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Review article

Medical research

### Prevalence of cesarean section and physiotherapy referral in Jalgaon hospital

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#### ABSTRACT

##### Introduction

There is a growing concern about unnecessary caesarean section, the increased risk of maternal morbidity, neonatal death and neonatal admission to an intensive care unit, a rate of less than 5% would reflect difficulty in access to adequate treatment despite this recommendation, evidences suggest that the rates of cesarean section are high in developing countries and are increasing ,with wide variation between countries and between regions of the same county. By evaluating the prevalence of cesarean section in Hospital of Jalgaon we can prevent extended hospital stay, unintentional damage to uterus and cervix by strategically planed program of health education and promotion with pre-natal and post-natal exercises

##### Aim

To determine the prevalence of cesarean section and physiotherapy referral in Jalgaon Hospital.

##### Methodology

6 month duration study was carried out in 1118 women in hospitals of Jalgaon .stastical analysis was done and was concluded that the prevalence of cesarean section in Jalgaon Hospital was 30.28%.

#### INTRODUCTION

Over 50% of the population is female and this alone is sufficient reason to focus on women health's issues .physiotherapists and other health professionals need a broad understanding of the impact and implication of being female on the lifecycle and on specific health issues which can arise [1].

The World Health organization recommended that hystrotomy should be done based on medical need and in many cases they are life saving for the mother and baby. However, there is a growing concern about unnecessary caesarean section, the

increased risk of maternal morbidity, neonatal death and neonatal admission to an intensive care unit. Cesarean section also known as C-section is the use of surgery to deliver one or more babies. A cesarean section perform when a vaginal delivery would put the baby or mother at risk [2]. This include destructed labour, twin pregnancy, high blood pressure in the mother, breech birth, problems with the placenta, umbilical cord or shape of the pelvis and previous cesarean section, Same cesarean section are also performed upon request [4].A cesarean section typically takes 45 minutes to

an hour. It may be done with a spinal block such that women is awake or under general anesthesia.

Incision of about 15 cm is then typically made through the mother's lower abdomen. Among incision pfnestial incision are mostly perform because there is less muscles and more fibrous tissue in the lower segment which reduce the risk of rupture in a subsequent pregnant, and its disadvantage is it is difficult in reflection the rectus sheath from the muscle during next surgery and supra umbilical incision is less commonly perform and more liable to hematoma formation and there is high risk of hysterotomy and operative morbidity. The uterus is then opened with a second incision and the baby is delivered. The incisions are then stitches closed [8].

Optimal range of caesarean section is debatable; however, in 1985 the world health organization suggested that the rates of caesarean section should not exceed 15%, since no additional benefit for the newborn or for the mother is obtained beyond this level. On the other hand ,a rate of less than 5% would reflect difficulty in access to adequate treatment despite this recommendation, evidences suggest that the rates of caesarean section are high in developing countries and are increasing ,with wide variation between countries and between regions of the same county [13].

By evaluating the prevalence of caesarean section in Hospital of Jalgaon we can prevent extended hospital stay, unintentional damage to uterus and cervix by strategically planed program of health education and promotion with pre-natal and post-natal exercises

## TECHNIQUE

### Sevearal types of incision in cesarean section

1. Supra umbilical incision
2. Median incision
3. Maylord incision
4. Pfannestial incision

## RISK OR COMPLICATION

### For mother

- Infection

- fever
- Hemorrhage or increase blood loss
- Injury to organ
- Adhesion
- Extended hospital stay
- Extended recovery time
- Risk to additional surgery includes possible hysterectomy, bladder repair or another cesarean
- Maternal mortality
- Emotional reaction
- Damage to uterus or cervix
- Increase in low back pain

### For baby

- Premature birth
- Breathing problem
- low APGAR scores
- Fetal injury

## Need of study

Previous studies suggest that cesarean birth increase problem such as maternal and fetal complications. Hence, this study will find the prevalence of cesarean which will help to plan a strategy for prevention and rehabilitation of women in order to improve quality of life after cesarean.

