

Comparison of the Automated Full Blood Count Results with Manual Method

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Abstract: This study was designed to determine the correlation between haematological parameters measured by an Automated Haematology analyzer (MINDRAY BC: 5500) with the standard manual methods. In this study, One hundred and forty Anticoagulated (tri-potassium ethylenediamine tetra-acetic acid) blood samples from patient having different blood disorders were randomly selected from Haematology Laboratory Teaching Hospital Jaffna, which were used. All the blood samples were tested automatically by automated haematology analyzer as well as manually for WBC, RBC, Platelet, Haemoglobin, PCV, differential count, MCV, MCH and MCHC. All the data were statistically analyzed in SPSS software. The results obtained with haematology analyzer for WBC count, Haemoglobin measurement, PCV, RBC count, Platelet count, Neutrophil count, Lymphocyte counts, Eosinophil count, Basophil count, Monocyte count, MCV, MCH and MCHC were correlated with manual methods (Pearson correlation respectively 0.920, 0.895, 0.865, 0.662, 0.699, 0.724, 0.70, 0.456, 0.347, 0.087, 0.308, 0.462 and 0.117). The results obtained with automated haematology analyzer for WBC count PCV and Hb well correlated with standard manual method than other haematological parameters. Further studies are required for proper quality control and calibration to optimizing the validity of full blood count results.

Keywords: Full Blood Count, Automated Haematology Analyzer