

**Original Article****Maternal Outcome of among the Primigravida Women Presented with Fetal Head Engagement: Experience of 1440 Cases in Bangladesh**

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Abstract

Background: Maternal outcome is an important issue among the primigravida women presented with fetal head engagement. **Objectives:** The purpose of the present study was to observe the maternal outcome of among the primigravida women presented with fetal head engagement. **Methodology:** This descriptive cohort study was carried out in the Department of Gynecology and Obstetrics at Sir Salimullah Medical College and Mitford Hospital, Dhaka from June 2006 to December 2006 for a period of six (6) months. Primigravida women with 38 or more weeks of pregnancy having single fetus with cephalic presentation were selected as study population. Maternal outcome was measured in terms of incidence of post-partum hemorrhage, injury to the birth canal, wound infection and puerperal sepsis. **Result:** A total number of 1440 pregnant women were recruited for this study. Maximum number of patients was in the age group of 21 to 24 years which was 897(62.29%). Post partum hemorrhage (PPH) was reported in 7(2.67%) cases in engaged group and 17(1.44%) cases in non-engaged group. Birth canal injury was recorded in 4(1.53%) cases and 12(1.02%) cases in engaged and non-engaged group respectively. Wound infection was found in 8(3.05%) cases and 81(6.88%) cases in engaged and non-engaged group respectively. Regarding puerperal sepsis it was found in 3(1.15%) cases and 11(0.93%) cases in engaged and non-engaged group respectively. **Conclusion:** In conclusion PPH, birth canal injury, wound infection and puerperal sepsis are commonly found in non-engaged group. [*Journal of Science Foundation 2018;16(2):34-37*]

Keywords: Maternal outcome; primigravida; pregnant women; fetal head engagement

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Introduction

The engagement of the foetal head is usually regarded as a phenomenon of labour (Chaudhary et al., 2009). In nulliparas, it commonly occurs during the last few weeks of pregnancy (Qureshi et al., 1999). When it does so, it is confirmatory evidence that pelvic inlet is adequate for that foetal head. Failure of the foetal head to engage in early labour is a greater indicator of operative birth (Qureshi et al., 1999). According to study nulliparous patients at 41 weeks or greater with an unengaged vertex are 12.4 times more likely to be delivered by caesarean section than a patient with an engaged vertex (Murphy et al., 1998). The unengaged vertex is a significant risk factor for caesarean delivery due to labour arrest disorders (Diegmann et al., 1995). It may be possible to offer caesarean delivery to patients at highest risk, reducing the potential morbidity of long labour or failed operative vaginal delivery followed by a late caesarean delivery (Shin et al., 2004).

In Bangladesh in majority of the primigravida head remaining unengaged till labour. Safe delivery within a reasonable time is the only proof of the functional capacity of a pelvis and failure to achieve this in cases suspected disproportion, is usually due to inefficient uterine contraction. In this context this present study was undertaken to observe the maternal outcome of among the primigravida women presented with fetal head engagement.

Methodology

This descriptive cohort study was carried out in the Department of Gynecology and Obstetrics at Sir Salimullah Medical College and Mitford Hospital, Dhaka. This study was conducted from June 2006 to December 2006 for a period of six (6) months. Sir Salimullah Medical College is a 500 bedded tertiary care teaching hospital situated in the heart of the old Dhaka city. This is one of the oldest hospitals in the Dhaka. Primigravida women with 38 or more weeks of pregnancy having single foetus with cephalic presentation were selected as study population. Details history, clinical examination and relevant investigations were performed and were recorded in a predesigned data collection sheet. Proper engagement of the foetal head was assessed by the rule of 5. When 2/5 or less became palpable abdominally, it was labeled as engaged. All the patients were managed actively and were monitored by close and careful observation. A partograph was filled and was recorded for each patient. Total duration of labour from beginning of phase was recorded. Maternal outcome was measured in terms of mode delivery normal vaginal delivery assisted vaginal delivery caesarean section, other outcome measure was the incidence of post-partum hemorrhage, injury to the birth canal, wound infection and puerperal sepsis. Data collected from each individual subject were compiled and analyzed using computer based software, the Statistical Package for Social Science (SPSS).