## Aim

To determine the prevalence of cesarean section and physiotherapy referral in Jalgaon Hospital

## Objectives

1. To know the prevalence of cesarean section.
2. To study common causes for cesarean section.
3. To know the awareness of exercises.

## METHODOLOGY

**Study design:** Survey (Hospital Survey)

**Study population:** All mothers who delivered in Jalgaon hospital and conscious in the study period were eligible to participate in this study

**Total population:** 1118

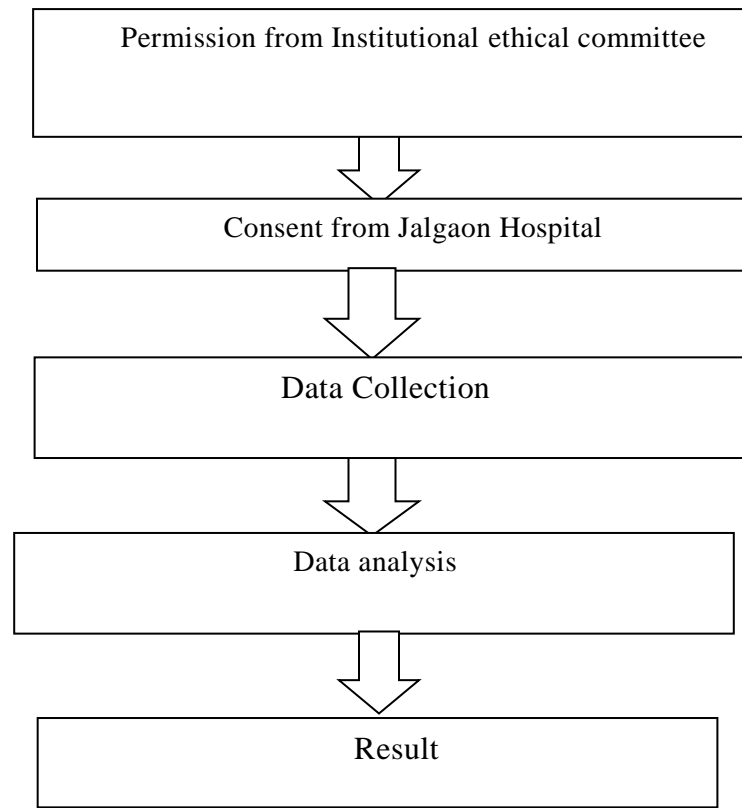
**Place of study:** Hospital of Jalgaon

**Inclusion criteria:** Women operated with cesarean section.

**Study duration:** 2 month

**Exclusion criteria:** Women With Normal Delivery

## PROCEDURE



## CASE RECORD FORM

1. Name
2. Age
3. Causes
4. Type of incision
5. Hospital stay
6. Parity

## REVIEW OF LITERATURE

- Penn z, Ghaem-Maghani's <2001> conducted the study and he found that cesarean section rates are rising. cesarean section confers an increase in maternal mortality and morbidity as well as having considerable financial implications. The changing trends in the rates of cesarean section for various indications may be explained partly by improved anaesthetic and neonatal techniques
- Sadaf R, Nasreen A, Zahid M <2007> Trial of scar in patients with previous one. Conduct the study and he found that among 50 pregnant women with previous one CS, 36 (72%) patients

were successfully delivered vaginally while 14 (25%) had emergency lower segment CS. out of 36 vaginal deliveries, 27 (75%) were normal vaginal deliveries while 9 (25%) were delivered with instrumental support i.e. 7 (19%) with outlet forceps and 2 (5.6%) by vacuum extraction. one patient (2%) developed scar dehiscence and lost her baby which resulted in one still birth (2%) in this study. one (2%) patient with imminent rupture underwent timely CS and baby was saved

- Stanton CK, Holtz SA (2006) Levels and trends in cesarean birth in the developing world. conduct study and he found that cesarean birth rates are high and increasing in some developing countries. The objectives of this study are to compile the best current estimate of cesarean birth rates for developing countries, to estimate regional rates, and to document trends nationally and by urban/rural residence where data permit.
- Souza JP, Guilmezoglu A, Lumbiganon P, Laopaiboon M, Carroli G, Fawole B, Ruyan P, who D global survey on maternal and

perinatal health group .found that a total of 286,565 Deliveries were analysed. The overall cesarean section rate was 25% and a total of 1% of all delivery were cesarean sections without medical indication, either due to maternal request or in the absence of other record indications.

