

Pattern of Caesarian Section complications among Primiparous Versus Multiparous

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Abstract

Background: Caesarean section is the delivery of a baby by surgery also known as abdominal birth. Cesarean section is one of the major surgeries where both mother and a newborn can be at risk. **Aims:** to Estimate the pattern of cesarean complications encountered among Primiparous versus Multiparous during Puerperium. **Researchdesign:** A prospective study designed adopted for this study. **Setting:** This study was conducted in the postpartum wards of Obstetrics Department, Women's Health Center, Assiut University Hospital, Egypt. **Tool:** Structured interviewing questioner and follow-up sheet used for data collection **Results:** more than half of women in both groups had an emergency cesarean section (69.1% vs. 54.5%) with a significant statistical difference. Fetal distress was the most common indication for cesarean section in primiparous, While repeated cesarean section was at the top of the list in multigravida, Incidence of complications encountered among both group nearly equal, there were no associations between the type of Cesarean Section and postoperative complications ($p=0.736$) and there was no significant statistical difference between both groups as regarding to intraoperative or postoperative cesarean complications. **Conclusion:** There was no significance statistically difference regarding Caesarian Section Complications encountered among puerperal women either during intraoperative or post-operative among Primiparous Versus Multiparous. **Recommendations:** implementation of the training program for nurses to improve their knowledge and skills regarding the prevention, assessment, and management of cesarean section complications. A list of counseling hotlines or health-care centers should also be included. Nurses and childbirth educators are in an ideal situation to discuss postpartum issues.

Keywords: Cesarean section, Primiparous, Multiparous

INTRODUCTION

Caesarean section (Cs) delivery is a major surgical operation aim to saving lives. Caesarean section rate varied across different countries, worldwide. The rate was between 20% and 22.5% in the United Kingdom and Canada. In Italy and South America the rate was as high as 85%. In Saudi Arabia, the cesarean section rate increased by 80%, from 10.6% to 19.1%, in the last few years. Private practice has

contributed to the increased cesarean section rate internationally. In Jordan, a neighboring country to Egypt, the cesarean section deliveries increased significantly over time, from 18.2% to 30.3%; an increase by 70% in the private hospitals [1] While caesarian section can save lives and are usually a safe procedures, they do involve major surgery and risks to both the mother and baby. There is an increased risk of infection and needing to be

hospitalized, blood clots, and infertility. Although it is extremely rare for a woman to die during childbirth, there is a greater risk of death to the mother as a result of cesarean compared to vaginal birth. And babies born by caesarian section are more likely to have respiratory distress and to develop asthma later on [2].

The postpartum period, or Puerperium, starts about two hours after the delivery of the placenta and continues for 42 days. It is the period of time when the anatomic and physiologic changes of pregnancy are reversed and the body returns to the normal non-pregnant state (Ministry of Health and population, 20014).

Significance of Study

Cesarean Section is one of the most controversial topics in modern obstetrics [3]. Mothers who have a Cesarean childbirth are slower to heal, take longer for physical recovery and are more likely to die during and after childbirth compared to women who deliver vaginally [4].

Cesarean Section, as any surgical intervention, is associated with increased mortality and morbidity both for primiparous and multiparous and the newborn.

These highlighting the critical need for early detection, monitoring and providing good quality care of these postpartum health problems that can have devastating effect on the mother and her newborn during this period [5].

The absence of clear research in Egypt and other developing countries on Caesarian Section Complications among primiparous and multiparous this motivated the researcher to discover the types and incidence of these morbidities. From this point the researcher conduct this study.

Aims of the Study

1. To identify types of cesarean complications encountered among primiparous and multiparous during

period of the Puerperium (Immediate hospitalization, early till 10 days and late period till 40 days).

2. To estimate the incidence of cesarean section complications among primiparous and multiparous.
3. To find out the associated risk factors with maternal complications during such period.

Research Design

A prospective study design utilized for this study:

Setting:

The study was conducted at the postpartum ward of Obstetrics & Gynecology Department, Women's Health Hospital, Assiut University, Egypt, during the period from the first of January, 2015 to the end of October, 2015.

Sample Size:

The sampling population consisted of 330 puerperal women admitted to the postpartum wards after Cesarean delivery divided into (165 women primiparous and 165 women multiparous). The sample size calculated by using a sample equation.

$$Ss: \frac{Z^2 * (p) * (1-p)}{C^2}$$

Where;

Z: value (e.g. 1.96 for 95%) confidence level.

P: percentage picking a choice, expressed as decimal (0.5 used for sample size needed).

C: confidence interval, expressed as decimal (e.g.,.04 = \pm 4).

A convenient sample was recruited among those women (primiparous women were recruited in the first three day of the week while multiparous women recruited in the second three day of the week).

