

## Prevalence of Cesarean Section Delivery and Associated Risk Factors

Hanan M. Hathout<sup>1\*</sup>, Nehad B. A. Elsaid<sup>1</sup>, Hala M. Gabr<sup>1</sup>

<sup>1</sup>Public Health and Community Medicine Department, Menoufia University, Egypt.

### Abstract:

**Background:** Cesarean section (CS) is a lifesaving procedure in the presence of maternal and fetal complications, but not indicated ones are associated with many adverse outcomes. **Objectives:** To study the prevalence and indications for cesarean section among the studied group also, studying the association between type of delivery and socio-demographic and obstetrics history of the studied group and comparing the maternal and fetal outcomes in relation to the type of delivery. **Methodology:** This retrospective study was conducted at Menoufia university hospitals. All records of delivered women at obstetric department during the period from 1 January 2019 to 31 December 2019 were collected. Patient affairs and statistics unit were reviewed for socio-demographic data, obstetric history, type of delivery, reasons of cesarean section, maternal and fetal outcome, and complications. Data were collected, analyzed, and tabulated using SPSS program. **Results:** Prevalence of cesarean sections was 45.9% and most of which were elective 59.8%. Associated significant risk factors were residence, educational and socioeconomic levels and working status. Post-partum hemorrhage was significantly high in CS delivery, while urinary incontinence and pelvic prolapse were more common with vaginal delivery. The main indication of CS in this study was previous CS 40.1%. **Conclusion:** Despite CS can be life saving for mother and baby in emergency indications, overuse of CS was associated with maternal and fetal complications. Efforts should be done to reduce the rate of elective CS through proper antenatal care counseling.

**Keywords:** Cesarean section, Elective delivery, Prevalence, Risk factors

### Introduction:

The cesarean section (CS) is a surgical procedure in which one or more incisions are made through a mother's abdominal layers and uterus to deliver one or more babies. A CS is supposed to be performed when a vaginal delivery would put the health of the mother or baby at risk. Accepted medical reasons for performing CS include failure of labor to progress, pelvic abnormalities, problems with the placenta, multiple gestation pregnancies, active herpes simplex, irregularities of fetal heart rate, malpresentation of the fetus and any serious medical condition that requires emergency treatment. <sup>(1)</sup>


In the presence of maternal or fetal complications, cesarean delivery can effectively reduce maternal and perinatal mortality and morbidity however, there is an increasing proportion of babies are delivered by cesarean section when there is no medical obstetric

indication. The short-term adverse associations of cesarean delivery for the mother including infection, hemorrhage, visceral injury, and venous thromboembolism etc. <sup>(2)</sup>

Cesarean delivery is over utilized in middle to high income countries. The rate is as high as 25.9% in China, 32.3% in Australia, New Zealand and 45.9% in Brazil. Many of the cesarean deliveries in these countries were medically unjustifiable and thus unnecessary. In low-income countries, where over 60% of the world's births occur, the population-based prevalence of CS is low for example, 3.0% in West Africa. This low prevalence may reflect poor availability or accessibility to comprehensive essential obstetric care services. <sup>(3)</sup>

Cesarean mode of delivery was overused in Egypt and the reasons due to financial incentive,

\*Corresponding author: [han\\_hathout@yahoo.com](mailto:han_hathout@yahoo.com)

 This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>)

doctors' desire to have better control over their time, vagueness of medical protocols regarding indications for use of CS, limited opportunities for junior doctors to practice vaginal deliveries, shortage of pain relief drugs in public hospitals, and shortage of anesthesiologists who are trained in administration of epidural anesthesia which could be used to relieve pain in vaginal deliveries.<sup>(4)</sup> This paper aimed to study the prevalence and indications for cesarean section among the studied groups and the association between type of delivery and socio-demographic and obstetrics history of the studied groups. It also aimed to compare the maternal and fetal outcomes in relation to the type of delivery.

#### **Methods:**

This retrospective analytical study was conducted at Menoufia university hospitals. All records of delivered women at the obstetric department during the period from 1 January 2019 to 31 December 2019 were collected. Patient Affairs and statistics unit were reviewed for socio-demographic data, obstetric history, type of delivery, reasons of cesarean section, maternal and fetal outcome and complications. Only completed records are included in this study 1712 records and 139 incomplete records were excluded.