Result

A total number of 1440 pregnant women were recruited for this study. Highest incidence was found in the age group 21 to 24 years. Maximum number of patients were in the age group of 21 to 24 years which was 897(62.29%) followed by the age group of 17 to 20 years and 25 to 28 years of age group which were 361(25.07%) cases and 162(11.25%) cases respectively (Table 1).

Table 1: Age Distribution among the Study Population (n=1440)

Age Group	Frequency	Percentage
17 to 20 Years	361	25.07
21 to 24 Years	897	62.29
25 to 28 Years	162	11.25
29 to 32 Years	20	1.39
Total	1440	100.0

There was no major maternal complication and no maternal death in this study. PPH was reported in 7(2.67%) cases in engaged group and 17(1.44%) cases in non-engaged group. Birth canal injury was recorded in 4(1.53%) cases and 12(1.02%) cases in engaged and non-engaged group respectively. Wound infection was found in 8(3.05%) cases and 81(6.88%) cases in engaged and non-engaged group respectively.

Regarding puerperal sepsis it was found in 3(1.15%) cases and 11(0.93%) cases in engaged and non-engaged group respectively (Table 2).

Table 2: Distribution of Maternal Outcome among the Study Population (n=1440)

Out come	Engaged	Unengaged	Total
PPH	7(2.67%)	17(1.44%)	24(1.7%)
Birth canal injury	4(1.53%)	12(1.02%)	16(1.1%)
Wound infection	8(3.05%)	81(6.88%)	89(6.2%)
Puerperal Sepsis	3(1.15%)	11(0.93%)	14(0.9%)
No Complication	240(91.6%)	1057(89.73%)	1297(90.1%)
Total	262(100.0%)	1178(100.0%)	1440(100.0%)

PPH=post partum hemorrhage

Discussion

Nulliparous with unengaged head are at substantially higher risk of operative delivery (Wilkes et al., 2003). Therefore it needs to be identified as high risk cases and should be referred for delivery to a health centre where expert obstetrician and good operative facilities are available. This is especially important in a country like Bangladesh where majority of patients deliver at home without any antenatal care or facilities and therefore are at increased risk for obstructed labour with all its attendant morbidity and mortality (Debby et al., 2003). In attempting to optimize patient management and identify women at risk of LSCS, a few investigators have studied the impact of engagement of vertex at the time of active labour on LSCS rate.

The present study was carried out to see the maternal outcome of the engaged and non-engaged women who are in labour. A total number of 1440 pregnant women were recruited for this study. Highest incidence was found in the age group 21 to 24 years. Maximum number of patients were in the age group of 21 to 24 years which was 897(62.29%) followed by the age group of 17 to 20 years and 25 to 28 years of age group which were 361(25.07%) cases and 162(11.25%) cases respectively. The non-engagement of fetal head at or more than 38 wks of pregnancy was observed in nulliparous women with singleton babies and cephalic presentation.