Inclusion criteria:

- Women delivered by cesarean section after 28 weeks of gestation
- Either primiparous or multiparous
- Whether elective or emergency cesarean section

- With any type of cesarean section
- Multiple pregnancy was included

Exclusion criteria

- Women with psychological problems.
- Women with perinatal and neonatal deaths

Data Collection Tool

Data were collected by using an interview questionnaire and followup sheet was designed by the researchers and validated to collect the necessary data. These tools were comprised of the following parts:

1-Structured Interviewing Sheet

Includes the following data:-

- Personal data
- Obstetrical data
- Outcomes of previous deliveries
- Current antenatal condition
- Current cesarean section delivery data
- Current postcesarean section complications data.

2-Follow up Sheet

For assessment of (Vital signs, breasts, wound, uterus, lochia, perineum, lower extremities and elimination).

Pilot Study

A pilot study was conducted on 10% of women of both groups (15 women primiparous and 15 women multiparous) from the Women's Health Hospital, Assiut University Hospitals, to test feasibility of tools and time required to be applied. Simple modification was done of some items of the questionnaire that they were not consistent with this study. The participants of the pilot study were not included in the study sample.

Content Validity:

To establish face validity, the questionnaire was piloted on panel of 5 experts of three Obstetrics and Gynecological Nursing staffs and two Obstetrics and Gynecological Medicine staffs. They reviewed the instruments for clarity, relevance, comprehensiveness,

understanding, applicability and easiness.

Administrative Design

Before the conduction of the pilot study as well as the actual study, an official permission and consent were obtained from the dean of the Faculty of Nursing, as well as the Director of Women's Health Hospital, Assiut University Hospitals.

Field Work

The study was conducted through three phases

Preparatory Phase:

In which the investigator reviewed related literature to be able to collect data that related to the research and informed of other studies that are similar to his research.

Intervention Phase:

- Women were interviewed and assessed during their hospital stay after giving their consent either (written or verbal). Data were recorded as well as problems encountered during such period "hospitalization ". It took about 15-20 minutes.
- Each woman assessed during the hospital stay period and before discharge by using the follow-up sheet.
- Before discharge the investigator supplied the women with follow-up cards which contains the investigator contact data and the schedule of subsequent visits.

Follow up Phase:

- Follow-up visits was in early and late Puerperium, the investigator assessed general wellbeing of the mother by using follow-up sheet.It took about 15-20 minutes.
- The investigator called the women if not returned to follow-up in the out-patient clinic and asked them about reason and if she had any problem or not.

Ethical Consideration

- Permission was obtained from the director of Women's Health Center at Assiut University Hospital.
- Protocol was approved by pertinent research and ethics committees. Informed consent was taken from every woman before their inclusion in the study.

Statistical Design

Data collected were coded and analyzed. Results were tabulated and statistically compared by computer based statistical analysis, expressed as mean+ S.D & number & percentage, using Chi square to determine significance between variables and T.test to determine significance between numerical variable.

RESULTS

Part I: Puerperal Characteristics

Table 1: Personal Characteristics of Puerperal Women (n=330).

Personal characteristics	Primiparous group N (165)		Multiparous group N(165)		P.value
	(N)	(%)	(%)	(N)	
Age (mean±SD)	23.85±4.501		27.85±5.130		*0.0001
Occupation	148	89.7	154	93.3	0.162
Housewife					
Employer	17	10.3	11	6.7	
Education level	38	23.0	59	35.7	0.027
Illiterate					
Read and write					
Primary school					
Preparatory school					
Secondary school	61	37.0	63	38.2	
University	31	18.8	15	9.1	
Residence	53	32.1	37	21.8	0.032
Urban area					
Rural area	112	67.9	128	78.2	

(*)Significant statistical difference ($p < 0.05$).

Table 1 shows that the mean age of the studied women there were (23.85±4.501 vs .27.85±5.130), with significant statistical difference among both groups (P=0.0001). The great majority of women in both groups were housewives (89.7% vs. 93.3% respectively), but with no significant statistical difference (P= 0.162). Concerning the level of education, more than one third of women

in both groups were completed their secondary school education (37.0% vs. 38.2% respectively). However, the difference observed was not statistically significant (P=0.027). Meanwhile, more than two thirds (67.9% vs. 78.2% respectively) of the studied women in both groups were living in rural areas, also with no significant statistical difference (P= 0.032).

Table 2: Current Antenatal Risk Factors (n=330).

Current antenatal condition	Primiparous group N (165)		Multiparous group N(165)		P.value
	(N)	(%)	(N)	(%)	
1. Current antenatal risk factors					
Non	44	26.7	23	13.9	*0.0001
Premature rupture of membrane	49	29.7	20	12.1	
Oligohydrominous	34	20	15	9.1	
Pregnancy induce hypertension	28	17.0	18	10.9	
Previous cesarean section	0	0.0	111	67.3	
Antepartum haemorrhage	10	6.1	8	4.8	
Threatened abortion	11	6.7	4	2.4	
Renal disorder	3	1.8	2	1.2	
Cardio vascular disorder	3	1.8	1	0.6	
Respiratory disorder	2	1.2	2	1.2	
Diabetes mellites	1	0.6	3	1.8	
+Others	10	6.1	13	7.9	

+Others (primary infertility, anaemia, chorioamnionitis, genital tract infections, coagulation disorders and varicose vein).

