Abstract

Objective: establishing agreement between visual estimation and determining the volume of blood collected in a bag during normal delivery according to the different observer characteristics in a medium complexity teaching hospital and the correlation between the collected volume and mean change in hemoglobin and haematocrite. Methods: a concordance study was carried out, comparing visual estimation by simultaneous observers having differing degrees of education and experience to the objective measurement of the volume collected in a sterilised bag during and until the first hour post partum. The study included 168 pregnant women who underwent normal vaginal delivery. Concordance was evaluated by concordance correlation coefficient (CCC Lin), 95% limits of agreement and Pearson’s correlation coefficient for changes in haemoglobin concentration and haematocrite with measured collected volume during normal delivery. Results: mean collected volume was 494 millilitres (p5 = 110, p95 = 1,320), change of haematocrite 3.8% and haemoglobin 1.2 g/dL. Overall concordance was acceptable [CCC = 0.72 (0.67-0.76 95% CI:)] having 110.2 millilitres average visual underestimation (-562.1 mL-341.8 mL agreement limits). Underestimation and loss of reliability increased with the greater volumes collected for all the observers’ categories. Correlations between collected volume and change in haemoglobin and haematocrite were 0.55 and 0.53, respectively. Conclusions: The reliability of visual estimation was acceptable for the small volumes collected and decreased as collected volume increased. Introducing measuring instruments and continued education is necessary for improving visual estimation reliability to prevent post partum haemorrhage.

Keywords

Post-partum haemorrhage, visual perception, reproducibility of results, reliability.