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The Cumulative Effect of Induction of Labour on Maternal and Infant Morbidity in Northern Jordan

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Abstract: In 1985, the World Health Organization (WHO) stated that no country should have an induction rate higher than 10%. Inappropriate use of technology in childbirth has become an issue of international concern with reports of its negative impact on maternal and infant physical and psychological wellbeing. The aim of this paper is to describe the outcome data from a prospective cohort study and how these were used to test a model of the association between birth technology for inducing birth and maternal and infant morbidity, taking into account labour type, obstetric risk, method of monitoring, oxytocin, number of ultrasound scans and type of analgesia. Data from a prospective cohort study of a convenience sample of 200 primigravida women who gave birth at Bade'a Hospital in Northern Jordan was used for this statistical analysis. The data was obtained from a self-assessment questionnaire that was used to collect data on maternal and infant outcomes during the antenatal, intra-natal and postnatal period. Data extraction was confirmed by examining the case notes. A multivariate analysis using Structural Equation Modelling with goodness of fit assessed using chi-square. Ethical approval to conduct the study was given by the University of Ulster Research Ethics Committee and the Human Subject's Committee at the Jordan University of Science and Technology. The data analyses demonstrated that Induction of labour (IOL) was associated with use of oxytocin, electronic fetal monitoring and analgesia. A number of chains of association was found: induced labour was associated with fetal distress ($p < 0.005$); electronic fetal monitoring predicts fetal distress and operative deliveries ($p < 0.005$); operative deliveries had an effect on lower Apgar scores at 1 minute ($p < 0.005$); Apgar scores at 1 minute have a direct effect on fetal distress, lower Apgar scores at 5 minutes and need for resuscitations ($P < 0.005$). Oxytocin for induction predicted perineal trauma ($p < 0.005$), perianal trauma ha