- Agent of health care research and quality.JM Guise, k Edmeis, MA, Dennon, N Marshall(2010) found that overall the best evidence suggests that vaginal birth after cesarean is a reasonable choice for the majority of women
- Kamboi bedish ,Dhillon , saxen NC(2002) they found that based on this finding it was concluded that the prevalence of cesarean section in JUSH was 28.1%.their is increase in rate of cesarean section as recommended by WHO which is 15%.
- Lucas-bouwman mel,koen MD ,ter bugge HG ,Rutten CL,Band PL(2000) found that the demographic characteristics of newborn between study group showed comparable body weight and male to female sex ratio. The APGAR score values at one minute and at 5 minutes showed significantly higher number of score in spinal anaesthesia group as compared to general anesthesia group.
- Tadesse E,Adne M ,Abiyou M, cesarean section deliveries at tikur anbessa teaching

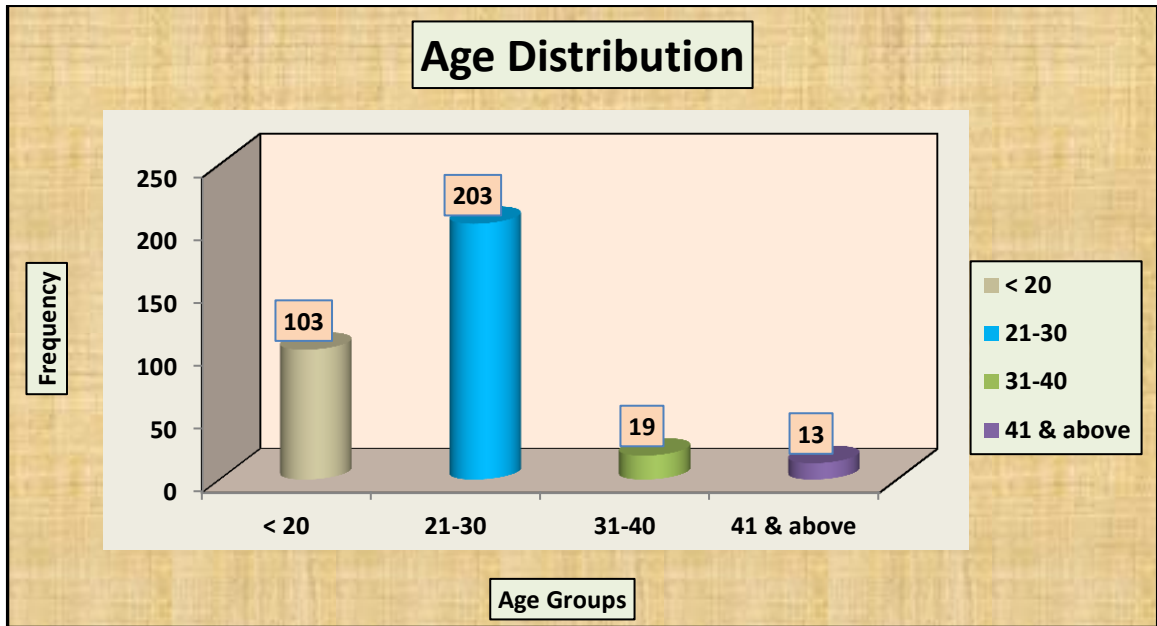
hospital Ethiopia they found that the prevalence of cesarean section is 27.6% .the leading indications for cesarean birth were, cephalopelvic disproportion ,previous cesarean section , fetal distress , mal-presentation and malposition and antepartum hemorrhage accounting for 82.6% of the indication for cesarean section .maternal indication constituted 68% whereas fetal indication accounted for 32%.