**Ethical approval:** The Medical Ethics Committee at the Menoufia faculty of medicine approved the study protocol before starting the study thorough explanations of the study objectives through personal interviews with the

chiefs of the patient affairs and statistics unit of Menoufia university hospitals.

**Tools:** Medical records had been reviewed with privacy to extract the following data:

- Socio-demographic data: Age, residence, education, working condition, socioeconomic level.
- History of previous pregnancies: Parity, Number of abortions, Previous CS, Previous fetal or maternal complications.
- History of current pregnancy: including frequency of antenatal care visits, fetal presentation, gestational age at delivery/weeks, fetal weight, fetal distress, associated medical problems of the mothers, type of delivery, type of cesarean section either elective or emergency.
- Indications of CS which may be cephalo-pelvic disproportion, placenta previa, oligohydramnios, hypertensive disorders of pregnancy. Mal-presentation, multiple pregnancies, intrauterine growth retardation (IUGR), post-term pregnancy, others.
- Neonatal outcome including Apgar score, IUFD, Neonatal Intensive Care Unit (NICU) admission.
- Maternal complications e.g. Postpartum Hemorrhage (PPH), blood transfusion, bladder injury, hysterectomy and septic wound.
- Length of hospital stay.

**Data management:** Data were collected, analyzed, and tabulated using SPSS (Version 22; SPSS Inc., Chicago, Illinois, USA). Two types of statistics were done.

Descriptive statistics in the form of number and percent for qualitative data, mean and standard deviation for quantitative data. Analytical statistics in the form of Chi-square test ( $\chi^2$ ) was used to study association between two qualitative variables and Fischer exact test for 2 x 2 tables when expected cell count of more than 25% of cases were less than five. Student's t- test was used for comparing means of quantitative parametric variables and Mann Whitney test for nonparametric quantitative variables. P value <0.05 was considered statistically significant.

### Results:

The prevalence of CS delivery among the studied groups was 45.9% (786 out of 1712). There was no significant difference between the study groups in relation to the age, but the prevalence of cesarean delivery was high in women living in urban in comparison to those in rural community (61.2% vs. 38.8%,  $P < 0.05$ ). The rate of CS delivery also significantly increased with high educational level and in working woman and also with increasing the socioeconomic level (Table1). Prevalence of CS was high among primigravida in relation to multigravida (64.5% vs. 36.3%,  $P < 0.05$ ), also prevalence of CS increased with increased number of previous abortions 60.2% of women

with history of repeated abortions more than 2 times delivered by CS  $P < 0.05$ ). Most of the breech presentation was delivered by CS but this finding is not statistically significant. Also, there was significant difference in the fetal weight between two types of delivery.

No significant difference in the gestational age between vaginal and CS delivery groups (Table 2). There was no significant difference between type of delivery and fetal and maternal outcomes of the studied groups, but there was significant difference in the mean length of stay between CS delivery and vaginal delivery being higher for CS delivery (Table 3). The rate of paralytic ileus was significantly higher among CS delivery group, while pelvic organ prolapses, and urinary incontinence were the most common complications among women delivered by vaginal delivery (Table 4). The main indication that was contributed to CS in this study was previous CS (40.07%), followed by cephalopelvic disproportion (17.6%), abnormal presentations (8.9%), severe preeclampsia (5.34%), post term (5%), premature rupture of membranes (4.2%), placenta previa (3.56%), obstructed labour (3.31%), twins (2.67%) and intrauterine growth retardation (1.4%) (Table5).

### Discussions:

This study detected high cesarean sections rate for women delivered at Menoufia university hospitals during the year 2019; it was 45.9%, and this result is similar to Ayman et al.<sup>(5)</sup> who

found that the rate of cesarean sections was 41% in 2013, 45% in 2014, and 46% in 2015 in Tanta university hospitals. Also, the rate of Beni Suef general hospital was 32.6% and at Cairo university hospital and Al - Mattaria teaching hospital was 37.8% and 36.5% respectively, higher prevalence of CS in Alexandria was 70.4%.<sup>(6,7,8)</sup> The countries of the Arab world show a significant discrepancy in their CS rates, with some countries having significantly higher CS rates than others. For example, the rate of CS is more significant in Egypt than any other Arab country. The second highest rate is recorded in Jordan (28%) and the lowest was recorded in Yemen (5%). Such differences can be explained by each country's level of development. Although rates exceeding 15% are unnecessarily elevated, very low rates are also problematic as they may reflect lack of access to needed obstetric care in some low-income countries.<sup>(9)</sup>

