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A Descriptive Study to Identify the Factors Associated with Caesarean Section and Problems of the Mothers after Caesarean Section Admitted in Selected Hospitals, Bangalore

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ABSTRACT

Pregnancy is a transformative time for women as they prepare for motherhood. Caesarean section (C.S.) is a crucial, lifesaving procedure used when there are complications during labor or delivery. Its prevalence is rising globally, including in developing countries. Factors influencing the decision for a C.S. include maternal age, physician preference, medical indications, and economic status. However, C.S. is linked to higher rates of severe maternal morbidity, such as sepsis, thromboembolic events, anesthetic complications, and increased hospital readmissions.

Method: A descriptive study was conducted among 60 mothers who were selected by non-probability purposive sampling technique. The study was conducted in selected hospitals, Bangalore. Data was collected through demographic proforma, checklist and questionnaire. The data collected was analysed and interpreted based on descriptive and inferential statistics.

Result: The main factors leading to caesarean sections include failure to descend (18.3%), repeat caesarean (13.4%), non-reassuring fetal status (10%), failure to dilate (8.3%), prolonged rupture of membranes (8.3%).Post-caesarean physical problems include pain (86.7%), extreme tiredness (81.7%), breastfeeding difficulties (71.7%), hemorrhage (65%). Psychological issues include feeling down (25%), anger (66.7%), anxiety (60%), irritability (46.7%), frustration (26.7%), and confusion (25%).

Conclusion: The study concludes that health conditions & obstetrical complications alone do not account for increased rates of CS. The preferences of the individual care provider & the mother on CS rates may play a key role and require further investigations.

Keywords: Caesarean section, Mothers.

INTRODUCTION

Pregnancy and delivery are generally normal physiological processes, with options including normal, assisted, or caesarean section (C.S.). C.S. is a surgical procedure where the fetus is delivered through an incision in the abdominal and uterine walls after 28 weeks of gestation. The rising incidence of C.S. can be attributed to improved anesthesia, availability of blood transfusions and antibiotics, and increased safety of the procedure. Factors contributing to the rise in C.S. include higher rates of primary C.S., a decline in operative vaginal deliveries, and the identification of high-risk pregnancies. Additional indications for C.S. include risk of uterine rupture, labor induction, decreased use of operative vaginal deliveries, and medical-legal concerns. Maternal choice, enhanced safety for mother and baby, and recognition of potential pelvic damage from vaginal birth also play a role.

Need for the study

The global use of caesarean section (C.S.) has surged in recent decades, especially in middle- and high-income countries, despite limited evidence of substantial maternal and perinatal benefits at higher rates. Increasing C.S. rates are linked to various factors, including changes in maternal characteristics, professional practices, malpractice concerns, and economic, organizational, social, and cultural influences. Currently, 18.6% of births worldwide are by C.S., with rates ranging from 6% in the least developed regions to 27.2% in the most developed. Latin America and the Caribbean have the highest rates (40.5%), followed by Northern America (32.3%), Oceania (31.1%), Europe (25%), Asia (19.2%), and Africa (7.3%). Asia and Northern America show the highest (6.4%) and lowest (1.6%) average annual increases in C.S. rates, respectively.

Research statement:
A descriptive study to identify the factors associated with caesarean section and problems of the mothers after caesarean section admitted in selected hospitals, Bangalore.

Objectives

1. Identify the factors associated with caesarean section.
2. Identify the problems of mothers associated with caesarean section.
3. Find out the association between the problems associated with cesarean section and demographic variables.

Hypothesis
To achieve the stated objectives, the following hypothesis was formulated at 0.05 level of significance.

H_1: There will be significant association between problems associated with cesarean section and demographic variables

REVIEW OF LITERATURE

A cross-sectional study in Ahmedabad, Gujarat, India, assessed trends and factors related to caesarean deliveries. Results showed that most women (56%) were aged 25 to 30 years, and 5% were illiterate. Caesarean sections accounted for 31% of deliveries, with the majority (63.5%) occurring in government hospitals. The most common reason for C.S. was a previous history of LSCS (23%). Barrier methods were the preferred contraceptive choice for 33% of women. The study concluded that the primary reasons for caesarean deliveries were previous LSCS, oligohydramnios, and prolonged labor.[1]

A retrospective study in Punjab assessed caesarean section (C.S.) and vaginal birth trends. Results revealed that C.S. prevalence was 65%, compared to 35% for vaginal births. Emergency C.S. (52.31%) was more common than elective C.S. (47.70%). Factors associated with C.S. included multiparity (55.38%; $p<0.05$), high socioeconomic status (18.46%), age 21 to 30 years (78.46%), and booked status (44.62%). Primiparity (65.71%) and low socioeconomic status (22.86%) were linked to vaginal births. The most common reasons for C.S. were fetal distress (30.77%) and repeat C.S. (29.23%).[2]