- MA Ljaiya, PA aboyeji (2001) maternal mortality with cesarean delivery: a literature review shows that there was no publication with an ideal trial design and adequate power to establish the relationship between maternal mortality and method of delivery. Three study, including the one randomized control trial included in analysis ,and the royal college of obstetricians and gynaecologists data suggest no significant difference in maternal mortality with cesarean delivery as compared with vaginal delivery
- Goncalves SA, Rolland SA (2010). Indication of cesarean section in fetal death shows that the factor related to the indication of cesarean section in a pregnant woman with death fetus are poorly studied. The study of fetal death is crucial in promoting actions for maternal and child health.

## STATISTICAL ANALYSIS

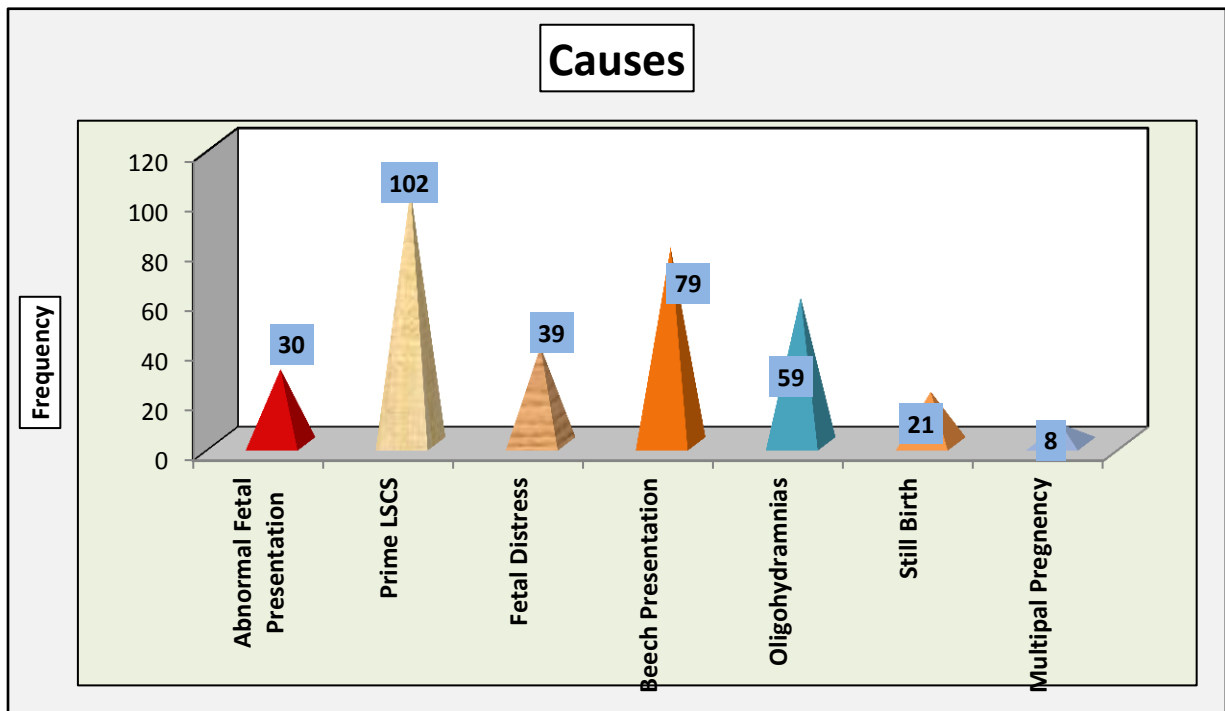
**Table 1. Shows frequency & percentage of cesarean section in women by AGE DISTRIBUTION**