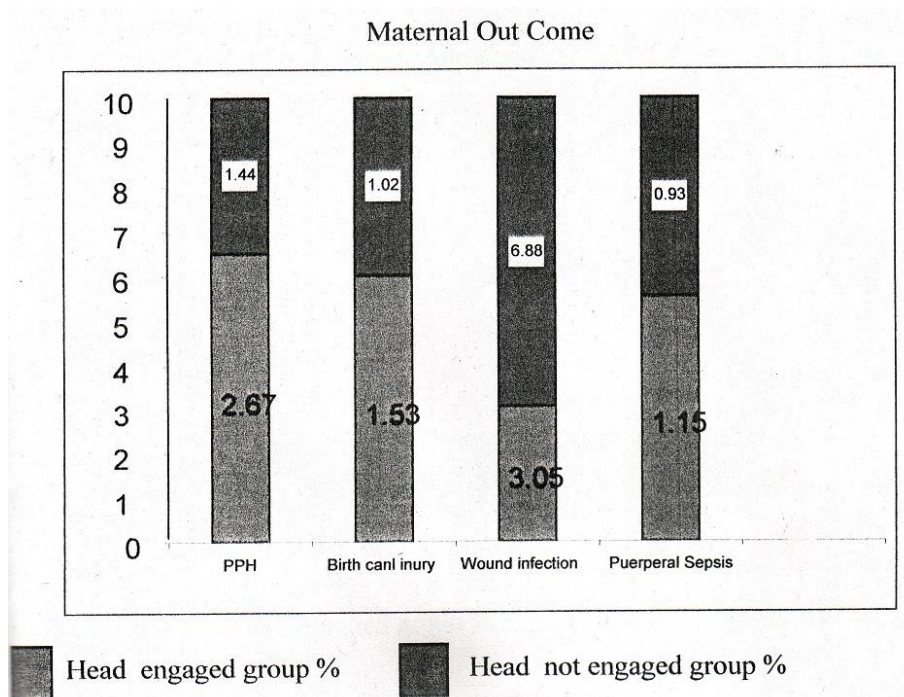


Figure I: Showing the Maternal Outcome among the two groups of the Study Population

One should be very careful while diagnosing cephalopelvic disproportion. This is because of the fact that it commits young women to caesarean section at every delivery (Jafarey 1988). The diagnosis of disproportion except the gross ones, cannot be confidently made unless the patient is in labour and uterine action is adequate. There was no major maternal complication and no maternal death in these cases. There was no perinatal death in this study women.

All Women were examined to see the engagement of foetal head by the rule of 5th at or after 38 weeks pregnancy. Main outcome measured in this study was effect of engagement of foetal head at term on pregnancy outcome. Maternal outcome were recorded by clinical observation. There was no major maternal complication and no maternal death in this study. PPH was reported in 7(2.67%) cases in engaged group and 17(1.44%) cases in non-engaged group. Birth canal injury was recorded in 4(1.53%) cases and 12(1.02%) cases in engaged and non-engaged group respectively. Wound infection was found in 8(3.05%) cases and 81(6.88%) cases in engaged and non-engaged group respectively. Regarding puerperal sepsis it was found in 3(1.15%) cases and 11(0.93%) cases in engaged and non-engaged group respectively. The finding of the study suggest that the obstetrician in Bangladesh should take a conservative attitude and an non- engaged foetal head at term in a primigravid women should not by itself be an indication for caesarean section.

Conclusion

In conclusion wound infection is most common maternal outcome among the study population. Furthermore, PPH, birth canal injury, and puerperal sepsis are also found in non-engaged group. The findings of the study suggest that the obstetricians in Bangladesh should take a conservative attitude and an non-engaged head at term in a primigravida women should not by itself be an indication for caesarean section.

References

- Chaudhary S, Farrukh R, Dar A, Humayun S. Outcome of labour in nullipara at term with unengaged vertex. *J Ayub Med Coll Abbottabad*. 2009;21(3):131-4
- Debby A, Rotmensch S, Girtler O, Sadan O, Golan A, Glezerman M. Clinical significance of floating foetal head in nulliparous women in labour. *J Reprod Med* 2003;48:37-40
- Diegmann EK, Chez RA, Danclair WG. Station in early labour in nulliparous women at term. *J Nurse Midwifery* 1995;40:382-5
- Jafarey SN. Unengaged foetal head in Pakistani primigravida: frequency and outcome. *Journal of Obstetrics and Gynaecology Research*. 1988;14(1):13-6
- Murphy K, Shah L, Cohen WR. Labour and delivery in nulliparous women who present with an unengaged foetal head. *J Perinatal* 1998;18:122-5
- Qureshi NS, Saleem F, Riaz S. Primigravida with non engaged foetal head at term: an audit of delivery outcome. *Ann KE Med Coll* 1999;5:177-9
- Shin KS, Brubaker KL, Ackerson LM. Risk of Cesarean delivery in nulliparous women at greater than 41 weeks gestational age with an unengaged vertex. *Am J Obstet Gynaecol* 2004;190:129-34
- Wilkes PT, Wolf DM, Kronbach DW, Kunze N, Gibbs RS. Risk factors for cesarean delivery at presentation of nulliparous patients in labour. *Obstet Gynecol* 2003;102:1352-7