Original Article

Current trend of Caesarean section and Vaginal birth in Dhaka National Medical College Hospital

Mst. Hosna Ara Khatun[1], Jahanara Arzu[2], Arzu Manth Ara Begum[3]

[1]Associate Professor (current charge), Department of Obstetric and Gynaecology, Dhaka National Medical College and Hospital. [2]Assistant Professor, Department of Obstetric and Gynaecology, Dhaka National Medical College and Hospital. [3]Professor, Department of Obstetric and Gynaecology, Dhaka National Medical College and Hospital.

Abstract

Background: A frequent dilemma for obstetricians is to determine the best mode of delivery in order to optimize pregnancy outcome for both the mother and the neonate.

Objective: This study was undertaken to compare demographic characteristics, parity status, antenatal care, obstetric complications and maternal outcome of all pregnancies in women who underwent caesarean section with those who had a normal vaginal delivery.

Methods: This prospective study was done in the Departments of Obstetrics and Gynaecology in Dhaka National Medical College Hospital from January, 2015 to June, 2015. Women who visited for antenatal check-up and admitted for delivery in this hospital were included in the study. The subjects were divided into two groups on the basis of mode of delivery.

Results: Majority of mothers who were having caesarean section and vaginal delivery falls in 20-25 yrs of age group (50.47% vs. 65.44%). Mothers belonging to low and lower middle socioeconomic background had higher rate in vaginal birth (80.87%). While, higher rate of caesarean sections was observed among mothers of middle and high socioeconomic status compared to vaginal delivery (75.94% vs. 19.11%). Caesarean section was higher among primigravida (64.28% vs. 36.03%) and in multigravida rate of vaginal delivery was higher (63.97% vs. 35.72). Vaginal delivery was higher among mothers who on regular antenatal check-up (80.15 % vs. 72.14 %). The major indications for caesarean section in this study were fetal distress (25.71%) and previous caesarean section (24.52%). Among the mothers uneventful puerperium was present in majority cases (90% in caesarean section vs. 98.53% in vaginal delivery).

Conclusion: Caesarean section is higher at Dhaka National Medical College Hospital as this hospital deals with high number of referred patients. Trend is common among primigravida, mothers of middle and high socioeconomic status having irregular antenatal check-up, fetal distress and previous caesarean section.

Key Word: Caesarean section, vaginal delivery.

Introduction

Vaginal delivery has always been considered as natural and preferred way to give birth but is not always possible for all babies. In some cases, delivery through a caesarean section is necessary for healthy baby and healthy mother. In Bangladesh, the current proportion of 17% caesarean section rate is slightly higher than the globally acceptable level of fifteen (15%) percent.[1] Caesarean section is a major operation, with great potential benefit, but also with substantial risks for both mother and baby.[2] A caesarean section is indicated when delivery is required and cannot be performed vaginally because it will take too long or endanger the mother or the foetus life.[3]. Schindl el al[4] favour elective caesarean deliveries because of fear of childbirth, Heit et al[5] found urinary and fecal incontinence after vaginal delivery, Hannah et al[6] also favour elective caesarean section due to avoid complication of vaginal delivery of breech presentation at term and other studies also showed neonatal outcome as an unexplained fetal death and complications of labour.[4,6,7] Harper et al[8] emphasized on relative safety of vaginal delivery because caesarean deliveries implied a higher risk of maternal death, Bergholt et al[9] found longer recovery time and operative complications, Souza et al[10] showed higher risk of unexplained stillbirth in subsequent pregnancies and respiratory problems of newborn infants.[11-14] The current study was designed to compare demographic characteristics,

parity status, antenatal care, obstetric complications and maternal outcome in pregnancies with caesarean section and vaginal delivery.

Materials and Methods

This prospective study was done in the Departments of Obstetrics and Gynaecology in Dhaka National Medical College Hospital from January 2015 to June 2015. Dhaka National Medical College Hospital is a tertiary care centre having a large number of referral cases and provides antenatal care and delivery services to pregnant women. Women who visited for antenatal check-up and admitted for delivery were included in this study. A questionnaire was designed to meet the requirement of the study. Informed verbal consent was obtained from women admitted during the study period. The subjects were further divided into caesarean section and vaginal delivery group on the basis of mode of delivery. Demographic characteristics, parity status, antenatal care and obstetric complications were noted in both groups. Data were analyzed by using SPSS version 17.