Sr. No.	Variable	Groups	Frequency	Percentage
1	Age	< 20	103	30.47
		21-30	203	60.06
		31-40	19	5.62
		41 & above	13	3.85



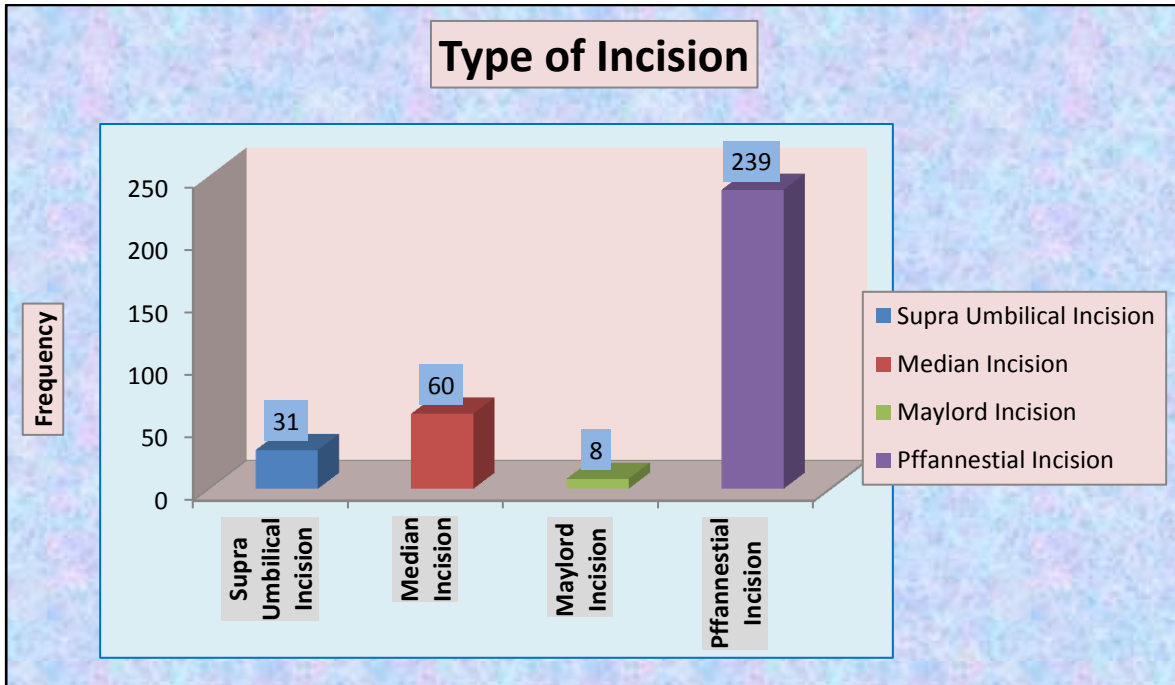
**Table 2. Shows causes of cesarean section in pregnant women**

Sr. No.	Variable	Groups	Frequency	Percentage
2	Causes	Abnormal Fetal Presentation	30	8.88
		Prime LSCS	102	30.18
		Fetal Distress	39	11.54
		Brech Presentation	79	23.37
		Oligohydramnias	59	17.46
		Still Birth	21	6.21
		Multipal Pregnancy	8	2.37



**Table 3. Shows the type of incision taken for cesarean section**

Sr. No.	Variable	Groups	Frequency	Percentage
3	Type of Incision	Supra Umbilical Incision	31	9.17
		Median Incision	60	17.75
		Maylord Incision	8	2.37
		Pffannestial Incision	239	70.71



**Table 4. Shows the number of days stayed in hospital after cesarean section**

Sr. No.	Variable	Groups	Frequency	Percentage
4	Hospital Stay (days)	5 days	16	4.73
		6 days	74	21.89
		7 days	248	73.37

