# MENTAL HEALTH CHALLENGES AMONG ADOLESCENTS LIVING WITH HIV/AIDS ATTENDING ART SERVICES IN TARABA STATE UNIVERSITY COMMUNITY, JALINGO

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## ABSTRACT

*This study aimed to analyze the socio-demographic characteristics associated with mental health challenges and optimal use of ART services among adolescents living with HIV AIDS in the Taraba State University community, Jalingo. A cross-sectional study was conducted among 425 adolescents aged 10-19 years attending ART services. Data on socio-demographic variables including gender, family background, marital status, occupation, education level, age, treatment interruptions, adherence to follow-up dates, and reminders from parents were collected. Bivariate analysis using chi-square tests examined associations between these variables and viral suppression status as a proxy for optimal ART use. The majority of participants were female (61.6%), single (94.8%), and aged 17 or younger (80.5%). Family background significantly influenced viral suppression status, with higher rates among those with both parents alive (p < 0.05). Similarly, marital status, occupation, educational attainment, age, treatment interruptions, adherence to follow-up dates, and reminders from parents showed significant associations with viral suppression (p < 0.05). Gender, however, did not emerge as a significant factor. Socio-demographic factors play a critical role in shaping mental health challenges and ART utilization among adolescents living with HIV/AIDS in university communities. Enhancing family support, educational programs, and integrated healthcare services tailored to their specific needs are recommended to improve health outcomes. Further research is warranted to explore additional influences and refine targeted interventions for this vulnerable population.*

## Introduction

Globally, around 450 million people suffer from illnesses related to mental or behavioral disorders. It is responsible for nearly one million suicide deaths. Approximately 4 to 6 years of youths living with a disability (YLD) are mainly due to depression, alcohol use, schizophrenia, and bipolar disorder. According to published research, between 44 and 58% of HIV positive people have mental disorders. In Sub-Saharan Africa, 10 to 20% of people living with HIV have major depression, and another 20 to 30% have elevated depressive symptoms or minor depression (Sullivan & Gatto, 2021). Mental health is a neglected global health priority, particularly for children and adolescents (Shatkin & Belfer, 2014). Mental health disorders, including psychiatric disorders, general psychological distress, emotional, and behavioural problems, are a leading cause of health-related disability, affecting 10–20% of children worldwide and are predictive of mental health disorders and other morbidities in adulthood. (Kim-Cohen & Caspi, 2018.

Research on mental health among children and adolescents lags considerably behind that of adults, particularly in resource-limited settings (RLS). A 2007 review of 11,501 intervention trials for the treatment or prevention of mental health disorders found that few targeted children and adolescents; the little research with children primarily focused on interventions for developmental disabilities (Patel *et al*., 2017).

Furthermore, less than 1% of the studies of drug and psychological interventions for treating mental health disorders were conducted in "low-income" countries, with only 10% in "lower-middle-income" countries. The need for a better understanding of mental health is especially important when its assessment and treatment are compounded by other comorbidities. Children and adolescents living with HIV may face an increased burden of mental and behavioural health disorders (Vreeman *et al*., 2017).

On the other hand, the absence of efficient ARV compliance led to disease progression due to increased viral load, which leads to emotional disorders such as depression. As a result, prevalent mental problems relate to disease severity, reduced quality of life, and contribute to unemployment and lower production. But from the other perspective, the escalating prevalence of mental problems among people living with HIV (PLWHIV) raises the likelihood of decreased health outcomes and productivity (Belfer, 2017).

At this instant, unlike other individuals, adolescents Living with HIV/AIDS (PLWHA) are in great emotional need and require enormous support to overcome the burden of their illness. Similarly, contracting HIV/AIDS alone can lead an individual to difficulties related to self-esteem, coping mechanisms, social isolation, and finally to psychological disorders. The emotional burden of HIV/AIDS infection among PLWHIV is very heavy, compared to other populations. Various studies, for example, show that PLWHA has twice the rate of psychological problems, most notably depression, as the general population (Belfer, 2017).

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Therefore, this study will assess the mental health challenges among adolescents living with HIV/AIDs attending ART services in Taraba State University community, Jalingo.

**Materials and Methods**

**Research Design**

This study employed an exploratory-based cross-sectional study design utilizing purposive and convenience sampling techniques among adolescents living with HIV/AIDS attending ART services in the Taraba State University community, Jalingo. The study duration spanned one year in 2023.

**Research Participants**

The study population consisted of adolescents living with HIV/AIDS who were actively attending ART services in the Taraba State University community, Jalingo, during the research period.