A community-based cross-sectional study in Nalgonda, India, found a caesarean section (C.S.) rate of 55.9%. The primary indication for elective C.S. was a previous caesarean (59.5%), while fetal distress (50%) was the leading reason for emergency C.S. Among elective cases, 47.6% occurred in government hospitals and 52.38% in private nursing homes. For emergency C.S., 62.5% were performed in government hospitals and 37.5% in private nursing homes. The study concluded that previous C.S. and fetal distress were the main indications for elective and emergency C.S., respectively.[3]

The study on caesarean section indications identified the following main reasons: history of previous caesarean section, labor dystocia, fetal distress, and breech presentation. Less common obstetric indications included placenta previa, abruptio placenta, cephalopelvic disproportion, active vaginal herpes lesions, umbilical cord prolapse, and ruptured uterus. Medical and obstetric conditions such as maternal diabetes mellitus, pregnancy-induced hypertension, and fetal issues were also noted.[4]

A population-based cohort study of 12,944 singleton, live-born, term pregnancies assessed perinatal risk factors for caesarean section. The study found that a history of previous caesarean sections was consistently associated with an increased risk of C.S. Extremes of neonatal birth weight also increased C.S. risk. Increasing maternal age was linked to higher odds of C.S. (OR 1.07 per year). Higher parity reduced the risk of both all C.S. (OR 0.63) and emergency C.S. (OR 0.46). Increasing gestational age was associated with a decreased risk of both all C.S. (OR 0.86) and elective C.S. (OR 0.52). Diabetes mellitus was associated with an increased risk of C.S.[5]

METHODOLOGY

The study employed a descriptive survey design to identify factors associated with caesarean sections and the problems faced by mothers after caesarean deliveries in selected hospitals in Bangalore. The conceptual framework was based on the Health Belief Model. Using a non-probability purposive sampling technique, 60 mothers who had undergone caesarean sections were selected. A checklist was used to assess factors associated with caesarean sections, and a questionnaire was used to evaluate the problems experienced by these mothers.

RESULTS

Table 1: Frequency and percentage distribution of demographic characteristics of mothers

N=60

Demographic variables		No. of mothers (n)	Percentage (%)
Age in years	20-24 years	29	48.3
	25-29 years	14	23.3
	30-34 years	9	15
	35-40 years	8	13.4
Religion	Hindu	42	70
	Muslim	13	21.7
	Christian	5	8.3
Education	No formal education	4	6.7
	Primary school	10	16.7
	Secondary school	11	18.3
	High school	16	26.6
	PUC	15	25
	Degree and above	4	6.7
Occupation	House wife	40	66.7
	Self employed	9	15
	Government employee	4	6.7
	Private employee	7	11.7
Family monthly income in Rupees	<5000	15	25
	5001-10000	37	61.7
	10001-15000	5	8.3
	>15001	3	5
Type of family	Nuclear	47	78.3
	Joint	13	21.7
Residence	Rural	34	56.7
	Urban	26	43.3
Parity	Primi	26	43.3
	Multi para	34	56.7
Type of caesarean section	Elective	35	58.3
	Emergency	25	41.7

The above table describes that the majority of mothers were aged 20-24 years (48.3%). Most were Hindus (70%), and 26.6% had high school education. Over half were housewives (66.7%). Most families had a monthly income of 5001-10000 Rupees (61.7%). Most mothers lived in nuclear families (78.3%) and resided in rural areas (56.7%), while 43.3% lived in urban areas. A majority were multiparous (56.7%), and 43.3% were primiparous. Most caesarean sections were elective (58.3%), with 41.7% being emergency procedures.

Table 2: Factors associated with caesarean section

N=60

Sl No	Factors	Frequency	Percentage
1	Failure to Descend	11	18.3
2	Non-reassuring Fetal Status	6	10
3	Failure to Progress and failed induction.	4	6.7
4	Cephalopelvic Disproportion	3	5
5	Failure to Dilate	5	8.3
6	Malpresentation	3	5
7	Pregnancy Induced Hypertension	4	6.7
8	Infection	1	1.7
9	Prolapsed Cord	2	3.3
10	Repeat C-section	8	13.4
11	Separated Placenta	3	5
12	Multiple Gestation	1	1.7
13	Primary Elective	2	3.3
14	Macrosomia	2	3.3
15	Prolonged Rupture of Membranes	5	8.3

Table 2 shows the factors associated with caesarean sections: failure to descend (18.3%), repeat caesarean section (13.4%), non-reassuring fetal status (10%), failure to dilate (8.3%), prolonged rupture of membranes (8.3%), failure to progress or failed induction (6.7%), pregnancy-induced hypertension (6.7%), cephalopelvic disproportion (5%), malpresentation (5%), separated placenta (5%), prolapsed cord (3.3%), primary elective (3.3%), macrosomia (3.3%), infection (1.7%), and multiple gestation (1.7%).

