

Study of Mode of Delivery in Women with Previous One Lower Segment Cesarean Section**Soumya R Patil¹, Asharani Kanaki², Anuja Sagamkunti³, Anita Goura⁴**^{1,2,3,4}Assistant Professor, Dept. of OBG, Mahadevappa Rampure Medical College, Klb

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Conflict of interest: Nil

Abstract:

A recent analysis of the caesarean birth epidemic concluded that the practice of elective repeat caesarean section for patients with a previous caesarean delivery has been the major contributor to the escalation of the total caesarean section rate. The dictum “once a caesarean, always a caesarean”, originally enunciated by Cragin in the New York Medical Journal in 1916 is no longer valid today. The statement was issued when the classical operation was generally the rule and the utilization of antibiotics and blood transfusions unknown. The Consensus Development Conference on Caesarean Child Birth in 1980 was convened at the National Institutes of Health and concluded that vaginal birth after a previous low transverse caesarean delivery was a safe and acceptable option.

Keywords: Caesarean, Women, Birth.

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Introduction

One of the outstanding features of modern obstetrics is an increasing number of caesarean sections as a method of delivery. The safety conferred on abdominal surgery in the present era has extended the use of caesarean section in obstetrics to a considerable degree. A recent analysis of the caesarean birth epidemic concluded that the practice of elective repeat caesarean section for patients with a previous caesarean delivery has been the major contributor to the escalation of the total caesarean section rate [1]. The dictum “once a caesarean, always a caesarean”, originally enunciated by Cragin in the New York Medical Journal in 1916 is no longer valid today [1]. The statement was issued when the classical operation was generally the rule and the utilization of antibiotics and blood transfusions unknown. The Consensus Development Conference on Caesarean Childbirth in 1980 was convened at the National Institutes of Health and concluded that vaginal birth after a previous low transverse caesarean delivery was a safe and acceptable option [2]. It is hoped that entrance to the 21st century will bring a balanced, educated perspective on the management of labour following previous caesarean section, based on the results of well conducted clinical trials and observations, and conducted in a manner to provide the optimal outcome for mother and infant. In today’s situation when the access to obstetric care is growing day by day, there has been a concern over the rising caesarean rates over the world [3]. The caesarean section epidemic is a reason for immediate concern

and deserves serious international attention [4]. Women who become pregnant after delivering their first baby by caesarean section often have a decision about how to deliver their second baby. Typically, they will be offered the choice of having an elective repeat caesarean section (ERCS) or attempting a vaginal birth after caesarean section (VBAC). The introduction of lower segment caesarean section gave a good and strong scar to the uterus, to hold and safely deliver a subsequent pregnancy. It is now safe to say that “Once a caesarean section, always a hospital delivery” [5]. The majority of women with an uncomplicated first caesarean section, in an otherwise uncomplicated pregnancy, are candidates for attempting VBAC [6]. In recent years, there has been a reported decline in the use of VBAC in several countries [7]. This downward trend, accompanied by rising rates of primary caesarean section, has been a significant driver of the overall caesarean section rate, which continues to cause widespread public and professional concern [8]. It has been suggested that this decline has been a response to new evidence on the risks associated with VBAC and providers’ fear of liability [9]. Deciding when to attempt VBAC is a major decision and should be based on careful selection of patients after thorough counseling, estimation of patient’s risk of uterine rupture and strict adherence to the most recent guidelines for managing labour, in units where there are facilities for immediate access to surgery, if complications arise [10]. This study is carried out to assess the ma-

ternal and fetal outcome in post- caesarean pregnancy as well as the various indications of a repeat caesarean section,so that, a definite and safe protocol can be designed for selection of patient who is fit to undergo trial of labour after a previous caesarean section.

Materials and Methods

This clinical study of study of mode of delivery in previous 1 LSCS was conducted at Basaveshwar Teaching & General Hospital and Sangameshwar Hospital, Kalaburagi attached to Mahadevappa Rampure Medical College, Kalaburagi from November 2020 to December 2021.

Study area:

- Labor room and operation theatre

Sample size:

- 100 cases with term pregnancy with history of one previous caesarean section admitted in Basaveshwar Teaching and General Hospital and Sangameshwar Hospital, Kalaburagi attached to Mahadevappa Rampure Medical College, Kalaburagi.

Inclusion Criteria:

- Single live intra uterine gestation with term pregnancy (37-42 weeks) with previous one lower segment caesarean irrespective parity of patient.

