

Research Article

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Assessment of Social Support and Its Relationship with Adherence to Highly Active Antiretroviral Therapy among HIV-Positive Clients Accessing Care in Health Institutions in Anambra State, Nigeria

***Okolie Martin Nwabueze, Ezeama Martina, Ihedioha Anthony U., and Chinedu-Eleonu Priscilia**

Department of Public Health, Faculty of Health Sciences, Imo State University, Owerri, Nigeria.

Corresponding author: Okolie Martin Nwabueze

Department of Public Health, Faculty of Health Sciences, Imo State University, Owerri, Nigeria.

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Abstract

A mixed method, cross-sectional analytical study was carried out among 392 HIV positive clients accessing treatment, care and support services in selected health institutions in Anambra State, Nigeria. Quantitative data were collected using a pre-tested interviewer given questionnaire through face to face interviews. Qualitative data were collected utilising focus group talks. Social support was measured using the Medical Outcomes Study Social Support Survey (MOS-SSS), a five-point Likert scale tool that measures emotional/informational support, affectionate support, practical support, and pleasant social interaction support. Social support scores ≥ 2.5 were considered good and values < 2.5 were considered bad. Adherence was assessed by self-reported medication-taking behaviour and ideal adherences were determined as levels $\geq 95\%$. Data were analysed using IBM SPSS version 23 for descriptive, bivariate and multivariate analysis at 95% confidence level. All the 392 questionnaires that were administered were filled and retrieved making the response rate to be 100%. Most respondents acknowledged availability of emotional, affectionate and good social contact support. Overall good social support was seen in 330 (84.3%) respondents while bad social support was seen in 61 (15.6%) respondents. Regarding medication adherence, 30 (7.7%) of the respondents stated that they ever missed their pills and 335 (85.5%) had not missed any medication in the 2 weeks before the research. Most of the participants, 358 (91.3%) did not miss any doses of their medication and always took the prescription as recommended. In all, 359 (91.6%) of responders had ideal adherence to HAART of $\geq 95\%$. The study revealed that HIV positive clients in care in health institutions in Anambra State had excellent perceived social support and optimal adherence to the HAART. Adequate social support might be important in promoting adherence to antiretroviral medication. Strengthening family, community and healthcare-based support systems should be included into HIV care initiatives to sustain optimal treatment adherence and enhance health outcomes among PLHIV.

Keywords: HIV/AIDS; social support; Highly Active Antiretroviral Therapy; medication adherence; people living with HIV; Nigeria.

INTRODUCTION

Despite great progress in the field of prevention, diagnosis, and treatment, Human Immunodeficiency Virus (HIV) infection still constitutes a serious public health issue worldwide. Antiretroviral therapy (ART) is widely accessible and has converted HIV infection from a fatal disease to a manageable chronic health condition by decreasing viral load, restoring immune function, reducing HIV-related morbidity and mortality, and improving quality of life for people living with HIV (PLHIV). However, the success of ART in the long run is heavily reliant on persistent and excellent adherence to specified treatment regimens[1].

Adherence to Highly Active Antiretroviral Therapy (HAART) refers to taking antiretroviral medications in the right dose, frequency, and time as advised by healthcare providers. To achieve viral suppression, halt disease progression, restrict transmission of HIV, and minimise the establishment of drug-resistant HIV strains[2], high levels of adherence are required. However, poor adherence is still a major challenge for the successful treatment of HIV and has been linked with treatment failure, increased morbidity and mortality, and the development of resistance to antiretroviral drugs[3,4]. Social support has been identified as one of the important psychosocial factors affecting health seeking behaviour and adherence among patients with chronic diseases including HIV infection. It is the emotional, informational, instrumental and affectionate aid people receive from family, friends, health care providers and the larger community. Adequate social support results in improved coping, less psychological distress, better self-esteem and beneficial health behaviours such as continuous adherence to HAART[5].

People Living with HIV have psychological problems such as stigma, discrimination, fear of disclosure, social isolation, anxiety and depression among others which can severely impact on their capacity to adhere to treatment forever [6]. Family members and social networks play an important role in giving practical help such as medicine reminders, transportation to health care facilities, financial support, and emotional support which results in better adherence to treatment and improved overall well-being[7].