- Some of women had more than one risk factors.

(*)Significant statistical difference.(p<0.05).

Current antenatal risk factors of the periperal women is represented in Table 2. The table shows the current antenatal risk factors of the studied women (26.7% in primiparous women compared to 13.9% in multiparous women had no a history of antenatal risk factors respectively). Premature rupture

of membrane (29.7%) and oligohydraminous (20%) were the most common risk factors in primiparous women. Meanwhile, Previous cesarean section (67.3%) was the most common risk factor among multiparous women with significant statistical difference (p=0.0001).

Table 3: Cesarean Section Condetion (n=330).

Current C.S delivery	Primiparous group N (165)		Multiparous group N(165)		P.value
	(N)	(%)	(N)	(%)	
1.Type of cesarean section					
Emergency cesarean section	114	69.1	90	54.5	0.005
Elective cesarean section	51	30.9	75	45.5	
2. Type of anesthesia					
General	24	14.5	14	8.5	0.060
Spinal	141	85.5	151	91.5	
3.The indications of cesarean section					
Fetal distress	40	24.2	31	18.8	*0.001
Failed induction	12	7.3	10	6.1	
Cephalopelvicdisproportion	7	4.2	5	3	
Antepartum haemorrhage	10	6.1	8	4.8	
Pregnancy induce hypertension	13	7.9	7	4.2	
Obstructed labour	3	1.8	7	4.2	
Oligohydraminous	21	12.7	10	6.1	
Failure of progress	14	8.5	13	7.9	
previouscesarean section	0	0.0	93	56.4	
Malpresentation	37	22.4	4	2.4	
+Others	50	30.3	15	9.1	

+Others (primary infertility, precious baby, bad obstetric history, chorioamnionits, congenital anomalies, elderly primigravida, contracted pelvis, macrosomic baby, thyrotoxicosis, pre mature rupture of membrane, tender scar and failure of ventouse delivery).

Some of women had more than one indication of cesarean section.

(*)Significant statistical difference.(p<0.05).

Table 3 displays that more than half of puerperal women in both groups had an emergency cesarean section (69.1% vs. 54.5% respectively) with significant statistical difference ($p= 0.005$). The same table shows that spinal anesthesia received as a type of anesthesia by highest percentage of women in both groups (85.5% vs. 91.5% respectively). However, the difference observed was not statistically significant ($p= 0.060$).

As for the indications of cesarean section it is obvious that fetal distress (24.2%) followed by malpresentation (22.4%) were the most common indications of cesarean section in primiparous women. Meanwhile, previous cesarean section (56.4%) with the highest percentage followed by fetal distress (18.8%) were the most common indications of C.S in multiparous women with significant statistical difference ($p=0.001$).