Exclusion Criteria:

- Obstetric cases with history of more than one caesarean sections.
- Previous caesarean section scar other than lower segment transverse incision i.e.classical incision, T shaped incision or lower segment vertical incision.
- History of uterine rupture, hysterotomy or previous uterine surgery(e.g.myomectomy).
- If the previous section is done for contracted pelvis.

Observation and Results

The following observations were made during the study. Total no of cases were 100. The various epidemiological data obtained from above clinical study are asfollows.

Table 1: Distribution of cases according to Maternal Age

Maternal age (in Years)	No. of cases	Percentage
≤20	2	2.0
21-25	60	60.0
26-30	31	31.0
>30	7	7.0
Total	100	100.0

In the present study majority of patients 60 (60.0%) belong to age group of 21-25 years. The mean and SD of maternal age is 25.33±3.08.

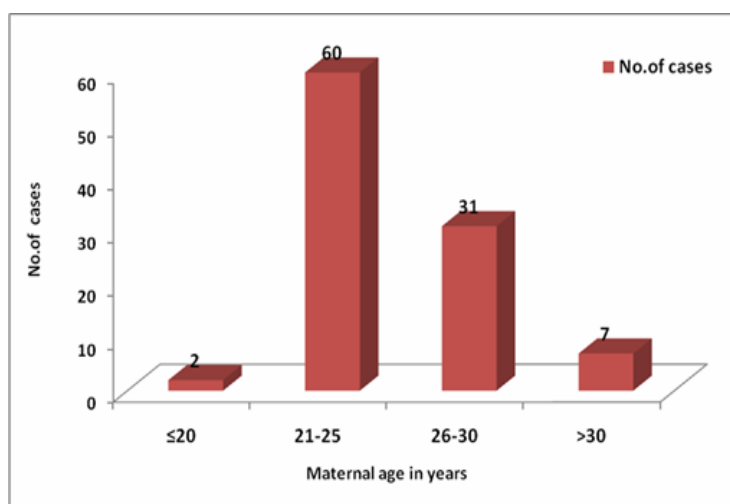


Figure 1: Distribution of cases according to Maternal Age

Table 2: Distribution of cases according to Gestational Age

Period of gestation (in weeks)	No. of Patients	Percentage
37 – 40	96	96.0
>40	4	4.0
Total	100	100.0

Maximum number of cases admitted to the hospital 96 (96.0%) were between 37-40 weeks of gestation. 4 (4.0%), were above 40 weeks of gestation. The mean gestation age in weeks is 38.91±1.00.

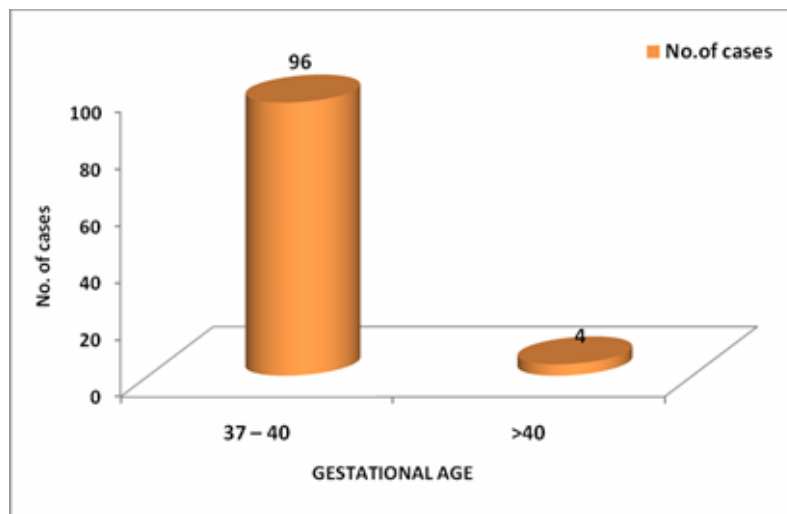


Figure 2: Distribution of cases according to Gestational Age

Table 3: Distribution of Cases according to Lie of Fetus

Lie of fetus	No. of cases	Percentage
Longitudinal	98	98.0
Transverse	0	0.0
Oblique	2	2.0
Total	100	100.00

98% of the fetuses were in longitudinal lie and 2% were in oblique lie and no cases were observed in transverse lie. All the cases in trial group were longitudinal lies and 2-oblique cases were in non-trial group taken for LSCS.