Despite the tremendous scale-up of HIV treatment services in Nigeria, poor HAART adherence remains a public health challenge. Socioeconomic problems, stigma, medication-related issues and lack of social support have been described as factors influencing adherence among PLHIV. Understanding the magnitude of social support on adherence is important in designing patient-centered strategies to improve HIV treatment outcomes[8].

Anambra State offers a broad network of health facilities offering HIV treatment, care and support services. However, little is known about the association between social support and adherence to Highly Active Anti-Retroviral Therapy (HAART) among HIV positive individuals attending these services. Hence, this study was conducted to examine the level of social support and its association with adherence to Highly Active Antiretroviral Therapy among HIV positive clients on care in health institutions in Anambra State, Nigeria.

MATERIALS AND METHODS

Study Area

This study was conducted in Anambra State, South-East Nigeria. Anambra State is divided into three senatorial districts (Anambra North, Anambra Central, and Anambra South) and comprises 21 Local Government Areas (LGAs). The State has a well-established healthcare system comprising tertiary, secondary, and primary healthcare facilities that provide comprehensive HIV prevention, treatment, care, and support services.

Study Design

A mixed-method cross-sectional analytical study design involving both quantitative and qualitative approaches was adopted. The quantitative component assessed the level of social support and adherence to Highly Active Antiretroviral Therapy (HAART) among HIV-positive clients, while the qualitative component explored participants' experiences and perceptions regarding social support and factors influencing adherence to treatment.

Study Population

The study population comprised adult HIV-positive clients receiving antiretroviral treatment, care, and support services in selected health institutions in Anambra State.

Eligibility Criteria

Participants included in the study were HIV-positive adults aged 18 years and above who had been on HAART for at least six months, attended regular follow-up clinics, were aware of their HIV status, and had disclosed their status to at least one individual.

Patients who were severely ill, admitted during the period of the study, or had conditions that could significantly impair effective communication or accurate responses were excluded from the study.

Ethical Considerations

Ethical approval for the study was obtained from the Ethics Committee of Nnamdi Azikiwe University Teaching Hospital, Nnewi. Written informed consent was obtained from all participants before enrolment. Participation was voluntary, and respondents were informed of their right to withdraw from the study at any stage without any consequences. Confidentiality and anonymity of participants' information were maintained throughout the study by excluding personal identifiers from data collection instruments.

Sample Size Determination

The minimum sample size was determined using the Cochran formula for cross-sectional studies involving populations greater than 10,000, using a previous HAART adherence prevalence of 64.5%, a 95% confidence level, and a precision level of 5%. The calculated minimum sample size was 352. After adjusting for an anticipated non-response rate of 10%, a final sample size of 392 respondents was obtained and recruited for the study.

Sampling Technique

A multistage sampling technique was employed in selecting participants for the quantitative component of the study. In the first stage, all three senatorial districts in Anambra State were included. In the second stage, two LGAs were selected from each senatorial district using simple random sampling, resulting in six LGAs.

The selected health facilities were stratified into tertiary, secondary, and primary healthcare levels. One health facility was selected from each category within the selected LGAs using simple random sampling, resulting in a total of 18 health facilities. The number of participants selected from each facility was determined using proportional allocation based on the average number of HIV clients attending the facilities. Eligible participants were subsequently selected using systematic random sampling from clinic attendance registers until the allocated sample size for each facility was achieved.

For the qualitative component, one Focus Group Discussion (FGD) was conducted in each selected health facility using convenience sampling. Each FGD consisted of eight HIV-positive clients who were different from the participants included in the quantitative survey, giving a total of 18 FGD sessions.

Data Collection Instruments and Procedure

Data were collected using a pre-tested interviewer-administered semi-structured questionnaire adapted from relevant literature on social support and adherence among people living with HIV. The questionnaire consisted of sections on socio-demographic characteristics, socio-economic characteristics, knowledge of social support, level of social support, adherence to HAART, and other factors influencing adherence.

