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Socio-Demographic Characteristics of Women who are Undergoing Emergency Caesarean Section

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Abstract **Original Research Article**

***Background*:** Emergency caesarean section is a lifesaving procedure, often performed under critical maternal or fetal conditions. Socio-demographic factors such as age, parity, education, socioeconomic status, and antenatal care play a crucial role in determining the need for emergency surgical intervention. Understanding these characteristics helps identify vulnerable groups and improve maternal outcomes. ***Objective*:** To assess the socio-demographic characteristics of women undergoing emergency caesarean section and to evaluate their influence on the indications and outcomes of the procedure. ***Materials and Methods*:** This prospective observational study was conducted in the Department of Obstetrics and Gynaecology, Dhaka Medical College Hospital, from January 2013 to June 2013. A total of 300 pregnant women who underwent emergency caesarean section were included. Data regarding socio-demographic variables and clinical parameters were collected using a predesigned questionnaire and analyzed using the Statistical Package for Social Science (SPSS). ***Conclusion*:** The study revealed that most women undergoing emergency caesarean section were young, multiparous, from low socioeconomic backgrounds, and had inadequate antenatal care. These socio-demographic factors significantly contribute to the increased rate of emergency surgical interventions. Enhancing maternal education, ensuring regular antenatal checkups, and improving socioeconomic conditions can help reduce emergency caesarean rates and related complications.

Keywords: Antenatal Care, Maternal Outcome, Puerperium, Caesarean Section, Postoperative Complications.

INTRODUCTION

Emergency caesarean section is a life-saving surgical intervention performed when complications arise during labor, posing risks to the mother or fetus. The socio-demographic characteristics of women, such as age, parity, education, and socioeconomic status, often influence the need and outcome of such procedures. Understanding these factors is crucial for enhancing maternal healthcare delivery and reducing preventable maternal and perinatal complications [1].

The indications of emergency caesarean section are- cord prolapse with alive foetus with cervix is not dilated, fulminating preeclampsia, eclampsia, Failed induction of lobour with foetal distress or maternal distress, failed forceps, failed trial of labour, malpresentation during lobour, antepartum haemorrhage, active bleeding continues inspite of treatment which might threat patients life, obstructed labor with a live baby [2]. Most common complications in an emergency caesarean section are Wound infection, puerperal endometritis, UTI, PPH, post-partum thrombophlebitis and thromboembolism, mastitis. Puerperal infectious morbidity affects 2-8% of pregnant women and is the most prominent complication. It is more common in those of low socio-economic status, those who have undergone operative delivery, those experienced with repeated vaginal examination [3].

In the United States, an estimated 2-4% of new mothers who deliver vaginally suffer some form of puerperal infection but for caesarian sections, the figure is 5 to 10 times higher than that [4]. Death related to puerperal infection is very rare in the industrialized world. It is estimated that three in 1000,000 births result

in maternal death due to infection. However, the death rate in developing nations may be 100 times higher [5].

Objective

To assess the socio-demographic characteristics of women undergoing emergency caesarean section and their association with the indications and outcomes of the procedure.

METHODOLOGY

A prospective observational study was conducted over six months, from January to June 2013, in the Obstetrics and Gynecology Department of Dhaka Medical College Hospital, Dhaka, to assess maternal complications following emergency caesarean sections. The study population included all pregnant women undergoing emergency caesarean delivery at the hospital, and systematic random sampling was used. Based on an estimated 15 emergency caesarean sections per day, approximately 2,700 cases were expected over six months. Using the sample size formula (n = \frac{Z^2 pq}{d^2}) with Z = 1.96, prevalence (p) = 0.6166, q = 1-p, and acceptable error (d) = 0.05, the calculated sample size was 363; however, for convenience, 300 patients were selected. Inclusion criteria comprised all primiparous and multiparous women who delivered by emergency caesarean section and developed complications within seven days postoperatively, while patients with known medical diseases, those delivering outside the hospital, those with preexisting infections, and those undergoing elective caesarean section were excluded. Data were collected using a pretested structured questionnaire after obtaining informed consent, including detailed obstetric and menstrual history, physical examination, evaluation of maternal complications, and fetal outcomes assessed by APGAR score and nursery stay. Maternal outcomes were determined based on the mother's general condition during and after surgery. The collected data were analyzed using SPSS version 16, applying descriptive statistics, and all data were checked for authenticity and completeness to ensure high-quality results.