**Sample Size Determination and Sampling Procedure**

 Sample size calculation was based on a comparison of proportions between case and control groups, assuming a 95% confidence interval, 80% power, and a case-to-control ratio of 1:1. Participants were systematically selected from the ART service attendance registers using a simple random sampling method. The sample of 425 was stratified to ensure proportional representation based on predetermined exposure levels among cases and controls using Taro Yaman's formula (1967) for calculating sample size.

**Data Collection Tool**

A mixed-methods design incorporating both qualitative and quantitative approaches was employed. Qualitative data were gathered through focus group discussions (FGDs), key informant interviews, case studies, and transect walks, complemented by structured questionnaires. This approach was chosen to accommodate the low socioeconomic status, limited ICT access, and varying education levels among the adolescent population.

Data collection utilized digital technology or Computer-Assisted Personal Interviewing (CAPI) to ensure data accuracy and minimize errors. The questionnaire covered socio-

demographic characteristics, adolescents' mental health status, knowledge levels, and related incidents.

## Data Quality Control Measures

Prior to main data collection, a pilot study involving 40 participants from different local government areas was conducted to refine the data collection tools. Reliability and validity of the questionnaire were assessed using Cronbach's alpha with a minimum threshold of 0.71.

## Data Entry

Data entry was conducted using Epi Info version 3.5.3 for cleaning and validation before exporting to Statistical Package for the Social Sciences (SPSS) version 25 and Stat for statistical analysis.

## Statistical Analysis

The data underwent both descriptive and analytical statistical analyses. Bivariate and multivariate binary logistic regression analyses were performed to explore associations between categorical dependent and independent variables affecting overall mental health among participants. Demographic characteristics were compared using independent-samples t-tests and one-way analysis of variance (ANOVA). Additionally, multivariate linear regression analysis utilized all demographic variables as independent variables. A significance level of $p < 0.05$ was applied to determine statistical significance.

## Results

**Table 1: Socio-Demographic Data of Participants**

| Variables | Categories | Frequency | Percentage |
|---|---|---|---|
| **Gender** | female | 262 | 61.6 |
| | male | 163 | 38.4 |
| **Family Background** | both parents alive | 169 | 39.8 |
| | both parents deceased | 83 | 19.5 |
| | only 1 parent alive | 173 | 40.7 |
| **Marital Status** | Married | 22 | 5.2 |
| | Single | 403 | 94.8 |
| **Occupation** | civil servant | 1 | .2 |
| | peasant farmer | 15 | 3.5 |
| | self-employed | 33 | 7.8 |
| | Unemployed | 376 | 88.5 |
| **Education** | no education | 8 | 1.9 |
| | Primary | 292 | 68.7 |
| | Secondary | 114 | 26.8 |
| | Tertiary | 11 | 2.6 |
| **Age** | <= 17 | 342 | 80.5 |
| | >17 | 83 | 19.5 |

**Table 1.2 Bivariate Analysis of Mental Health Challenges Associated with Optimal Use of the Art Services Among Adolescents Living with Hiv in Taraba State University Community, Jalingo.**

| Variables | Categories | Virally suppressed | Not Virally suppressed | P-value |
|---|---|---|---|---|
| **Gender** | female | 161 | 101 | p>0.05 |
| | male | 104 | 59 | |
| **Family Background** | both parents alive | 129 | 40 | P<0.05 |
| | both parents deceased | 41 | 42 | |
| | only 1 parent alive | 95 | 78 | |
| **Marital Status** | Married | 6 | 16 | P<0.05 |
| | Single | 259 | 144 | |
| **Occupation** | civil servant | 1 | 0 | P<0.05 |
| | peasant farmer | 3 | 12 | |
| | self employed | 7 | 26 | |
| | unemployed | 254 | 122 | |
| **Education** | no education | 5 | 3 | P<0.05 |
| | Primary | 196 | 96 | |
| | Secondary | 63 | 51 | |
| | Tertiary | 1 | 10 | |
| **Age** | <= 17 | 242 | 100 | P<0.05 |
| | >17 | 23 | 60 | |
| Treatment Interruptions | No | 257 | 89 | P<0.05 |
| | Yes | 8 | 71 | |
| Adherence to follow up dates | No | 3 | 44 | P<0.05 |
| | Yes | 262 | 116 | |
| Reminder from parents | no | 48 | 58 | P<0.05 |
| | yes | 217 | 102 | |

**Description of Results**

Table 1 presents a comprehensive breakdown of the socio-demographic characteristics of the study participants. It includes variables such as gender, family background, marital status, occupation, education level, and age distribution. Each variable is further detailed with specific categories and corresponding frequencies, providing a thorough statistical snapshot of the participant cohort.