In this study, high CS rate was detected for working women, and women with high socioeconomic levels, and this finding is supported by other studies as that of El zanaty et al.<sup>(10)</sup> In the present study, there was no significant association with CS rate and maternal age and this is similar to the finding of EDHS, 2014. In contrast to this finding, Alfred et al.<sup>(11)</sup> detect significant positive association with age. There is no satisfactory explanation for this linear association for age and CS rate. However, advanced maternal age may be

associated with pelvic rigidity, increased parity and more significant number of previous CS, and previous obstetric complications or more medical disorders. In addition, over care for a precious baby may be more encountered for maternal age  $\geq 35$  years and may be associated with non-medical CS.<sup>(12)</sup> No significant association was detected between the number of antenatal care visits and mode of delivery, this is against the finding of EDHS, as women who received four or more ANC visits were 2.5 times more likely to undergo a CS compared to women with no ANC visits. One hypothesis for this observed association is possibility that women that make more ANC visits more likely to have high-risk pregnancies and hence need to be delivered by CS.<sup>(10)</sup>

In this study most of these CS deliveries were in primigravida, whereas vaginal delivery was common to multigravida. The lower likelihood of CS delivery of increasing parity could be explained by women with previous cesarean sections usually do not plan to get more than three offspring to avoid further CS delivery.<sup>(13)</sup>

There was a significant association with previous CS delivery and repeated ones, having previous CS was the strongest predictor of non-indicated CS. Obstetricians may repeat CS to avoid risk due to doubtful scar strength or absent information about the previous CS. In addition, Egyptian women with prior CS showed

favorable attitude to CS which surely reinforced this detectable high rate.<sup>(14)</sup>

In the current study, there was no significant difference in the mean Apgar score of CS and vaginal delivery groups. This finding is supported by Karamatollah et al.<sup>(15)</sup> On the other hand, Prior et al.<sup>(16)</sup> found that CS delivery was associated with low Apgar score and fetal distress in contrast to vaginal delivery which is associated with better outcome. An explanation for this finding is that vaginal delivery causes lung clearance from secretions and fluids with pressure on neonatal chest and support better respiration. On the other hand, drugs handled for anesthesia during cesarean sections can decrease uterine and placental circulation and causes fetal hypoxemia.

In our study there was significant difference in the mean length of stay between CS and vaginal mode of delivery as the mean length of stay for CS delivery longer than that of vaginal delivery. Length of hospital stay has been identified as an important quality indicator of obstetric care and efficiency of hospital performance. Extra length of hospital stay would be disadvantage for both the hospital and the patients by consuming hospital resources and providing extra-charge for the patients.<sup>(17)</sup> These figures were lower than the study of Keag et al.<sup>(18)</sup> that detect mean length of stays were  $2.9 \pm 1.1$ ,  $4.7 \pm 1.7$  for spontaneous, and cesarean delivery, respectively. In this study, the rate of NICU admission was 13.2% but there was no

significant difference in NICU admission rate for both study groups.

On the other hand, study of Fallah et al.<sup>(19)</sup> found that newborns delivered by CS were more likely to be admitted to NICU within 28 days of birth than those delivered vaginally and this finding after exclusion of multiple births, preterm births and small for gestational age. This may be due to hormonal and physiological changes of spontaneous delivery that helps lung maturation and also catecholamine surge that occurs during labor likely plays an important role in both clearance of fetal lung fluid and glycemic control after birth.<sup>(20)</sup> On the other hand, planned vaginal delivery led to more meconium passage and low 1 min Apgar but less NICU admissions, oxygen resuscitation and jaundice.<sup>(21)</sup>

The most frequent complications to CS delivery of this study were postpartum hemorrhage, shock, wound dehiscence and sepsis, and visceral injury. This agrees with Keaget al.<sup>(18)</sup> who found that short-term risks of cesarean delivery include risk of infection, anesthetic and surgical complications including death and lower likelihood of breastfeeding. Surgical complications include hemorrhage requiring a transfusion or hysterectomy, bowel or bladder injury, postoperative ileus, amniotic fluid embolism, air embolism, thromboembolic disease and maternal death.

