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DETERMINANTS OF CAESAREAN SECTION AND ITS OUTCOMES: A CROSS-SECTIONAL STUDY.

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ABSTRACT Caesarean section delivery (CS) is a major life-saving obstetric surgical intervention for mothers and babies from pregnancy and childbirth related complications. However, the CS deliveries conducted due to reasons beyond a medical emergency may lead to different type of complications during post-natal period and may lead to various kinds of gynaecological morbidities. **Objective:** To study the socio-demographic factors affecting the preference of CS ,the indications and the immediate and delayed complications of CS deliveries. **Methods:** This hospital-based descriptive, cross-sectional study was conducted over a period of one year from May 2021 to June 2022 in the Urban health centre of a Tertairy care Hospital. Data of Patients who delivered by CS was collected, for the socio-demographic profile, its indications and complications. **Results:** Previous LSCS was the leading indication for CS (38.9%) followed by fetal distress 79 (22.3%) and others. Among the immediate complications, difficulty in breastfeeding was the commonest in (45.91%),followed by post operative fever (35.2%). Among the delayed complications, backache was the commonest seen in (60%) followed by Lower abdominal pain (49.2%). **Conclusion:** Even though there are some serious and many minor complication associated with CS , women who are voluntarily choosing CS deliveries are from private health facilities than in public health facilities,majority from urban areas with good education status.

KEYWORDS : Caesarean section (CS) ,CS Socio-demography,indications, Complications.

INTRODUCTION:

Caesarean section delivery is a major life-saving obstetric surgical intervention for mothers and babies from pregnancy and childbirth related complications [1,2] .With the increasing prevalence of institutional deliveries, there has been a growing concern over the rising Caesarean Section (CS) deliveries. In fact, CS delivery is the surgical intervention to overcome any serious delivery complications, which has resulted in saving lives of many pregnant women in developing countries and has been instrumental in reducing maternal mortality ratio.[3]

However, the CS deliveries conducted due to reasons beyond a medical emergency may lead to different type of complications during post-natal period and may lead to various kinds of gynaecological morbidities[4].

While, some CS are considered elective/voluntary, meaning the mother requests them for non-medical reasons before she goes into labour. A pattern is emerging due to people's perception that caesarean delivery is much safer now than in the past and to the recognition that most studies looking at the risks of caesarean section may have been biased, as women with medical or obstetric problems were more likely to have been selected for an elective caesarean section.[5] The performance of a CS is justified only when obstetric risks outweigh the risks of the procedure itself.

This study attempts to study the socio-demographic factors affecting the preference of CS, the indications and the immediate and delayed complications of CS deliveries.

MATERIALS AND METHODS :

This hospital-based descriptive, cross-sectional study was conducted in Urban health centre of Department of Community Medicine ,Navodaya Medical College, Raichur Karnataka.

All the women attending the health centre for immunization of their babies were enrolled for the study. The study was conducted for a period of 1 year from May 2022 to June 2023. After obtaining approval from Institutional Ethics Committee ,those women who have undergone CS and were willing to participate were included in the study and informed consent was taken from them. Those women who were not willing and not having any delivery related records were excluded from the study.

The sample size was determined by using single population proportion formula by taking the previously known magnitude of CS which was 32.3% in urban facilities from a study done in India[6] ,by considering the assumption of a 95% confidence level, a 5% margin of error the required sample size was 355 mothers. A non-probable convenient sampling technique was used to select study participants.

The data was collected by interview method using pre-tested structured questionnaire prepared in English and then translated into local language .The questionnaire included socio-demographic variables like age, educational status, occupation, average monthly income, residence etc , obstetric history (parity, previous obstetric history, ANC follow-ups) , obstetric outcomes (Fetal outcome, fetal weight, gestational age) and outcome of CS (indications and complications)were included in the questionnaire. Information related to CS was extracted from the delivery notes and discharge card of the hospital.

The data collected was entered into MS Excel and then analysed using frequency and percentages.

RESULTS:

Out of 355 study participants, many of the mothers (48.7%) were within the age group of 21–25. Regarding educational status, 167 (47%) mothers completed high school, and only 34

(9.5%) completed college and above educations. More than half (66.5%) of the mothers were Housewives. Majority (91.8%) were living in urban areas and 223 (62.8%) were belonging to middle class socio-economic status. (Table 1).