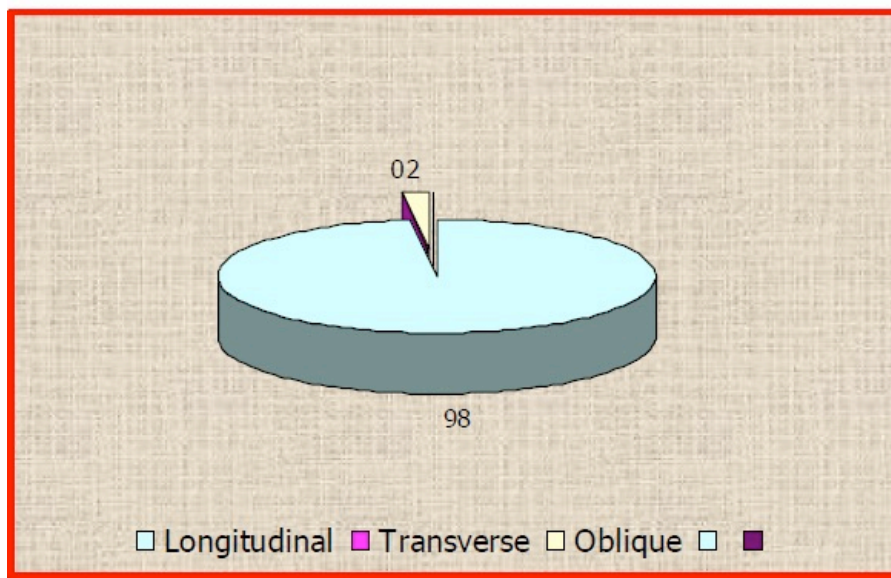


Figure 3: Distribution of Cases according to Lie of Fetus

Table 4: Distribution of Cases according to Presentation of Foetus

Presentation	No. of cases	Percentage
Cephalic	95	96.90
Breech	3	3.10
Others	0	0.00
Total	98	100.0

96.9% of cases had cephalic presentation, 3.1% had breech presentation and other was 0%.

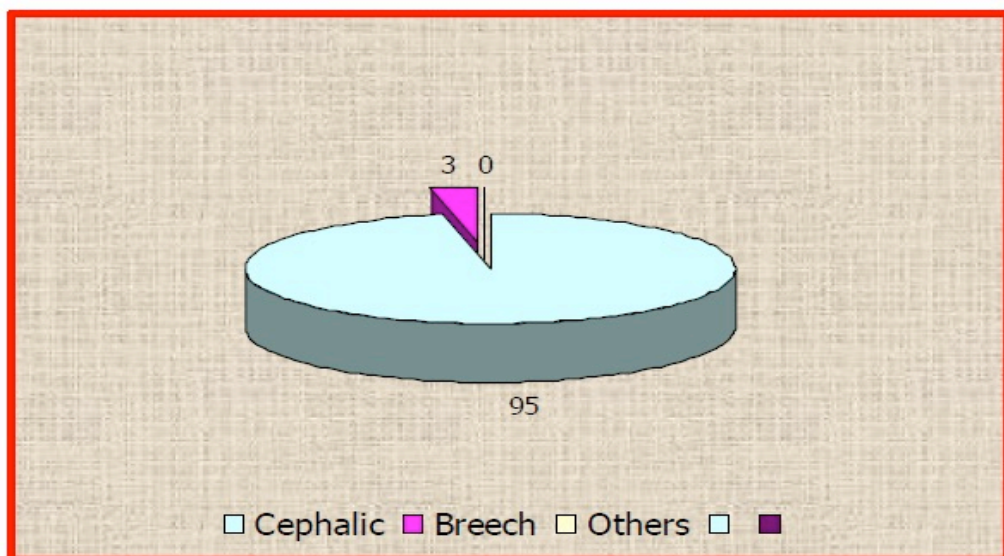


Figure 4: Distribution of Cases according to Presentation of Foetus

Table 5: Distribution of cases according to Presentation of fetus in trial group

Presentation	VBAC group (n=35)		LSCS in failed TOLAC(n=25)	
	No.	%	No.	%
Cephalic	34	56.70	25	41.60
Breech	1	1.70	0	0.00
Others	0	0.00	0	0.00
Total	35	58.40	25	41.6

56.7% of cases were cephalic presentation and 1.7% breech presentation in VBAC group and 41.6% of cases were cephalic presentation in failed trial LSCS group.

