

# The relationship between perceived family support and adherence to highly active anti-retroviral therapy among people living with human immuno-deficiency virus in a tertiary health facility in Nigeria

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## ABSTRACT

Due to the discovery of HAART, HIV is now considered a chronic infection. Near-perfect adherence to HAART is required to achieve sufficient viral suppression. Perceived family support is one of the factors that has been reported to be associated with adherence to medication. The objective of this study was to determine the relationship between family support and adherence to HAART in order to make relevant recommendations as guided by the outcome. The study was a cross-sectional descriptive study involving 297 HIV positive people on HAART who were attending the HIV Clinic of the Federal Medical Centre, Asaba, Nigeria. Respondents were selected using systematic random sampling. Questionnaires were administered to obtain data on socio-demographic factors while relevant tools were used to assess family support and drug adherence. The results were analyzed using the Statistical Package for Social Sciences (SPSS), version 17. The adherence rate among the participants was 24%. Eighty-five percent of the respondents had high family support. Low family support was significantly associated with low mean CD4 count. There was a weak but positive relationship between family support and adherence to HAART. In conclusion, the study reported a weak positive relationship between family support and adherence to HAART.

**Keywords:** Family, support, adherence, HIV, Asaba.

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## INTRODUCTION

Human immunodeficiency virus infection is a disease of global importance. Since its discovery in 1981, it has become a pandemic and African countries are the most affected (Cobham and Ntobela, 2010; WHO et al., 2011). The quality of life and life expectancy in these countries have been significantly impacted as a result of this infection (United States Embassy in Nigeria, 2011).

The Association of Family Resource Program defines

social support as an integrated network of community based resources and services that strengthen relationships and healthy development. It shows a true partnership in terms of assistance and encouragement within the family. It is family driven, comprehensive, flexible and individualized. Family support is influenced by culture, needs and preferences.

The perceived social support family scale is one of the

tools used in the assessment of family support and it was explored in the index study.

Highly Active Antiretroviral Therapy (HAART) is a medication regimen consisting of three antiretroviral drugs: two nucleoside reverse transcriptase inhibitors and a protease inhibitor or non-nucleotide reverse transcriptase inhibitor, which is used in the management of HIV (Eley et al., 2006; Van der watt, 2011). In recent times, due to the discovery of HAART, the course of HIV infection has changed from a fatal disease to that of a chronic manageable condition (Adeniji and Muhibi, 2013; Salami et al., 2005; Ndlovu, 2009). Most people living with HIV have to be on lifelong therapies; hence, adherence to medication has become an important concept in their management.

The term medication adherence in HIV specifically refers to the ability of the person living with HIV/AIDS to be involved in choosing, starting, managing and maintaining a given combined medication regimen to control viral replication and improve immune function (Jani et al., 2004).

Sub-optimal adherence to medication is a common problem among patients with only 30 to 50% of patients adhering to medication. For patients with HIV infection, adherence to HAART must be at least 95% to achieve sufficient viral suppression (Gould and Mitty, 2010). Unfortunately, most patients on HAART find it difficult to maintain such high adherence rates (Osterberg and Blaschks, 2005). Different factors that are associated with better adherence to HAART must be explored to help implement strategies that will improve adherence and consequently, improve survival of people living with HIV/AIDS. One of such factors as reported by previous studies is good family support (Mills et al., 2006; Reblin and Uchino, 2008; Fahmy et al., 2010).

Growing bodies of evidence have associated perceived family support with improved medication adherence and better outcomes in a number of disease conditions (Mills et al., 2006; Reblin and Uchino, 2008; Fahmy et al., 2010; Olarewaju et al., 2008; Adetunji et al., 2007). Perceived family support refers to an individual's belief that family support is available and provides what is considered needful by that individual (Glick et al., 2011). Patients who reported adequate support from family members were found to have higher HAART adherence rates in some studies (Hunt, 2011). In a study by Mosack in Milwaukee Wisconsin, the most commonly reported benefit of educating family members and involving them in HIV care included consistent appointment attendance and medication adherence (Sellier et al., 2006; Mosack and Petroll, 2009). A cohort study by Sellier et al. amongst sub-Saharan Africans from Infectious Disease Clinics in Paris revealed that the most relevant factor affecting adherence was self-perceived family support and the family's and the household's knowledge of the patient's HIV status (Sellier et al., 2006). Stumbo et al. also showed that HIV positive same sex male couples

seek and receive informational and emotional support from friends and family members (Mosack and Petroll, 2009; Stumbo et al., 2011). Family support may be especially beneficial in the African context as families in African have been found to have stronger family ties and a stronger influence on individual life style than families in the western world (Stumbo et al., 2011).

