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A Descriptive Study on Relationship between Engagement of Fetal Head and Selected Maternal and Fetal Parameters among Pregnancies in University Obstetric Unit, Teaching Hospital, Jaffna.

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Introduction: Engagement of fetal head is said to take place at different gestational ages depending on several factors. When deciding the mode of delivery, it is an important factor for clinicians to consider. But there are very little population data on this subject.

Objectives: To study the relationship between engagement of fetal head and the following factors: age, height, parity and birth weight.

Method: This analysis involved 400 pregnant mothers cared until delivery by the University Obstetric Unit, Teaching Hospital, Jaffna during the period from January to May 2014. All women studied underwent first-trimester dating scans. Women with multiple pregnancies, IUGR, macrosomia and polyhydramnios were excluded.

Results: In the age group of <20years (n=21), none had engaged head by 37 weeks but 85.7% by 40 weeks. In majority (38.1%) engagement occurred in the 39th week. In the age group between 20 and 34 (n=330), 15.2% had engaged head by 37 weeks and 82.73% by 40 weeks and majority (22.7%) fetal head engagement occurred in the 38th week. In the age group of >35 (n=49), 14.3% had engaged head by 37 weeks and 63.3% by 40 weeks and majority (24.5%) engaged in the 39th week. This is statistically significant (p=0.011). In primigravidae 15.2% had engaged head by 37 weeks and 84.8% by 40 weeks and majority (23.9%) engaged in the 38th week. In multigravida 13.42% had engaged head by 37 weeks and 92.13% by 40 weeks and majority (19.9%) engaged in the 39th week which shows no correlation of gravidity with fetal head engagement. Among those who engaged before 37 weeks, 49.12% delivered fetuses weighing <2.5kg. Fetal weight of current pregnancy significantly influenced head engagement (p=0.000). With increasing birth weights, fetal head engagement occurred later. In women who were ≤144cm tall, 6.7% had engaged by 37 weeks and 46.7% by 40 weeks. Majority fetal head engagement occurred in 38th and 39th weeks (20% each). Among those >144cm, 14.5% had engaged head by 37 weeks and 81.8% by 40 weeks and in majority (21.6%) engagement occurred in 38th week. This is statistically significant (p=0.035).

Conclusion: Maternal age, height and birth weight of fetus significantly correlates with the POA at which fetal head engages, whereas parity showed no correlation. The above mentioned factors should be given consideration with regards to engagement of fetal head at term rather than the traditional parity. Further large scale population studies are warranted to validate these findings.