IS-70  Effectiveness of TBA Training on Perinatal and Maternal Mortality: A Randomized Controlled Trial in a District of Bangladesh

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Background: Most of the estimated 4 million neonatal and 500,000 maternal worldwide deaths each year occur in developing countries, at home and attended by Traditional Birth Attendants (TBAs). Debate regarding the effectiveness of training TBAs on perinatal and maternal mortality has continued for years in the absence of evidence from randomized controlled trials. We present the results of a cluster randomized controlled trial of training and integrating TBAs with existing healthcare. Methods: The 8 Upazilla (sub-districts) of Gazipur district of Bangladesh, were randomly assigned to intervention and control. In 4 intervention Upazillas, TBAs were trained and issued with disposable delivery kits; Women Health Workers linked traditional birth attendants with established services and documented processes and outcomes in both groups; and obstetrical teams provided outreach clinics for antenatal care. Women in the four control Upazillas received usual care. The primary outcome measures were perinatal and maternal mortality. Results: Between March and December 2006, 10,114 women were recruited in the 4 intervention Upazillas and 9,443 in the 4 control Upazillas, 84% and 79% respectively of estimated eligible women. In the intervention group 9,184 (90.8%) received care by trained TBAs who used 8,172 safe delivery kits. There was a statistically significant reduction in perinatal mortality in the intervention compared to control groups (OR 0.70, 95% CI 0.59 to 0.82) and a similar sized, but non-significant reduction in maternal mortality. Conclusions: Training and integrating TBAs with existing services was feasible and effective in reducing perinatal mortality and possibly maternal mortality.

IS-71  The ratio of umbilical venous to umbilical arterial diameter in the second trimesters efficiently predicts the perinatal outcome

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OBJECTIVES: To assess the association of the ratio of umbilical venous to umbilical arterial diameter in the second trimester and perinatal outcome including perinatal death, intrauterine growth restriction (IUGR), macrosomia, preterm/ post-term delivery and pre-eclampsia. METHODS: We retrospectively studied 526 pregnant women between 19 + 0 to 23 + 6 weeks gestation with singletons pregnancy. We measured the diameter of umbilical cord vein and artery. Patients with umbilical cord measurements below the 5th percentile were defined as thin umbilical cord group and those between the 5th and 95th or above 95 percentile were divided. We estimated the ratio of umbilical venous to umbilical arterial diameter. Fetal demise, preeclampsia, mode of delivery, gestational age at delivery, birth weight, and 5–min Apgar scores were noted. Odds ratios (OR) and 95% CIs for adverse outcome were calculated. RESULTS: The relative risk of the adverse perinatal outcome in thin umbilical cords was 3.14 (1.51–6.34; 95% CI). Fetuses with lower ratio of umbilical venous to umbilical arterial diameter is associated with poor perinatal outcome such as IUGR (OR of 3.55, 95% CI, 1.21–8.56), perinatal death (OR of 2.34, 95% CI, 1.17–5.65), and preterm delivery (OR of 2.78, 95% CI, 1.34–5.54). CONCLUSIONS: There is a significant relationship between the diameter of umbilical cord and adverse pregnancy outcome. Sonographic finding of a thin umbilical cord in the second trimester should prompt the physician to strict monitoring of pregnancy.

IS-72  Computerized FHR Analysis for determination of fetal heart rate reactivity from a single 20-minute window of non–stress testing

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Objective: To find a method to shorten the analyzing time of non–stress testing (NST), not decreasing efficacy of NST analysis. Method: Eighty cases which had 5-minute Apgar scores (≤ 7) as a study group, and 259 cases which had 5-minute Apgar scores (> = 9) were selected as a control group. We applied four different criteria (criteria A, B, C, and D) to each study and control group for interpreting as reactive with only the first 20-minute window of NST data. Criteria A, B, and C were conventional criteria for interpreting as reactive, and criteria D is conventional criteria adopting with approximate entropy (ApEn). Result: The sensitivity of the criteria D (90.00%) was statistically higher than that of three other criteria (p < 0.0001). The specificity of the criteria C (100.00%) and D (99.23%) were also statistically higher than that of the other criteria (p < 0.0001). The positive predictive value (Relative Risk) of the criteria D was statistically larger than that of the criteria C (1,156.50 vs 10.96, p < 0.0001). Conclusion: The conventional criteria with adopting ApEn to interpret as reactive can be expected to shorten consuming time without decreasing efficacy of NST analysis, thus we could make a decision of reactivity within a single 20-minute window of NST. Keywords: non–stress testing, reactivity, approximate entropy.