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A RETROSPECTIVE CLINICAL STUDY ON INDICATION FOR CAESAREAN SECTION AMONG PREGNANT WOMEN IN A TERTIARY CARE HOSPITAL, BHUBANESWAR, ODISHA

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Abstract

Background

A Caesarean section is the delivery of a baby through a surgical incision in the mother's abdomen and the uterus.There has been an increase in the rate of Caesarean delivery due to multiple factors .

Aim – The aim of the study was to find out the various indication of Caesarean Section among pregnant women in a tertiary care hospital, Bhubaneswar, Odisha.

Method - : The retrospective clinical study was conducted over a period of 8 months from 1st January, 2021 to 31st August, 2021 from the Department of Obstetrics and Gynecology of Pradyumna Bal Memorial Hospital KIMS, Bhubaneswar. The quantitative non-experimental research approach was used for the study which included all pregnant mothers admitted in PBM Hospital and undergone LSCS. Data of 1129 mother who delivered by C-Section in this hospital during the defined study period was collected by using consecutive sampling method and data were collected from medical

records by analyzing the records from the labor room, postnatal ward and MRD Section. A self-structured questionnaire was prepared and finalized according to the expert's opinion .

Results: A total numbers of women delivered over the study period were 1129, out of which C-Sections were 500.The incidence of Caesarean section rates in PBM Hospital was 44.29% during present study period.

The most common indication of Caesarean section as per the present study was found to be 365(73%) obstetrical factors, 100(20%) fetal factors, 160(32%) medical disorders and 94(18.8%) mothers had undergone Caesarean Section due to their self interest .

Conclusions: The results imply that the rate of Caesarean section is increasing with time. Individualization of the indication and careful evaluation, following standardize guidelines, practice of evidenced-based obstetric and audits in the institution can help us limit Caesarean section. Most of the Caesarean sections were elective Caesarean section as per the present study.

KEY WORDS: Lower Segment Caesarean Section, Indication, Fetus, Prevalance, Tertiary care hospital

INTRODUCTION

Caesarean section is one of the most widely performed surgical procedures in obstetrics worldwide. It was mainly evolved as a lifesaving procedure for mother and fetus during the difficult delivery.

The WHO published guidelines regarding C-section rates in 1985 which was revised in 1994. The guidelines published in 1997 by UNICEF, WHO, and UNFPA states that proportion of caesarean birth should range between 5 to 15%. [1-3] At population level, caesarean section rates higher than 10% are not associated with reductions in maternal and newborn mortality rates. Caesarean sections can cause significant and sometimes permanent complications, disability or death particularly in settings that lack the facilities and/or capacity to properly conduct safe surgery and treat surgical complications. Caesarean sections should ideally only be undertaken when medically necessary [4, 5]. According to a research article, the global average C-section rate increased from 6.7% to 19.1% between 1990 and 2014.[6] According to the federation of obstetric and gynecological societies of India" the hallmark of labor management in the 21st century should be individualized care for the laboring woman with the expectation of a successful and safe

vaginal delivery, together with the ability to intervene with a caesarean delivery, if needed, to prevent morbidity and mortality. [6, 7] But both in developed and developing countries C-section rate is on the raise. There is progressive increase in caesarean deliveries across the world; in developed as well developing countries. This increase in C-section rate has become a major public health issue, because[8,9] families associated with increased risk of maternal and Perinatal morbidity as compared to vaginal deliveries even in low risk cases.

At present there are no strictly defined protocols for the indication of C-section in our country. So, at present the decision for LSCS is mostly individualized and depends on the obstetrician taking care of the parturient WHO advises that C-section rates should not be more than 15%[10].Concern and signals are the need for strategies to deal with it. Adverse outcomes of caesarean births include high risk of maternal and neonatal death, various maternal morbidities including infections, need for blood transfusion, neonatal morbidities related to iatrogenic prematurity, and potential complications in subsequent pregnancies. [11]

The aim of this study was to find out the indication of Caesarean Section among pregnant women in a tertiary care hospital, Bhubaneswar, Odisha.

METHODOLOGY

The retrospective clinical study was conducted over a period of 8 months from 1st January, 2021 to 31st August, 2021 from the Department of Obstetrics and Gynecology of Pradyumna Bal Memorial Hospital KIMS, Bhubaneswar. The quantitative non-experimental research approach was used for the study which included all pregnant mothers admitted in PBM Hospital and undergone LSCS. Among 1129 deliveries 500 deliveries were included in this study by using consecutive sampling technique. The data related to Indication of Caesarean section were collected by analyzing the records from the labor room, postnatal ward and MRD Section. A self-structured questionnaire was prepared and finalized according to the expert's opinion which consisted of socio-demographic variables and factors indicating for Caesarean Section.

