

**COMPARISON OF ANTIRETROVIRAL THERAPY ADHERENCE BETWEEN CLIENTS
RECEIVING COMBINED HOME-BASED AND CLINIC CARE AND CLINIC CARE
ALONE IN KANO, NIGERIA*****Bello Ibrahim Umar, Nasiru Lawal**

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ABSTRACT

Background and objectives: Differing models of HIV service delivery may influence medication adherence. This study compared ART adherence between adults receiving combined home-based and clinic care and adults receiving clinic care alone at a tertiary hospital in Kano, Nigeria. **Methods:** A comparative cross-sectional study was conducted among 546 adults receiving ART for at least six months: 273 received combined home-based and clinic care and 273 received clinic care alone. Adherence was measured using the Morisky Medication Adherence Scale and classified as high/medium or low. Group differences were assessed using chi-square testing. **Results:** High/medium adherence was reported by 224 (82.1%) clients in the combined-care group and 198 (71.7%) in the clinic-only group. Low adherence was reported by 49 (17.9%) and 76 (27.8%), respectively. The difference was statistically significant ($\chi^2=7.56$, $p=0.01$). The combined-care group also reported more frequent difficulty remembering medication on individual MMAS items, despite having a higher overall proportion classified as adherent. The care groups differed significantly in some background and treatment characteristics, including educational level, daily frequency of ARV use and duration on ART. **Conclusions:** ART adherence differed significantly between the two service-delivery groups, with a higher proportion classified as adherent among clients receiving combined home-based and clinic care. Because the study was observational and the groups were not equivalent at baseline, the difference should be interpreted as an association rather than a causal effect.

KEYWORDS: HIV; Antiretroviral Therapy; Medication Adherence; Home Care Services; Comparative Study; Nigeria.

INTRODUCTION

Adherence to ART is a major determinant of the effectiveness and durability of HIV treatment. Community-based and home-based approaches have been developed to complement facility-based care, particularly where clients face barriers related to travel, retention, social support and continuity of treatment.^[2-4]

The AKTH HIV programme provides routine clinic care and, for selected clients, additional home-based care. The home-based component includes follow-up and social support activities, while clinic care includes medication refills, investigations and adherence counselling. The underlying dissertation was designed specifically to

compare the two groups. The second specific objective was to compare their levels of adherence.

SUBJECTS, MATERIALS AND METHODS

A comparative cross-sectional study was conducted at the PEPFAR clinic of AKTH. Adults aged at least 18 years who had been on ART for six months or more were included. A total of 546 clients were enrolled, 273 in each care group. Systematic sampling was used.

The MMAS was used to assess medication-taking behaviour over the preceding 30 days. High and medium scores were combined as good adherence; low scores were categorized as poor adherence. Group

characteristics and adherence indicators were summarized using proportions and compared using chi-square or Fisher exact tests. Statistical significance was set at $p < 0.05$.

The study received ethical clearance from AKTH. Written informed consent was obtained.

RESULTS

Characteristic	Clinic only n (%)	Combined care n (%)	p-value
Female	173 (63.4)	193 (70.7)	0.07
Married	188 (68.6)	192 (70.1)	0.91
Secondary education	77 (28.2)	108 (39.6)	0.02
First-line regimen	240 (87.9)	248 (90.8)	0.27
Once-daily ARVs	152 (55.7)	84 (30.8)	<0.001
>5 years on ART	195 (71.7)	266 (97.8)	<0.001
Outcome	Clinic only	Combined care	Test
High/medium adherence	71.7%	82.1%	$\chi^2=7.56$, $p=0.01$
Low adherence	27.8%	17.9%	

Although the combined-care group had a higher overall adherence classification, some individual adherence behaviours were reported more frequently in this group. For example, 22.7% reported sometimes forgetting medication compared with 14.3% in the clinic-only group. This illustrates why interpretation should be based on the predefined MMAS scoring algorithm rather than a single adherence item.

DISCUSSION

The comparison showed a statistically significant difference in overall adherence classification between the two groups. The combined-care group had a higher proportion with high/medium adherence. Similar observations have been reported in some community-based HIV care studies, while other studies have found smaller or non-significant differences.^[2-4]

The groups in this study were not exchangeable. Significant differences were observed in educational level, daily dosing frequency and duration on ART, and there were differences in CD4 distribution. These factors may influence medication-taking behaviour and may partly explain the observed group difference. Consequently, the analysis should not be presented as evidence that home-based care alone caused the higher adherence.

The finding also highlights a practical distinction between individual adherence behaviours and a composite adherence score. Forgetfulness was reported in both groups, yet the overall MMAS classification differed significantly.

Adherence interventions should therefore address specific behaviors rather than rely solely on a global adherence label.

CONCLUSION

There was a statistically significant difference in MMAS-defined adherence between clients receiving combined home-based and clinic care and those receiving clinic care alone. The combined-care group

had a higher proportion classified as having high/medium adherence. Prospective studies with adjustment for baseline differences are needed to establish the independent contribution of the care model.

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Duality of Interest

None declared. To be confirmed by all authors.

REFERENCES

1. Mills EJ, Nachega JB, Buchan I, et al. Adherence to antiretroviral therapy in sub-Saharan Africa and North America: a meta-analysis. *JAMA*, 2006; 296(6): 679-690.
2. Nachega JB, Adetokunboh O, Uthman OA. Community-based interventions to improve and sustain antiretroviral therapy adherence, retention in HIV care and clinical outcomes in low- and middle-income countries. *Curr HIV/AIDS Rep.*, 2016; 13(5): 241-255.
3. Weidle PJ, Wamai N, Solberg P. Adherence to antiretroviral therapy in a home-based AIDS care programme in rural Uganda. *Lancet*, 2006; 368(9547): 1587-1594.
4. Wouters E, Van Damme W, van Rensburg D, Masquillier C, Meulemans H. Impact of community-based support services on antiretroviral treatment programme delivery and outcomes in resource-limited countries: a synthetic review. *BMC Health Serv Res.*, 2012; 12: 194.
5. Reda AA, Biadgilign S. Determinants of adherence to antiretroviral therapy among HIV-infected patients in Africa. *AIDS Res Treat.*, 2012; 2012: 1-8.
6. Claude A, Massicotte R, Arts MOF. A comparative analysis of quality of life and stigma experienced by people living with HIV receiving antiretroviral therapy in a home-based care project in Mozambique, 2010.

7. Joseph B, Babigumira A, Sethi AK, et al. Cost effectiveness of facility-based care, home-based care and mobile clinics for provision of antiretroviral therapy in Uganda, 2012.