Starting with gender, the table delineates that among the 425 participants, 61.6% (262 individuals) identify as female, while 38.4% (163 individuals) identify as male. This gender distribution sums up to the total

sample size of 425, constituting 100% of the participants surveyed.

Regarding family background, the data illustrates that 39.8% (169 participants) report having both parents alive, 19.5% (83 participants) indicate both parents deceased, and 40.7% (173 participants) report having only one parent alive. Again, the total number of participants surveyed aligns precisely at 425, with each category's percentage clearly marked.

Marital status among the participants is also delineated in the table, revealing that 5.2% (22 individuals) are married, while 94.8% (403 individuals) are single. This categorization reflects the relationship status of the entire participant pool, totaling 100% as expected.

Occupationally, the participants' roles vary significantly, as shown by the data. A minute 0.2% (1 individual) identifies as a civil servant, 3.5% (15 individuals) as peasant farmers, 7.8% (33 individuals) as self-employed, and a substantial 88.5% (376 individuals) are unemployed. This breakdown ensures a comprehensive understanding of the occupational diversity within the participant group.

Educational attainment further enriches the socio-demographic portrait, with 1.9% (8 individuals) reporting no formal education, 68.7% (292 individuals) having completed primary education, 26.8% (114 individuals) completing secondary education, and 2.6% (11 individuals) achieving tertiary education. This categorization reflects the educational backgrounds of all 425 participants, capturing the breadth of educational achievements within the surveyed group.

Lastly, age distribution underscores significant demographic characteristics, with 80.5% (342 individuals) of participants aged 17 or younger, and 19.5% (83 individuals) aged over 17. This division by age brackets provides crucial insights into the age composition of the participant cohort, summing up accurately to 100%.

Table 1.2 presents a comprehensive bivariate analysis detailing the associations between various socio-demographic variables and the prevalence of mental health challenges related to the optimal use of ART (Antiretroviral Therapy) services among adolescents living with HIV in the Taraba State University community in Jalingo. The analysis focuses on several key variables: gender, family background, marital status, occupation, education level, age, treatment interruptions, adherence to follow-up dates, and reminders from parents.

Starting with gender, the table indicates that among the 425 participants surveyed, 161 females and 104 males were virally suppressed, while 101 females and 59 males were not virally suppressed. Statistical analysis revealed that gender was not significantly associated with viral suppression status ($p > 0.05$).

Family background exhibited significant associations with viral suppression status. Specifically, among those with both parents alive, 129 were virally suppressed compared to 40 who were not, demonstrating a statistically significant difference ($p < 0.05$). Similarly, marital status showed significant associations, with only 6 married participants achieving viral suppression compared to 16 who were not virally suppressed ($p < 0.05$).

Occupationally, being a civil servant (1 virally suppressed vs. 0 not virally suppressed), peasant farmer (3 virally suppressed vs. 12 not virally suppressed), or self-employed (7 virally suppressed vs. 26 not virally suppressed) showed significant associations with viral suppression ($p < 0.05$). In contrast, a large proportion of unemployed individuals showed a significant challenge in achieving viral suppression (254 virally suppressed vs. 122 not virally suppressed).

Educational attainment also played a role, as those with no education (5 virally suppressed vs. 3 not virally suppressed), primary education (196 virally suppressed vs. 96 not virally suppressed), secondary education (63 virally suppressed vs. 51 not virally suppressed), and tertiary education (1 virally suppressed vs. 10 not virally suppressed) displayed varying degrees of association with viral suppression ($p < 0.05$).

Age was significantly associated with viral suppression, with 242 individuals aged 17 or younger achieving viral suppression compared to 100 who did not ($p < 0.05$). Similarly, treatment interruptions (No: 257 virally suppressed vs. 89 not virally suppressed), adherence to follow-up dates (No: 3 virally suppressed vs. 44 not virally suppressed), and receiving reminders from parents (No: 48 virally suppressed vs. 58 not virally suppressed) all showed significant associations with viral suppression status ($p < 0.05$).

**Discussion of the Findings**

The results presented in Table 1 and Table 1.2 from the study on mental health challenges among adolescents living with HIV/AIDS attending ART services in Taraba State University Community, Jalingo, provide a detailed exploration of the socio-demographic factors influencing both the participant characteristics and their health outcomes.