Maternal data collected included age, height, weight, education, occupation, family monthly income, types of family, religion, booking status, referral, gravid, gestational period during delivery, anemia and mode of Caesarean section.The various categories of indications for Caesarean sections included The Obstetrical factors which includes factors such as Cephalo Pelvic Disproportions, Previous CS, APH, Pregnancy Induced hypertensive disorders,

malpresentation , PPROM, PROM, Oligohydrominous, Rh Negative, Twin pregnancy, Utero placental insufficiency, post dated pregnancy, preterm labor, cord prolapse(, ruptured uterus), non progression of labor and obstructed labor, followed by Fetal factors which included fetal distress, IUGR and hydrocephalus along with factors associated with Medical disorders which included Gestational Diabetes Mellitus, hypothyroidism, herpes infection, sickle cell anaemia, Rheumatoid arthritis, UTI, Rheumatic Heart Disease, Beta thalasemia and asthma and other factor i.e. Self interest of mothers .Data of patients who delivered by C-Section in this hospital during the defined study period was recorded and a statistical analysis of various parameters namely, the Caesarean section rates, its indications, the patient's morbidity and mortality was done.

RESULT

A total of 1129 mothers delivered during study period(January,2021 to August 2021) of which 500 mothers had undergone Caesarean section. The incidence of Caesarean section rates in PBM Hospital was 44.29% during present study period.

Following are the observations for the variables of the study conducted during the period of January,2021 to August 2021 is discussed below :

TABLE 1 : SOCIO-DEMOGRAPHIC VARIABLE

n=500

PARAMETER		**PERCENTAGE**
Age	18-23 years	11%
	24-28 years	41%
	29-33 years	34.80%
	More than 33 years	13.20%
Height	Less than 140 cm	2%
	140-160cm	92%
	More than 160	5.80%
	Less than 50 kg	1%

Weight	50-80kg	96%
	More than 80kg	3.40%
Education	Primary	17%
	Secondary	22%
	Graduate	48.60%
	Others	12%
Occupation	Homemaker	23%
	Govt. Job	18%
	Private job	38.80%
	Others	20.6%
Family income	Less than rs 25000/-	8%
	25000-50000/-	43%
	50000-75000/-	29.40%
	More than 75000/-	19%
Religion	Hindu	84%
	Muslim	6%
	Christian	9.60%
	Others	0.40%
Types of family	Nuclear	55%
	Joint	42%
	Blended	1.80%
	Others	2.20%
Booking status	Booked	97%
	Unbooked	3%
Referral	Direct	97%
	Referred	3%
Gravida	Primi	42%
	Multi	44%

	Grand multi	14.00%
Gestational weeks during pregnancy	Less than 37weeks	35%
	37-42weeks	64%
	More than 42 weeks	1.20%
Anemia status	Normal hb	86%
	Mild	14%
	Moderate	0.60%
	Severe	0.00%
Mode of delivery	Elective	80%
	Emergency	20%

Table 1 shows that percentage distribution of women by their sociodemographic characteristics.out of 500 women 55(11%) were in between 18-23 yrs, 205(41%)were in between 24-28yrs age, 174(34.8%) were in between 29-33yrs and 66(13.2%) were more than 33yrs age group.9(2%) women were less than 140cm, 462(92%) were in between 140-160cm and 17(5.8%) were more than 160cm in height.5(1%) women were less than50kg , 478(96%)were in between 50-80kg and 17(3.4%) were more than 80kg in weight.87(17%) completed primary education, 110(22%) completed secondary education, 243(48.6%) completed graduation and 60(12%) included in other category.114(23%) were homemaker, 89(18%)were doing government job, 194(38.8%) were doing private job and 103(20.6%) were coming under other professions. 42(8%) women were in the category of Rs 25000/- , 216(43%) were in between 25000-50000/-, 147(29.4%) were in between 50000-75000/- and 95(19%) were having family monthly income more than 75000/-.422(84%) women were Hindu, 28(6%) were Muslim, 46(9.6%) were Christian and 2(0.4%) were coming under other category.274(55%) women belong to nuclear family, 206(42%) belong to joint family, 9(1.8%) belong to blended family and 11(2.2%) belong to others category.485(97%)women were booked their cases and admitting as direct cases and 15(3%) were unbooked cases and coming as referral case.Out of 500 samples 209(42%) were primi, 221(44%) were multi and 70(14%) were grand multi para.173(35%)women were less than 37 weeks, 321(64%) were in between 37-42weeks and 6(1.2%) were more than 42 weeks.429(86%) were having normal Hb level, 68(14%) were having mild anaemia and 3(0.6%) were having moderate anemia and none is having severe anemia(0%). 399(80%) women were undergone elective Caesarean Section and 101(20%) were undergone emergency Caesarean section.