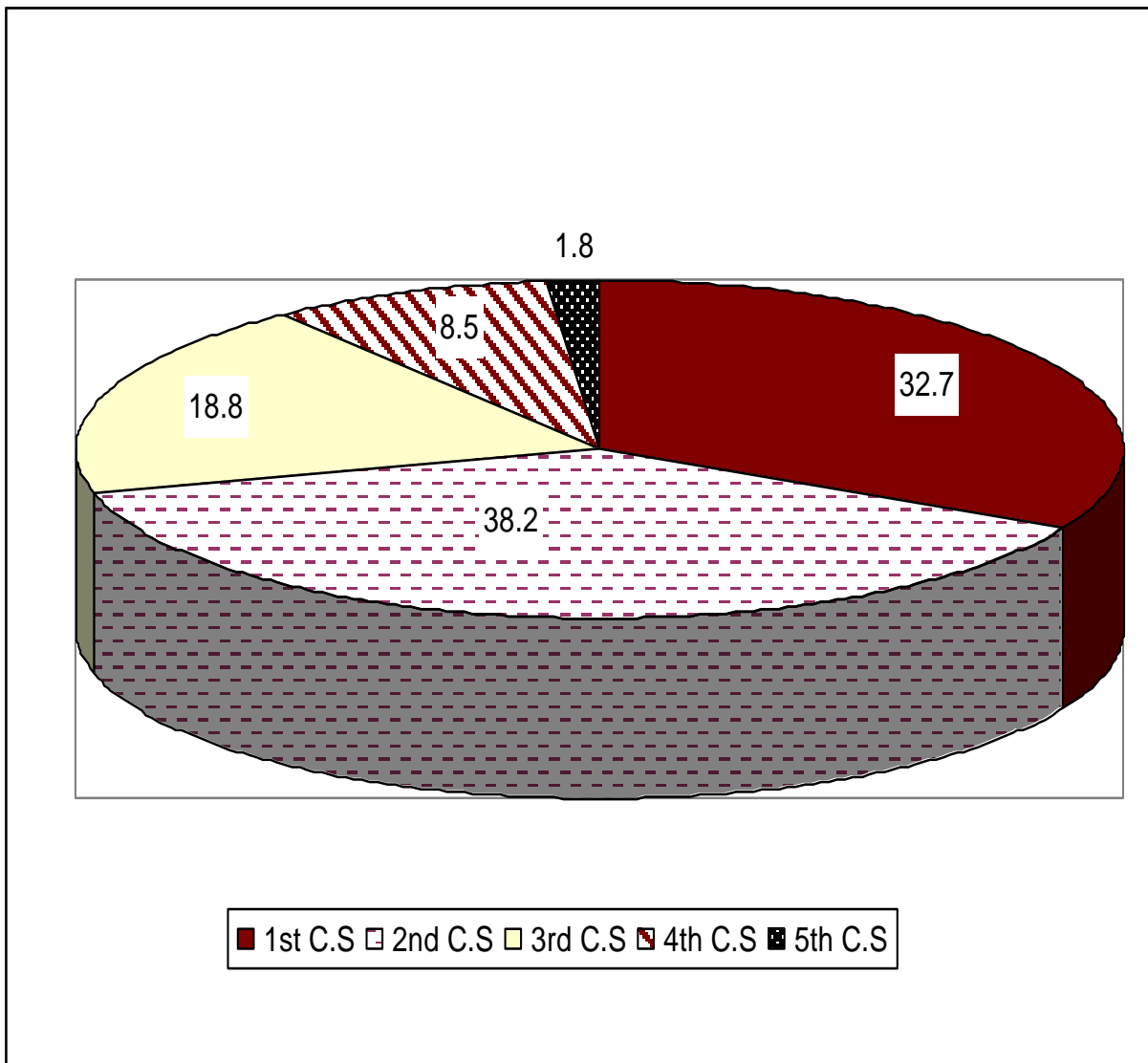


Figure 1: *Cesarean Section Order in Multiparous Group.*

Figure 1 demonstrates the cesarean section order in multiparous women. It reveals that more than one third of women underwent cesarean section for the second time (38.2%) followed by (32.7%) of them had

cesarean section for the first time. While nearly less than one fourth of women had their third cesarean section and the rest of them had fourth and fifth cesarean section (10.3%).

Part II Complications Encountered During the Postpartum Period (During Hospitalization)

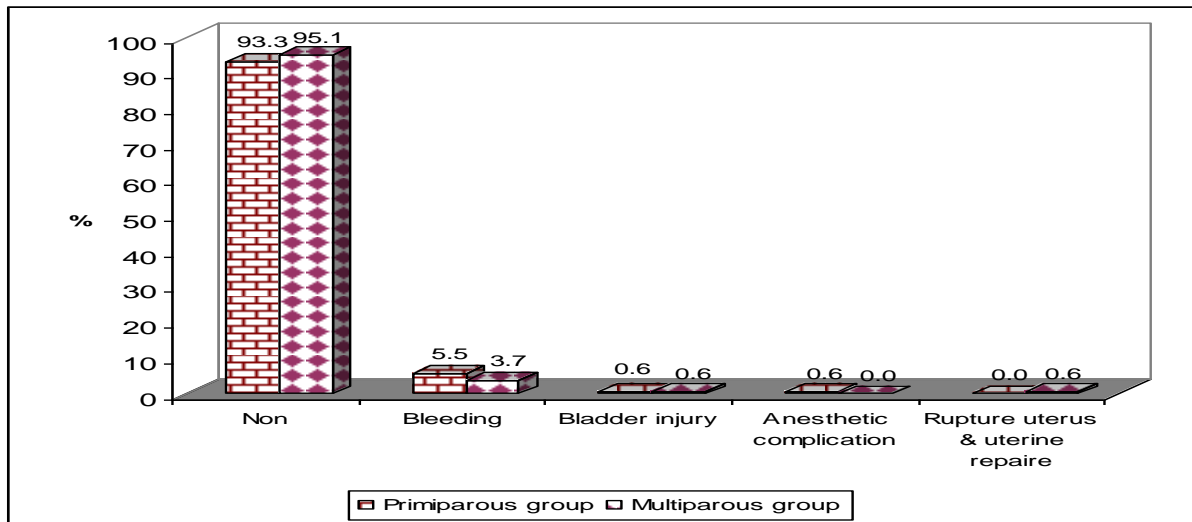


Figure 2: Intra-operative Complications Among Puerperal Women (n=330).

Figure 2 demonstrate the incidence and types of intra-operative complications among puerperal women. The great majority of puerperal women in both groups were had no intra-operative complications (93.3% vs. 95.1% respectively). In primiparous group 5.5% of women complicated with bleeding,

0.6% had bladder injury and only one woman 0.6% had anaesthetic complications. compared to (3.7%) of women complicated with bleeding, (0.6%) had bladder injury and (0.6%) had rupture uterus & uterine repair in multiparous group.