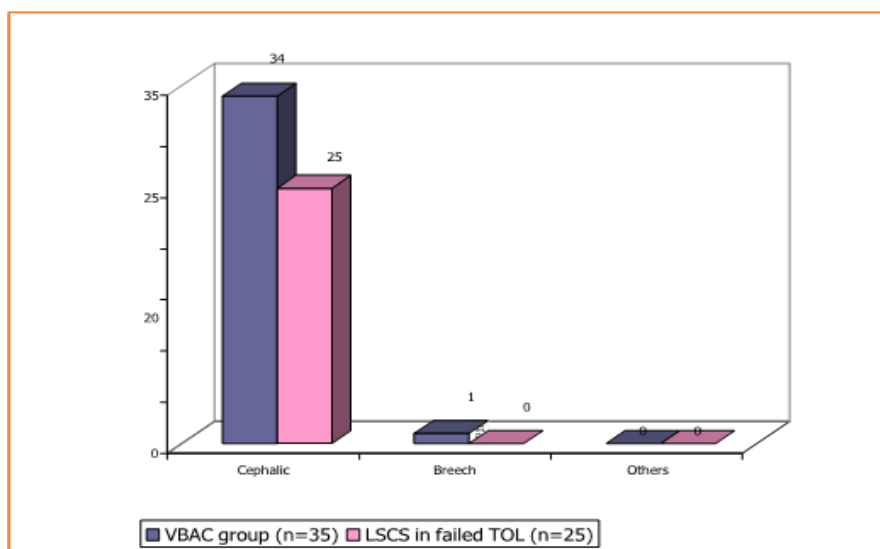


Figure 5: Distribution of cases according to Presentation of fetus in trial group

Table 6: Distribution of cases according to Mode of Delivery

Group	No of cases	Percentage
Trail group	60	60.0
LSCS group	40	40.0
Total	100	100.0

Out of 100 cases 60 were in trial group and 40 cases went directly for LSCS. LSCS group also includes 2 cases that had come with rupture uterus.

Trial of labor was given in 60 (60.0%) of cases. The decision of trial of labor was taken at the time of admission. The decision depended on condition

of the fetus, condition of the mother, uterine condition etc. Rest of the patients was taken as elective planned LSCS or emergency at the onset of labor

pains or other complications. Among those who were given trial 58.3% delivered vaginally.

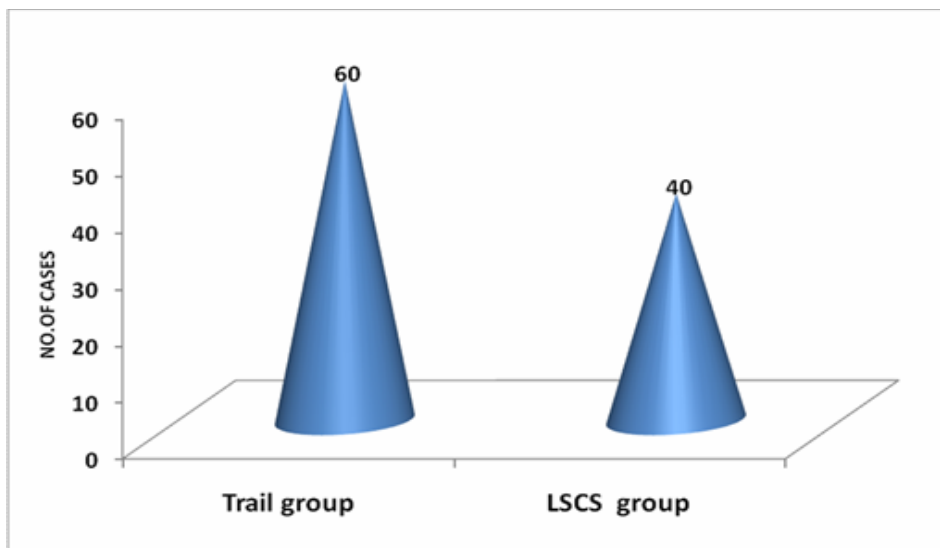


Figure 6: Distribution of cases according to Mode of Delivery

Table 7: Distribution of Cases according to Indications of Primary CaesareanSection

Indications	No. of cases	Percentage
Foetal distress	21	21.0
CPD	12	12.0
Malpresentation	23	23.0
Oligohydramnios	15	15.0
Non progress	10	10.0
PROM	5	5.0
Eclampsia	3	3.0
Gestational hypertension	6	6.0
Postdated	2	2.0
APH	2	2.0
Multiple pregnancy	1	1.0
Total	100	100.0

Out of 100 cases, 23% cases were done for malpresentation, 21% underwent caesarean section for fetal distress, 15% for oligohydramnios, 12% for CPD, and 10% non progress.