This study was conceptualized to determine the relationship between perceived family support and adherence to HAART. The outcome might serve as a template for future development of interventions that could improve patients' adherence to HAART.

## METHODOLOGY

The study was carried out in the HIV clinic of the Federal Medical Centre, Asaba, South-South Nigeria. It was a cross-sectional descriptive study. The inclusion criteria/study population consisted of adult known HIV positive patients who had been on HAART for at least 6 months prior to the commencement of data collection. Systemic random sampling was used in the recruitment of patients and this was done after the determination of the sampling interval (K). A total of 297 consenting adults were enrolled into the study. Family support and adherence were assessed using the Perceived Social Support Family Scale by Procidiano and Heller and the Rational Pharmaceutical Management (RPM) respectively (Alesina and Giuliano, 2013; Procidiano and Heller, 1983). The questionnaires were pre-tested, validated and interviewer administered. Permission to conduct the study was obtained from the hospital ethical committee. Patients were assured of confidentiality and right to opt out of the study at any time without victimization. Written informed consent was obtained from willing participants.

## RESULTS

As shown in Table 1, a total of 320 respondents were initially selected for the study but 297 were eventually recruited into the study (response rate = 92.8%). The reasons for the exclusion of the patients included incompletely filled questionnaires and respondents that were very ill as the research protocols would have worsened their conditions. The mean age of the respondents was  $40.1 \pm 9.5$  years and 56.6% were married while 74.7% had at least attained secondary level of education. However, 68.7 and 31.3% of the respondents were females and males respectively. The male: female ratio was 1:2.2.

The occupational distribution of the study population showed that traders, civil servants, artisans and the unemployed constituted 34.7, 18.9, 12.1 and 8.4% respectively (Figure 1).

Figure 2 showed that most of respondents (84.5%) had high perceived family support. However, only 6.1% of the study population had low family support.

Figure 3 shows the drug adherence level. Majority of the respondents (74%) had moderate adherence, while 24% had high adherence to HAART.

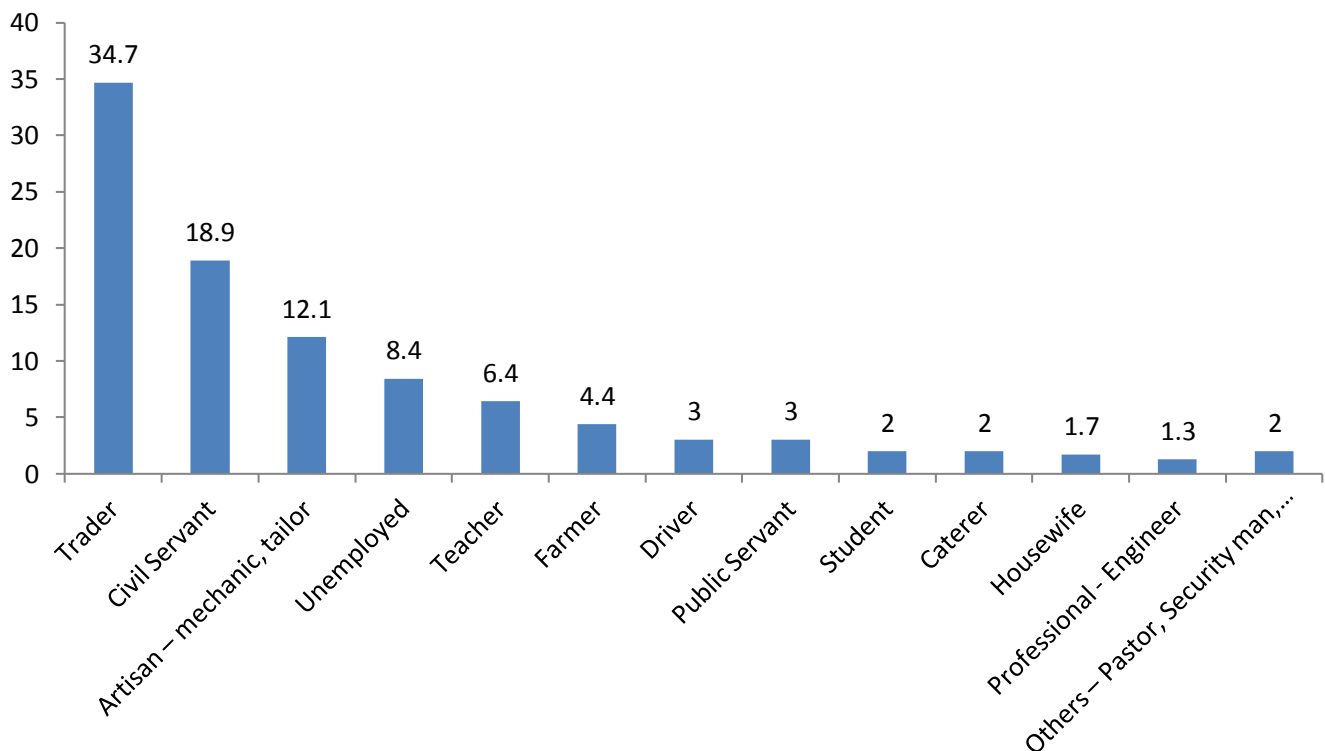
**Table 1.** Socio-demographic characteristics of the respondents.