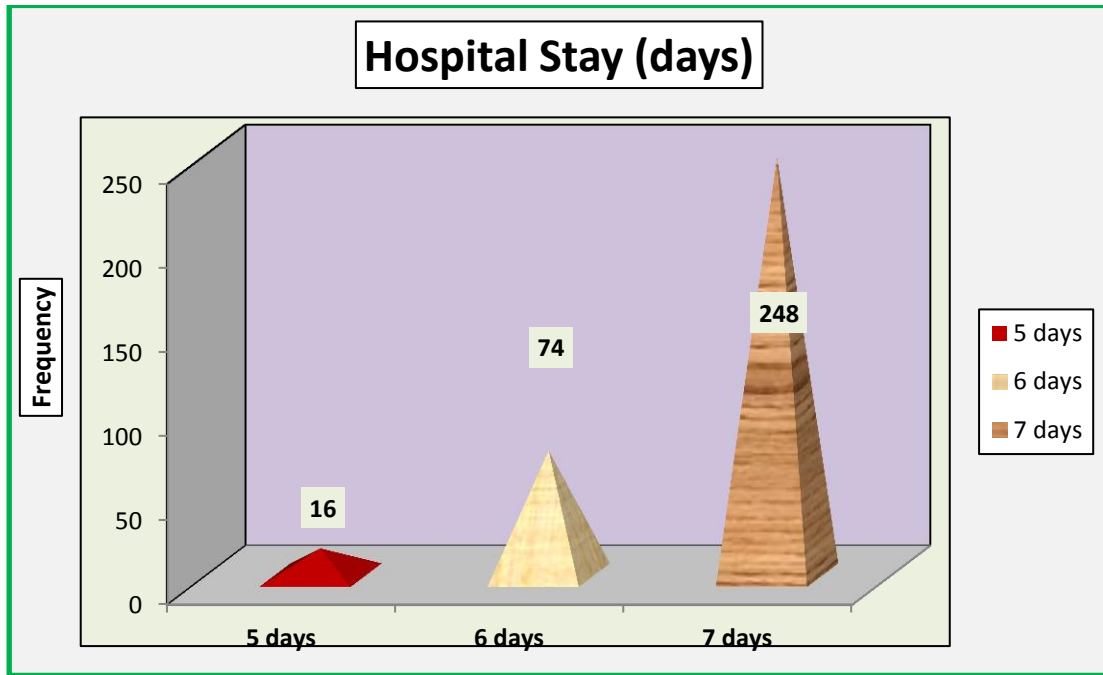
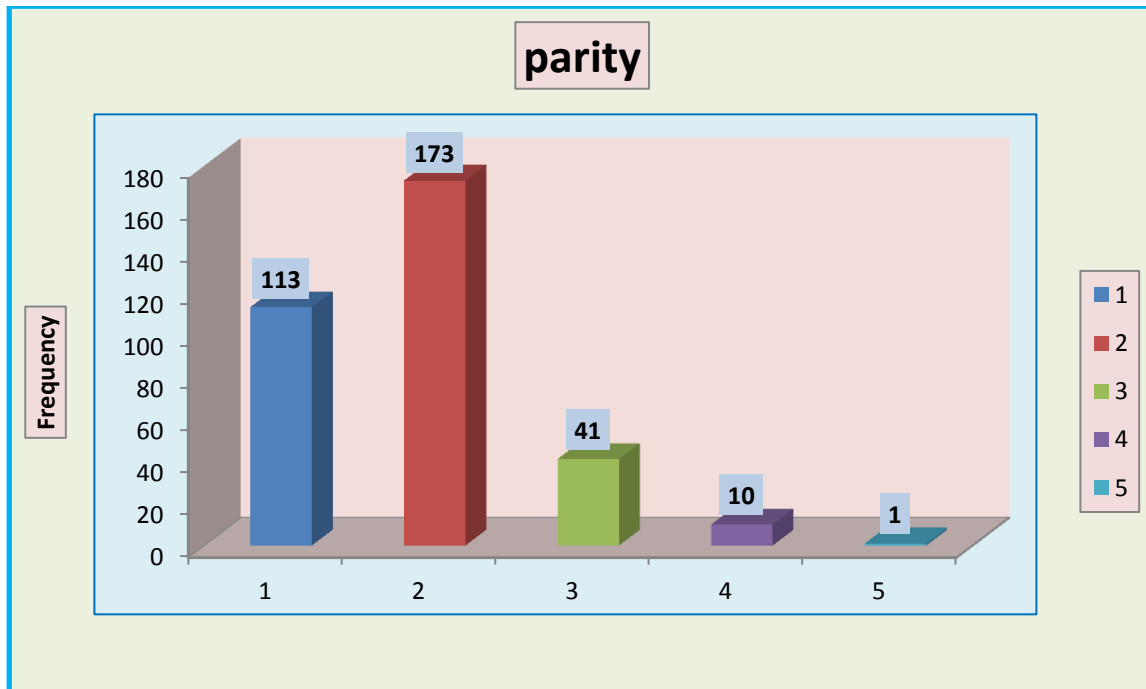