Table 4: Immediate Postoperative Complications (During Hospitalization) Among Puerperal Women (n=330).

Immediate postoperative health problems	Primiparous group N (165)		Multiparous group N(165)		P.value
	(N)	(%)	(N)	(%)	
Non	100	60.6	131	73.9	0.092
Bleeding	6	3.6	2	1.2	
Fever	30	18.1	25	15.1	
Urinary tract infection	1	0.6	0	0	
Chest infection	10	6.0	5	3.0	
Need to blood transfusion	12	7.2	7	4.2	
Amount of Blood /L	1.3±0.98		1.42±0.88		
Admission of intensive care unit					
-Yes	3	1.8	2	1.2	
-No	162	98.2	163	98.8	
Indications for admission					
-Complicated eclampsia	1	0.6	1	0.6	
-Medical disorders	1	0.6	0	0	
-Heamorrhagic shock	1	0.6	0	0	
-Anaesthetic complications	0	0	1	0.6	
Duration of stay at ICU/day (mean ±SD)	2.13±0.63		2.34±07.6		0.006
Duration of hospital stay/day(mean ±SD)	2.32±0.84		2.58±1.91		0.110
+Others	3	1.8	2	1.2	

+Others(anemia)

According to Table 4 more than one third (37.5 %) of primiparous women compared to less than one quarter (20%) of multiparous women had postoperative complications. These complications categorized as fever (18.1% vs. 15.1% respectively), chest infection (6.0% vs. 3.0% respectively) and bleeding (3.6% vs. 1.2% respectively) among both groups. Also

(7.2% vs. 4.2% respectively) of studied women need to blood transfusion, the mean of amount of blood were (1.3±0.98 vs. 1.42±0.88 respectively) with no statistically significant difference (p = 0.092). Moreover the mean of hospital stay was (2.32±0.84 vs. 2.58±1.91 respectively). However, the difference observed was not statistically significant (p= 0.011).

Part III Complications Encountered During the 1st Puerperal Visit.

Table 5: Early Postpartum Complications During 1st visit (till 10 days) Among Puerperal Women (n=330).

postpartum complications (during 1 st visit)	Primiparous group N(165)		Multiparous group N(165)		P.value
	(N)	(%)	(N)	(%)	
Non	95	57.5	118	71.5	0.246
2.Type of these problems					
Bleeding	6	3.6	4	2.4	0.349
Puerperal pyrexia(fever)	7	4.2	4	2.4	
Wound infection	23	13.9	11	6.6	
Urinary tract infection	18	10.9	20	12.1	
Respiratory tract infection	6	3.6	2	1.2	
Others	10	6.0	6	3.6	

-Others (genital tract infections, Venous thrombosis)

Table 5 demonstrates that more than half of puerperal women in both groups (57.5% vs. 71.5% respectively) had no complications with no significant statistical difference (p= 0.764). However, among those who had complications (36.3% vs. 27.2% respectively), the most common types of these complications that encountered

among primiparous women were wound infection (13.9%) followed by urinary tract infection (10.9%). Meanwhile in multiparous group, urinary tract infection (12.1%) followed by wound infection (6.6%) were the most common complication occurred also with no statistically significant difference (p=0.347).

Part IV Complications Encountered During the 2nd Puerperal Visit

Table 6: Late Postpartum Complications during 2nd Visit (till 40 days) Among Puerperal Women (n=295).

Late postpartum complications during 2 nd visit	Primiparous group N 150)		Multiparous group N(145)		P.value	
	(N)	(%)	(N)	(%)		
Non	106	70.0	114	78.6	0.334	
2.Type of these problems						
Bleeding	4	2.7	2	1.3	0.970	
Puerperal pyrexia(fever)	6	4.0	2	1.3		
Wound infection	5	3.0	3	2.0		
Urinary tract infection	6	4.0	5	3.4		
Respiratory tract infection	4	2.7	2	1.3		
Endometritis	2	1.3	0	0		
Paralytic ileus	0	0	1	0.6		
Readmission to hospitalization	6	4.0	3	2.0		
Indication of re hospitalization						

Wound infection	2	1.3	1	0.6
Bleeding	2	1.3	0	0
Puerperal pyrexia	1	0.6	0	0
Paralytic ileus	0	0	1	0.6
Sub rectal hematoma of the wound	0	0	1	0.6
Endometritis	1	0.6	0	0
Duration of hospital stay (mean ±SD)	(2.3±1.4)			
+Others	11	7.5	13	8.9

+ Others (*genital tract infections and anal fissure*)

As for late postpartum complications occurred during 2nd visit among studied women Table 6 describes that more than two thirds of puerperal women (70.0% vs. 78.6% respectively) had no complications however, the difference observed was not statistically significant (p= 0.334). Moreover among those who had complications in primiparous group these problems categorized as Puerperal pyrexia(4.0%), Urinary tract infection(4.0%), wound infection(3.0%), respiratory tract infection (2.7%) and

bleeding (2.7%). Meanwhile in multiparous group the problems categorized as Urinary tract infection (3.4%) Wound infection (2.0%), Puerperal pyrexia (1.3%), Respiratory tract infection (1.3%) and bleeding (1.3%) and only one had paralytic illus. Only (4.0% vs. 2.0% respectively) of puerperal women in both groups readmitted to the hospital and the mean duration of the hospital stay was (2.3±1.4) also with no statistical significant difference (p=0.970).