Primary indications for CS in this study were previous CS, followed by cephalopelvic

disproportion and abnormal presentations and this is supported by many other studies. <sup>(5,6,7,8)</sup>

**Limitations:** Retrospective study liable to recall bias and depend on completeness and accuracy of the records and its design does not allow for causal interpretation of the associations studied. Also, we cannot generalize these results because we do not have data regarding the practices in private sectors which may favor much higher rate of CS delivery.

**Conclusions and Recommendations:** The high rate of CS delivery was recorded in this study and most of which were elective. CS delivery was associated with prolonged hospital stay and increased risk of postpartum hemorrhage. Efforts should be done to reduce the rate of elective CS through rationalization of CS delivery. Antenatal care counseling to educate women about the advantages of vaginal delivery and the adverse effects of medically not indicated CS.

**Fund:** The research was conducted with no fund.

**Conflict of Interest:** There was no conflict of interest.

#### References:

1. Glasier A, Gülmezoglu P, George M, Claudia M, Paul A. Sexual and reproductive health: A matter of life and death. *The Lancet* J 2006; 368(9547): 1595-1607.
2. -National Institute for Health and Clinical Excellence (2011) Cesarean Section (NICE Clinical Guideline 132). Available from: <https://www.nice.org.uk/guidance/CG132>. last retrieved in 10<sup>th</sup> Feb, 2019.
3. Gibbons L, Belizán M, Lauer A. The global numbers and costs of additionally needed and unnecessary caesarean sections performed per year: overuse as a barrier to universal coverage. *World health report 2010*. Available from <https://www.scienceopen.com/document?vid=a9ac3aae-f6f3-4249-8279-f8fe80bd4829>. last visited at 2<sup>nd</sup> March 2019.
4. Nahla A, Dona O, Nevine H, Shatha . Cesarean section deliveries in Egypt: Trends, practices, perceptions and cost. *BMC pregnancy childbirth* J2019; 19:411.
5. Ayman D, Abdel-Ghafar D, Shereef E. A Three Year Retrospective Study of Cesarean Section Rate at Tanta University Hospitals. *Journal of Gynecology and Obstetrics* 2017; 5(2): 25-30.
6. Mohamed M, Mohamed Z, Amira E. Incidence, indications and outcome of caesarean section in Beni-Suef Governorate, Egypt. *Eur J ObstetGynecolReprod Biol* 2019; (234): 1–13
7. Alaa E, Ahmed K, Adel N, Wael S, Ahmed S. Cesarean Section in a University and General Tertiary Hospitals in Cairo; Egypt: Rates, Indications and Limits. *KAJOG* 2011; 2 (1): 20-26.
8. Eman I, Mobarak Y, Eman A. Sultan A .Prevalence, Indications and Determinants of Cesarean Delivery in Alexandria, Egypt. *High Institute of Public Health journal* 2019; 49(2):125-132.