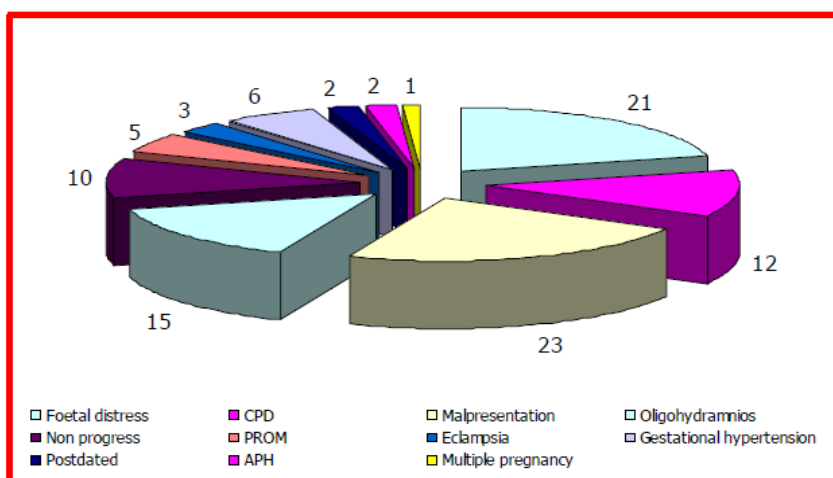


Figure 7: Distribution of Cases according to Indications of Primary CaesareanSection

Discussion

Age Distribution

Age (Years)	Present Study (%)	Ranjita et al [11] (2013)(%)	Shah Jitesh [12]2006) (%)
<20	2.00	--	--
21-25	60.00	50.00	22.60
26-30	31.00	30.00	63.10
>30	7.00	20.00	14.30

In the present study 60% of patients were in the age group 21-25 comparable to Ranjita et al.

Distribution of study cases according to the outcome

Outcome	Present Study (n=100) (%)	Goel S. et al [13] (2013) (n=100) (%)	Ranjita et al [11] (2013) (n=40) (%)
Elective repeat CS	13.00	32.00	30.00
Emergency CS those were not fulfilling the criteria of trial of labour	27.00	17.00	20.00
Trial of labour	N=60	N=51	N=20
Vaginal birth	58.30	60.78	60.00
Failed trial requiring emergency LSCS	41.70	39.21	40.00

VBAC success rate at our institution during study period was 58.3%. Mode of delivery in trial group

Mode of delivery	Present study	Pramod Kumar et al [14] (2012)	Aliya Aslam et al [15] (2011)	Ranjital et al [11] (2013)	Gokhale et al [16] (2012)
Spontaneous vaginal delivery	23.30	68.40	53.00	40.00	63.00
Assisted vaginal delivery	35.00	8.40	17.00	20.00	8.00
LSCS	41.70	23.20	30.00	40.00	29.00

Percentage of VBAC group is 58.3% in the present study. 35% were delivered by assisted vaginal delivery and 25% cases delivered spontaneously in the present study.

VBAC success rate

	Present study	Goel SS et al [13] (2013)	Knight et al [17] (2013)	Ranjital et al [11] (2013)	Gokhale et al [16] (2012)
No. of study cases with previous LSCS	100	100	143970	40	100
No. of study cases undergoing trial	60	51	75086	20	100
Total No. of VBAC	35	31	47602	12	71
VBAC success rate	58.3%	60.78%	63.4%	60%	71%

VBAC success rate is more or less same, hence this study is comparable.

Comparison of Indications of previous LSCS with other studies

Indication	Present study	Gokhale et al [16] (2012)	Pramod Kumar et al [14] (2012)	Aliya Aslam et al [15] (2011)
CPD	12.00	6.00		
Fetal distress	21.00	22.00	27.20	20.50
Non-progress	10.00	14.00	22.00	22.00
Malpresentation	23.00	36.00	28.90	7.00
Gestation hypertension	6.00	6.00	2.90	--
Post-dated	2.00	--	--	--
APH	2.00	6.00	8.00	10.00
Multiple pregnancy	1.00	--	--	3.50
Eclampsia	3.00	--	--	37.00
Oligohydramnios	15.00	--	--	--
PROM	5.00	8.00	--	--
POP	--	1.00	--	--
Cord around neck	--	1.00	--	--

Indications as compared to other studies is more or less same, hence this study is comparable.