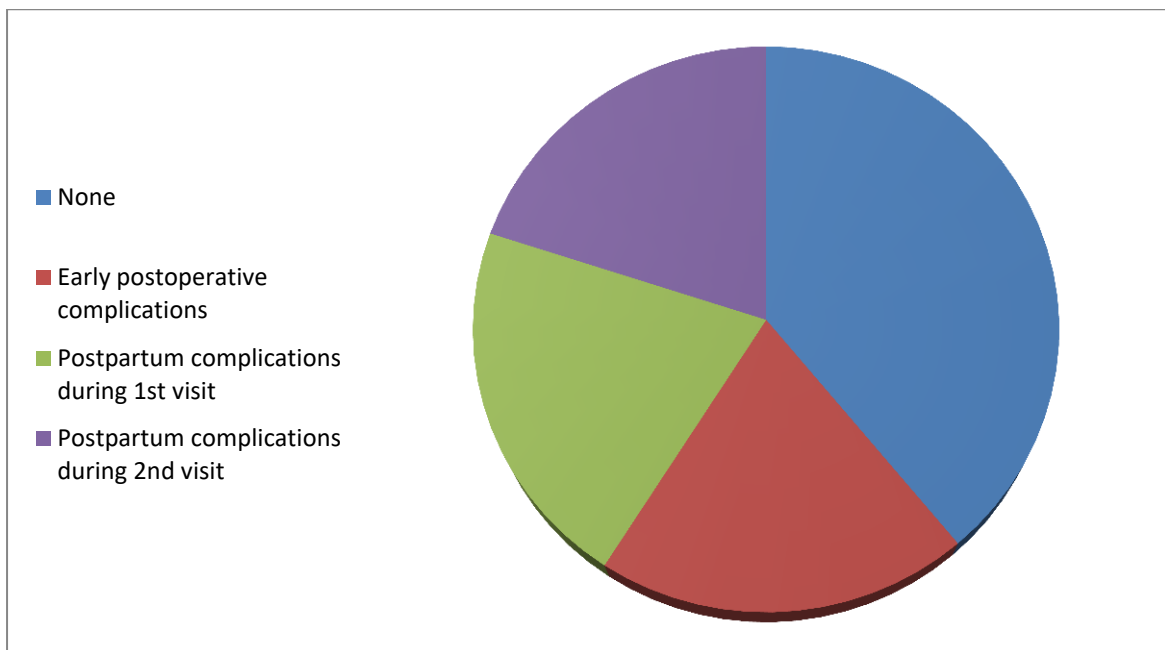


Figure 3: Incidence of Complications Encountered Among Puerperal Women Undergoing Cesarean Section.

Figure 3 incidence of complications encountered among puerperal women undergoing C.S.

The overall incidence of complications encountered among puerperal women undergoing C.S. is illustrated in Figure 3.

The total complications occurred among slightly less than one quarter of women with nearly equal percentage of all complications that occurred during hospitalization 20%, during 1st visit 21% and complications that occurs during 2nd visit 20%, respectively.

Table 7: Relations between Type of Cesarean Section and Postoperative Complications among Puerperal Women (n=330).

postoperative complications	Primiparous group N (165)				Multiparous group N(165)				P.value
	Type of CS								
	Elective				Emergency				
	N	%	N	%	N	%	N	%	
Non	41	67.2	61	68.5	58	79.5	72	80.0	0.736
Bleeding	3	4.9	3	3.4	1	1.4	1	1.1	
Fever	12	19.7	18	20.2	11	15.1	14	15.6	
Urinary tract infection	1	1.6	1	1.1	1	1.4	0	0.0	
Chest infection	4	6.6	6	6.7	2	2.7	3	3.3	

As regards to relation between type of Cesarean Section and postoperative complications Table 7. Displays that there is no associations of statistical significance were detected between the type of Cesarean Section and postoperative complications (p=0.736).

