ABSTRACT

BACKGROUND: An understanding of the effect of highly active antiretroviral therapy (HAART) on different aspects of health, including changes in body size and immunological response in HIV-infected individuals in Nigeria is needed. This is to ensure that appropriate population-specific guidelines and policies towards HIV/AIDS control can be developed.

OBJECTIVES: This study aimed to investigate the effect of HAART on the body anthropometric measures and to explore the relationship between these measures and immunological response to HAART. Specifically, the study sought to find the changes in weight, BMI, MUAC, WC, HC, WHR and CD4 count at baseline and after 12 and 24 weeks of HAART administration. Also the association between the anthropometric parameters and CD4 count was sought.

METHODS: The study design was a longitudinal observational study involving 302 HIV-infected adult patients attending NAUTH, Nnewi. The subjects were recruited by simple random sampling. Anthropometric measurements, including weight, hip circumference, waist circumference, mid-upper arm circumference, body mass index (BMI) and the waist to hip ratio were taken at baseline and then after 12 and 24 weeks of HAART initiation. The CD4 count was also assayed at baseline and after 12 and 24 weeks of HAART administration. The data was analysed using SPSS version 16.

RESULTS: Except for the weight, there was a statistically significant increase in all the anthropometric parameters as well as the CD4+ count (P<0.05) after 12 weeks of HAART initiation. A similar pattern was observed between the values at 12 weeks and the 24-week values. Also by the 24th week of HAART initiation, all the anthropometric parameters and the CD4+ count showed significant increase from the baseline values. Furthermore, the anthropometric parameters showed no association with the CD4 count at baseline and at the 12th week of HAART initiation. After 24 weeks on HAART, there was a statistically significant
association between all the anthropometric parameters and CD4 count (P<0.05) except for the hip circumference. Multivariate correlation analysis however showed no association between those anthropometric parameters and CD4 count at the 24th week of HAART initiation.

**CONCLUSION**: In spite of some limitations of this study, it provides evidence that there appears to be an increase in the body anthropometrics with HAART administration. There also appears to be a relationship between some anthropometric parameters and immunological response following HAART administration but this may need clarification. These findings highlight the need to include circumference measurements in assessment of HIV-infected patients on HAART as well as the need for further research on obesity, overweight and fat redistribution in such patients.