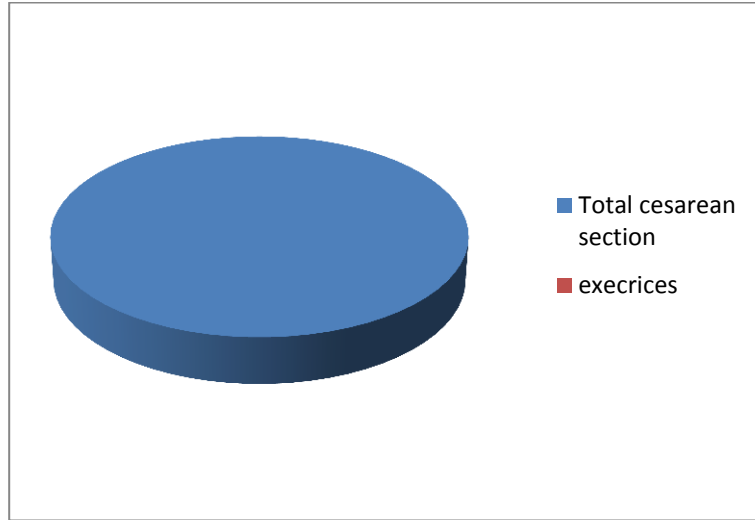
Table 5. Shows the parity of women who underwent cesarean section

Sr. No.	Variable	Groups	Frequency	Percentage
5	parity	1	113	33.43
		2	173	51.18
		3	41	12.13
		4	10	2.96
		5	1	0.30



**Table 6. Shows that percentage of women who undertook ANC exercises during pregnancy**

Total cesarean section	ANC Exercises
338	0



**PREVALENCE**

Prevalence	30.23
Total	1118
Cesarean	338

**RESULT**

- A total of 1118 women were screened in this study, out of which 338 underwent cesarean section in hospital of Jalgaon district over two month duration .
- The age distribution analysis of the patients in the study show that the significant number of patient undergoing cesarean section were in the age group of 21 to 30 year.
- The most common cause of cesarean section in this study group was prime LSCS of 30.18% ,Beech presentation was second most common cause for cesarean section 23.37%, other cause are Oligohydromnias 17.46% ,fetal distress 11.54% ,Abnormal fetal presentation 8.88% ,Still birth 6.21% ,Multipal pregnancy 2.37%.
- The most common type of incision in cesarean section was Pffannestial incision 70.71% then the second most common incision is Median incision ,other incision are Supra umblicial incision 9.17% ,Maylord incision 2.37%.
- 7 days was most common hospital stay for patient with cesarean section 73.37% for 6

days 21.89% and for 5 days 4.73% of hospital stay

- The percentage of parity was higher in group 2 i.e 51.48% the second most higher % Of parity was group 1 i.e 33.43% ,other are group 3 i.e 12.1% , group 4 i.e 2% , group 5 is 0.30%.