The questionnaire was administered through face-to-face interviews by trained research assistants in the HIV clinics of the selected health institutions. Data collection lasted for eight weeks. For the qualitative component, Focus Group Discussions were conducted using a structured discussion guide to obtain in-depth information on participants' perceptions of social support and factors affecting adherence to HAART.

Measurement of Variables

Assessment of Social Support

Social support was the primary independent variable and was measured using the Medical Outcomes Study Social Support Survey (MOS-SSS), which evaluates perceived availability of support across emotional/informational support, affectionate support, tangible support, and positive social interaction domains. Responses were rated on a five-point Likert scale ranging from 1 (none of the time) to 5 (all of the time). The average social support score was calculated, with scores ≥ 2.5 classified as good social support and scores < 2.5 classified as poor social support.

Assessment of Adherence to HAART

The dependent variable was adherence to HAART, which was assessed using self-reported medication-taking behaviour over the preceding two weeks. Adherence was calculated as the percentage of prescribed doses taken using the formula: $\text{Adherence (\%)} = (\text{Number of doses taken} \div \text{Number of prescribed doses}) \times 100$. Participants who achieved an adherence level of 95% or higher were classified as adherent, while those with adherence levels below 95% were considered non-adherent.

Data Quality Assurance

The study instrument was validated by experts in Community Medicine and Public Health. Reliability testing was conducted through a pilot study among HIV-positive clients in health facilities outside the study area, and the instrument demonstrated good internal consistency with a Cronbach's alpha coefficient of 0.80.

Research assistants received two days of training on the study objectives, ethical considerations, and administration of the questionnaire. The principal investigator supervised the data collection process, and completed questionnaires were checked daily for completeness and consistency.

Statistical Analysis

Completed questionnaires were screened, coded, and entered into IBM Statistical Package for the Social Sciences (IBM SPSS) version 23 for analysis. Descriptive statistics were used to summarize participants' characteristics, levels of social support, and adherence to HAART, and results were presented as frequencies, percentages, means, and standard deviations where appropriate.

RESULTS

Table 1: Determination of the level of social support using medical outcomes study social support

Variable	All of the time 392(%)	Most of the time 392(%)	Some of the time 392(%)	A little of the time 392(%)	None of the time 392(%)
Emotional support					
Someone you can count on to listen to you when you need to talk.	50(12.8)	97(24.7)	170(43.4)	62(15.8)	11(2.8)
Someone to give you information to help you understand a situation	48(12.2)	100(25.5)	172(43.9)	61(15.6)	9(2.3)
Someone to give you good advice about a crisis	47(12.0)	101(25.8)	173(44.1)	81(15.6)	8(2.0)
Someone to confide in or talk to about yourself or your problems	47(12.0)	103(26.3)	169(43.1)	61(15.6)	10(2.6)
Someone whose advice you really want	45(11.5)	101(25.8)	170(43.4)	64(16.3)	10(2.6)
Someone to share your most private worries and fears with	45(11.5)	102(26.0)	169(43.1)	61(15.6)	10(2.6)
Someone to turn to for suggestions about how to deal with a personal problem	45(11.5)	91(23.2)	178(45.4)	67(17.1)	7(1.8)
Someone who understands your problems	53(13.5)	95(24.2)	171(43.6)	63(16.1)	8(2.0)
Someone to help you if you were confined to bed.	55(14.0)	92(23.5)	173(44.1)	62(15.8)	8(2.0)
Someone to take you to the doctor if you need it	61(15.6)	89(22.7)	167(42.6)	65(16.6)	8(2.0)
Someone to prepare your meals if you were unable to do it yourself	61(15.6)	90(23.0)	169(43.1)	61(15.6)	9(2.3)
Affectionate support					
Someone who shows you love and affection	61(15.6)	99(25.3)	163(41.6)	56(14.3)	10(2.6)
Someone to love and make you feel wanted	63(16.1)	99(25.3)	162(41.3)	57(14.5)	8(2.0)

Table 2: Determination of the level of social support using medical outcomes study