Table 1: Demographic profile of study

Variable	Number (n) (355)
Age (years)	
15-20	68 (19.1%)
21-25	173 (48.7%)
26-30	86 (24.2%)
31-35	28 (7.8%)
Education	
No formal education	33 (9.2%)
Primary school	121 (34%)
High school	167 (47%)
College and above	34 (9.5)
Working status	
Working	119 (33.5%)
House wife	236 (66.5%)
Residence	
Rural	29 (8.2%)
Urban	326 (91.8%)
Socio-economic level	
Low	95 (26.8%)
Middle	223 (62.8%)
High	37 (10.4%)

Table 2: Obstetric characteristics of Study participants Study participants

Obstetric characteristics	Number (n) (355)
Parity	
Primipara	110 (30.9%)
Multipara	245 (69.1%)
Antenatal care visits	
1-3	123 (34.7%)
4 or more	232 (65.3%)
Timing of delivery	
Full term	301 (84.7%)
Pre-term	24 (6.9%)
Post-term	30 (8.4%)
Fetal weight	
Average	238 (67.0%)
Under weight	77 (21.6
Over- weight	37 (10.4%)
Place of Delivery	
Public	233 (65.6%)
Private	122 (34.3%)
Type of C-section	
Primary	217 (61.1%)
Repeat	138 (38.9%)

Out of the total respondent, most of the mothers 69.1% were gravid 3 and lower. The majority of the mothers had antenatal care follow-ups and most of them 65.3% visited health facilities atleast 4 times for the current pregnancy. The majority of the mothers 84.7% had full term deliveries ,67.% more than 2.5 kg fetal birth weight and 65.6% had deliveries in Government hospitals.61.1% of the mothers had primary CS while 138 38.9% had repeat CS. The majority of CS were emergencies (52.1%). (Table 2)

Table 3: Indications for C-section

Complications	Number (n)
Immediate	
Difficulty in breastfeeding	163 (45.9 %)
Post operative fever	12 (35.2 %)
Surgical site pain	76 (21.4%)
UTI	59 (16.6%)
Gaped wound	37 (10.4%)
Delayed	
Backache	213 (60.0%)
Lower abdominal pain	175 (49.3%)
Symptoms of depression	136 (38.3%)
Weakness	76 (21.4%)
Urinary incontinence	54 (15.2%)

Table 4 : Complications after C-section

Indication	Number (n)
Previous CS	138 (38.9%)
Foetal distress	79 (22.3%)
CPD	29 (8.2 %)
Obstructed labour	25 (7.0 %)
Oligohydroamnios/IUGR	21 (5.9 %)
Malpresentation	15 (4.2 %)
Prematurity	13 (3.7 %)
Induction Failure	10 (2.8 %)
Big baby (BW 3.5 kg and more)	8 (2.3%)
Scar tenderness	7 (1.9%)
Medical disorders	6 (1.7%)
BOH	4 (1.1%)

Majority of women had repeat CS 38.9%.This was followed by fetal distress in 22.3%, cephalopelvic disproportion (CPD) 8.2%, obstructed labour 7.0% ,Oligo hydromnios 5.9% etc were some of the reasons accounting for indications for CS.

Among the immediate complications ,difficulty in breast feeding was the commonest in 45.91% , post operative fever 125 (35.2%) with culture positive in in (2.3%) patients, followed by surgical site pain (21.4%) etc .Among the delayed complications, backache was the commonest seen in 60% followed by Lower abdominal pain in 49.2% .etc Symptoms of depression (38%), Weakness (21.4%), Urinary incontinence 54 (15.2%) (Table 4)

DISCUSSION:

In our study, majority of study participants were in 21-25 age group which is similar to other studies .[7,8,9] as this is the age of maximum fertility and early marriage in Indian society. Other demographic findings concur with those of Gupta et al[10] and other Indian investigators.[11]

The proportion of CS deliveries was higher in urban areas in comparison with rural areas, Referral hospitals are usually located in urban areas and they are more likely to deal with complications as these are referred to them.

The proportion of CS deliveries was higher in private sector institutions than in public sector institutions, one possible explanation could be the profit motive operating in private sector institutions.

The proportion of CS deliveries was higher among those who had used antenatal care than among those who had not, clearly indicating that antenatal care could have been useful in identifying high risk pregnancies and therefore elective CS.These findings were in agreement with other studies.[12,13]

The most common indication in our study was the previous cesarean section (38.9%),which was similar to the previous studies.[7] The second most frequent indication observed in our study was 22.3 % fetal distress. This is mainly due to the referral of patients from the peripheral hospitals. Similar observation was seen in other studies [7,14] .

In our study, the commonest immediate complications reported was difficulty in breastfeeding followed by post operative fever which were similar to studies done by Ayano Moges[9], Santhanalakshmi [15] . It has been found that mothers who gave birth via CS were more likely to have breastfeeding issues as compared to those who gave birth vaginally.

While in study by Jain M[16] common complications reported were malpresentations. ante partum or Postpartum hemorrhage were serious complications. This may be due to the difference in selection of study participants in other studies as compared to our study.

CONCLUSION:

To conclude our study showed that CS deliveries are still higher than the WHO recommended 5–15% threshold in CS prevalence in India. Even though there are some serious and many minor complication associated with CS , women who are voluntarily choosing CS deliveries are from private health facilities than in public health facilities, majority from urban areas with good education status. Our study also highlighted that previous CS is the major indication though it should not be so. Cesarean section has many complications and its associated factors when used inappropriately the potential harm may exceed the potential benefit of CS. It also costs more than vaginal births and can result in increased risk to mother and newborn. Primary Initiative should be taken for raising awareness on the importance of normal deliveries and about the complications of CS among the pregnant women as well as for the health workers.

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