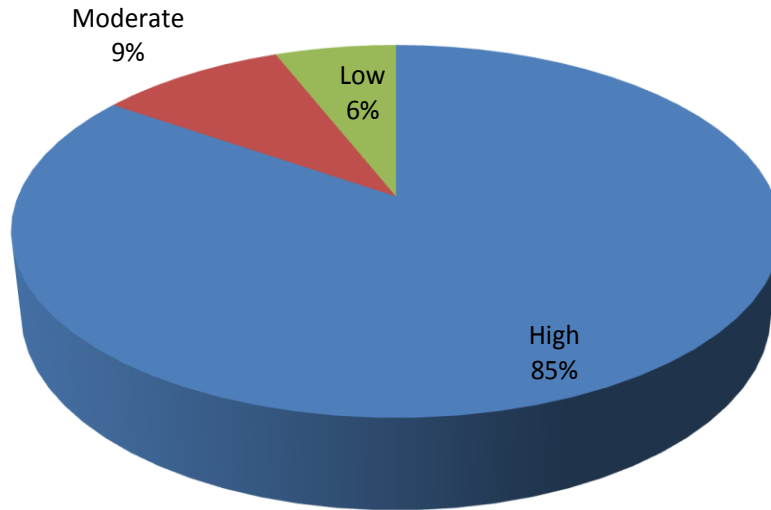
Characteristic	N = 297	%
Sex		
Male	93	31.3
Female	204	68.7
Age (in years)		
≤30	42	14.1
31-40	127	42.8
41-50	90	30.3
51-60	31	10.4
60+	7	2.4
Mean ± SD	40.1 ± 9.5	
Educational status		
Nil	11	3.7
Primary	64	21.5
Secondary	125	42.1
Tertiary	97	32.7
Marital status		
Single	51	17.1
Married	168	56.6
Divorced	21	7.1
Separated	21	7.1
Widowed	36	12.1

As shown in Table 2, Spearman rho correlation coefficient was used to measure the relationship between adherence level and family support. There was a positive but weak relationship between adherence level and the support received from family members. However, this relationship was not statistically significant ( $r = 0.034$ ,  $p = 0.55$ ).

