



# PRIMIGRAVIDAS; FREQUENCY OF DIFFERENT MODE OF DELIVERIES AND ASSOCIATED MATERNAL COMPLICATIONS

Dr. Sarwat Memon<sup>1</sup>, Dr. Sumaira Rauf<sup>2</sup>

1. MBBS, FCPS  
Assistant Professor,  
Department of Gynecology and  
Obstetrics,  
Isra University Hospital Hyderabad.
2. MBBS, FCPS Registrar,  
Gynecology and Obstetrics,  
Liaquat University Hospital,  
Hyderabad.

**Correspondence Address:**

Dr. Sarwat Memon  
Assistant Professor,  
Department of Gynecology and  
Obstetrics, Isra University  
Hospital Hyderabad.  
dr.sarwat\_memon@hotmail.com

**Article received on:**

09/09/2016

**Accepted for publication:**

15/12/2016

**Received after proof reading:**

14/02/2017

**ABSTRACT... Objectives:** To determine frequency of different mode of deliveries and associated maternal complications in primigravidas in tertiary care setup. **Study Design:** Case series study. **Setting:** Department of Obstetrics and Gynaecology (Liaquat University Hospital) Hyderabad, Sindh, Pakistan. **Period:** 6 months from Jan 2009 till June 2009. **Methodology:** All the primigravidas underwent delivery by any means i-e emergency\elective caesarean section or spontaneous vaginal delivery\instrumental vaginal delivery and developed postpartum complications up till 7 days after delivery were included. Data was analyzed on pre- designed profoma and was analyzed through software program SPSS version 10. **Results:** In this study most frequent mode of delivery were found to be spontaneous vaginal delivery 46(36.8%) and emergency caesarean section 29(23.2%) while forceps 8.8%, vacuum 20% and elective caesarean section 1.2%. Complications associated with mode of deliveries included postpartum hemorrhage were reported to be 51.2%, abdominal wound infection 11.2%, perineal wound infection 17.6%, retained products of conception 28% and puerperal sepsis 16.8%. **Conclusion:** Deliveries in our setup are mostly conducted by dais (birth attendants) without any aseptic measures and without assessing the abnormalities that will leads to emergency caesarean section or instrumental vaginal deliveries and in the consequence of these entire patients develop postpartum complications.

**Key words:** Spontaneous vaginal delivery, Primigravidas, Perineal wound infection

**Article Citation:** Memon S, Rauf S. Primigravidas; frequency of different mode of deliveries and associated maternal complications. Professional Med J 2017;24(2):258-262. DOI: 10.17957/TPMJ/17.3630

## INTRODUCTION

The optimal mode of delivery is spontaneous vaginal delivery with both caesarean section and instrumental vaginal delivery.<sup>1</sup> Spontaneous vaginal delivery is considered as preferred outcome of pregnancy because of perceived health, economic and social benefits derived from vaginal deliveries.<sup>2</sup> Maternal satisfaction with vaginal delivery is high in those who experienced both mode of deliveries and prefer vaginal birth for future pregnancies<sup>3</sup> but on the same time caesarean section has definitive valuable place in obstetrics due to life saving value for both mother and fetus.<sup>4</sup> The incidence of caesarean section in tertiary care hospital of Pakistan is about 30-35%.<sup>5</sup> In nulliparous patients caesarean section accounts for 61-92% cases while 52-71% are normal vaginal deliveries.<sup>6</sup>

Caesarean section and force deliveries are

common in primi patients than multiples.<sup>11</sup> Most common indications for first caesarean section were dystocia 42.8% cases, abnormal presentation 32.1% and fetal distress 18.5. % cases.<sup>12</sup> It is also seen that higher percentage of younger women < 20 years in first caesarean section group showed to be a risk factor associated with it.<sup>13</sup> Regarding parity 35% first caesarean section were primigravidas, so constitutes important risk factor for first caesarean section.<sup>14</sup>

Complications rate with elective and emergency caesarean section is 15-35% and 4-6% and with spontaneous vaginal delivery and instrumental vaginal delivery 40-45% and 50%. Maternal morbidity outcome variables includes early and late postpartum hemorrhage, wound infection (abdominal and episiotomy) and puerperal febrile morbidity.<sup>16</sup> In our setup majority times it occurs because deliveries conducted at home by

traditional birth attendants and referred to tertiary care hospital with prolong labor/ obstructed labor in moribund conditions.<sup>1</sup> Many re admissions after caesarean section is due to puerperal sepsis 13.2%.