Results

During the study period total 556 deliveries were conducted. They were divided into two groups on the basis of the mode of delivery. Caesarean section was done in 75.54% patient and 24.46% patient had vaginal delivery (Fig.-1). This study shows large number of mothers who were having caesarean section (50.47%) and vaginal delivery (65.44%) falls in 20-25 yrs of age group. Mothers belonging to low and lower middle socioeconomic background had higher number in vaginal birth (80.87%) when compared to caesarean birth (24.04%). While, higher rate of caesarean section (75.94%) was observed among mothers of middle and high socioeconomic status compared to vaginal delivery (19.11%) [Table-I]. Regarding antenatal check-up, 80.15% patients of vaginal delivery had regular antenatal check-up and 72.14% patients of caesarean had regular antenatal check-up (Fig.-2). Outcome of pregnancies with gestational age were similar in term and preterm babies in caesarean section (95.95% and 4.05%) when compared to vaginal birth (93.38% and 6.62%). Birth weight was also similar in low birth weight (<2.5Kg) and normal birth weight (>2.5Kg) in caesarean section (5% and 95%) when compared to vaginal birth (5.88% and 94.12%) [Table-II]. Caesarean section in primigravida was 64.28 % and vaginal delivery was only 36.03%. In multigravida, caesarean section was in 35.72% cases and vaginal delivery was in 63.97% cases [Fig.-3]. The major indications for caesarean section in this study were fetal distress (25.71%), previous caesarean section (24.52%), oligohydraminos (14.04%), cephalopelvic disproportion (9.76%), and pregnancy induced hypertension (7.38%) [Table-III]. Post partum complication in caesarean section were headache 6.91%, wound infection 2.14% and post partum hemorrhage 0.95% (Table-IV).

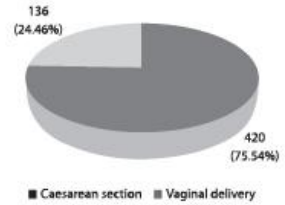

Fig.-1 Distribution of mode of delivery

Table-I: Socio-demographic status of study population (n=556)

Socio-demographic study	Caesarean section N (%)	Vaginal delivery N (%)
Age group (Year)		
<20	156(37.14)	29(21.32)
20-25	212(50.47)	89(65.44)
26-30	39(9.28)	14(10.29)
31-35	13(3.09)	4(2.94)
Residence		
Urban	383(91.19)	129(94.85)
Rural	37(8.80)	7(5.14)
Monthly family income (Taka)		
Lower (<10,000)	25(5.95)	65(47.79)
Lower middle (10,000-20,000)	76(18.09)	45(33.08)
Middle (20,001-30,000)	86(20.47)	23(16.91)
Higher (>30,000)	233(55.47)	3(2.20)

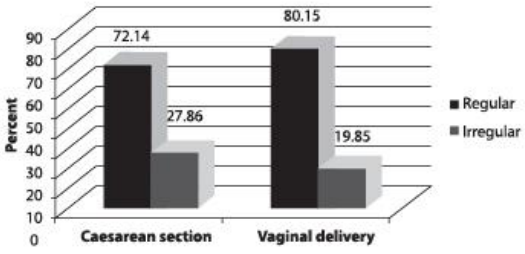

Fig.-2 Distribution of antenatal check-up and mode of delivery

Table-II: Outcome of pregnancies with gestational age and birth weight at delivery (n=556)

Outcome of pregnancies	Caesarean section N (%)	Vaginal delivery N (%)
Gestation (Weeks)		
Term	403(95.95)	127(93.38)
Preterm	17(4.05)	9(6.62)
Birth weight (Kg)		
<2.5	21(5)	8(5.88)
>2.5	399(95)	128(94.12)

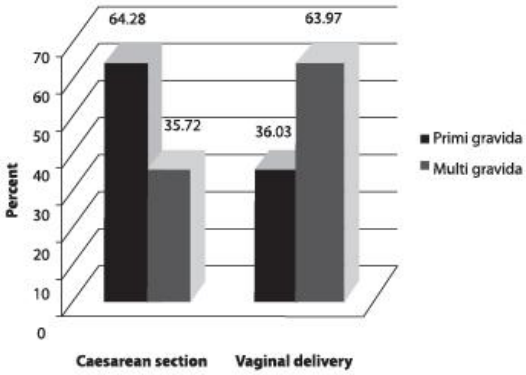

Fig.-3 Outcome of pregnancies with parity (n=556)

Table-III: Indications of caesarean section (n=420)

Indications	No.	%
Foetal distress	108	25.71
Previous caesarean section	103	24.52
Oligohydramnios	59	14.04
Cephalopelvic disproportion	41	09.76
Pregnancy induced hypertension	31	7.38
Failed induction	33	7.25
Maternal Request	26	6.19
Scar tenderness	05	1.19
Antepartum hemorrhage	11	2.61
Others	03	0.71