RESULTS

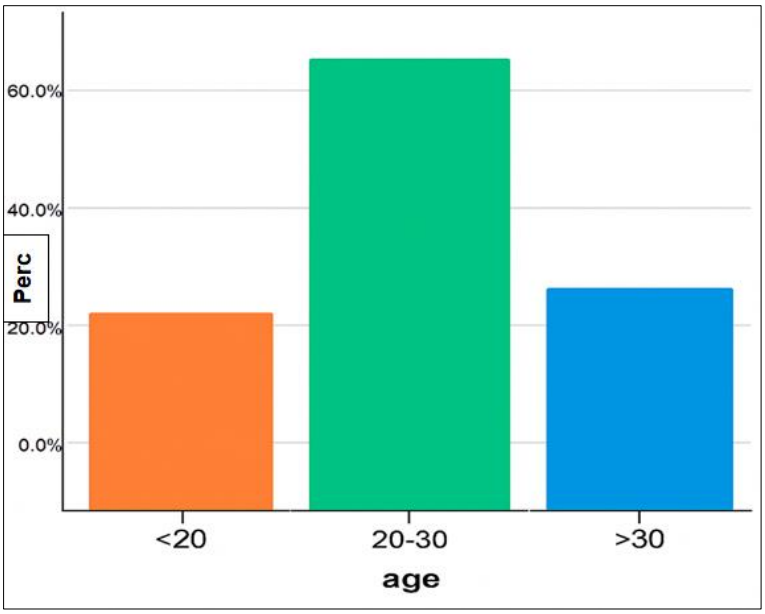

Figure I: Distribution of the patients on the basis of age (n=300)

Figure-I shows age distribution of my study group. Most of the patient were within 20-30 years range (64%)

Table I: Distribution of Cases According to Socio-Economic Status (n=300)

Socio-Economic Status	No. of Patients	Percentage (%)
Poor	96	32
Lower Middle Class	93	31
Middle Class	111	37

Table I shows that most of the cases belong to middle class (37%).

Definition of Class:

1. Poor class: monthly income approximately 3000 tk to 6000 tk.
2. Lower middle class: monthly income approximately 6000 tk to 12000 tk.
3. Middle class: monthly income approximately more than 12000 tk.

Table II: Distribution of cases according to occupation (n=300)

Occupation	No. of Patients	Percentage (%)
House Wife	225	75
Service-holder	75	25

According to occupational status (Table II) most of the patient in my study group were housewives (75%).

Table III: Early Puerperal Morbidities by Socio-Economic Class (n=300)

Early Puerperal Morbidities	Poor (n)	Poor (%)	Lower Middle Class (n)	Lower Middle Class (%)	Middle Class (n)	Middle Class (%)
Wound Infection	71	38.38	64	30.5	50	26.9
Puerperal Sepsis	27	47.1	17	29.82	13	22.8
UTI	35	41.17	23	27.05	35	26.31
Mastitis	46	47.1	30	30	17	17.34
RTI	46	47.1	35	35	17	17.34
Thrombophlebitis	6	60	3	30	1	10
PPH	13	44.82	8	27	6	20
Eclampsia	15	41.5	12	33	10	25.64

Early puerperal complications following caesarian operation are more common among poor and lower middle class families (Table-III), where wound infection, sepsis, RTI, and mastitis are prevalent.