**DISCUSSION**

- The prevalence of cesarean section in the study area was 30.28% .This is rapidly increasing because it exceeded beyond the level recommended by WHO which is 15% [1] The finding revealed that cesarean section rates was increasing rapidly when the data was collected for research done in Jalgaon Hospital
- The major causes of cesarean section are prime LSCS, the other causes are Beech Presentation, Oligohydramnias, Fetal Distress, Abnormal Fetal Presentation, Still Birth, Multiple Pregnency.
- In children born by cesarean section, the good maternal bacterial that are normally found in the maternal birth canal and rectum are

lacking, while the bad bacteria that may endanger the child's immune system are frequently present. In children born by vaginal delivery, the good maternal bacteria stimulate the newborn's while blood cell and other components of the immune system, which has been taken as a basis for the hypotheses explaining the evident association of the above morbidities and delivery by cesarean section [15].

- So the immune power of child's born in cesarean section have less immunity as compare to child's born with normal delivery
  - The most common type of incision in cesarean section was Pfannestiel incision 70.71% then the second most common incision is Median incision, other incision are Supra umbilical incision 9.17% ,Maylord incision 2.37
  - The etiology and mechanism of different pain intensity was strictly linked to the surgical approach used and the subsequent abdominal anatomical area implicated .in comparison to the Misgav-Ladach, the pfannestiel skin incision ion smaller ,but in lower abdomen section since lower abdominal wall innervation proceeds in a latero-medial direction, pfannestiel incision often involves nerve pathways, causing a possible iatognies damage
  - Additionally, in the pfannenstiel technique sharp incision is used to access the abdominal layers, while in Misgav-Ladach approach, the incision is made only in the midline and then extended laterally through blunt finger dissection in the cranio-caudal direction, perpendicularly to the direction of nerve spreading.
  - The result is minimal or absent of nerve damage .The intrinsic nerve structure elasticity allow a moderate traction without anatomically damage
  - Moreover, if during Pfannenstiel incision dissection is excessively extended laterally, both the ileo-hypogastric and the ileo-inguinal nerves may be harmed, potentially creating a neuroma. The subsequent nerve retraction or entrapment in constricting sutures could be responsible for local hypoesthesia, hyperesthesia and acute/chronic pain. Treatment strategies range from locally administered, repeated, short-acting anesthetic injections (e.g. lidocain) which provide immediate but limited pain relief, to neurectomy of the affected nerve [16].
- For much of recent history, pregnant women were treated as if they had an illness and were subjected to a state of confinement. They were advice to relax, avoide strenuous exertion, and minimize stretching and bending for fear of strangling or squashing the baby. more recentyb ,it was considered acceptable to continue to exercise if the women was active prior to becoming pregnant, but experts advised against initiatingany exercises program during pregnancy generally, today significant number of pregnant women are active and want to maintain a vigorous exercise program [14].
  - The guidline contained very specific exercise heart rate and exercise duration cutoff of 140 beats/minutes and 15 minutes, respectively [14].
  - So the incidence of cesarean section can be reduce by promoting the awareness about important of ANC Exercises and how it help to reduce the incidence of cesarean section among women
  - In this study no patient was doing ANC Exercise before delivery. So there is need of awareness among women about important of ANC Exercises and how it help during delivery.
  - The prevalence rate of hysterectomy is 35.5% and referral for physiotherapy is 71.31%. It is of concern that the fertile age group ie.21-30 years also had undergone for hysterectomy. Hysterectomy is still widely performed procedure even in rural hospital in Nagpur. And about 71.31% of cases were referred for postoperative physiotherapy [17].

## LIMITATION

- Duration of study was small.
- Private medical centres were not included in this study.

## CONCLUSION

- Based on the finding it was concluded that the prevalence of cesarean section in Jalgaon Hospital was 30.28%.

- The most common causes of cesarean section was prime LSCS.
- The most common age group undergoing cesarean section was 21 to 30 years, due to lack of awareness of ANC Exercises among pregnant women.
- Various rehabilitation strategies should be taken to reduce the incidence of cesarean section

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