9. Khawaja M, Choueiry N, Jurdi R. Hospital-based cesarean section in the Arab region: an overview. *Eastern Mediterranean Health Journal* 2009; 15(2):458 – 469.
10. El-Zanaty F and Way A. Egypt Demographic and Health Survey 2014. Cairo: Ministry of Health and Population. Available from: <https://www.unicef.org/egypt/reports/egypt-demographic-and-health-survey-2014>. Last visited 21<sup>th</sup> May, 2019.
11. Alfred M, Alberta A, David E, John W, Margarete G. Socioeconomic and demographic factors associated with caesarean section delivery in Southern Ghana. *BMC Pregnancy and Childbirth Journal* 2018; 18:405.
12. Batiha M, Al-Daradkah S, Khader Y, Basha A, Sabet F. Cesarean Section Incidence, Causes, Associated Factors and Outcomes: A National Prospective Study from Jordan. *GynecolObstetJ* 2017; 3(3):55.
13. Nilsen C, Ostbye T, Daltveit K, Mmbaga T, Sandoy I. Trends in and sociodemographic factors associated with caesarean section at a Tanzanian referral hospital, 2000 to 2013. *Int J Equity Health* ; 2014 :13:87.
14. Witt P, Wisk L, Cheng E, Mandell K, Chatterjee D, Wakeel F. Determinants of Caesarean Delivery in the U.S.: A Lifecourse Approach. *Matern Child Health J* 2015;19(1):84-93.
15. Karamatollah R, Abdolreza S, Vajihe R, Mitra Gi, PardisA . Association of Apgar Score with Delivery Mode in The Non-Distress Newborns. *Online Journal of Biological Sciences* 2014;14 (1): 21-25.
16. Prior T, Kumar S. Expert review – identification of intra-partum fetal compromise. *Eur J ObstetGynecolReprod Biol.* 2015;190:1–6.
17. Cegolon L, Campbell R, Alberico S, Montico M, Mastrangelo G, Monasta L et al., 2019. Length of stay following vaginal deliveries: a population based study in Friuli Venezia Giulia (North-eastern Italy). Available from: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0204919>. Last visited at 1<sup>st</sup> Sept, 2019.
18. Keag OE, Norman JE, Stock SJ 2018. Long-term risks and benefits associated with cesarean delivery for mother, baby, and subsequent pregnancies: Systematic review and meta-analysis. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/29360829>. Last visited at 5<sup>th</sup> April, 2019.
19. Fallah S, Chen XK, Lefebvre D, Kurji J, Hader J, Leeb K. Babies admitted to NICU/ICU: province of birth and mode of delivery matter. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/21841387>. Last visited at 23<sup>th</sup> Nov, 2019.
20. Hansen A, Wisborg K, Ulbjerg N. Risk of respiratory morbidity in term infants delivered by elective caesarean section: cohort study. *BMJ* 2008; 336:85-87.
21. Geller E, Jannelli M, Nguyen T, Visco A. Neonatal outcomes associated with planned vaginal versus planned primary cesarean delivery. *Journal of Perinatology* 2010; (30) 258–264.

**Table (1): Relation between Type of Delivery and Socio-demographic Data of the Groups**

Studied variables	Type of delivery				Total		X2	P value
	Vaginal (N=926)		Cesarean (N=786)		(N=1712)			
	No.	%	No.	%	No.	%		
<b>Age / years</b>								
▪ <25 years	211	22.9	168	21.4	380	22.2	3.24	0.198
▪ 25 – 35 years	617	66.8	552	70.6	1173	68.5		
▪ >35 years	95	10.3	64	8.20	159	9.30		
<b>Residence</b>								
▪ Rural	652	70.4	305	38.8	957	55.9	172.2	<b>0.001**</b>
▪ Urban	274	29.6	481	61.2	755	44.1		
<b>Educational level</b>								
▪ Illiterate and basic	41	4.43	37	4.71	78	4.56	47.86	<b>0.001**</b>
▪ Secondary	538	58.10	327	41.60	865	50.53		
▪ High	347	37.47	422	53.69	769	44.91		
<b>Working status:</b>								
▪ Not working	383	41.36	275	34.99	658	38.43	7.30	<b>0.006**</b>
▪ Working	543	58.64	511	65.01	1054	61.57		
<b>Socio- economic level</b>								
▪ Low	9	0.97	7	0.89	16	0.94	54.68	<b>0.001**</b>
▪ Middle	565	61.02	340	43.26	905	52.86		
• High	352	38.01	439	55.85	791	46.20		