TABLE 2 FREQUENCY AND PERCENTAGE DISTRIBUTION OF STUDY SAMPLES ACCORDING TO FACTORS AFFECTING CAESAREAN SECTION (n= 500):

FACTORS AFFECTING CAESAREAN SECTION		
PARAMETERS	**FREQUENCY**	**PERCENTAGE**
OBSTETRICAL FACTORS	365	73%
FETAL FACTORS	100	20%
MEDICAL DISORDERS	160	32.00%
OTHERS	94	18.80%

TABLE 2 shows that according to the factors affecting Caesarean section, 365(73%) were having Obstetrical factors, 100(20%) were having fetal factors, 160(32%) were having medical disorders and 94(18.8%) mothers had undergone Caesarean Section due to their self interest.

Among 500 mothers who had undergone for Caesarean section 183 mothers (36.6%) were having multiple factors and 63.4% are having single factor .

DISCUSSION

A caesarean section (C-section) delivery is a lifesaving surgical procedure for mothers and babies when certain complications appear during pregnancy or labor. According to a **WHO statement** published in 2015, the ideal rate for C-sections in a given population should be 10-15%.

The National Family Health Surveys (**NFHS**) of 2015 (NFHS-4) and 2019 (NFHS-5) together have sufficient data on the number of people opting for C-sections across India. NFHS-4 found that the C-section rate in India – 17.2% – was higher than the WHO-recommended limit. The Government of India released the NFHS-5 phase 1 data on December 12, and it has worse news.

Telangana has reported the most C-section deliveries in the past half-decade – a stunning 60.7% of all deliveries – followed by Andhra Pradesh (42.4%), Jammu and Kashmir (41.7%), Goa (39.5%) and Ladakh (37.6%)

As per the present study conducted in Department of Obstetrics and Gynaecology in KIMS , PBMH, Bhubaneswar was found out to be 44.29%. This tertiary Private-run hospital provides health-care service to all classes of people from lower class to upper class.

The characteristics of variables i.e. factors indicating for Caesarean Section are described in terms of the frequency and percentage distribution which posturizes that :

The major indications for Caesarean Section was found out to be The Obstetrical factors (73%) which includes factors such as Cephalo Pelvic Disproportions(1%), Previous CS(18%), APH(6.2%), Pregnancy Induced hypertensive disorders(12%), malpresentation (4.6%), PPROM(9.8%), PROM(6.6%), Oligohydrominous(3.6%), Rh Negative(3.2%), Twin pregnancy(5.2%), Utero placental insufficiency(1%), post dated pregnancy(0.6%), preterm labor(0.4%), cord prolapse(0.4%), ruptured uterus(0.2%), non progression of labor(0.2%) and obstructed labor(0.4%), followed by Fetal factors(20%) which included fetal distress(15%), IUGR(4.6%) and hydrocephalus(0.4%) along with factors associated with Medical disorders(32%) which included Gestational Diabetes Mellitus(7.8%), hypothyroidism(20.4%), herpes infection(0.2%), sickle cell anaemia(0.6%), Rheumatoid arthritis(0.4%), UTI(0.2%), Rheumatic Heart Disease(0.6%), Beta thalasemia(0.2%) and asthma (1.6%) and other factor i.e. Self interest of mothers (18.8%). Among 500 mothers who had undergone for Caesarean section 183 mothers (36.6%) were having multiple factors.

CONCLUSION

Caesarean sections are effective in saving maternal and infant lives, but only when they are required for medically indicated reasons. Caesarean sections can cause significant and sometimes permanent complications, disability or death particularly in settings that lack the facilities and/or capacity to properly conduct safe surgery and treat surgical complications. Caesarean sections should ideally only be undertaken when medically necessary. Every effort should be made to provide Caesarean sections to women in need, rather than striving to achieve a specific rate.

The rate of Caesarean section is increasing with time. Individualization of the indication and careful evaluation, following standardize guidelines, practice of evidenced-based obstetric and audits in the institution can help us limit Caesarean section. Most of the Caesarean sections were elective Caesarean section as per the present study.

Prevalence of Caesarean section found to be high as compared to the WHO data. The most common indication of Caesarean section as per the present study was found to be the obstetrical factors (73%) followed by factors associated with Medical disorders (32%). Among 500 mothers who had undergone for Caesarean section 183 mothers (36.6%) were having multiple factors.

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