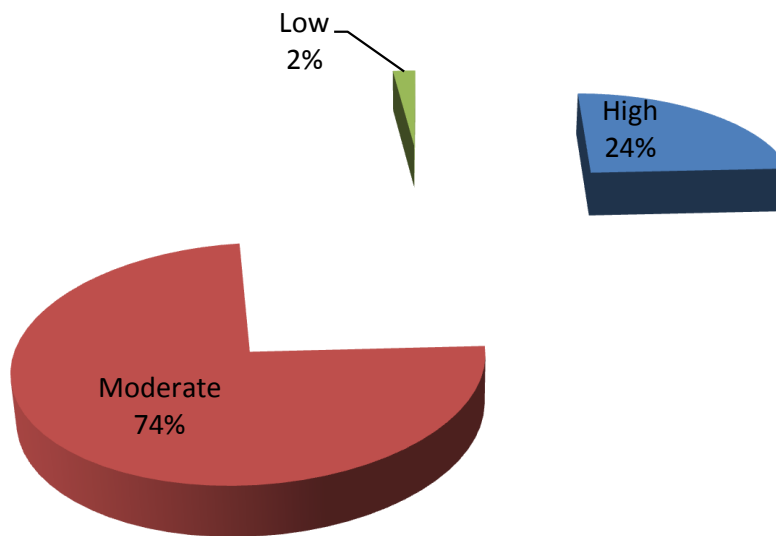
## DISCUSSION

The drug adherence rate to HAART among respondents in this study was 24%. This rate is less than the outcome of similar studies done in other parts of Southern Nigeria. For instance, a study by Afolabi BA reported an adherence rate of 95.5% (Steel et al., 2007; Afolabi et al., 2013). While studies by Olowookere et al. in Ibadan and Afolabi in Ife-ijesa zone of Osun State reported adherence rates of 62.9 and 44%, respectively (Afolabi et al., 2013; Olowookere et al., 2008). Furthermore, a study in Calabar South-south Nigeria by Oku et al. recorded an adherence rate of 59.9% (Afolabi et al., 2009; Oku et al., 2013). The disparity between these adherence rates and the out-come of the present study could be attributed to the variation in the tools used in the assessment of drug adherence. For instance, the above cited studies made use of patient self-report and/or pill counts, while the RPM (which is a more detailed tool for assessing adherence) was used in the index. The RPM tool also

**Figure 1.** Occupational distribution of the respondents.



**Figure 2.** Pattern of distribution of family support amongst the study population.



**Figure 3.** Distribution of patients by level of drug adherence based on the composite score.

**Table 2.** Correlation between family support and adherence level.

Family support	Adherence			R	P
	High N = 72 (%)	Moderate N = 219 (%)	Low N = 6 (%)		
High	63 (25.1)	182 (72.5)	6 (2.4)	0.034	0.55
Moderate	7 (25.0)	21 (75.5)	0 (0.0)		
Low	2 (11.1)	16 (88.9)	0 (0.0)		

brought to bear other considerations. These included the timing of the administration and the compliance with additional instructions with respect to drug intake. It has

also been found that when self-reporting alone is used, patients are more likely to over-estimate their adherence levels (Alesina and Giuliano, 2013). It is worthy of note

that the RPM tool was made specifically for assessing adherence to HAART, unlike the other tools which could be used for other medications.

The index study also showed a weak but positive relationship between family support and adherence to HAART. This observation is in tandem with the outcome of other similar studies. In a study conducted in Puerto Rico among non-adherent men living with HIV, the level of family support was low (Oku et al., 2013). Afolabi also found a positive but stronger relationship between family support and adherence to HAART (Afolabi et al., 2009; US department of veteran affairs, nd; Paterson et al., 2000). The stricter criteria with which adherence was assessed in this study might have been responsible for this variance. More so, HIV patients assessing care in the study location have an effective support group where leaders of different geographical regions in Asaba are appointed to look after their members' welfare. The leaders of these groups mobilize other members to identify patients that are lost to follow-up. Patients that were abandoned and neglected by their respective families could also be identified and cared for. The support from this group has assisted in reducing the negative effects of poor family support in Asaba.

## Conclusion

The adherence rate of patients attending the HIV Clinic of Federal Medical Center, Asaba, Nigeria was poor (24%). This is much lower than the results of other studies in the same region probably due to the stricter criteria with which adherence was assessed. Furthermore, family support was observed to have a positive effect on a patient's adherence to HAART. The results of this study emphasizes the importance of family support in the care of people living with HIV and the involvement of family members in the care of such patients as good family support has been observed to improve adherence to HAART.

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