Variable	All of the time 392(%)	Most of the time 392(%)	Some of the time 392(%)	A little of the time 392(%)	None of the time 392(%)
Someone who hugs	63(16.1)	101(25.8)	161(41.1)	56(14.3)	8(2.0)
Positive social interaction					
Someone to have a good time with	63(16.1)	102(26.0)	159(40.6)	54(13.8)	11(2.8)
Someone to get together with for relaxation	63(16.1)	100(25.5)	161(41.1)	53(13.5)	11(2.8)
Someone to do something enjoyable with	63(16.1)	101(25.8)	162(41.3)	52(13.3)	11(2.8)
Someone to do things with to help you get your mind off things	67(17.1)	98(25.0)	161(41.1)	53(13.5)	10(2.6)

A 5-point Likert scale with 18 items scored in ascending order from 1-5 was used to assess the level of social support among respondents. The average score was graded to give the level of support; those that scored >2.5 were graded as having good social support while a score of < 2.5 showed poor social support. There was generally good social support among the respondents as 330(84.3%) scored > 2.5 and 61(15.6%) scored <2.5 .

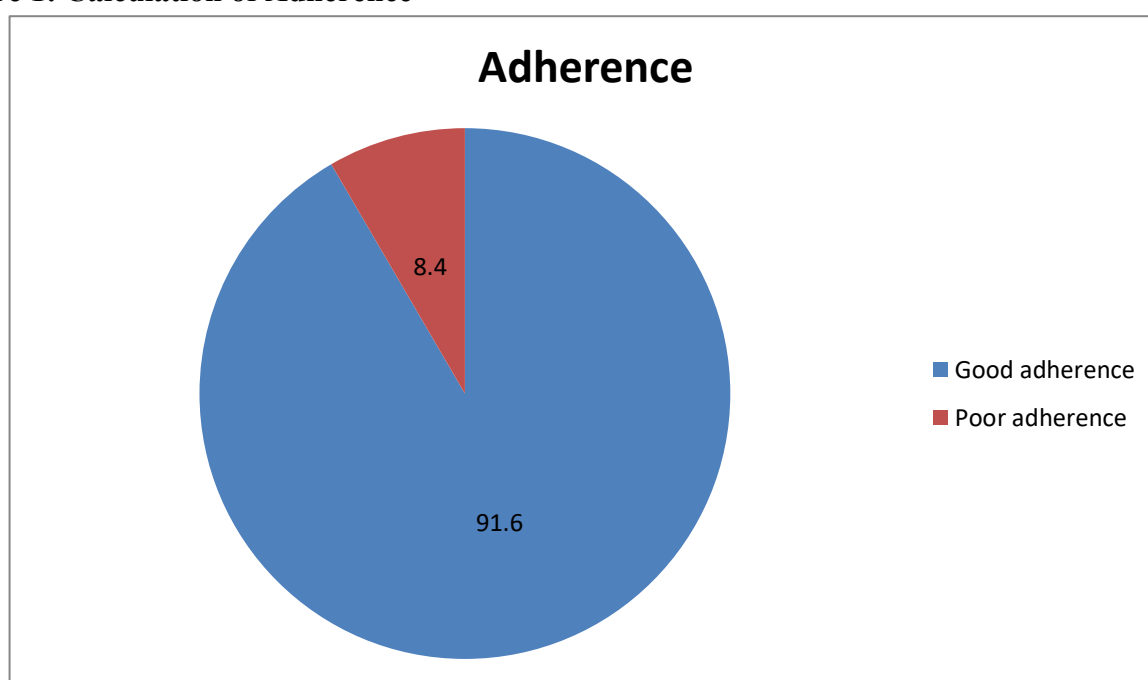
Table 3: Determination of Adherence

Variable	Frequency (392)	Percent (%)
Ever forget to take your medicines		
Yes	30	7.7
No	360	91.8
Do not know	2	0.5
In the past two weeks, number of days you forgot to take ALL your medicine (Missed doses during the day are equivalent to missing for that day)		
0	335	85.5
1-2	17	4.3

3-4	12	3.1
Cannot remember	28	7.1
Number of doses of medications missed		
0	358	91.3
1-3	17	4.3
4-5	10	2.6
Do not know	7	1.8
Follow specific dosage times and instructions		
All the time	358	91.3
Most of the time	22	5.6
Some of the time	6	1.5
Never	1	0.3
Cannot remember	5	1.3

Table 3 represents the level of adherence. Less than 10% of the participants often forget to take their medications, with 17(4.34%) admitting to having missed all their medications 1-2 times in the past two weeks.