Conclusion

One of the controversial issues in obstetrics which has gained immense importance in the present era is management of the patient with previous caesarean section. Various modalities have been employed and studies conducted so as to reduce the rate of caesarean section and morbidity associated with it. Correct analysis of prior indication for caesarean section helps to classify the patients for elective caesarean or trial of vaginal delivery. Patients selected for a trial of labour should be properly counseled about the benefits and risks (intrapartum emergencies like scar dehiscence, uterine rupture, etc.) involved.

References

1. Michael J. Turner, MAO. Delivery after one previous caesarean section. *American Journal of Obstetrics & Gynaecology*. 1997; 176: 741.
2. Joan M. Mastrobattia. Vaginal birth after caesarean delivery. *Obstetrics & Gynaecology Clinics of North America*. 1999; 26: 295-303.
3. Choudhury CR. Caesarean births: the Indian scenario. *Population Association of America* 2008; 1-18.
4. Mukherjee SN. Rising caesarean section rate. *J Obstet Gynecol India* 2006; 56:298-300.
5. Dodd J, Crowther CA. VBAC: a survey of practice in Australia and New Zealand. *Aust N Z J Obstet Gynaecol* 2003; 43:226-31.
6. Royal College of Obstetricians and Gynaecologists (RCOG). Birth after previous caesarean section. Green-Top Guideline No. 45. London: RCOG; 2007. American College of Obstetricians and Gynecologists (ACOG). Vaginal Birth after Previous Cesarean Delivery. Washington, DC: ACOG, 2010.
7. MacDorman M, Declercq E, Menacker F. Recent trends and patterns in cesarean and vaginal birth after cesarean (VBAC) deliveries in the United States. *Clin Perinatol* 2011; 38:179-92.
8. Parliamentary Office of Science and Technology. Caesarean sections. Postnote No. 184. London: Parliamentary Office of Science and Technology; 2002. pp. 1-4. Accessed 30 October 2013.
9. Spong CY. To VBAC or not to VBAC. *PLoS Med* 2012;9: e1001191.
10. Frass KA, Al Harazi AH. Outcome of vaginal birth after caesarean section in
11. Rajita S.Jani, Devangi S.Munshi. Management of pregnancy with previous lower segment caesarean section in modern obstetric practice. *NHL Journal of Medical Sciences*, July 2013; Vol. 2(2): 59-63.
12. Shah Jitesh Mafatlal, Mehta Meghana Narendrabhai; Analysis of mode of delivery in women with previous one cesarean section; *J Obstet GynecolIndia*, 2009; 59(2): 136-139.
13. Shruti S.Goel, Mahima Tiwari, C.Hariharan, Deepti S. Shirvastava. Outcome of post-caesarean pregnancy and comparison of maternal and foetal outcome following vaginal birth versus repeat caesarean section in a rural hospital. *International Journal of Reproduction, Contraception, Obstetrics & Gynecology*, Mar 2013; 2(1): 16-22
14. Pramod Kumar, Poonam Varma Shivkumar, Arpita Jaiswal, Naina Kumar, Kavita Saharan; Subjective assessment of LSCS scar site for vaginal birth after caesarean trial and outcome in MGIMS, Sevagram, VVardha, India; *Int J Biol Med Res*. 2012;3 (2):1825-1829
15. Aliya Islam, Ambreen Ehsan, Saadia Arif, Javeria Murtaza, Ayesha Hanif; Evaluating trial of scar in patients with a history of caesarean section; *North Am JMed Sci* 2011; 3(4):201-205.
16. Ashish V. Gokhale, Radha Kotecha, Kanak Lata Nakum, Rajni Parikh. Vaginal birth after caesarean section – A common sense approach. *Gujarat Medical Journal*, Aug. 2012; 67(2)L 35-38.
17. Knight HE, Gurol-Urganci I, van der Meulen JH, Mahmood TA, Richmond DH, Dougall A, Cromwell DA. Vaginal birth after caesarean section: a cohort study investigating factors associated with its uptake and success. *BJOG* 2014; 121:183-193.
18. Women with one previous section and spontaneous onset of labour. *East Mediterr Health J* 2011; 17:646-50.