputation as sites with heavy HIV patient load. They are Dalhatu Araf Specialist Hospital Lafia, as the urban health facility and General Hospital Obi, as the rural facility.

➢ *Stage Two: (Selection of Actual Respondents)*

Systematic random sampling technique was used at the facility level to select the respondents. The line list of young people on ART at the facilities were used as the sampling frame. The age groups, (10-17) years and (18-24) years were disaggregated and proportional allocation of respondents was done (calculated as the total number of respondents in each age group divided by the total number of young people in the facility multiplied by the sample size).

The sampling interval (k) was obtained by dividing the number of young people on ART by the calculated sample size for each of the groups. The first young person was randomly selected by balloting from the line list. Thereafter, every k^{th} young person based on the sampling interval was selected. In situations where the selected young person was unavoidably absent or does not consent to the study, the next consecutive young person in the list was selected. Thereafter, the sampling interval was reintroduced.

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F. Study Instruments

➢ *Quantitative Instrument*

Three semi-structured, interviewer-administered questionnaires were used for the quantitative component:

- *Questionnaire for Caregivers of Young People (10 – 17) years*

The first questionnaire was for the caregivers of young people 17 years or less. This is for the purpose of obtaining proxy information for minors and also to avoid inadvertent disclosure to the children. The caregiver questionnaire was adapted from studies on disclosure in Nigeria[20] and Kenya[21]

- *Questionnaires for Young People*

The second and third questionnaires were for young people (18 - 24) years and adolescents (10 – 17) years. Section A dwelt on socio-demographics and section B, which was adapted from the WHOQOL HIV-BREF tool, obtained information on quality of life[22, 23,24].

The WHOQOL-HIV BREF was developed across various countries and among different groups of PLHIV, caregivers and health professionals through FGDs and field tests to ensure cross-cultural relevance.[25-27] It is reputed to have the best psychometric measure for PLHIV. It has good discriminant validity and a good internal consistency with an overall Cronbach's alpha (α) of 0.98 in the pilot test and a range of 0.87 to 0.94 in the field test[26,27]. This section of the questionnaire has 31 items, covering six generic WHOQOL domains (physical functioning, psychological functioning, levels of independence, social relationships, environment and spirituality)[24]. Its use as an instrument for measuring QoL has been validated by various cross-sectional studies around the world.

- *Scoring of the QoL Section of the Questionnaire*

Facets scored were measured on a five-point Likert scale depending on whether they were positive or negative[24]. Positive feelings were graded 1 through 5, where 1 is poor QoL and 5 is good QoL, while negative feeling facets considered 1 as the best and 5 the worst. Negative feeling facets include: Pain and Discomfort; Negative Feelings; Dependence on Medications and finally, Death/Dying[24]. The negative facets were recoded into positive facets by the formula: 6 – Score[24] and scoring was done through summative scaling. Each item contributed equally to the facet score. Mean scores were calculated by adding all four items for each facet and dividing by four. A domain is a dimension of QoL and domain scores were calculated by computing the mean of the facet scores for each domain. The mean scores were then multiplied by four so that the domain scores could compare to the WHOQOL-HIV document. Thereafter, the scores were converted to a 100 scale with zero as the lowest possible quality of life and 100 the highest. The WHOQOL-HIV Bref produced a QoL profile. The domain scores were summed up and divided by the number of domains to obtain the QoL score.

For the purpose of this study, scores were divided into quartiles: 0 – 24.9, 25 – 49.9, 50 – 74.9 and 75 - 100. Furthermore, because of skewness of the data, score of 0 – 24.9, 25 – 49.9 and 50 – 74.9 were collapsed together and interpreted as poor QoL while scores of 75 – 100 were interpreted as good QoL.

In respect of skewness and kurtosis, a validation study of the WHOQOL-HIV Bref done among adolescents in Benue State had a questionnaire that was normally distributed with values ranging from -0.59 – 1.38 and -0.62 – 0.76 respectively[28]. The Cronbach's alpha and the Polycoric alpha were excellent for internal consistency (0.862 and 0.989 respectively)[28]

➢ *Qualitative Instrument*

Focus group discussion interview guides were used to conduct the FGDs. The FGDs involved a moderator, note taker and the respondents. The principal researcher was the moderator, while a research assistant was the note taker. A digital recorder was used to record the FGDs and observation notes were taken.

Each contact session lasted for about 45 minutes to 1 hour or until saturation was reached and there were no more emerging themes. Discussants were selected through a simple random sampling technique using a table of random numbers.

➢ *Pre-test of Instruments for Data Collection*

The research instruments (qualitative and quantitative) were pretested among 35 young people (10% of the calculated minimum sample size) at the Comprehensive ART Clinic of General Hospital Akwanga.