Figure 1: Calculation of Adherence



Three hundred and fifty-eight (91.6%) followed specific dosage times and instructions all the time. The adherence level among the participants was high as the majority 359 (91.6%) of the respondents scored 95% and above.

Discussion

The present study used the Medical Outcomes Study (MOS) Social Support Scale and an adherence assessment instrument to determine the level of social support and medication adherence among 392 respondents. Overall, the results showed a typically strong perception of social support and a high level of medication adherence among the subjects. The findings indicate that the majority of the participants had moderate to high levels of social support in the areas of emotional support, affectionate support and positive social engagement. For most of the questions under emotional support, the biggest number of respondents expressed support "some of the time" (about 41–45%) and "most of the time". Only a tiny proportion reported support "none of the time" (around 2–3%).

This pattern indicates that while consistent, uninterrupted assistance ("all of the time") was relatively low (approx. 11–16%), the overall availability of support networks was extensive, if not always constant. Indicators of emotional support, such as having someone to talk to, to advise, to confide in and to lean on in times of crisis, were generally available to most respondents at least intermittently[9]. likewise, the distribution of the items on instrumental support (e.g., help during illness, help with clinic visits or food preparation), was likewise similar, suggesting functional support networks in the social milieu of the respondents[10].

The domains of affectionate support and positive social contact followed the same trend, with most of the respondents expressing support "some" or "most of the time." Importantly, the aggregate grading indicated that 84.3% of respondents

had high social support (scores >2.5), while just 15.6% had inadequate social support. This suggests that there was variation in the intensity and regularity of social support although most participants had acceptable social support systems[11]. These findings show that respondents likely benefit from a combination of family and friends, and possibly peer support structures that may be a significant source of emotional stability and coping in the face of chronic health issues needing longterm care[12].

The results on medication adherence indicate a very high level of adherence among the responders. The vast majority (91.8%) stated that they had never failed to take their medication, and only 7.7% reported periodic forgetting. Also, 85.5% reported no missed days in the last two weeks and 91.3% reported not missing any doses. Regarding adherence behaviour, 91.3% of the respondents stated that they followed the particular timing and directions for dosage “all the time”, while just a very tiny fraction reported inconsistent adherence. Overall, 91.6% of the respondents had adherence scores of 95% and above indicating excellent adherence levels in the research population[13].

These findings indicate good medicine taking behaviour among respondents which may be affected by numerous factors such as health education, counselling, treatment experience, and probably the support systems accessible to them[14]. Although the study did not conduct statistical tests for connections, the simultaneous occurrence of high social support and high adherence suggests a possible positive correlation between these two factors. Social support may improve adherence by increasing motivation, reducing psychological suffering, and offering practical support such as reminders, accompaniment to clinics, and emotional encouragement[15].

The high rate of “some of the time” responses to social support indicators suggests that even intermittent support may be sufficient to positively impact health behaviours when combined with adequate healthcare engagement and treatment literacy[16].

The findings have substantial implications for clinical practice and public health. First, increasing social support systems, particularly consistent emotional and instrumental assistance, may lead to additional improvement in adherence outcomes. Interventions that focus on the family or peer support should be considered in health programs to maintain adherence levels[17].

Second, the high adherence seen is encouraging and may be a result of good treatment programs and counselling services. However, focused treatments are still required to prevent treatment failure and resistance in the tiny fraction of non-adherent people [18].

Conclusion

The findings of the study indicate considerable social support and very high drug adherence among the responders. The assistance is not always constant, but apparently its availability is sufficient to have a favourable impact on the treatment behaviour. Strengthening and sustaining structured social support mechanisms may result in further improvement in adherence and long-term health outcomes in the research population.

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