Table 1 offers a thorough breakdown of the socio-demographic composition of the study participants. It reveals that a majority of the 425 adolescents surveyed were female (61.6%) and single (94.8%), with a significant proportion reporting having only one parent alive (40.7%) and being unemployed (88.5%). Educational attainment varied widely, with primary education being the most prevalent (68.7%), while age distribution skewed heavily towards those aged 17 or younger (80.5%). These findings underscore the diverse socio-demographic landscape of the participant cohort, crucial for understanding their unique health needs and challenges.

Building upon this foundation, Table 1.2 delves into the bivariate analysis, specifically examining how these socio-demographic variables intersect with the prevalence of mental health challenges associated with optimal ART service utilization and viral suppression among adolescents living with HIV/AIDS. The results highlight several key associations:

Firstly, gender was not found to be significantly associated with viral suppression status, suggesting that mental health challenges related to ART services may not differ significantly between males and females in this context ($p > 0.05$).

Secondly, family background exhibited significant associations with viral suppression status, particularly noting that

adolescents with both parents alive had higher rates of viral suppression compared to those with other family backgrounds ($p < 0.05$). This finding underscores the supportive role of family structure in managing HIV/AIDS and mental health outcomes among adolescents, aligning with similar studies emphasizing family support mechanisms (Girma *et al.,* 2021).

Thirdly, marital status and occupation also showed significant associations with viral suppression status. Adolescents who were married or employed tended to have lower rates of viral suppression, possibly due to increased stressors or reduced access to healthcare compared to their unmarried or unemployed counterparts ($p < 0.05$). This finding correlates with previous research highlighting the socioeconomic determinants of health outcomes in HIV/AIDS populations (Bhana *et al.,* 2021).

Moreover, educational attainment demonstrated varying degrees of association with viral suppression, with higher levels of education generally correlating with better outcomes ($p < 0.05$). This aligns with existing literature linking education to health literacy and adherence to treatment protocols (Odongo *et al.,* 2023).

Lastly, age, treatment interruptions, adherence to follow-up dates, and reminders from parents were all significantly associated with viral suppression status ($p < 0.05$). Younger age groups and better adherence to treatment regimens were positively correlated with viral suppression, whereas treatment interruptions and lack of parental reminders were associated with poorer health outcomes. These findings underscore the critical role of consistent medical care and parental support in managing HIV/AIDS among adolescents (Odongo *et al.,* 2023).

The findings from this study provide valuable insights into the complex interplay between socio-demographic factors and mental health challenges among adolescents living with HIV/AIDS in a university community setting. They highlight the importance of tailored interventions that address socio-demographic disparities to enhance ART service utilization and improve health outcomes in this vulnerable population. These implications are consistent with broader research in HIV/AIDS management (Odongo et al. 2023), emphasizing the need for holistic, patient-centered approaches that consider socio-demographic contexts to optimize health interventions.

**Conclusion**

This study provides a comprehensive analysis of the socio-demographic factors influencing mental health challenges and ART service utilization among adolescents living with HIV/AIDS in the Taraba State University community, Jalingo. The findings underscore significant associations between family background, marital status, occupation, education level, age, treatment interruptions, adherence to follow-up dates, and viral suppression status. While gender did not emerge as a significant factor, other variables such as family support, educational attainment, and adherence to treatment regimens played critical roles in determining health outcomes. The results highlight the complex interplay of socio-demographic factors in shaping the mental health landscape and ART adherence among adolescents with HIV/AIDS.

## Recommendations

Based on the study findings, several recommendations can be made to enhance ART service delivery and mental health support for adolescents living with HIV/AIDS:

i. Tailored Support Programs: Develop targeted interventions that address the specific needs of adolescents based on their family structure, educational background, and socio-economic status. This could include family counseling sessions to strengthen support systems and improve adherence to treatment.

ii. Education and Awareness: Implement educational programs that promote health literacy and empower adolescents to take an active role in managing their HIV/AIDS treatment. This includes workshops on medication adherence, coping strategies for mental health challenges, and understanding the importance of regular follow-up appointments.

iii. Integrated Health Services: Foster collaboration between healthcare providers, educators, and community stakeholders to create integrated health services that ensure comprehensive care for adolescents living with HIV/AIDS. This could involve establishing youth-friendly clinics within educational institutions and community centers.

iv. Parental Involvement: Encourage parental involvement in the healthcare decisions of adolescents by providing resources and support for parents to actively engage in their child's treatment plan. This includes promoting open communication and providing tools for parents to remind adolescents about their medication and clinic appointments.

v. Further Research: Conduct further research to explore additional factors influencing mental health challenges and ART adherence among adolescents with HIV/AIDS. Longitudinal studies and qualitative research can provide deeper insights into the lived experiences of this population and inform the development of targeted interventions.

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