G. Data Collection

Data was collected over a three-month period by the principal investigator and 4 research assistants that were trained on the research protocol beforehand. Data were collected in two stages - stage 1 at the urban site and stage 2 at the rural site.

III. DATA ANALYSIS

For qualitative data, audio recordings from the FGDs were transcribed verbatim and the emerging themes were coded and analyzed using the Nvivo software (version 11). Parent node was quality of life while emerging themes in each dependent variable were coded as sub-nodes. Word clouds and word trees were used to identify frequently occurring words in the text.

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Quantitative data were checked for completeness and analysed using the Statistical Package for Social Sciences (IBM) version 23. Data were summarized using frequencies and percentages for categorical variables; mean and standard deviation for symmetrical continuous variables and median and range for skewed continuous variables. Differences in quantitative variables between the two groups (urban versus rural health facility) were tested using the students' t-test (symmetrical data). The differences in categorical variables between the two groups (urban versus rural health facility) was tested using the chi-square and Fischer's exact tests. Logistic regression analysis was used to predict the association between certain independent variables and quality of life. With confidence limit set at 95%, $P \leq 0.05$ was considered statistically significant.

➢ *Ethical Considerations*

- Written informed consent was obtained from each participant aged 18 years and above before enrolment into the study. Assent was obtained from adolescents 17 years and below and informed consent from their parents/care givers.
- Ethical clearance was obtained from the Health Research/Ethics Department of the State Ministry of Health

➢ *Limitations of the Study*

- Other unrecognised/undiagnosed conditions which may affect quality of life score such as asthma, liver disease and so on, may constitute confounding factors.
- The fact that it was a facility-based study may reduce the statistical power of the findings.

Effort was however, made to forestall some of the afore-stated limitations through meticulous randomization.

IV. RESULTS

A total of 354 adolescents and young people comprising 176 and 178 respondents from the urban and rural facilities respectively participated in the study.

Table 1: Young People's Socio-demographics and Quality of Life Status by Location of Health Facility

Variable	Urban facility		Rural facility	
	Good QoL Freq (%)	Poor QoL Freq (%)	Good QoL Freq (%)	Poor QoL Freq (%)
Age (years)				
10-14	33 (56.9)	25 (43.1)	10 (22.7)	34 (77.3)
15-19	49 (50.5)	48 (49.5)	11 (20.0)	44 (80.0)
20-24	13 (61.9)	8 (38.1)	16 (20.3)	46 (79.7)
	$\chi2$= 1.198 p=0.549		$\chi2$=0.557 p=0.757	
Sex				
Male	46 (54.8)	38 (45.2)	16 (23.9)	51 (76.1)
Female	49 (53.3)	43 (46.7)	21 (18.9)	90 (81.1)
	$\chi2$= 0.40 p=0.880		$\chi2$=0.625 p=0.450	
Level of Education				
Primary level	27 (42.2)	37 (57.8)	9 (13.4)	58 (86.6)
Secondary level	68 (60.7)	44 (39.3)	28 (25.2)	83 (74.8)
	$\chi2$= 5.627 p=0.019**		$\chi2$=3.529 p=0.850	
Marital Status				
Never married	89 (53.0)	79 (47.0)	29 (21.6)	105 (78.4)
Ever Married	6 (75.0)	2 (25.0)	8 (18.2)	36 (81.8)
	$\chi2$= 1.491 p=0.290		$\chi2$=0.241 p=0.675	

*Fisher's exact test, **statistically significant.

From table 1 above, 61.9% of the respondents with good QoL in the urban setting were those aged 20 -24 years, while those aged 15-19 years had the highest proportion (49.5%) with poor QoL. The differences in the QoL score between all the age bands were not statistically significant. In the rural facility, well over three quarters of respondents in all age groups reported a poor QoL. Roughly equal proportion (54.8% and 53.3%) of males and females respectively had good QoL in the urban facility, while a higher proportion

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of males and females (76.1% and 81.1% respectively) had poor QoL in the rural facility. 51.45% of the students in the urban facility had good QoL while 48.55% had poor QoL in the same setting.

Table 2: Domain Means for Quality of Life by Location of Health Facility

Domain	Urban Facility Mean ± S.D	Rural facility Mean ± S.D	T -test	p-value
Physical	16.24 ± 2.54	14.31± 2.71	6.911	<0.001*
Psychological	15.50 ± 2.52	14.72 ± 2.42	2.975	0.003*
Level of independence	15.46 ± 2.46	14.06 ± 2.01	5.850	<0.001*
Social Relationship	13.07 ± 3.50	12.78 ± 3.25	0.833	0.406
Environment	14.29 ± 2.38	13.06 ± 2.15	5.122	<0.001*
Spirituality/Religion/Personal Beliefs	15.85 ± 2.85	14.85 ± 3.26	3.063	0.002*

*****Statistically significant

From table 2 above, the differences in means, which described the average disparity between respondents in the rural and urban facilities were statistically significant in all the domains except in the social relationship domain (p=0.406).