In vaginal deliveries postpartum hemorrhage is most common reason for readmission.<sup>19</sup> 3- 23.6% cases.<sup>7-8</sup> It is estimated that 500 maternal deaths occur per 100,000 live births each year in Pakistan due to above factors.<sup>20</sup>

Hence, the purpose of the study was to find out most frequent mode of delivery and associated complications, so optimal measures must be taken to reduce mortality with particular mode of delivery in primigravida.

## MATERIAL AND METHODS

The study was conducted at department of obstetrics and gynecology (Liaquat University hospital) Hyderabad Sindh for 6 months from Jan to June 2009. Singleton full term primigravidas after excluding co morbidities were included. All the selected patients were assessed for mode of delivery and caesarean section or vaginal delivery (spontaneous/instrumental) done by senior resident doctor on duty. All the patients were examined completely on day of discharge to exclude any complication and called for follow up on 7<sup>th</sup> post partum/postoperative day.

Data was collected on pre-designed proforma with variables like age, booking status, mode of delivery and post-operative/postpartum complications. Results were analyzed by SPSS version 10.

## RESULTS

During the study period of 6 months 125 patients were delivered. 87(69.9%) were un booked and 38(30.4%) were booked (Table-I). Among them 46(36.85%) gone through spontaneous vaginal delivery, forceps delivery was performed in 11(8.8%), vacuum in 25(20%), emergency caesarean section 29(23.3%) and elective caesarean section in 14(11.2%) patients (Table-II).

	Frequency	Percentage
Booked	38	30.4%
Unbooked	87	69.6%

Table-I. Booking status

Mode of delivery	Frequency	Percentage
Spontaneous Delivery	46	36.8%
Forceps Delivery	11	8.8%
Vacuum Delivery	25	20.0%
Emergency C-Section	29	23.2%
Elective C- Section	14	11.2%
Total	125	100%

Table-II. Frequency of mode of deliveries

As far as age was concerned most primigravidas were between 21-30 years of age and most common mode of delivery was spontaneous vaginal delivery 31 patients(32.2%) followed by emergency caesarean section 24 patients (25%), vacuum 21(21.8%) cases. Elective caesarean section 11(14.4%) and forceps delivery least common mode of delivery 9.3% in this study (Table-III).

Most commonly seen complication was postpartum hemorrhage in 64(57.2%) patients, wound infection (abdominal) in 14(11.2%) whereas perineal in 22 (17.6%) cases, retained product of conception was found in 35(28%) and puerperal sepsis in 21(16.8%) cases (Table-IV).

In relation of age to the complications, the most frequent age group that developed complications was 21-30 years. Out of 119 patients in the above mentioned group, 51 patients developed postpartum hemorrhage, 14 with abdominal wound infection and 16 with perineal wound infection, retained products of conception in 26 and puerperal sepsis in 12 patients (Table-V).

Frequency of complication with specific mode of delivery showed that postpartum hemorrhage developed in 22 patients with spontaneous vaginal delivery, in 6 patients with forceps, 12 patients with vacuum, 17 and 7 patients reported with elective and emergency caesarean section.

Abdominal wound infection was found in 10 patients with emergency and in 4 patients with

Mode of deliveries	AGE		
	17-20 yrs	21-30 yrs	> 30 yrs
Spontaneous Delivery	08(50%)	31(32.2%)	07(53.8%)
Forceps Delivery	01(6.25%)	09(9.3%)	01(7.69%)
Vaccum Delivery	03(18.7%)	21(21.8%)	01(7.69%)
Emergency C- Section	02(12.5%)	24(25%)	03(23%)
Elective C- Section	02(12.5%)	11(14.4%)	01(7.69%)
Total	16	96	13

Table-III. Mode of deliveries with relation to age

Complications	Frequency	Percentage
Post-partum Hemmorrhage	64	51.2%
Wound Infection		
α. Abdominal	14	11.2%
β. Perineal	22	17.6%
Retained Products of Conception	35	28%
Puerperal Sepsis	21	16.8%
Total	125	100%

Table-IV. Frequency of complication

Complications	AGE		
	17-20 yrs	21-30 yrs	> 30yrs
Post-Partum Hemmorrhage	7(3.3%)	51 (42.8%)	06 (37.5%)
Wound Infection			
a. Abdominal	0	14 (11.7%)	0
b. Perineal	05 (23.8%)	16 (13.4%)	01 (6.25%)
Retained Products of Conception	05 (23.8%)	26(21.8%)	04 (25%)
Puerperal Sepsis	04 (19%)	12 (10%)	05 (31.2%)
Total	21	119	16

Table-V. Complications with relation to age

elective caesarean section where as perineal wound infection was found in 7 patients with spontaneous vaginal delivery, 5 patients with forceps and in 10 patients with vacuum deliveries. Retained products of conception was found in 24 cases of spontaneous vaginal delivery, 4 cases each with forceps and vacuum while in 5 patients

with emergency and 2 with elective caesarean section. Puerperal sepsis was seen in 12 cases of spontaneous vaginal delivery, 3 in forceps, 4 in emergency and 2 in elective caesarean section with no cases report with vacuum delivery (Table-VI).

