van Tetering AA, van de Ven J, Fransen AF, Dieleman JP, van Runnard Heimel PJ, Oei SG. Risk factors of incomplete Apgar score and umbilical cord blood gas analysis: a retrospective observational study. J Matern Fetal Neonatal Med 2016;24:1-6.

OBJECTIVE:

To investigate whether incomplete umbilical cord blood gas (UCBG) analysis occurs more often than the incomplete reporting of the Apgar score, and risk factors associated with the incomplete values.

METHODS:

A total of 8824 infants born alive after 26 weeks' gestation between January 2009 and April 2013 were included. We extracted data on five-minute Apgar score, UCBG analysis, gestational age, mode of delivery, time of delivery and multiple pregnancy. Univariate and multivariable logistic regression analyses were performed.

RESULTS:

Five-minute Apgar score was incomplete in 15 cases (0.2%) and UCBG analysis in 1960 cases (22.2%), $p < 0.05$. Incomplete UCBG analysis was significantly more likely to occur in situations with Apgar score below seven (Odds ratio (OR) 1.68, 95% CI;1.29-2.19), gestational age between 26 to 27 6/7 and 28 to 31 6/7 weeks (OR 3.14, 95% CI; 2.13-4.62 and OR 1.91, 95% CI; 1.57-2.32), cesarean section (OR 1.31, 95% CI; 1.11-1.55), and multiple pregnancy (OR 2.02, 95% CI; 1.69-2.43). Deliveries during night time had a lower risk of incomplete UCBG analysis (OR 0.78, 95% CI; 0.69-0.88).

CONCLUSIONS:

Measuring five-minute Apgar score generated less incomplete data compared with UCBG analysis. The risk factors associated with incomplete UCBG analysis were noted. Study outcomes with UCBG analysis as neonatal assessment tool should be interpreted with caution.

The five-minute Apgar score is an easy and reliable tool to measure perinatal outcome.