Table IV: Relationship of Early Puerperal Morbidities with Age (n=300)

Early Puerperal Morbidities	<20 Years (n)	<20 Years (%)	20–30 Years (n)	20–30 Years (%)	>30 Years (n)	>30 Years (%)
Number of Cases	35	18.91	93	50.27	57	30.81
Puerperal Sepsis	10	17.54	32	34.91	10	17.54
UTI	40	30.77	64	69.09	41	30.82
Mastitis	10	10.43	75	65.21	28	24.34
RTI	35	35.71	40	48.01	23	23.46
Thrombosis	2	8.69	6	26.08	15	65.21
Pelbitis	4	13.79	8	27.84	9	31.03
PPH	8	27.58	12	44.44	7	58.62
Eclampsia	8	20.51	27	69.23	4	10.25

Table-IV shows prevalence of early puerperal morbidities following emergency caesarian operation where middle age group are more vulnerable.

DISCUSSION

Analyzing the age incidence, it was revealed that 64 percent of patients belong to 20-30 years of age developed early puerperal complications following emergency caesarean section. The study by Shahnaz in DMCH showed the number of patients between 18-30 years of age was 79.3% [6]. The study by Afsana R. in MMCH showed 63.5% of patients were in 21-30 years of age group who developed complications after the procedure. My study has similarity with Afsana's study.

In this study most of the patients belonged to para 1-2, coming from low- and middle-class socio-economic status, being house wife having no or irregular antenatal care. This observation is almost similar to the findings of Akter T (in DMCH & Mitford hospital during March, 2004 to August, 2004) [7], and also similar to the findings of Akter M (in ICMH during May,2010 to October, 2010).

A case-control study was conducted in Mulago hospital, Uganda to determine the risk factors for severe postpartum hemorrhage. In that study, the following risk factors were identified: Pre-existing hypertension, chronic anaemia, low socio-economic background, history of postpartum hemorrhage, previous delivery by caesarian section, long birth interval of more than sixty months, prolong third stage an non use of oxitocics were found to be significant [8]. The risk factors identified in my study which indicate similarity of study.

A few number of patients developed deep vein thrombosis and thrombophlebitis which were due to delayed arrival in hospital, improper prolong home manipulation before operation, malnutrition, prolong immobilization and poor aseptic methods of intravenous access. These complications were managed accordingly with consultation of respective disciplines.

The present study demonstrated that early puerperal morbidities were predominantly observed among women from lower socio-economic groups. The incidences of wound infection, puerperal sepsis, urinary tract infection, and mastitis were considerably higher

among poor patients compared to those from middle-class backgrounds. This disparity may be attributed to poor nutritional status, inadequate peripartum hygiene, overcrowded living conditions, and limited access to quality obstetric care.[9] In contrast, women from middle-class families experienced relatively fewer complications, likely due to better health awareness and improved socio-environmental conditions [10]. These findings underscore the influence of socio-economic status on maternal morbidity and highlight the importance of strengthening preventive and educational measures among the underprivileged population.

The present study revealed that early puerperal morbidities were more common among women aged 20–30 years, reflecting their predominance in the reproductive age group. Urinary tract infection was most frequent in this group, followed by mastitis and puerperal sepsis. Women above 30 years showed a higher tendency for thrombophlebitis and postpartum hemorrhage, indicating increased vascular and uterine complications with advancing age. In contrast, younger mothers below 20 years experienced relatively fewer infections but still had noticeable rates of reproductive tract infections and postpartum hemorrhage. These findings suggest that maternal age has a significant influence on the pattern and distribution of early puerperal morbidities, with both younger and older mothers remaining vulnerable to specific complications.

Although early puerperal complications are decreasing day by day due to improvement in expertization, resuscitation, drugs and post-operative care facilities in our tertiary hospitals like DMCH but still now study in developed countries & in our country shows different results as the situations in the two areas are quite different.

CONCLUSION

This study highlights that women undergoing emergency caesarean sections commonly belong to lower socioeconomic backgrounds with limited access to timely antenatal care. Such socio-demographic factors significantly contribute to the increased rate of complications observed in the early puerperal period. Improving maternal education, healthcare accessibility, and socioeconomic status can play a vital role in reducing emergency surgical interventions and their associated morbidities.

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