Table 3: Young peoples' Health Related Quality of Life Score by Location of Health Facility

Health Related Quality of Life Score	Urban Facility Freq (%)	Rural facility Freq (%)	Total Freq (%)	$\chi 2$	p-value
Poor	81 (46.0)	141 (79.2)	222 (62.7)	41.691	<0.001*
Good	95 (54.0)	37 (20.8)	132 (37.3)	33.721	<0.002*

*statistically significant

From table 3, 79.2% of respondents in the rural facility had poor QoL compared to 46.0% of those in the urban facility. More respondents (54.0%) in the urban facility had good QoL compared to the rural facility (20.8%). The difference in the QoL scores in both facilities were statistically significant.

V. QUALITATIVE DATA

The qualitative component was meant to explore in-depth, hands-on, real time perspective of respondents on QoL and its bearing on the HIV positive status of young people on ART in the study settings.

➢ *FGD Responses on Quality of Life of Young People*

A broad segment of the discussants responded in the affirmative when asked whether 'they were fine'. Some, however, claimed that the pill load was burdensome. According to a discussant:

'For me, there is nothing special. I am in school and doing well. As a matter of fact, I am the best student in my class. I will be writing my SSCE next year. I intend to be a doctor so that I can continue to take proper care of myself and other people living with HIV. I don't feel any pressure because I believe that my destiny is in God's hand. I did not give myself HIV. God knows why. I will continue to do my best in anything I do so that I can stand out. I will also continue to encourage others in my shoes. I also pray that Government should continue to take care of us. Thank you sir.'

- *A 16 year-old female in the urban facility*

Another discussant made these comments:

'My major problem na the medicine. There is one smell that comes from it. That smell makes me want to vomit sometime, especially if I have malaria. If I take the drug, I will vomit. My mother always wants me to carry the tablets when am travelling. I don't want people to ask me what drug you are always taking, so I used hide it well well from everybody. And the tablet is too big. It was last year they told me I have HIV. Before I was throwing the medicine away when my mother is not around, but I have stopped that because I don't want to die.'

- *A 14 year-old male in the rural facility*

A 20 year old respondent who graduated from secondary school recently also expressed his anxieties: '' *I am taking my drugs, but not all the time. When am sick, I don't use to take. I am afraid that I will die despite the drugs. I don't want to go to university. I just want to learn work. If I tell any girl am positive, she will not marry me even if I make money. I want somebody to bring the drugs for me at home. I want to beg the doctor and i am confused……''*

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VI. DISCUSSION

In this study, the mean age groups of the study participants were 16.30(±3.2) and 18.46(±4.3) in the urban and rural facilities respectively. This disparity may be explained by demographic, cultural and other contextual factors. These findings differ from studies in Port Harcourt and Abuja where the mean age groups were 14.74 and 11.33 respectively[20,29]. Other studies from other parts of the world also show variations in the mean ages of respondents[30,31]. There were more females than males in both the urban and rural health facilities. This may be explained by the fact that under-5 mortality in males is higher than females in Nigeria[32]. This will push more young females than young males into the ART program[33]. This pattern of gender disparity is similar to other studies in Nigeria[19,34] and other countries[35,36,37,38].

In terms of QoL, this study demonstrated that all domain scores were higher in the urban facility compared to the rural facility. The differences in means, which is a measure of the rural-urban disparity were statistically significant in all, but one domain. The highest domain score in the urban facility was the physical domain, followed by the spiritual domain while in the rural facility, the highest score was in the spiritual domain, followed by the psychological domain. The high physical domain scores in the urban facility may be a direct function of the fact that comprehensive ART program started in the urban setting before the rural setting. Other possible explanations are the fact that quality improvement initiatives like youth and adolescent friendly programs and differentiated service delivery models started earlier in the urban setting compared to the rural setting. The spiritual domain assesses the belief system and how it affects perception, personal experiences in relation to QoL. This scored high in both facilities because almost all the respondents believe in the existence of a higher being or deity that predetermines the destiny of humankind. Most of the respondents were therefore of the opinion that faith in the supernatural being could grant them permanent healing at the appointed time. The psychological domain scored high in both facilities, ranking second in the rural facility and third in the urban facility, though absolute mean value was higher in the latter compared to the former. This domain measures self-esteem, self-perception and positive feelings and thought. Those in the urban facility had better self-image compared to the rural facility and this may be explained by a higher socio-economic status and higher level of education which are predictors of good QoL. The only domain that did not show a statistically significant difference between the urban and the rural setting was the social relationship domain which incidentally, was also the least in both facilities. The reason for the low score may dwell in the fact that stigma and discrimination is still a subtle issue and young people are particularly sensitive in this unique period of growth in self-identity and self-awareness. Most respondents reported not having engaged in sexual activity, which may result in a low score, thereby driving down the mean score for the social relationship domain.