Table 3: Problems of mothers with caesarean section

N=60

Sl No	Problems	Frequency	Percentage
	Physical Problems		
1	Haemorrhage	39	65
2	Bowel obstruction	20	33.3
3	Pain	52	86.7
4	Infection	16	26.7
5	Breast feeding difficulties	43	71.7
6	Extreme tiredness	49	81.7
7	Sleeplessness	33	55
8	Wound separation	2	3.3
9	Urinary tract infection	15	25
	Psychological Problems		
10	Irritability	28	46.7
11	Frustration	16	26.7
12	Anxiety	36	60
13	Cold blue	43	71.7
14	Confusion	15	25
15	Anger	40	66.7

Table 3 shows post-caesarean section problems: pain was the most common physical issue, affecting 52 mothers (86.7%), followed by extreme tiredness (49 mothers, 81.7%), breastfeeding difficulties (43 mothers, 71.7%), hemorrhage (39 mothers, 65%), sleeplessness (33 mothers, 55%), bowel obstruction (20 mothers, 33.3%), infection (16 mothers, 26.7%), urinary tract infection (15 mothers, 25%), and wound separation (2 mothers, 3.3%). Psychological issues included feeling down (15 mothers, 25%), anger (40 mothers, 66.7%), anxiety (36 mothers, 60%), irritability (28 mothers, 46.7%), frustration (16 mothers, 26.7%), and confusion (15 mothers, 25%).

Table 4: Association between the problems of mothers with caesarean section and the selected demographic variables

N=60

Demographic variables		Present	Absent	Chi-square value (χ^2)	Remarks
Age in years	20-24 years	16	13	1.55 df =3	**Not Significant**
	25-29 years	7	7		
	30-34 years	6	3		
	35-40 years	3	5		
Religion	Hindu	21	21	1.86 df=2	**Not Significant**
	Muslim	9	4		
	Christian	2	3		
Education	No formal education	1	3	2.58 df=5	**Not Significant**
	Primary school	8	2		
	Secondary school	6	5		
	High school	6	10		
	PUC	9	6		
	Degree and above	2	2		
Occupation	House wife	21	19	3.13 df=3	**Not Significant**
	Self employed	6	3		
	Government employee	3	1		
	Private employee	2	5		
Family monthly income in Rupees	<5000	9	6	1.11 df=3	**Not Significant**
	5001-10000	20	17		
	10001-15000	2	3		
	>15001	1	2		
Type of family	Nuclear	26	21	0.07 df=1	**Not Significant**
	Joint	6	7		
Residence	Rural	17	17	0.11 df=1	**Not Significant**
	Urban	15	11		
Parity	Primi	14	12	0.04 df=1	**Not Significant**
	Multi para	18	16		
Type of caesarean section	Elective	15	20	3.9 df=1	**Significant**
	Emergency	18	7		

Chi-square tests were used to analyze the association between post-caesarean section problems and selected demographic variables. The findings revealed an association between the problems and the type of caesarean section, with a chi-square value of 3.9 at 1 degree of freedom, significant at the 0.05 level.

Implication of the study

Based on the study findings, measures can be taken at various level to improve the knowledge of the spouse of diabetic patients.

The findings of the present study has implications for nursing education, nursing administration, nursing practice, community health practice and nursing research.

Nursing education

Nursing education emphasizes the need for healthcare systems to focus on training students to identify factors associated with caesarean sections and assess post-caesarean problems. This will enhance nurses' knowledge and enable them to better support themselves and others by imparting information on caesarean sections through various educational technologies.

Nursing practice

The increasing rate of caesarean sections has led to various physical and psychological issues for mothers post-surgery. Nurses play a crucial role in managing these problems by assisting with breastfeeding, newborn care, maternal role preparation, and other needs. Implementing effective coping strategies is essential. The study highlights that mothers may face numerous post-caesarean problems. Therefore, the healthcare team should focus on observing, supervising, teaching, and enhancing mothers' knowledge about factors and issues related to caesarean sections.

Nursing administration

Nursing Administration Nurses are in the pivotal role of the health care delivery system and have many responsibilities to their shoulders, such as planning, organizing, supervision and health education. Institutions providing maternity services should review their policies and practices regarding caesarean section. Nursing administrator should necessarily involved in formulating policies for care of the mothers in the hospitals as well as in the community settings.

Nursing Research

The findings of the study serve as a basis for the professional and the student nurses to conduct further studies on caesarean section. The study will motivate the initial researchers to conduct the same study on large scale, the study will be a reference for the research scholars.

CONCLUSION

The study identified several factors associated with caesarean sections, including failure to descend (18.3%), repeat caesarean (13.4%), and non-reassuring fetal status (10%). Post-caesarean complications were predominantly physical, with pain (86.7%) being the most common, followed by extreme tiredness (81.7%) and breastfeeding difficulties (71.7%). Psychological issues included anger (66.7%), anxiety (60%), and irritability (46.7%). These findings highlight the need for targeted support and intervention to address both physical and psychological challenges faced by mothers after caesarean sections.

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