**Introduction**

Sonographic biometry is the most common and frequently used technique for the assessment of fetal biometry and estimation of its weight. The objective of our study was to determine the association between prenatally measured fetal biometry by ultrasound and labor and perinatal outcomes.

**Method**

Prospective cross-sectional study was conducted in Lumbini Zonal hospital, Nepal in between January 2019- June 2019. The study population consisted of women with all term singleton deliveries in maternity wards. Those who have undergone a transabdominal ultrasonography scan within seven days before delivery were studied. A 3.5 – 5 MHz convex probe of Samsung Sonance R7 was used to measure the estimated fetal weight (EFW) by recording biparietal diameter (BPD), femur length (FL) and head circumference (HC). Chi-square test, correlation Mann Whitney U tests and Kruskal-Wallis One Way ANOVA test was observed to assess the relationship between sonographic measurements and pregnancy outcome. The effect of HC above the 75th percentile on pregnancy outcome was also studied.

**Key Words:** Sonographic Biometry, Pregnancy outcome, Hospital, Nepal

**Result**

Out of 205 women, 71.2% had normal vaginal delivery, 13.2% underwent operative vaginal delivery and 15.6% had caesarian section delivery. The proportion of women having PPH and first degree perineal injury was 2% (n=4) and 79.5% (n=163) respectively while no babies required NICU admission. There was significant positive correlation between BPD and birth weight of the neonate ($r=0.30$, $p<0.001$) and with increase in 1 mm BPD, birth weight increased by 0.025 kg. Birth weight of the neonate and Apgar score 1 minute was associated with mode of delivery while significant difference was not observed among sex, gestational age, HC, FL, BPD, EFW, post-natal HC and APGAR score 5 minute. HC above 75th percentile was associated with birth-weight ($p<0.001$) and neonatal HC ($p<0.001$) while it was not associated with other pregnancy outcome variables Though not significant, the proportion of obstetric intervention and first degree perineal injury was lower among those with HC above 75th percentile (>33.3 cm) as compared to HC less than or equal to 75th percentile.

**Conclusion**

Our study showed that there was a significant correlation between BPD and birth weight of the neonate. Similarly, birth weight of the neonate and Apgar score 1 minute was associated with mode of delivery and HC above 75th percentile was associated with birth-weight and neonatal HC. Hence, enhancement of the operator skills and regular medical audit are required for the meticulous fetal biometric measurement so that it could optimize the obstetrics management.