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VALIDATION OF MATERNAL ANATOMICAL ANTHROPOMETRIC MEASUREMENTS TO PREDICT CEPHALOPELVIC DISPROPORTION AMONG PRIMIGRAVID WOMEN VISITING GOVERNMENTAL HOSPITALS IN ADDIS ABABA, ETHIOPIA

Damtew Solomon Shiferaw and Girma Seyoum

[1]Maadawalabu University, Ethiopia
[2]Addis Ababa University, Ethiopia

Background: CPD (cephalopelvic disproportion) is defined as a mismatch between the maternal birth canal (the pelvis), and the fetal head. Detection of women at risk for CPD will allow physicians to make preparations and treatment decisions that can minimize maternal and neonatal morbidity. In developing countries, a significant number of maternal deaths are attributable to the complications of obstructed labor typically CPD, which leads to birth canal trauma, postpartum hemorrhage, and genital infections, etc. In patients with CPD, delay in the decision to seek care or delay in arrival to an appropriate medical care facility is common in rural hospitals.

Objective of the study: To assess validity of maternal anatomical anthropometric measurements to predict cephalopelvic disproportion among primigravid women visiting Governmental Hospitals in Addis Ababa

Methods: Hospital based prospective cohort study was carried out at Governmental Hospitals in Addis Ababa. The sample size was 384 which were recruited consecutively until the required numbers were achieved. Three hospitals were purposely selected from Addis Ababa governmental hospitals. The data was entered and analyzed using SPSS (Statistical Package for Social Sciences) version 23 statistical package. Analysis of variance (ANOVA), 95% CI (confidence interval) and P-values less than 0.05 were used to examine association between dependent and independent variables.

Results: Among 384 nulliparous mothers, 337 of them were delivered through spontaneous vaginal delivery (SVD) and 47 mothers gave birth by CS due to confirmed cephalopelvic disproportion. The mean fetal weight who delivered through spontaneous vaginal delivery was 2.96 with standard deviation of 0.55. The mean fetal weight delivered by CS was 3.38 with standard deviation of 0.4. In the present study, statistically significant decrease (p=0.013) in the mean fetal weight was observed in children who delivered through SVD. Significant differences were noted for height, foot length, Michaelis horizontal and head circumference of mothers with and without CPD combined anthropometric measurements showed increment in sensitivity, specificity and PPV. Foot length alone has a sensitivity percentage of 27.8, specificity percentage 89.6 and a PPV of 21.7%. When foot length is combined with other anthropometric measurements such as height, Michaelis horizontal and maternal head circumference, its sensitivity increased to 59.6%, 33.3% and 30.4% respectively

Conclusions: In the present study, the variable that predicted cephalopelvic disproportion, the most was maternal height. In addition, foot length, head circumference and Michaelis horizontal diameter were also found to be predictors of cephalopelvic disproportion.

fraolsolomon675@gmail.com