DISCUSSION

Caesarean delivery is one of the most commonly performed operations today. The incidence has doubled or tripled all over the world in the last 15 years [6]. However modern technology, services and experience of medical staff have made this operation safe, but still Women whose delivered by cesarean section had significantly worse physical health problems than women whose gave birth vaginally. The purpose of this study is to estimate the pattern of cesarean section complications among primiparous versus multiparous. The present study revealed a significant statistical difference (p-value 0.0001) among both groups as regarding their mean age 23.85+4.501 vs. 27.85+5.130. These results were consistent with Abd El-hamid (2012) who reported that the mean age of studied population was 26.1+ 4.9 years when studied the postoperative complications following cesarean delivery [7]. Also Mahmoud (2010) studied a cesarean section morbidities at Assiut university hospital, they found that mean age of study population was 27.37+ 5.97 years. Highest percentage of women in both groups were house wives 89.7% vs. 93.3% and living in

rural areas 67.9% vs. 78.2 % but with no significant statistical difference. In the same line, these findings were also incongruence with Mahmoud (2010), who had clarified that the highest percentage of women 93.6% were house wives and 82.9% were living in rural area [8]. In addition, Abd El-hamid (2012), displayed that more than two-thirds of the women were house wives 70.3% and living in rural area [9].

As regards to educational level, more than one-third of women in both groups were had secondary school 37.0% vs. 38.2%. Similarly, Abd El-hamid (2012) found that the highest percentage of women had secondary school and a small percentage of them were illiterate [10]. These results were in agreement with findings of Mahmoud (2010), who reported that about two thirds 61.9% of women were illiterate, whoever less than one-fourth of them 22.2% had secondary school [11]. Regarding medical history during pregnancy, the study revealed that 26.7% of primiparous versus 13.9% of multiparous had no history of diseases associated with pregnancy. 29.7% of primiparous had a history of premature rupture of membrane followed by olighydrominous 20%. More than half of multiparous had history of previous cesarean section. Whenever Mahmoud (2010), reported that the highest percentage (23.1%) of cases was free from diseases associated with pregnancy, 20.8% had previous cesarean section, 14.1% had

more than one risk factors, more than one tenth had Pregnancy induce hypertension and pre mature rupture of membranes 10.4%, 10.3% [12].

Emergency cesarean section was the most frequent type in both study group (69.1% vs. 54.5% respectively) with the significant statistical difference (p-value 0.005), higher percentage observed in primigravida. In congruence with these findings, Abd El-hamid (2012) and Mahmoud (2010), have shown that the majority of cesarean section were emergency. Inconsistent with our study Rashid and Rashid (2014), who have shown in their study of (higher-order repeated cesarean section) that the majority of women had the elective cesarean section [13]. As for the type of anesthesia, spinal anesthesia received by the highest percentage of women 85.5% vs. 91.5%. because many resent studies revealed that spinal anesthesia more safe than the general one, but the present study could not reveal any significant statistical difference among both groups. Similarly Mahmoud (2010), reported that the majority of women 90.3% received spinal anesthesia. Also Pitt (2011), who studied (post cesarean section complications) reported that one third of the cases (30%) were received spinal anesthesia. While on the other hand Abd Abd El-hamid (2012), Rashid and Rashid (2014), demonstrated that the majority of the cases were received general anesthesia. There was significant statistical difference among both groups regarding the indications of cesarean section [14]. Fetal distress was the most common indication in primiparous 24.2%, followed by Malpresentation presentation 17.6% and oligohydra minous 12.7%. On other hand previous cesarean section scars was at the top of the list in multiparous women 56.4%, followed by fetal distress 18.8%. These findings were consistent with that reached done by Mahmoud (2010), who displayed that the most common

indications of cesarean section were previous cesarean section scars, fetal distress and breech presentation 20.1%, 19.9%, 10.2% respectively. Sankhala R(2010) also stated fetal distress was the most common indication of cesarean section in primi gravida (32.21%) followed by cephalopelvicdis proportion (13.4%) and breech presentation (12.73%). Meanwhile; these findings were in partial agreement with Abd El-hamid (2012), who has mentioned that previous cesarean section was at the top of the list with highest percentage of indications reaching one fifth of the sample, followed by failure of induction of labour 20.7%, and fetal distress 18.0%. Amarin et al., (2011), studied variation in repeated cesarean section rates among three hospitals in Jordan and found that shoulder dystocia and failure of progress were the most common indications of cesarean section among the cases.

As for cesarean section order more than one third of women underwent it for the second time, 38.2% followed by 32.7% had cesarean section for the first time. While nearly less than one fourth 18.8% had their third cesarean section and the rest of them had fourth and fifth cesarean section 10.3%. These findings were not totally incongruence with Mahmoud (2010), who showed that more than two thirds of women 67.3% had cesarean section for the first time, while 20.8% had the second cesarean section, 11.9% had their three or more cesarean section [14].

A great majority of puerperal women in both groups were had no intra-operative complications (93.3% vs. 95.1% respectively) and this is may be because these operations are done in the university hospital with high qualified obstetricians, this result may be differ if operations are done in rural hospitals [15].

