Background:

Clinical chemistry reference ranges vary due to factors such as sex, ethnicity, diet, climate, genetics, geographical location, analytical methods, sample type and analytical instruments.

Objective:

The aim of this study was to determine reference ranges for random glucose for healthy adults in Uganda. This was important in the diagnosis and treatment of diabetes and also provided more scientific knowledge on our local glucose reference ranges for further use by other scientists. The local glucose reference ranges were important to be established in our society as stated by the (IFCC, 2000) because this would help with the interpretation of locally obtained results.

Methodology:

The study was cross sectional, blood samples were collected from healthy non fasting young adults aged 18 up to 39 years. Capillary blood samples were collected and analyzed using a glucometer. Urine samples collected to detect for glycosuria as exclusion criteria. Data was analyzed using STATA version 11 software and the Chi square test to study the significance.

Results:

A total of 288 participants were enrolled in the study. The mean age of the participants was 29 years with a median age of 32 years, of the male participants (62/142; 43.66%) had RBS in the range of 3.0-4.9 mmo1/L, (66/142; 46.48%) had RBS in the range of 5.0 – 6.9 mmol/L and the rest had RBS of 7.0 – 8.9 mmol/L. Up to (84/146; 57.53%) of the female participants had their RBS ranging from 3.0 – 4.9 mmol/L, (36/146; 24.66%) had RBS from 5.0 – 6.9 mmol/L and the rest of females had RBS ranging from 7.0 – 8.9 mmol/L. (1/74; 1.35%) of participants aged between 35 – 39 years had their RBS between 3.0 – 4.9mmol/L, (33/74; 44.59%) had their RBS between 5.0 – 6.9 mmol/L and (40/74; 54.05%) had their RBS between 7.0 – 8.9mmol/L. This difference is statistically significant at p value less than 0.05 (p value 0.0001).

Conclusion:

The refernce range obtained in the sudy was different from that quoted by WHO. This means our study population where characteristically different and required different reference range for glucose.