Table-IV: Distribution of maternal outcome (556)

Maternal complications	Caesarean section N (%)	Vaginal delivery N (%)
Uneventful puerperium	378(90)	134(98.53)
Postpartum hemorrhage	4(0.95)	00
Wound infection	9(2.14)	00
Headache	29(6.91)	00
Postpartum eclampsia	00	02(1.47)

Discussion

In this study, seventy five percent (75.54%) of women were delivered by caesarean section while 24.46% by vaginal route. The high caesarean rate in this hospital may be partially attributed to the fact that this being a referral hospital gets a larger proportion of complicated pregnancies. Data from the recent Bangladesh Maternal Mortality Survey show that among births occurring in facilities, more than one-half are by caesarean section, and the caesarean section rate reaches 71% for birth occurring in private facilities.[15] This study showed that large number of mothers who were having caesarean section and vaginal delivery falls in 20-25 yrs of age group (50.47% vs. 65.44%) which reflecting the early age of marriage and child bearing in our country. Thapa et al[16] found in his study that 42.6% of the women were of 20-24 years of age. In our study, mothers belonging to low and lower middle socioeconomic background had higher number in vaginal birth (80.87%) when compared to caesarean birth (24.04%). While, higher rate of caesarean section was observed among mothers of middle and high socioeconomic status compared to vaginal delivery (75.94% vs. 19.11%). Kim et al[17] found similar results. Berley et al[18] found that the caesarean sections are more likely in women's of high socioeconomic class. This explains women of middle and higher socioeconomic status was able to afford a relatively expensive method of delivery. Kaur et al[19] found that majority of mothers belonging to low socioeconomic status had high number in vaginal delivery. This has been reported by another cross-sectional study done by Kudisha et al[20] that only a minority of women from low socioeconomic background would go for caesarean section. Regarding comparison for antenatal check-up, 80.15 % of mothers having regular antenatal check-up had vaginal deliveries when compared to the number of caesarean deliveries. Majority of mothers in this study had regular antenatal check-up, so proper management during pregnancy had

done. There by there was more number of vaginal delivery. Kaur et al19 found that women who had gone for full antenatal check-up had more number of caesarean section (44.02%). Adekanle et al[21] found that unbooked mothers and their babies are at higher risk for caesarean deliveries than booked mothers. These variations depend upon type of hospital and type of patients dealt with the particular hospital.

In our study, outcome of pregnancies with gestational age were similar in term and preterm babies in two groups. Birth weight was also similar in low birth weight (<2.5Kg) and normal birth weight (>2.5Kg) in two groups. Kaur et al[19] found that the rate of preterm babies was higher in caesarean section. His study was not comparable with our study because as there is no neonatal intensive care unit in our hospital, we usually refer the pregnant mother with preterm labour to the nearest center where the facilities was available.

Caesarean section was higher among primigravida when compared with vaginal delivery (64.28% vs 36.03%) in our study. Similar findings was also found in Kumari et al[22] where 53% primigravida undergone caesarean section. Caesarean section was their preferred method of delivery to avoid the issues associated with vaginal delivery, such as the fear of pain during childbirth, subsequent pelvic floor collapse, and incontinence.

In our study, multigravida rate of vaginal delivery was higher compared to caesarean section (63.97% vs. 35.72). Khanem et al[24] found in their study that multigravida was undergoing more caesarean section than primigravida probably due to previous caesarean section.

The major indications for caesarean section in this study were fetal distress (25.71%) and previous caesarean section (24.52%), other common indications included oligohydraminos (14.04%), cephalopelvic disproportion (9.76%), pregnancy induced hypertension (7.38%), failed labour (7.25%) and maternal request (6.19%). Kaur et al[19] study was comparable with this study where caesarean section due to fetal distress was 30.77%. Thapa et al[16] found common indication for caesarean section was cephalopelvic-disproportion (62.2%). Khanem et al[24] found major indication for caesarean section was breech presentation (31.6%).

Conclusion

Caesarean section is higher at Dhaka National Medical College Hospital as this hospital deals with high number of referred and complicated pregnancy. Trend is common among primigravida, mothers of middle and high socioeconomic status, having irregular antenatal check-up, fetal distress and previous caesarean section. We need to create more regular antenatal check-up facilities. All pregnant patients should be delivered in hospital with adequate labour monitoring facilities. It is also important to pay attention to the first labour as its outcome greatly determines the future mode of delivery.

Limitation

Since the data were collected only from one hospital, it had chance of over representation which could not reflect general population and may not represent the similar situation in the whole population of the country. A broad base longitudinal cohort study could be more meaningful and helpful to validate the present study result.

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