Complications	Spontaneous Vaginal	Forceps	vaccum	Emergency C-Section	Elective C-Section	Total
Post-Partum Hemmorrhage	22	06	12	17	07	64
Wound Infection						
a. Abdominal	0	0	0	10	04	14
b. Perineal	07	05	10	0	0	22
Retained Products of Conception	24	04	04	05	02	35
Puerperal Sepsis	12	03	0	04	02	21
Total	46	11	25	29	14	125

Table-VI. Mode of Deliveries

## DISCUSSION

In this study 125 primigravidas were included who developed complications in postpartum period. The best mode of delivery is always spontaneous vaginal delivery but due to specific indications sometimes interventions as operative deliveries (vacuum and forceps) and abdominal deliveries (elective and emergency caesarean section) needed and leads to maternal morbidity and mortality.

The percentage of different mode of deliveries in our study included, spontaneous vaginal delivery was 36.8%, forceps 8.8%, vacuum 20%, elective caesarean section 23.2% and emergency caesarean section 11.2%. These percentages are lower than study done by Benedetti et al<sup>12</sup> on nulliparous patients which showed spontaneous vaginal delivery 8.1%, forceps 82.6%, vacuum 84.4%, emergency caesarean section 80.5% and elective caesarean section 44.4%.

One local study on operative delivery also showed higher percentage of forceps 82.6% and vacuum 61% then our study, whereas the study by Allen VM et al<sup>11</sup> showed lower percentage of caesarean section then our study i-e 2.9-7.9% emergency and elective caesarean section rate 8.5-11.3%.

Post-partum complications contribute to lots of maternal morbidities and lead to short and long term sequel and even mortality. One of most common postpartum complication is postpartum hemorrhage that is in our study was 51.2%. 22(34.3%) developed from spontaneous vaginal delivery, 6 (9.3%) from forceps, 12(18.7%) by vacuum, 17(26.5%) and 7(50.0%) from emergency and elective caesarean section which is much higher than a study by Benedetti et al<sup>12</sup> which showed 5(1.2%) cases of spontaneous vaginal delivery, 2(1.8%) forceps, 1(1.1%) vacuum, 5(9.2%) in caesarean section in labor and 2(0.5%) caesarean section without labor group. Some other local studies showed higher number of postpartum hemorrhage then our study in emergency caesarean section group i-e 25 cases and no case seen in elective caesarean section<sup>13</sup> Post-partum hemorrhage with instrumental

vaginal delivery was seen in 10 (7.3. %) cases.<sup>14</sup>

Wound infections commonly found in anemic patients, patients with poor hygiene, prior infection, poor sterilization, improper technique and homeostasis. Abdominal wound infection was seen in 10 (71.4%) cases in emergency and 4 (28.5%) in elective caesarean section group.

## CONCLUSION

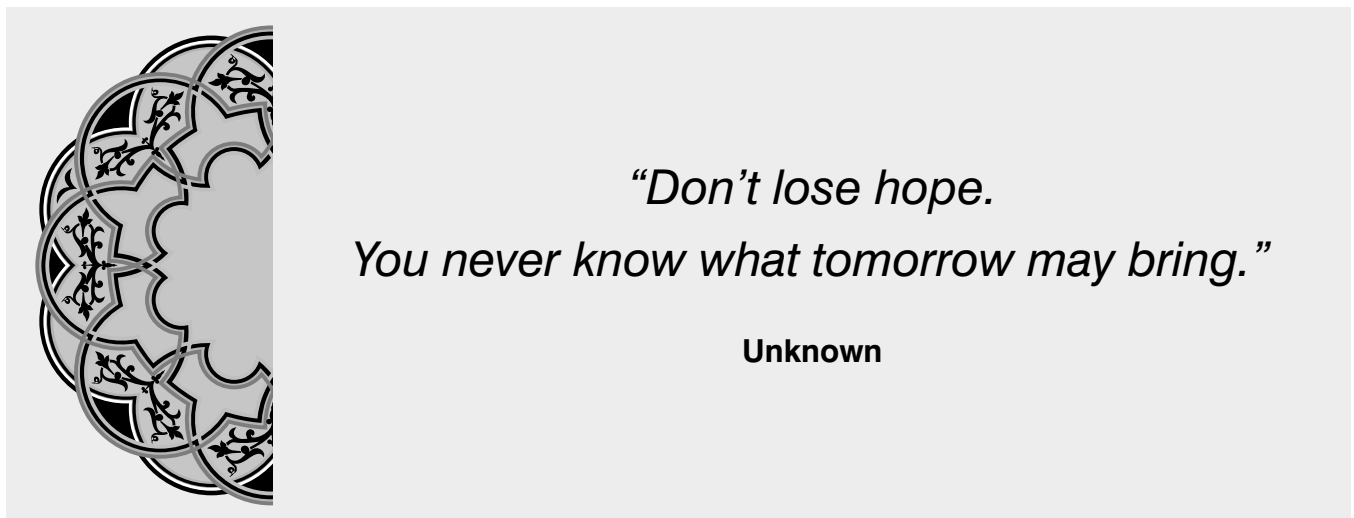
Deliveries in our setup are mostly conducted by dais (birth attendants) without any aseptic measures and without assessing the abnormalities that will leads to emergency caesarean section or instrumental vaginal deliveries and in the consequence of these entire patients developed postpartum complications.