The present study could not revealed any statistical significant difference among

both groups as regarding to intraoperative and immediate post-operative complications, the lack of statistical significant difference related to majority of women have no complications. Nearly 5.5% versus 3.7% had intraoperative hemorrhage and only one primiparous (0.6%) complicated of bladder injury [16]. Whoever postpartum hemorrhages 3.6% versus 1.2% and fever were the most common immediate postoperative complications. These findings were not totally incongruence with makhloogh (2009), who reported that postpartum hemorrhage 6.2% vs. 7.3%, post-partum eclampsia 31.9% versus 32.4% and puerperal pyrexia 3.5% versus 12.5% were the most common postpartum complications of mothers in study and control groups.

These results were in partial agreement with Rashid and Rashid (2014) research, who have demonstrated that 2% women had hysterectomy due to cesarean section 1% had bladder injury and only one woman 0.3% had bowel injury. Study by Mahmoud (2010), regarding cesarean section complications reported that more than two thirds of women 67% had bleeding, 8% had bladder injury and only 8% had rupture of uterus and uterine repair. Furthermore; Abd El-hamid (2012), concluded that atonic postpartum hemorrhage followed by traumatic postpartum hemorrhage and fever where he most common early postoperative complications [17].

With concern to postpartum complication during first visit the study revealed that more than half of puerperal women in both groups (57.5% vs. 71.5% respectively) had no complications, with no significant statistical difference ($p= 0.764$). Wound infection and urinary tract infection were the most common complications among both group, this result may be due to many causes as bad personal hygiene, lack of performance of perinatal care, low

educational level, poor nursing practice during catheterization and poor pre-operative patient preparation.

Makhloogh (2009) found that about one-tenth in the study group had minor discomforts during postpartum period as compared to more than one third in control group, constipation accounted about 33.1% vs. 17.9% in the study group, 6.8% versus 1.2% of mothers had headache and 1.2% versus 6.8% had backache with significant statistical difference among both groups. He also reported that majority of the study group and control group had no urinary problems.

Furthermore; Jayne (2010), in their study of (prevalence and persistence of health problems after childbirth) in Australia they found that, Health problems showing determination during postpartum were exhaustion/extreme tiredness 60% vs. 49%, backache 53% vs. 45%, bowel problems 37–17%, lack of sleep/baby crying 30% versus 15%, hemorrhoids 30% vs. 13%, perineal pain 22% vs. 4%, excessive/prolonged bleeding 20% vs. 2%, urinary incontinence 19% versus 11%, mastitis 15% vs. 3%, and other urinary problems 5% versus 3%. Another study done by Abdulsalam (2008), revealed high prevalence of wide range of maternal morbidities that ranks between mild and severe. These morbidities were 39.3% constipation, low back pain 46.9% fatigue 36.5%.

(70.0% vs. 78.6% respectively) of the study group had no postpartum complications during 2nd visit however, with no statistically significant difference ($p= 0.334$). Among those who had complications, puerperal pyrexia, wound infection and urinary tract infection was most common in the study population with no statistically significant difference ($p=0.970$). While Sankhala, R (2010) stated that incidence of wound infection was significantly higher in multigravida i.e

6.18% as compared to 2.53% in primigravida. He found that higher incidence of medical and obstetric complications observed in cases for cesarean section with increasing age and parity.

The present study revealed that the incidence of complications during Puerperium is almost same during different visits (hospitalization 20%, 1st visit 20% and 2nd visit 20% respectively). This findings state that Puerperium is relatively the ignored part of pregnancy where the rates of complications are fairly high with variable presentation involving multiple system. These complications differ a lot from those of pregnant status.

The study demonstrate that there was no statistical significant differences between type of Cesarean Section and postoperative complications ($p=0.736$). While (Bergholt and colleagues 2013) conducted a retrospective chart review of 929 cesarean births, noting the occurrence complication was 12.1%, significantly higher in the emergency Cesarean section group (14.5%) compared with the elective emergency Cesarean section group (6.8%).

CONCLUSION

There were no significance statistically difference regarding Caesarian Section Complications encountered among puerperal women either during intraoperative or post-operative among Primiparous Versus Multiparous. And the overall incidence of complications encountered among puerperal women undergoing Caesarian Section were categorized as slightly less than one quarter of women with nearly equal percentage of all complications that occurred during hospitalization 20%, during 1st visit 21% and complications that occurs during 2nd visit 20%, respectively.

RECOMMENDATIONS

Based on the results of this study several recommendations can be proposed:-

- Implementing a training program for all nurses and health care providers to Increase the knowledge and skills regarding postpartum period and nursing management for patient with cesarean section.
- A list of counseling hotlines or health-care centers should also be included. Nurses and childbirth educators are in an ideal situation to discuss postpartum issues.
- To promote maternal health further researches must be conducted and focused on issues related to postpartum maternal health problems either for women who is delivered normally or by Cesarean section.

Limitations of the Study

- A lot of women refused to participate in the study
- Many women excluded from the study prematurely because didn't return for follow up.

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Competing Interests

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