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## **Erhabor Osaro**

Usmanu Danfodiyo University, Nigeria

### The effect of time and temperature variables on some routine coagulation tests among subjects of African descent in Sokoto, North Western Nigeria

This study evaluated the effects of time and temperature variables on routine Prothrombin Time test and Activated Partial Thromboplastin Time (APTT) test among subjects of African descent in Sokoto, North Western Nigeria. 99 subjects made up of 49 male and 50 female subjects with mean age 38.3±22.3 years were selected for the study. Coagulation tests were performed immediately at specified times after phlebotomy up to 24 hours (0, 1, 2, 3, 4 and 24 hours at room temperature (40°C). Our data demonstrate that prothrombin time and APTT results are stable for up to 2 hours, remaining constant regardless of storage conditions. Post hoc tests using Bonferroni correction revealed that there were increase in PT time from 0 hour to 4 hours (17.82±0.61 seconds vs. 18.30±0.59 seconds, respectively), from 0 hour to 24 hours (17.82±0.61 seconds vs. 18.48±0.59 seconds, respectively), from 2 hours to 4 hours (17.89±0.58 seconds vs. 18.30±0.59 seconds), from 2 hours to 24 hours ( $17.89\pm0.58$  seconds vs.  $18.48\pm0.58$  seconds), which were all statistically significant (p=.002 and p<.000, p<.000, p<.000, respectively). However, the increase in PT time from 0 hour to 2 hours (17.82±0.61 seconds vs. 17.89±0.59 seconds, respectively) and from 4 hours to 24 hours (18.30±0.59 vs. 18.48±0.59 seconds, respectively) were not statistically significant (p=1, p=0.428). A repeated measure ANOVA determined that mean PTTK time differed statistically significantly between time points F (3, 291)=119.22, p<.001. Post hoc tests using Bonferroni correction revealed that there were increase in PTTK time from 0 hour to 2 hours (37.86±1.04 seconds vs. 39.94±1.07 seconds, respectively), from 0 hour to 4 hours (37.86±1.04 seconds vs. 42.34±1.11 seconds, respectively), from 0 hours to 24 hours (37.86±1.04 seconds vs. 44.93±1.20 seconds), from 2 hours to 4 hours (39.94±1.07 seconds vs. 42.34±1.11 seconds), from 2 hours to 24 hours (39.94±1.07 seconds vs. 44.93±1.20 seconds) and from 4 hours to 24 hours (42.43±1.11 vs. 44.93±1.20 seconds), which were all statistically significant at p<.001). Therefore, we conclude that there are no statistically significant differences in the PT and APTT between 0 and 2 hours. A longer timing (after 2 hours) from phlebotomy collection of blood from respondents elicited a statistically significant increase in the PT and APTT result. There were no statistically significant differences in the PT and APTT result determined 4 hours and 24 hours after phlebotomy. Longer timing from collection of blood from respondents elicited a statistically significant increment/increase in the clotting time using PTTK. Our data demonstrate that PT and APTT results are stable for 2 hours remaining constant regardless of storage conditions.

#### **Biography**

Erhabor O is a Professor of Haematology and Transfusion Medicine. He is an Alumni of Rivers State University of Science and Technology, Nigeria, University of Greenwich in the United Kingdom and Francis Tuttle College of Technology in Oklahoma, USA. He is a fellow and registration portfolio verifier to the Institute of Biomedical Science in the UK, author of 5 scientific books and 5 chapters of scientific books. He is on the Science Council of the UK register as a Chartered Scientist, a member of the Editorial Board as well as an Article Reviewer of several international scientific journals. He is a well published researcher in the field of Infectious Disease, Immunohaematology and Blood Transfusion Medicine. His teaching experience spans both the African continent and Europe.

n\_osaro@yahoo.com