Copyright© 15 Dec, 2016.

## REFERENCES

1. Baloch S, Khaskheli M, Khushk IA, Sheeba A. **Frequency of 2<sup>nd</sup> stage intervention and its outcome in relation with instrumental vaginal delivery versus caesarean section.** J Ayub Med Coll Abotabad. 2008; 20(1):87-90.
2. National institute of Health Caesarean child birth. **Consensus development conference statement.** September 22-24, 1980. [http://consensus.nih.gov/1980/1980\\_caesarean\\_027\\_html.htm](http://consensus.nih.gov/1980/1980_caesarean_027_html.htm).accessed. February 13, 2008.
3. Dunn EA, O Herlihy C. **Comparison of maternal satisfaction following vaginal delivery after caesarean section and vaginal delivery.** Eur J Obstet Gynaecol Reprod Biol. 2005, jul121; (1):56-60.
4. Ali M, Ahmed M, Hafeez R. **Maternal and fetal outcome; comparison between emergency caesarean section versus elective caesarean section.** Professional Med J. 2005; 12(1):32-9.
5. Khaliq A, Mehmmmod H, Zakia AL. **Post operative maternal consequences of caesarean section.** Ann King Edward Med Coll. 2005; 11:39-41.
6. Wax JR. **Maternal request caesarean versus planned spontaneous vaginal delivery: Maternal morbidity and short term outcome.** J Semiperi. 2006; 7(03):247-52.
7. Chaabra P, Sharma AK, Tupil KA. **Obstetric and neonatal outcome in women who live in urban resettlement area of Delhi, India: A cohort study.** J Obstet Gynaecol Res. 2006; 32(6):567-73.

8. Qazi GR, Akhter S. **Obstetrical correlates of the first time caesarean section compared with the repeated caesarean section.** JCPSP. 2007; 17(10):611-4.
9. Zanetta G, Tampieri A, Currado I, Regalia A, Nespoli A, Midwife T et al. **Changes in caesarean delivery in an Italian university hospital,1982-1996: a comparison with the national trend.** Birth; 1999;26:144-8.
10. Mesleh RA, Asiri F, Al-Naim MF. **Caesarean section in primigravid.** Saudi Med J. 2000; 21:957-9.
11. Allen VM, Connell CM, Liston RM, Baskett TF. **Maternal morbidity associated with caesarean section without labor compared with spontaneous onset of labor at term.** Obstet Gynaecol. 2003; 102:477-82.
15. Benedetto C Marozio L, Praudi G, Rocchia A et al. **Short term maternal and neonatal outcomes by mode of delivery.** A case control study. Ejogrb. 2007; 135:35-40.
16. Ashraf R, Gul A, Bashir A, Tajamul A. **Comparison of maternal complications in elective versus emergency caesarean section.** Annals. 2006, Apr/Jun; 12(2):288-90.
17. Akhter Y, Chohan MA. **Primary postpartum hemorrhage after vaginal birth: an analysis of risk factors.** Annals. 2006; 12(02):210-11.



**AUTHORSHIP AND CONTRIBUTION DECLARATION**

Sr. #	Author-s Full Name	Contribution to the paper	Author=s Signature
1	Dr. Sarwat Memon	Conceived the idea, Data collection, Entey analysis wrote the article	
2	Dr. Sumaira Rauf	Technical input at every step, editing overall management	