SUMMARY

**Background:** Various diagnostic criteria for gestational diabetes are presently in use depending on the clinician, institution or even country thus resulting in the lack of universally acceptable diagnostic criteria for this very important disease. A comparative study of the ADA and the WHO diagnostic criteria in Nigeria is presently lacking.

**Study objectives:** To compare the diagnostic performance of the 2-hour 75g oral glucose tolerance test (OGTT) of the American Diabetes Association (ADA) and the 2-hour 75g OGTT of the World Health Organization (WHO) in detecting gestational diabetes mellitus (GDM) in Jos University Teaching Hospital, Jos, Nigeria.

**Materials and methods:** One hundred and eighty consecutive women in their second and third trimesters of pregnancy attending the antenatal clinic of JUTH, Jos, between August and October 2005 were subjected to standard OGTT. The glucose tolerance status of each subject was determined using the new ADA criteria and the WHO criteria to interpret the 75g OGTT. The prevalence rates of GDM using either of the two criteria were evaluated and compared. The demographic characteristics of the subjects and the risk factors associated with GDM were evaluated. The validity of both diagnostic criteria in terms of sensitivity, specificity, and positive predictive value were compared to each other. The cost-effectiveness of both diagnostic criteria was compared.

**Results:** The mean (SD) age of the study subjects was 28.16 (5.23) years. The mean parity of the subjects was 1.4 (2.05), while the mean parity of women
with GDM was 2.27 (2.0). Traditional risk factors for GDM were found in 83% of women with GDM. The prevalence rate of GDM diagnosed by the ADA criteria was 7.2%, while that of the WHO criteria was 14.4%. The difference was statistically significant ($p = 0.01$). The sensitivity of the WHO and ADA criteria for GDM were 69.2% and 34.62% respectively. The specificity of the WHO and ADA criteria for GDM were 10.2% and 97.4% respectively.

**Conclusion:** The ADA diagnostic criteria appeared to be more stringent than the WHO diagnostic criteria in identifying GDM. The WHO criteria appeared to be more cost-effective than the ADA criteria for GDM. Most of the women found to have GDM had risk factors for GDM.