\*\*High significant



**Table (2): Relation between Type of Delivery and Obstetric Data of the Groups**

Studied variables	Type of delivery				Total		Test of sig.	P value
	Vaginal (N=926)		Cesarean (N=786)		(N=1712)			
	No.	%	No.	%	No.	%		
<b>Antenatal care visits</b>								
▪ None	5	0.54	6	0.76	11	0.64	X <sup>2</sup> =1.89	0.388
▪ 1-4	419	45.2	377	47.9	796	46.5		
▪ >4	502	54.2	403	51.2	905	52.8		
<b>Parity</b>								
▪ Primigravida	206	35.5	375	64.5	581	33.9	X <sup>2</sup> =122.9	<b>0.001**</b>
▪ Multigravida	720	63.7	411	36.3	1131	66.1		
<b>Number of abortions</b>								
▪ No	764	82.5	531	67.6	1295	75.6	X <sup>2</sup> = 51.6	<b>0.001**</b>
▪ 1 – 2	113	12.2	181	23.0	294	17.2		
▪ >2	49	5.3	74	9.4	123	7.20		
<b>Timing of delivery</b>								
▪ Full term	813	87.8	614	78.1	1427	83.3	X <sup>2</sup> = 31.1	<b>0.001**</b>
▪ Pre term	96	10.3	133	16.9	229	13.3		
▪ Post term	17	1.83	39	4.96	56	3.27		
<b>Fetal presentation</b>								
▪ Cephalic	899	97.1	743	94.5	1642	95.9	X <sup>2</sup> =4.83	0.089
▪ Breech	20	2.2	40	5.1	60	3.5		
▪ Shoulder	7	0.7	3	0.4	10	0.6		
<b>Gestational age at delivery / weeks (Mean ±SD)</b>	37.5±2.98		37.6±2.39		37.6±2.47		t-test=0.078	0.938
<b>Fetal weight</b>								
▪ Average	729	78.7	610	77.6	1339	78.2	X <sup>2</sup> = 19.5	<b>0.001**</b>
▪ Under weight	141	15.2	87	11.1	228	13.3		
▪ Over- weight	56	6.04	89	11.3	145	8.50		
<b>Fetal distress</b>								
▪ Yes	117	12.63	83	10.56	200	11.68	X <sup>2</sup> = 1.77	0.182
▪ No	809	87.37	703	89.44	1512	88.32		
<b>Associated medical problems</b>								
▪ Yes	172	18.5	194	24.7	366	21.4	X <sup>2</sup> = 3.42	0.064
▪ No	754	81.5	592	75.3	1346	78.6		
<b>Previous CS</b>								
▪ Yes	93	10.0	320	40.7	413	24.1	X <sup>2</sup> = 218.4	<b>0.001**</b>
▪ No	833	90.0	466	59.3	1299	75.89		

\*\*High significant

**Table (3): Relation between Type of Delivery and Fetal and Maternal Outcomes of the Groups**

Studied variables	Type of delivery				Total		Test of sig.	P value
	Vaginal (N=926)		Cesarean (N=786)		(N=1712)			
	No.	%	No.	%	No.	%		
<b>Fetal death</b>								
▪ IUFD	10	1.10	20	2.50	30	1.75	X <sup>2</sup> =5.33	0.069
▪ Stillbirth	2	0.21	2	0.25	4	0.26		
▪ No	914	98.7	764	97.2	1466	97.7		
<b>NICU admission</b>								
▪ Yes	134	14.5	92	11.7	226	13.2	X <sup>2</sup> =2.83	0.092
▪ No	792	85.5	694	88.3	1486	86.8		
<b>APGAR score</b>								
▪ Mean ±SD	7.05±1.14		7.14±1.19		7.13±1.18		t-test=0.765	0.445
<b>Maternal complications</b>								
▪ Yes	45	4.90	52	6.60	97	5.60	X <sup>2</sup> =2.45	0.117
▪ No	881	95.1	734	93.4	1515	88.4		
<b>Duration of hospital stay from admission</b>								
▪ Mean ±SD	2.10± 1.50		3.22± 2.25		2.5± 1.3		t-test=10.9	<b>0.001**</b>

\*\*High significant

**Table (4): Distribution of Delivery Related Complications among Groups**

Type of complications	Type of delivery				Total (N= 97)		Test of sig.	P value
	Vaginal delivery N= 45		Caesarian Section N= 52		No.	%		
	No.	%	No.	%				
▪ Hysterectomy	0	0.00	2	3.85	2	2.10	FE=1.77	0.183
▪ Postpartum hemorrhage	8	17.8	14	26.92	22	22.7	X2=0.688	0.40
▪ Shock	7	15.6	10	19.2	17	17.5	X2=0.043	0.83
▪ Paralytic ileus	0	0.00	6	11.5	6	6.2	FE=5.53	<b>0.018*</b>
▪ ICU admission	1	2.22	5	9.6	6	6.2	FE=1.177	0.27
▪ Bladder and Intestinal injury	2	4.44	3	9.62	5	5.2	FE=0.08	0.76
▪ Wound dehiscence and sepsis	4	8.89	9	5.8	13	13.4	X2=0.83	0.36
▪ Pelvic organ prolapses	8	17.8	1	1.92	9	9.3	X2=5.44	<b>0.019*</b>
▪ Urinary incontinence	15	33.3	2	3.85	17	17.5	X2=12.5	<b>0.001**</b>