The environment and level of independence domains had higher scores in the urban facility compared to the rural facility. This may be explained by the preponderance of social amenities such as roads, electricity, water and transportation that are more universally accessible in the urban areas compared to rural settings[32]. Among other factors, recreational activities are also more common in an urban setting compared to the rural area. The index study is not in tune with a similar study on adolescents in Benue where the physical and the psychological domains were the worst while the social relationship domain had the highest scores[18]. The reason for this difference may be because that study focused on adolescents in families affected by HIV/AIDS and the adolescents may or may not be infected with HIV/AIDS. In consonance with similar studies in Cross River and Oyo States, physical and psychological domains had the highest domain scores while environment and social relationship domains had the lowest[39,40]. In another study in Ghana, the social relationship domain was the highest among all the other domains[41]. Another study in Ethiopia found the Level of Independence domain as the highest, followed by the physical and social relationship domains while the least domain was the spiritual domain[42].

In respect of health related QoL, there were more people with good QoL in the urban facility compared to the rural facility. The difference in QoL score between both facilities was statistically significant. This finding differed from another rural study where about 80% of the respondents had an excellent QoL, 9% had good QoL while 11% had poor QoL[41]. In another study where the score of 12 and above was considered to be a good QoL and poor below the cut-off, it was found that 74.2% had good QoL and 25.8% had poor QoL[43]. A study in Ethiopia where the mean of the overall QoL was the demarcation point for good or poor QoL, found out that 53.5% of respondents had poor QoL compared to 46.5% who had good QoL[42] .

The level of education and the regimen type were significant determinants of QoL among the respondents in the urban facility while no socio-demographic or clinical characteristics were of statistical significance in respect of level of education in the rural facility. Those with secondary level education were more likely to have good QoL compared to those with primary level school education (OR = 2.12, 95% CI = 1.13 – 3.95, p=0.019). This position was corroborated by some of the findings from the FGD sessions in the urban facility. It was discovered that younger participants tend to care less about the implications of a positive HIV status. The reason may not be unconnected to the young age and the general lack of cognitive capacity to have a full grasp of the immediate and remote implications of a positive HIV status at such tender age. An 11 year-old primary six discussant made this submission when asked whether he had any challenge with his medications and clinic appointments:

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'I am not sick. I don't have any headache, fever or pain and every day they will be forcing me to take drugs. I am tired. I even told my mum we should stop going to the clinic because am not sick, but she kept threatening me that I will die if I don't go. I am tired….'

To a similar query, a 23 year-old post-secondary school discussant responded thus:

'I have conquered fear because I am in good terms with my creator. I have told my family that I will become a minister of God after school. Whenever I go for my appointment, I minister and pray for other patients and give them hope and words of comfort. I want to encourage my friend here not to be afraid of marriage and relationship. Once you have viral suppression, you can marry and have children without HIV. Let us take our drugs and be in good terms with God who guarantees eternal happiness.'

Those on first line treatment were less likely to have good QoL compared to those on second line medications and this difference was statistically significant. This finding is out of tune with the findings from another similar study where educational background or anti-retroviral therapy regimen had no statistical relationship with QoL[43]. Other factors evaluated in the same study were gender, marital status and employment status. These factors, in conjunction with the study context may be responsible for the variance. In consonance with this study, the study in Benue also found out that rural dwellers were more likely to have poorer QoL outcomes compared to urban dwellers[18]. This is also similar to the findings from another study in Ethiopia[43]. Other determinants of good QoL evaluated by the Ethiopian study included higher wealth index, shorter duration on ART and good social support system[42].

VII. CONCLUSION AND RECOMMENDATION

The domain scores for young people on ART on the WHOQOL scale was significantly higher in the urban facility compared to the rural facility. This is likely to beget improvement in mental and physical health, stronger social connections, greater sense of purpose, enhanced productivity and positive impact in the society. This study also showed that predictors of good QoL in the urban facility were the level of education and ART regimen.

By way of recommendation therefore, the government should make deliberate efforts towards strengthening the Universal Basic Education program with emphasis on access, equity and quality to encourage enrolment. Government and donor agencies should provide education incentives for young PLHIVs especially in the rural areas to encourage continuity, after the first nine years of statutory basic education. Infrastructures like electricity, potable water, good roads and communication aids should be prioritized in the development budgets of government and donor agencies to facilitate service delivery and utilization, especially in the rural areas.

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- ***Conflict of Interest***

The authors hereby declare that there was no conflict of interest in the course of this research work.

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