\*\*High significant

\*Significant

FE: Fisher exact test

**Table (5): Type and Indications of Caesarian Section among Groups**

Type of cesarean section	No.	%
▪ Elective	470	59.8
▪ Emergency	316	40.2
Indication of cesarean section	No.	%
▪ Previous CS	315	40.0
▪ Cephalo-pelvic disproportion	139	17.6
▪ Abnormal presentation	70	8.90
▪ Oligohydramnios	62	7.89
▪ Severe preeclampsia	42	5.34
▪ Post term	39	4.99
▪ Premature rupture of membranes (PROM)	33	4.19
▪ Placenta previa	28	3.56
▪ Obstructed labor	26	3.31
▪ Twins	21	2.67
▪ Intrauterine growth retardation (IUGR)	11	1.40

## الملخص العربي معدل انتشار الولاده القيصرية وعوامل الخطوره المصاحبه لها

حنان محمد حتوت – نهاد بدر عبد العاطي – هاله مروان جبر

**الخلفيه :** العملية القيصرية هي إجراء منقذ للحياة في وجود مضاعفات للام والجنين .وبالرغم من ذلك فإن العمليات غير المدعومة بمبررات قوية ترتبط بمضاعفات للأم والجنين .**الاهداف:** دراسة معدل انتشار الولاده القيصرية والعلاقة بين نوع الولاده والعوامل الاجتماعية وتاريخ الولاده وكذلك الآثار المرتبطة بنوع الولاده بين افراد العينه المدروسه.

**المنهجية وطرق البحث:** أجريت هذه الدراسة بأثر رجعي في مستشفيات جامعة المنوفية .تمت مراجعة جميع سجلات المرضى في قسم التوليد من خلال وحدة شئون المرضى والإحصاء خلال الفترة من 1 يناير 2019 إلى 31 ديسمبر 2019 ، لدراسة البيانات الاجتماعية والديموغرافية وتاريخ التوليد ونوع الولاده وأسباب الولاده القيصرية ونتائج الولاده علي الأم والجنين والمضاعفات.

**النتائج:** كانت نسبة الولاده القيصرية في قسم التوليد بمستشفيات جامعة المنوفية 45.9 % خلال عام 2019 ومعظمها كانت اختيارية (59.8%). العوامل المرتبطة بمعدلات أعلى للولاده القيصرية ذات الدلالة الإحصائية هي محل الإقامة، والمستويات التعليمية والاجتماعية والاقتصادية، وحالة العمل وكانت العوامل الهامة لتاريخ التوليد هي عدد الأولاد، وتوقيت الولاده، ووزن الجنين، ووجود تاريخ سابق للولاده القيصرية .لا يوجد فرق كبير في دخول وحدة العناية المركزه لحديثي الولاده وتقييم الحالة الصحية للأطفال حديثي الولاده بعد الولاده مباشرة بين مجموعتي الدراسة ولكن كان هناك اختلاف كبير في متوسط مدة الإقامة 2.1 و 3.22 للولاده الطبيعية والولاده القيصرية على التوالي . كان النزف التالي للولاده مرتفعاً بشكل ملحوظ في الولادات القيصرية مقارنة بالولاده الطبيعية، في حين كان سلس البول والسقوط المهلي أكثر شيوعاً مع الولاده الطبيعية .أكثر الأسباب شيوعاً للولادات القيصرية في هذه الدراسة هو التاريخ السابق للولاده القيصرية (40.1%). **الاستنتاجات:** على الرغم من أن الولاده القيصرية الطارئة قد تكون منقذة لحياة الأم والطفل، فإن ازدياد معدلاتها يرتبط بحدوث بعض المضاعفات للأم والجنين و يجب بذل الجهود لخفض هذه المعدلات من خلال المراجعة الدقيقة لدواعي إجرائها والتدريب الكافي على الولاده الطبيعية وتوعية الحوامل بأهمية الولاده الطبيعية والآثار السلبية للولادات القيصرية غير المبررة طبياً.